Mobile Wireless in Canada: Policy, Problems, and Progress

by

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Abstract

The topic of this thesis is the institutional ecology surrounding mobile wireless telecommunication services in Canada. The primary focus is the disconnect between policy pronouncements promoting universal adoption of mobile services, on the one hand, and the fact that mobile adoption remains stubbornly low in both absolute terms and by international comparison. Key concepts in the theory of communication regulation and the historical development of telecommunication policy are laid out, which are used to inform an examination of the development of national mobile communication policy since the 1980s. The thesis then presents two case studies. The first is focused on recent developments in federal mobile policy, directed toward taking greater steps to ensure broad adoption of mobile services. The second examines the changing role of mobile services, from instruments of interpersonal communication to a broader form of information media, and the challenges that this shift has created for policymakers.

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Thank you.

Acronyms

3G - Third Generation
4G - Fourth Generation
AGT - Alberta Government Telephone co.
AOL - America Online
APA - American Psychological Association
ARPU - Average Revenue Per User
AT&T - American Telephone & Telegraph Co.
BCE - Bell Canada Enterprises
BD - Broadcasting Decision
BNC - Broadcasting Notice of Consultation
BO - Broadcasting Order
BPN - Broadcasting Public Notice
BRC - Board of Railway Commissioners
BRP - Broadcasting Regulatory Policy
CAIP - Canadian Association of Internet Providers
CBC - Canadian Broadcasting Corporation
CCTS - Commissioner for Complaints for Telecommunications Services
CEO - Chief Executive Officer
CIPPIC - Sameulson Glushko Canadian Internet Policy and Public Interest Clinic
CNCP - Canadian National and Canadian Pacific Communication co.
CNOC - Canadian Network Operators Consortium
CRTC - Canadian Radio-television and Telecommunications Commission
CWTA - Canadian Wireless Telecommunications Association
DAVE - Data Audio & Visual Enterprises
DOC - Department of Communication
FCA - Federal Court of Appeals
FCC - Federal Communications Commission
GB - Gigabyte
IC - Industry Canada
ICT - Information and Communication Technology
IPTV - Internet Protocol Television
ISP - Internet Service Provider
ITMP - Internet Traffic Management Practices
LTE - Long Term Evolution

MB - Megabyte
MHz - Megahertz
MTM - Media Technology Monitor
MTS - Manitoba Telecom Services, or prior to 1995, Manitoba Telephone System
MVNO - Mobile Virtual Network Operator
NAFTA - North American Free Trade Agreement
NHL - National Hockey League
OECD - Organization for Economic Cooperation and Development
PCS - Personal Communications Service
PCTS - Personal Cordless Telephone Service
PIAC - Public Interest Advocacy Centre
PR - Public Relations
SRA - Statutory Regulatory Agency
TD - Telecom Decision
TLD - Telecom Letter Decision
TNC - Telecom Notice of Consultation
TO - Telecom Order
TPN - Telecom Public Notice
TPRP - Telecommunications Policy Review Panel
TRP - Telecom Regulatory Policy
TSP - Telecommunication Service Provider
TV - Television
UBB - Usage Based Billing
VI - Vertical Integration, Vertically Integrated, or Vaxination Informatique
WSP - Wireless Service Provider

Table of Contents

INTRODUCTION: The Consumer's Stake in Wireless Voice and Data

"It all changed when the Internet went wireless - it really changed with smartphones; it is the Swiss Army Knife of technology." (George Cope, CEO of Bell Canada Enterprises, as quoted in Dobby, 2013b)

Even if we discount this salesman's modest enthusiasm for his wares, it is now widely acknowledged that, by and large, mobile wireless voice and broadband services are an important part of life for many Canadians. Evidence of our collective fascination with this "Swiss Army Knife" can be found daily in the (web) pages of news media (e.g. CBC, 2014a); on blogs, in academic journals, and in politicians' speeches (e.g. Ivison, 2013); it's on display in busses and subway cars; unfortunately evidence is also found at restaurants, in movie theatres, and too often in hands of automobile drivers. Conventional notions of how people use media to communicate, established over the course of the twentieth century, are undergoing a transformation. Television is no longer simply a piece of living room furniture to watch from the couch after dinner, but a service beamed to a panoply of devices with programs available on demand any time of day or night. Similarly, the telephone is no longer fixed to the wall in the kitchen, but travels with us in our pockets wherever we go. Consequently, the manner in which communications policy goals are pursued in relation to these services and the industries that provide them has become openly contested. Mobile communications media demand attention, in short, because they are gradually becoming ubiquitous while at the same time they are implicated in a reconfiguration of traditional modes of communication. However, before celebrating the next "disruptive" or "revolutionary" wireless gadget, we must take note of a surprising fact: actual adoption of these new mobile

telecommunication technologies is substantially lower in Canada than it is elsewhere in the world.

Mobile wireless service (voice and/or broadband) covers roughly 99% of Canada's populated regions (CRTC, 2013, p. 157), meaning it is *available* to nearly everyone in the country. That is not the same as saying that it is *accessible* or *affordable* for everybody. Tellingly, although overall take-up is nearly universal amongst the well-to-do, it drops precipitously with income, sliding from 93% at the top of the scale to just greater than 60% for those amongst the bottom earning quintile (CRTC, 2013, p. 26). Although those who do own smartphones in Canada use them prolifically, the lower-priced plans available to lower-income Canadians come with severe restrictions, limiting their attractiveness and utility. This "digital divide" between those who own mobiles and those who do not was understandable, indeed it was the norm, 20 years ago when cell phones were seen primarily as a tool reserved for urban businessmen or a luxurious novelty. Today, on the other hand, such a disparity is comparatively unusual and should be a major cause for concern.

While many other countries have moved away from reliance on landline telephones and toward universal adoption of mobile services, Canada's telecommunications environment has been slow to adapt. In fact, in 2006 it gained the dubious distinction of having the lowest wireless "penetration," or subscribers per 100 inhabitants, of the 34 OECD countries. There it has remained, and in 2013 (the most recent year for which figures are available), our penetration was roughly 81 subscriptions for every 100 people overall. The international average for the same year, by contrast, was over one mobile subscription for every inhabitant, or a penetration rate of

greater than 100 (OECD, 2013, p. 125). The United States, Canada's closest comparator, had an overall penetration of 91% in 2013, with 86% of low income households subscribing to mobile wireless service (Rainie, 2013). Around the globe there is little question that mobiles are replacing traditional wired telephones as the basic means of communication for the 21st century. Yet, despite being a country which prides itself on technological leadership, Canada lags behind (Industry Canada, 2014a). While Canada has traditionally been seen as one of the more wired countries in the developed world, we are losing ground when it comes to making the leap to wireless.

Price is the obvious culprit behind Canada's low mobile adoption. This in itself is not controversial, as independent studies have for years shown that Canada's wireless pricing falls on the more expensive side in international comparisons (Dobby, 2014a), and the fact that prices here do not compare favourably to those found in peer countries such as Britain, Australia, and France is not typically disputed by critics (e.g. Church & Wilkins, 2013). Controversy rages, instead, over whether high prices are economically justified. As early as 1995 Industry Canada, the government department responsible for spectrum management and telecommunications policy, recognized that "cellular mobile telephone and data services are still comparatively expensive for the average person to use", and calls to "extend personal, portable and mobile communications to a far wider cross-section of the public" have been issued periodically since (Industry Canada, 2007b), most recently in 2015.

Since the mid-nineties, successive governments have sought to achieve this goal by attempting to stimulate retail competition between infrastructure owners, ostensibly in the interest of driving retail prices toward costs and maximizing consumer choice, while at the same time

ensuring adequate infrastructure investment. While this approach has resulted in the construction of two national networks and several provincial/regional ones, from the consumer's perspective price-reducing competition has failed to appear, despite attempts to shake up the market by two successive waves of independent "new entrant" firms (1995-2004 and 2007-2014), the first of which failed in spite of government subsidies in the form of discounted access to the spectrum licenses which serve as a primary condition of operation (Trichur, Silcoff, & Erman, 2013). What we are left with today is a highly concentrated, oligopolistic market (Winseck, 2014c) which has led to the maintenance of high prices, inciting frequent calls for relief from consumer groups and the public more generally (Hart, 2013).

The Canadian Radio-television and Telecommunications Commission (CRTC), as Canada's arms-length broadcasting and telecommunications regulator, is responsible for overseeing Canada's communications industry. It is obliged by its enabling statute (the *Telecommunications Act, 1993)* to ensure that its policy renders "reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada" (§7(b)) and that its actions are responsive "to the economic and social requirements of users of telecommunications services" (§7(h)). Taken together, these objectives reflect the principle of "universal service" — broadly speaking, that public communication networks ought to be made available to every member of society at affordable rates (Winseck, 1998, pp. 15-17; Babe, 1990, pp. 239-241). Historically, these objectives developed over the course of the 20th century and were achieved by way of monopoly regulation (Rideout, 2005, p. 30); but as part of broader economic trends in the 1970's, "large business users" began to exert pressure on the

CRTC to allow competition in new telecommunication service markets, which served to undermine traditional mechanisms of monopoly regulation and public policy (Wilson, 2000, pp. 205-206). During the past forty years, the CRTC has gradually accepted competition as a suitable alternative to monopoly regulation as a means to achieving its policy objectives, at times acting as a catalyst to its introduction against the wishes of the federal government and the regulated industries themselves.

Competition as a policy mechanism became *de rigeur* when the *Telecommunications Act* received royal assent in 1993. Since then, the CRTC has been required by statute to "foster increased reliance on market forces for the provision of telecommunications services" (Telecommunications Act, 1993, §7(f)). In 2006, a cabinet directive was issued to the Commission, ordering it to rely on market forces "*to the maximum extent feasible"* when implementing its statutory obligations (Canada, 2006). The threshold that defines "the maximum extent feasible" has been a source of considerable debate over the past several years (Tencer, 2013), and there has been increasing recognition from both government and the regulator that the current approach to promoting competition has not been enough to achieve the goal of affordable service (CTV Winnipeg, 2013).

Nevertheless, the CRTC has upheld its initial decision (CRTC, TD CRTC 94-15) to forbear from regulating mobile wireless rates based on a commitment to the view that the market "is or will be subject to competition sufficient to protect the interests of users". The CRTC reaffirmed this approach as recently as 2012, although it did note at the time that "many of the consumers who provided comments in this proceeding expressed concern about issues related to the com-

petitiveness of the Canadian mobile wireless market, such as choice of service providers and mobile service rates" (CRTC, TD CRTC 2012-556). Since that time, industry consolidation as well as recent concerns over the persistent exercise of market power by dominant firms (Competition Bureau, 2014) have cast doubt on the appropriateness of continuing to pursue a "hands-off" approach to regulation of the wireless market. The question, therefore, is: why are Industry Canada and the CRTC failing to achieve their policy goals, and what measures are being taken to address this failure?

This thesis argues that the assumption underlying forbearance — that the wireless market is sufficiently competitive to protect the interests of users - no longer holds, if it ever did. Mobile phones and broadband have become an essential service, and the carriers who provide service have profited handsomely from a policy promoting their growth. But the self-regulating market has not lived up to its end of the bargain. Competition in wireless was originally intended to lower costs for business users who either possess bargaining power, are not sensitive to price, or both (Wilson, 2000, p. 208), and for whom a choice between 2 or 3 service providers is sufficient to ensure reasonable rates. Today, by contrast, the vast majority of users comprise individual Canadians who have no such power. In the absence of structural protections imposed by the regulator, simply having a choice between a handful of dominant service providers will continue to be insufficient to protect the interests of consumers. In other words, a policy which relies primarily on self-regulation by an oligopolistic industry will not succeed in ensuring that all Canadians can benefit from affordable access to modern wireless telecommunications.

Addressing this problem does not entail a return to traditional forms of monopoly regulation, however. I argue instead that the powers-that-be appear to be moving in the direction of a more nuanced approach to the attainment of telecommunications policy goals, one that revolves around two main pillars: promoting fair competition (as opposed to merely allowing it), and empowering consumers with information, a forum for participation, and protection through a variety of avenues. By taking a more active approach to telecommunications, the federal government, and the CRTC in particular, are opening up opportunities for progressive reform in the sector.

This thesis proceeds as follows. The first chapter lays out a basic framework for analysis. It explores the questions: what is regulation? Who regulates? And why are telecommunications regulated in particular? We find that there is a well established role for the state in directing industry toward public policy goals, although the modes of regulation chosen to pursue these goals have evolved over time. The chapter identifies the organizational mechanisms of state regulation, and details their interplay. Following this, telecommunications are defined, and the rationale for their regulation is explored. On this point, the chapter concludes by taking the view that the telecommunications industry is regulated not only because of its economic importance, but on account of the essential role it plays in the everyday activities of people, not just as consumers but as citizens and producers, and the role communications plays in the political process as well.

The second chapter outlines the historical development of telecommunications policy and regulation in Canada. It identifies three formative periods: first, the *laissez faire* period, lasting roughly from the 1880's until the turn of the century, in which the modern telecommunications industry first took shape. In the second period — lasting until the 1970s, the idea that telecoms

are a natural monopoly was gradually accepted and a particular type of strong, central state economic regulation emerged. The third period, ongoing since the 1970s, has witnessed the emergence of the neoliberal regulatory paradigm, whereby the regime of active market intervention by the state was gradually dismantled in favour of a market-led "self regulatory" approach. This chapter finds that state and industry have been closely intertwined throughout the history of telecommunications in Canada, acting reciprocally to shape communications infrastructure and services.

The third chapter zeroes in on the development and implementation of Canada's wireless telecommunications policy in particular, from the introduction of cellular services in 1983 until 2012. During this time, telecommunications policy underwent a significant transformation that tracked the transformation of wireless services from a luxury product and business tool to an essential service available to and used by the majority of Canadians in their everyday lives. The chapter argues that wireless policy was shaped chiefly by the dominant oligopoly comprising the established telephone and cable television companies, notably Bell Canada, Telus, and Rogers Communications. The developments of this period took place over contested ground. Wireless policy developed during a time in which the overarching approach to telecommunications policy was being reformed, away from a reliance on regulated monopoly and toward one that favoured deregulation, privatization, and liberalization. Actors such as the phone companies and cable companies, both national and international, vied for influence over the outcome of these processes. Various government actors also sought to exert influence, with federal government policy sometimes at odds with that of the regulator, and each being influenced by a different configura-

tion of economic, civil society, and political interests. The chapter concludes by pointing to cracks that have formed in the "hands-off" approach to telecommunications policy and regulation that dominated over the past several decades—it appears that the present government has begun a new course. Although it has not abandoned its commitment to liberalization, as wireless services have grown ever more central to the communications environment, the state has become decidedly more interventionist and consumer-centric than in times past.

The fourth chapter presents a case study of recent regulatory initiatives in the wireless sphere, from 2013-present (2015). Its focus is on a tipping point in wireless policy: events during the summer of 2013 can be identified as the point at which the federal government and regulator broke with their traditionally hesitant approach to telecoms oversight. The chapter details the regulatory and policy developments that led up to the confrontation between Industry Canada, the CRTC, and the wireless industry. It takes a closer look at what sparked the shift: the rumoured entry of American telecommunications giant Verizon into the Canadian wireless industry. It then pivots to the regulatory initiatives that came about following 2013. Beginning in the fall of that year, the CRTC initiated a series of proceedings which contemplate economic regulation of the wireless sector for the first time in over 20 years. While the outcome of these proceedings remains open, the chapter concludes by reflecting on the importance of these changes in the context of the current climate in the Canadian telecommunications environment.

The fifth chapter is focused on the issue of "convergence" between broadcasting and telecommunications, which has gone hand-in-hand with increasing vertical integration and industry consolidation. As wireless communication technologies have evolved, new applications

and business models have developed that raise substantial questions as to how they are to be regulated. The chapter begins by defining vertical integration and explaining its space in policy. It proceeds to explore the transformation of wireless services from content-agnostic telecommunications systems to what they have become today: a broader sort of media that have important implications for cultural policy. The chapter then presents a case study (2013-ongoing) of a regulatory proceeding initiated by the author against Bell Mobility, questioning the company's business practices with regard to its mobile television service, an emerging broadcast application available over wireless networks. This chapter places contemporary developments in wireless in the broader context of overall communications policy; focused not just on promoting competition and access to telecommunications but also on cultural policy objectives as well.

The final chapter reviews what came before, and draws on the research herein to briefly speculate about the future trajectory of Canadian wireless policy.

A note on method

The primary method employed by this thesis is textual analysis. In the earlier chapters (theoretical and historical reviews), I rely mainly on scholarly literature. For the later chapters, I make use of primary sources, typically government documents, and secondary sources, including relevant books, journal articles, news reports, blogs, etc. Due to the large number of CRTC decisions, policies, orders, etc. referenced, I depart from the standard APA in-text citation style for those documents. The CRTC uses a chronological numbering system to uniquely identify its documents, and this is what I have adopted. The notation indicates the type of document (e.g TNC for "Telecom Notice of Consultation" or TD for "telecom decision"), the year and order in

which the document was released (e.g. TNC CRTC 2014-76 was the 76th notice of consultation released in 2014). A list of the abbreviations used throughout this thesis is provided above.

Aside from textual analysis, the thesis is informed by participant observation. Over the course of the past several years, I have had occasion to frequently meet with people involved in all aspects of the industry, from corporate executives to store front salespeople, regulatory staff and commissioners, public interest advocates and consultants. While I have not conducted formal interviews for the purpose of this thesis, my interaction with these people has informed my thinking. Additionally, I have attended and in several cases participated in CRTC proceedings on various communications matters, which sometimes include an oral phase in which industry, regulators, and other "stakeholders" gather in a court-like setting to present evidence, arguments, and debate issues. In fact, portions of the third and fourth chapters were submitted to the CRTC as part of my interventions in a proceeding on wireless wholesale competition that took place in 2014, and the Appendix is a copy of the complaint I filed to the CRTC in 2013 (which is the subject of the fifth chapter).

Finally, as mentioned above, part of the fourth chapter is focused on CRTC proceedings in which the author took part, and the subject of the fifth chapter is a public CRTC proceeding initiated by the author in the fall of 2013. I believe that this constitutes a somewhat unusual practice for academic research. In essence, I mobilized the research I have conducted as part of this project, bringing the work I have done from the sphere of academia into the realm of public policymaking. As a direct result of my work, the CRTC issued a decision in early 2015 that strengthened its commitment to a policy prohibiting discriminatory and self-dealing practices by Canadi-

an wireless telecommunications carriers. At present, that decision is subject to a legal challenge from Bell Mobility which is taking place at the Federal Court of Appeal. Additionally, this thesis also seeks to do the reverse: that is, it seeks to contribute to academic knowledge by bringing to bear my experiences with policymaking in a practical setting. Public policy, and the CRTC in particular, can be complex and esoteric subjects, and it is my hope that this thesis will shed light on those subjects, and the politics and practices of Canadian communications policymaking and statecraft in general.

CHAPTER 1: THEORETICAL FRAMEWORK

Introduction

On June 26, 2014, chairman and CEO of the Canadian Radio-television and Telecommunications Commission (CRTC), Jean Pierre Blais, delivered a speech from the "National Podium of Record," the Economic Club of Canada in Ottawa. The topic was the evolving role of the CRTC, Canada's communications regulator, in the increasingly digital lives of Canadians. Blais, a veteran administrator with prior experience both at the CRTC, Department of Heritage, and Competition Bureau, began by acknowledging that "we live in a time when our communication system has become a lifeline for most of us." "The fact is", he continued, "technology is now an integral and ubiquitous part of our daily lives. This reality brings with it new responsibilities for the federal regulator. Just as the world of communications is changing, so must we." (Blais, 2014).

It is true that the world of telecoms has changed remarkably over the last several decades. Thirty years ago, the landline telephone was the predominant instrument of interpersonal communication in Canada; customers obtained service from an industry which comprised a mix of public and privately owned regional monopolies; and there were well-accepted lines between the businesses of publishers, broadcasters, and private service providers on the one hand, and telephone companies' on the other. In the interceding years, the landscape has changed almost beyond recognition. Today, the synchronous transmission of speech between two or more points — "telephony", once the sole business concern of the telecommunication companies — has long been untethered from purpose-built appliances and networks, and is now provided on a competitive basis in nearly all areas of the country. Broadcasting and publishing (the "content" industries) and telecommunications ("carriage") are no longer neatly separated along clear business lines, thanks in large part to the rise of general computing power, universal digital protocols and architectures, and broadband infrastructure. The doctrine of natural monopoly has fallen out of favour (Melody, 1997, p. 1; Babe, 1990, p. 239), and firms vie for consumers' dollars in national, regional, and local markets deemed to be contestable. Users and operators alike are finding new and unexpected uses for networks, established business patterns are in flux, and the ways in which policymakers seek to organize the system are being called into question.

"Telecom reform" has been a going concern for regulators, policymakers, industry, and the general public (including business "users") at least since the CRTC superseded the Canadian Transport Commission as telecom regulator in 1976. Looking even farther back we see that in fact the way society approaches telecom policy and regulation has been perennially "up for

grabs." That things are changing is rarely in doubt: from the founding of Bell Canada in 1880, through the establishment of federal regulation in the early decades of the twentieth century and the period of liberalization and deregulation that began in the 70's, to the discussions about re-regulation today. But how they should be changing and according to what imperative(s) have also been subject to widespread disagreement. The task of this chapter is to question these changes — to ask why they are important, who effects them, and who and what they affect. A set of social practices and expectations has arisen around telecommunications. It is an industry with the expertise and scale to make service availability ubiquitous, and a legal and regulatory structure which seeks to facilitate the development of an "orderly" national communication system.

The focus here is on unpacking the process through which telecom policy and regulation are formed, and so it is important to begin by defining the terms. What is state regulation? What is its purpose, and how is it exercised? What are telecommunications, why are they the subject of state policy, and how are they regulated? Wading into the ongoing debates shaping the future of Canadian communications requires understanding and agreement on the basic terms.

In the following section, I outline the general contours of regulation - what it is, who's involved, and reasons given for state involvement in industry in the first place. Following that, I ask why telecommunications are singled out for particular policy attention. Naturally, the norms, laws, and technologies associated surrounding communications change over time, so the next chapter presents a broad overview of themes and critical moments in the development of telecoms policy and regulation in Canada from the telephone's inception to the present. Although today's mobile networks emerged during a transitional period in Canadian telecom, they remain

by and large a constituent part of a broader preexisting (albeit evolving) institutional arrangement, shaped by shifting political, social, and economic concerns. Equipped with the framework developed in the pages that follow, we will be in a good position to approach the contemporary debates about wireless that are the main subject of this thesis.

What is regulation?

Strick defines regulation as "government imposition of *rules and controls* which are designed to direct, restrict, or change the economic behaviour of individuals and business." (1990, p. 3, emphasis mine). He then identifies five main characteristics of regulation: a primary focus on economic behaviour; regulation "affects choices of producers, distributors, and consumers"; it involves the "imposition of penalties" for non-compliance; "administration of the rules by a commission or agency with authority based on statute"; and regulation does "not involve the provision of direct benefits to society" (p. 4). This definition is illustrative, if somewhat narrow.

Francis adds that regulation can be understood as state intervention in "private spheres of activity to realize *public purposes*" (Francis, 1993, p. 5, emphasis mine). The juxtaposition of these two definitions allows us to usefully distinguish between public policy and regulation: the former can be thought of as the normative process by which "public purposes" are developed and articulated by the state, while the latter is the development and exercise of particular mechanisms ("rules and controls") designed to pursue those purposes.

Although some argue that it would be ideal if policymaking and regulation could be neatly separated (Melody, 1997, pp.18-19), in practice it is rare for the two to be mutually exclusive.

There are two main reasons why this is so: first, the view that regulation is simply determined by policy decisions ignores the fact that the outcomes of regulatory decision making shape the possibilities for future policy. Second, the institutions through which the two are formed and implemented are intertwined (especially in the case of telecoms); policymakers inevitably act as regulators, and vice versa. Nevertheless, it is helpful to examine regulation from the perspectives of both a.) how it functions, and b.) the institutions which carry it out.

Modes of regulation

Regulation typically targets an industry comprising firms of various scale and scope who engage in producing goods or providing services (or both). Strick lays out four forms or modes of regulation. Implicit in each of these modes is the idea that regulation is a method of addressing "market failure" - a common situation in which uncontrolled private activity does not naturally align with legitimate public policy goals. This approach is called "the public interest" theory of regulation.

First, price controls are typically used to simulate "competitive" (i.e. economically efficient) pricing in a market that is controlled by a single dominant firm or a small number of large firms (Melody, 1997, p. 4). Alternatively, economically efficient pricing can run counter to other policy goals, so rate regulation is sometimes required to encourage socially desirable outcomes that would not otherwise prevail under "free market" conditions (e.g. Babe, 1990, pp. 127-137 & 158-175). Such was the case for most of the 21st century in the provision of telephone service: regulation induced an inefficient (from a purely economic standpoint) cross-subsidy between long distance and local telephone service. Tariff structures ensured that local service was provid-

ed below cost to ensure universal access to the telephone, while long distance users paid rates above cost based on the proposition that business users have price inelastic demand for service. In other words, the economic imperative of efficiency was subordinated by policy to the social objective of ensuring universal access to communication services for ordinary Canadians (Babe, 1990, pp. 127-137 & 158-175).

Second, licensing or the conferral of charters are used to control market entry. This practice creates certainty for industry, serves to allocate resources, and in the case of industries that manage "public good" resources (such as radio frequencies, energy sources, or public rights-of-way like roads, sidewalks, or railway easements), it is employed to avoid a "tragedy of the commons" (Hardin, 1968) in which open access to a resource would result in its overcrowding and waste. Licensing also allows the state to identify and target particular firms for oversight, in order to ensure compliance with policy goals. Licensing is often a precondition for other forms of regulation (Strick, 1990, p. 5).

The third mode of regulation Strick calls promotion of "fair competition" (1990, p.6). Competition is sought after for a litany of reasons, not the least of which are to pursue the efficient allocation of resources, to encourage market and technological innovation, prevent monopoly rent extraction and other abuses of market power, and to reduce the state's administrative burden. According to Gordon Kaiser, "regulation is the creation of competition" (1995, p. 96). It is well recognized that maintaining a competitive market in many industries requires substantial regulation, even though this may be counterintuitive to some. It has been suggested that competitive markets can entail even more regulation than monopolies, simply of a different kind.

Finally, the imposition of standards can serve to protect consumers, producers, and the public more broadly, by ensuring fair and informed terms of commerce which would be absent without intervention. Workers are protected by safety requirements, minimum wage rates, limits on working hours, and so on. Standards are pervasive in society, and the extent of state involvement varies from industry to industry.

These modes are sometimes divided into economic, technical, or social forms of regulation, although it is recognized (often begrudgingly) that "[t]here are no bright lines separating the three, and regulatory measures cannot always be neatly categorized according to this taxonomy" (Sinclair, Intven, & Tremblay, 2006, s. 6-3). Strick describes economic and social regulation as follows: economic regulation is "concerned with industry practices involving pricing, marketing and competition," whereas social regulations "tend to focus on the conditions under which goods and services are produced and distributed" (Strick, 1990, p. 7). Not exactly a bright line. It would be rather more accurate to think about regulation as existing along a continuum from "strong" or "active" to "weak" or "passive" involvement in the economy by the various agents of the state (see Fig. 1).

Fig 1. Strong vs. Weak Regulation

	Strong / Active	**Weak / Passive**
Entry	Licensing/Permission	Open/Permissionless
Pricing	Price controls/rate regulation	Market Mechanisms (Supply/Demand)
Conduct	*Ex Ante* (pre-established rules/limits)	*Ex Post* (ad hoc/complaints-based)
Oversight	Audits	Reporting
Consequences	Knuckle rapping	Finger wagging

Economic and social regulation also have a historical element; Strick refers to them as "old style" and "new style" regulation, respectively (1990, p. 7). From this angle, economic regulation is seen to be more closely associated with the post-war period of deep state involvement in market activity, while the concept of social regulation reflects the neoliberal preference for market "self-regulation" or "co-regulation," in which the state selectively cedes its prerogative to control corporate behaviour while continuing to pursue well-recognized social goals by other means (Taylor, 2013, p. 153). This latter approach to regulation began to take shape in the 1970's and has become deeply ingrained in the dominant approach today.

Rideout describes this new form of regulation as "neo-regulation," to which she ascribes four characteristics:

1. "No regulation," in which the industry itself determines the parameters by which it operates (also known as "self-regulation");

2. "Managed regulation," whereby the state plays a diminished but not extinguished role in overseeing the industry ("co-regulation");

3. "Re-regulation," or the reimposition of state authority based on substantial market failure ("economic regulation"); and

4. "Forbearance," meaning conditional abstention from regulation (Rideout, 2005, p. 65).

Thinking about neo-regulation as itself a mode of regulation - "only a shift in the nature of government action, from commanding specific outcomes to creating and maintaining new markets" (Mosco, 1988, p. 107, quoting Reich) - is a point that needs to be underscored. Public policy and regulation are not mechanisms which put state and economy at odds, but rather represent a milieu for interaction between government, firms, and sometimes elements of civil society, each of which seeks to influence the character of economic development, resource allocation, and access to goods and services. These debates sometimes take place within the public sphere, but all too often are subject to technocratic or élite control beyond the reach of ordinary democratic processes. This perspective highlights the fact that decisions about how to regulate and the outcomes these engender are more than just technical measures designed to address market failures or imperfections, but reflect judgments about the appropriate relationship between state and economy in society, and are the result of a struggle shaped by relations of power and influence.

The foregoing provides a basic idea of what regulation is, how it can be carried out, and to a lesser degree why it is exercised. Of course, this framework is not intended to be exhaustive. There is a vast body of literature covering the topic from innumerable angles (e.g. Benkler, 1998; Kahn, 1988). For the present purposes, it is enough to say that regulation of industry by the state takes different forms involving a broad spectrum of modes (from active to passive); it invariably involves a mix of different, historically-specific approaches; and is influenced by groups in society who hold competing normative ideas about how these relations and practices should take shape.

Who regulates?

At both federal and provincial levels, the state has a number of roles to play when it comes to particular industries. Parliament establishes policy by enacting laws, the implementation of which is further developed and overseen by cabinet ministries. "Statutory regulatory agencies" (SRAs), sometimes called administrative tribunals, are also created by Parliament with the purpose of administering industry-specific policy and regulation. Together these institutions are collectively responsible for establishing goals, administering programs, and enforcing policies (Strick, 1990, pp 10-11).

Ministries are typically organized according to function (e.g. Industry Canada, which has responsibility for radiocommunications and telecommunications among other areas) and are charged with developing and implementing the government policy programs that fall within their purview. (Strick, 1990, p. 11) They are usually bureaucratically/hierarchically structured, with staff reporting to a Cabinet minister who is ultimately responsible for departmental activities. The minister in turn is accountable to Parliament. In practice, a power dynamic exists between elected ministers and departmental personnel; while technically "in charge" of the process, and in possession of considerable statutory powers and objectives, the minister is nevertheless substantially reliant on guidance from administrative personnel, who "are in a position to exercise a great amount of influence on the Departmental minister in the initiation and design of regulatory policies" by virtue of "continuity of service" and acquired expertise (Strick, 1990, p. 11). At face value, this may present itself as a less-than-ideally democratic practice, but often times staff and the procedures surrounding ministerial decisions are accessible to citizens in ways that elected representatives are not (Lawford & White, 2014).

Much of the task of administering government policy is delegated to administrative agencies (e.g. the CRTC for telecoms and broadcasting, the Canadian Transportation Agency for air travel). Statutory Regulatory Agencies (SRAs) are established by legislation and are subject to a statutory mandate which they cannot themselves alter. For instance, the CRTC is required by statute to exercise its powers to implement the predefined objectives of the *Telecommunications* and *Broadcasting Acts,* and more recently those of the Canadian Anti-Spam Legislation (CASL). According to Strick, the purpose of SRAs is "to provide some distance between political considerations and the administration of regulations" (1990, p. 13). Following from this, it may be tempting to assume that ministries "establish policy" while SRAs set those policies in motion through day-to-day regulation and detailed rule-making. As above, this would be a rather imprecise view. In actuality the processes and functions of both ministerial departments such as Industry Canada and SRAs like the CRTC are closely linked.

Wilson notes that SRAs are faced with a fundamental tension between the role of administrator-adjudicator on the one hand and of policy maker on the other (2000, p. 61). The tension is traced in part to "deficiencies of the legislative acts that created the agencies and stipulated their mandates" (Wilson, 2000, 61). For instance, statutory language found in the *Telecommunications Act* prescribing that regulation must ensure rates are "just and reasonable" and that service providers must not create "undue preference" or "unjust discrimination" are not cut and dried; they naturally demand interpretation. It is thus apparent that the process of creating and enforcing regulation leaves significant scope for SRAs to act as de facto policymakers, which they do in practice. This is construed by some as problematic because SRAs acting according to statutory

mandates (which they theoretically cannot exceed) wind up creating policies that are nowhere explicitly sanctioned in democratically enacted legislation (Wilson, 2000, 62).

In practice, the regulator itself fills a "policy vacuum" purposefully left open by legislation. The regulator in effect is placed in the role of expert administrator, equipped with legal and technical expertise in the technology and economy of the industry it regulates. While this allows for the law and regulation to develop more fluidly than it would through the more general legislature, it unfortunately also creates opportunities for the firms in the regulated industry, who often retain dedicated legal & regulatory departments, to exert substantial influence on the policy making process outside the standard democratic channels. The term "regulatory capture" refers to a situation whereby the regulator falls under the control of the regulated industry (Strick, 1990, pp. 20-23). This phenomenon contributes to explaining deregulatory trends over the past decades.

Additionally, the ad hoc nature of regulation and policymaking through SRAs can create tension between the regulator and provincial and/or federal policymaking bodies when policies created by opposing bodies come into conflict (Wilson, 2000, 64). The upshot again is that regulation and policymaking may be distinct in theory, but not in practice. This has been particularly true in the case of telecommunications, for a number of reasons relating to their economic, social, and technological characteristics, and the historical development of their role in society.

What are telecommunications?

Telecommunication literally means "communication at a distance," (Babe, 1990, p. 22) and in this broad sense a telegram has much in common with a tweet (or a smoke signal or the semaphore for that matter). In contemporary use, however, the term has a more circumscribed meaning. Telecommunications are legally defined as "the emission, transmission or reception of intelligence by any wire, cable, radio, optical or other electromagnetic system, or by any similar technical system" (Telecommunications Act, 1993, § 2). Telecommunications networks consist of physical infrastructure dedicated to providing communication services to the public or to private customers such as governments or corporations. Telephone, broadband, and mobile networks are some examples. Firms which operate telecom networks have historically been treated as *public utilities* for the purpose of policy and regulation. Winseck adds the stipulation that telecoms networks carry information "without editorial intervention" (Winseck, 1998, pp. 1-2). The requirement that telecommunication companies not interfere in the content that is carried over their networks is called *common carriage* and it forms an important pillar to telecommunications policy and regulation.

For the purpose of this thesis, telecoms are defined as the means by which transmission of information at a distance takes place, without control over the content of that information by the network owner.

Why are telecommunications regulated? Public utility and common carriage

Many who are engaged in the business of providing telecom services today seem naturally opposed to the very idea of regulation and frequently decry it as burdensome and unnecessary

state “interference.” As Wilson points out, however: “[r]egulation is a fact of life for all industries in the modern economy. It is not, therefore, the fact of government regulation that distinguishes telecommunications from other industries; rather it is the mode of regulation that is exceptional” (Wilson, 2000, p. 43). Indeed, we might not think of things like hockey sticks, canoes, and parkas as part of regulated industries, but even these things are subject to regulation in terms of quality and safety standards. What then sets telecoms apart?

Wilson notes that “there is a Western tradition of treating exchange as more than a simple economic relation, as *exchange also entails a social relation with ethical dimensions”* (2000, p. 45, emphasis in original). “Certain types of economic activity have a public dimension”, he tells us, and “[w]here exchange occurs under conditions of coercion, society has a legitimate right to impose controls” (2000, pp. 44-45). Wilson locates the origin of this tradition in Augustine (354-430) and St. Aquinas (c.1225-1274)’s doctrine of *justum pretium*, or “the just price.”

Constraining monopoly power has been the task of many such controls, although state intervention is also often justified in the name of “enhancing the economic wealth of the nation” (2000, pp. 45). While there are many forms of “coercion” that justify regulation, such as disparities in information between producers and consumers, tendencies on the part of producers to neglect harmful “externalities” (e.g. pollution or harmful health effects), or control by producers over goods and services considered essential to modern life, the primary concern of public utility regulation has traditionally been state intervention in response to a “market failure” whereby the number of firms in a market for services are not sufficiently large for traditional economic models of competition to emerge naturally. When a market for services that are used

by all members of society, for instance electricity or insurance, is not subject to sufficient competition for market forces to prevail, public utility regulation is invoked.

The modern concept of public utility emerged in the late 19th century as capitalist states began to partner with and harness private enterprise to achieve purposes of their own. In the US, Britain, and Canada, for example, states gave priority to "the first entrepreneurs to establish a business" (Wilson, 2000, p. 47), not only to increase production and productivity but, as in the paradigmatic case of railways and telegraph companies, to achieve national purpose by harnessing corporate organization. The emergence of technologies that were central to nation-building also ensured that, in some cases, states owned these industries outright: in Canada the railways were publicly owned as a result of the "centrality of transportation to other forms of economic activity" (2000, p. 48), and also due to the recurring inability of private enterprise to bear the risk of failure associated with such grand undertakings.

The abuses that attended the growing activity of state-guaranteed private monopolies—notably the rampant extraction of economic rents—triggered a series of court decisions in the United States and Canada in the late 1860s and 70s, which sought to bring industry in line with prevailing notions of the public interest. It was determined by the United States Supreme Court that certain industries had become "business 'affected with the public interest and had ceased to be *juris privati* only'" (Wilson, 2000, p. 48-9). This did not amount to an outright rejection of monopoly, but rather recognition that in "*the presence of a monopoly, or near monopoly"* state regulation of economic activity is legally justified where required for public purposes (2000, p. 49, emphasis in original). In Canada, beginning at the turn of the century, the Board of Railway

Commissioners enforced a new law that required rates charged by the railways (and later the telecommunications companies) to be "*reasonable and non-discriminatory"* (2000, p. 50).

Public utilities work in the popular and public interest insofar as they seek to restrict the private interests of monopoly or near-monopoly industries when those contradict interests of the broader public, although the relationship between the two is complex and by no means dualistic—it involves a compromise sometimes referred to as a "regulatory bargain" whereby large firms are shielded from market competition, given access to valuable scarce resources, such as roads and rail lines (public rights of way), and radio frequencies, are guaranteed a return on investment and other state protections, in exchange for compliance with the dictates of industry-specific policy and regulation. Public utility principles have been typically applied to network industries, such as the railways, airlines, electricity generation, and telecommunications, and each has required its own particular adaptation of the general principles. The concept of public utility as it eventually came to be applied to the telecommunications industry developed to encompass the principle of *common carriage,* which also applies to transportation but takes on a specific character in relation to communications.

Common carriage is a common law principle that is related to, but distinct from public utility. Its origin is typically (if rather imprecisely) traced to "coachmen, teamsters, ferrymen, and operators of canal boats" who, similar to public utilities, played an essential role in the "commerce of the nation" (Wilson, 2000, p. 50). During the industrial era, railroads were the first to be deemed common carriers. According to Horvitz, common carriers "must serve all, they must provide adequate (and safe) facilities, they must charge reasonable rates, [and] they must not dis-

criminate against customers" (As quoted in Wilson, 2000, p. 50). In exchange for these obligations, common carriers are relieved of legal liability for lost or damaged goods (within reason), or for illegal contents (either physical goods or communications) sent or received by their customers.

In Canada, the moment triggering the telephone's treatment as a common carrier in Canada occurred in 1891, when the Supreme Court of Canada determined that the Bell Telephone Company acted as a "mere conduit" for the communications of its customers, and was therefore free from legal liability for the messages it carried (*Electric Despatch Co.*, 1891) (interestingly, it wasn't until 1968 that Bell's charter was amended to officially recognize it as a common carrier (Babe, 1990, p. 186)). Telegraph companies were legally recognized as common carriers in 1910, when they were brought under the jurisdiction of the *Railway Act* following a dispute raised by the Western Associated Press in Winnipeg (Babe, 1990, 56-7) in which the telegraph companies had given preferential (in many cases free) rates to affiliated news services, threatening to put independent news outlets out of business.

Unlike the telegraph companies, the Canadian telephone companies showed little interest in exerting editorial control over the transmissions they carried, perhaps because they typically did not have affiliated business relationships with content producers (Benkler, 1998, pp. 22-24).

Canadian telecommunications companies are still legally recognized as common carriers today, defined in the prevailing law as "telecommunications common carriers" (Telecommunications Act, s.2) who must provide only "just and reasonable rates" (Telecommunications Act, § 27(1)) and are subject to prohibitions against unjust discrimination (§ 27(2)) and must obtain pri-

or approval to exercise control or influence over content (§ 36). However, we will see in chapter 5 that this legal concept is coming under significant challenges, particularly in the mobile industry.

One of the interesting aspects of *common carriage* is that it allows us to contrast telecommunications with mass media (such as broadcasting or publishing), in which network owners exert editorial control over the "intelligence" that is transmitted. The reason that it is important to make this distinction is that broadcasting and telecommunications public policy goals have traditionally been very different, and even opposed to each other. While telecommunications policy concerns itself with ensuring universal access and non-discriminatory treatment of network traffic, broadcasting policy actually favours discrimination—for instance, it holds that Canadian content ought to be promoted against foreign culture, a form of discrimination that would not be allowed under telecommunications policy alone. Mass media are intimately related to telecommunications (broadcasting is a sub-set of telecommunications) but have traditionally received different treatment, not just from the policy perspective, but from the perspectives of industrial organization as well. Although these two modes of communication can be separated in theory, in practice they are becoming increasingly hard to distinguish as the industries that provide them have converged, and the line between them has shifted with changing historical circumstances. Nevertheless, it is an important conceptual distinction to make since as we will see (in greater depth in chapter 5) it figures prominently in contemporary debates about telecommunications policy both in Canada and elsewhere. This is particularly true of wireless networks,

which were for the majority of the 20th century deployed in the service of predominantly broadcast media.

Recently, the principle of common carriage has become increasingly contentious with the development of general purpose broadband telecommunications networks and growing vertical integration between intellectual property owners and network operators. While the twentieth century's telephone networks were built for the sole purpose of carrying voice communications between individuals, today's broadband networks have become capable of carrying a variety of traffic, including what would traditionally have been considered "broadcasting" content. As these previously distinct social and industrial activities converge onto broadband networks, and as companies who were once restricted to either broadcasting or telecommunications activities (but not both) begin to offer both types of service, it no longer makes sense to treat companies who cut across both spheres in isolation from a policy perspective. We will return to the topics of common carriage and network neutrality (its successor concept applied to broadband networks) in the last chapter. For now, it is enough to point out that the telecommunications industry as a whole was treated according to the common carriage principle for most of the 20th century.

According to Wilson, "[w]hen the concept of common carriage is combined with the mercantile precedent of chartered monopolies, a fundamental precept of public utility regulation emerges: When an industry plays a central and essential role in the nation's general economy, it is the legitimate responsibility of the state to ensure that the industry function efficiently and fairly for the benefit of all society" (2000, p. 51).

Why are telecommunications important today?

Telecoms have been recognized as essential to the growth of industry and commerce for over a century. During the mid to late 1800's, the increasingly complex economy of industrial capitalism gave rise to the need for a revolution in communication and transportation systems (Marx, n.d., pp. 505-6). Today, telecoms have become more than just a backbone for other forms of commerce; they have evolved into an important industry and a source of growth in their own right (Melody, 1997, p. 1). In 2012, the Canadian communications sector as a whole (comprising telecoms and broadcasting) earned revenues of $60.7 billion, with telecoms accounting for a substantial majority at $43.9 billion. The mobile wireless market was the largest single segment of revenues, contributing $20.4 billion from just under 28 million subscribers (CRTC, 2013, pp. iii-iv). In 2011, the most recent year for which data are available, the telecommunications services industry employed 118,000 people, representing over 20% of all ICT sector jobs (Industry Canada, 2012). Melody noted two decades ago that:

> …the telecom system is rapidly becoming the electronic infrastructure for transmitting all kinds of information — voice, data, graphics, video, music. It already underpins broadcasting, computing, the press, banking and other industries. The postal service, government administration, manufacturing, natural resources and agriculture are not escaping its influence (Melody, 1997, p.1).

Today, more than ever, telecoms have moved into a central role as the electronic infrastructure for social interaction and exchange.

That being said, mediated communications represent more than a commodity; communication is first and foremost a basic human activity. Self expression, maintenance of family, community, and culture; all these things depend on people's ability to freely communicate (Winseck, 2014). The means by which we do so is increasingly mediated by a variety of technological products and services and this makes the organization of the telecom industries a matter of ongoing social concern.

The means of communication have developed rapidly and have replaced one another in relatively rapid succession. Canadians have historically been avid users of telephones; (Winseck, 1998, p. 123) we took to radio and television with enthusiasm, and we consistently rank amongst the heaviest Internet users in the world by a variety of measures. (e.g. Comscore, 2013, p. 6) In 2011, for instance, over 99% of Canadian households subscribed to wired and/or wireless telephone services, and roughly 95% of those under 50 used the Internet (CRTC, 2013, pp. ii & 186).

Since the beginning of the 20th century, the basic character of communication networks has evolved from novelty, luxury and tool of business at the outset to a necessity as they are broadly considered today. From morse code to Internet protocol, from analog to digital transmission, from copper wire to radio waves and fibre optic cable, over the course of the past century and a half the networks which enable communication at a distance have increasingly become a standard condition of full participation in modern social life.

By reflecting briefly on the parade of technologies that has marched across the past century and a half, we can see that there is an essential feature of telecommunications networks which does not reside simply in the technical particulars, but rather in the broad role they play as a

means for facilitating social interaction. Whether it be through placing a call to the local physician, tuning in to "The National" on CBC, or checking in with friends online, virtually every member of society has a stake in how our communications systems are structured; we deserve to be informed of their processes and techniques, and ought to have a say in shaping their outcomes. To the extent that Canadians are today unable to access the prevailing means of communication, they are excluded from basic elements of social life. Such access is almost as important as basic literacy and numeracy for full participation in the economic, social, political, and cultural life of our society.

Communication technology is also becoming further integrated into the operation of political and democratic institutions, creating a risk that people without access to networks will be become increasingly disenfranchised. Indeed, "freedom of thought, belief, opinion and expression, including freedom of the press and other media of expression" are recognized as fundamental by Canada's 1982 Charter of Rights and Freedoms (Longford et al, 2008). Governments around the globe have similarly recognized the importance of ensuring their citizens have the ability to take advantage of modern communication networks. In 2000, communications lawyer Hank Intven noted that:

> Access to telecommunications is increasingly being viewed by policy makers as a basic right of all citizens, essential to full membership in the community. The objective of ensuring access is gaining momentum due to the increased reliance on the Internet and related new media by all sectors of society. Today, telecommunications delivers all types of information, goods and services to the public; including essential government, social, ed-

> ucational and medical services, and a wide range of e-commerce services. Those without access to telecommunications services risk becoming increasingly marginalized members of the 21st Century society. (World Bank, 2000, 242)

The importance of telecommunications to democratic life is only becoming more acute with time. For example, government information and archives are increasingly moving online, political parties campaign on Youtube, and advocacy groups raise awareness and form platforms based on grassroots "crowdsourcing." Although experiments with online voting have yet to gain serious ground in Canada (Huffington Post, 2013), it is not outside the realm of possibility to imagine a future in which Canadian citizens cast ballots with their smartphones and laptops as some already do in other parts of the world, such as in Estonia (Farivar, 2011). There are significant concerns to be overcome regarding privacy and also the efficacy of technologically mediated political participation. However, with politicians (such as the fiery Pat Martin or current Treasury Board Secretary Tony Clement) already regularly connecting with citizens through platforms like Twitter and Facebook, there is little question that the telecommunications infrastructure that enables such connections is becoming vital to the political process. It therefore comes as no surprise that ensuring affordable access to telecom networks is a statutory policy objective that guides decision makers in their oversight of Canada's communications system.

This chapter has introduced the idea that telecommunication policy and regulation present an ongoing concern in Canadian society. It laid out a conceptual framework for understanding what regulation is, and how it is organized and implemented. Telecommunications were defined, and the principles by which they are regulated were articulated. In the next chapter, I explore

how telecommunications policy, industry, and regulation developed in Canada by highlighting the major trends and events that shaped this process.

CHAPTER 2: HISTORICAL REVIEW

Telecoms regulation: development, implementation, reform

Over the course of the past century, communication technology has improved as a matter of course, but developments in the 'state of the art' such as the evolution of the Internet and the rise of mobile connectivity have implications that go well beyond the purely technical. Making sense of these changes from a political and economic standpoint requires an understanding of the social forces and relations — not just the technological factors — which shape telecom's institutional framework.

Wilson tells us that "[i]n order to understand fully the modalities and the legitimations of the economic regulation of the telephone industry, this relationship must be placed in the context of a long history of the social control of economic activity…" (2000, p. 67). A survey of the literature allows us to identify three phases in the historical development of telecoms policy and regulation: *laissez faire*, which lasted roughly from 1880-1906 and is associated with the period of "unregulated" competition at the inception of the telephone industry; the decline of competition and the rise of regulated 'natural' monopoly, which took place from 1906-1976 and witnessed the telephone's transition from a luxury good or business tool to a fixture of everyday life; and neoliberalism, associated with the move to liberalization, privatization, and deregulation, which began in the 1970s and continues to the present. The date ranges presented here centre on

milestones around which broad shifts have taken place, and therefore the precision with which they've been set out should be considered approximate. Also, different authors assign different names to variations of these periods, according to academic discipline, approach, method, etc. The purpose here is to outline the general contours, rather than delineate exact categories/criteria of analysis, in order to examine how policy has changed throughout the life of electric communications in Canada.

Corresponding to each of these periods is a myth. The first is that telecommunications were born purely of technological innovation and the market motivations of private actors, most notably the profit motive. Instead, we see that the state played a pivotal role in shaping the telecom market during its developmental stages. The second myth is that economics dictates telecoms are a natural monopoly. Against this it is shown that monopoly was embraced by the state on a contingent basis, as a product of and means to economic and social policy goals. The third and final myth is that relinquishing state oversight of "the market" will unproblematically lead to the fulfillment of social goals, such as universal access to service. Instead what has happened since the turn to neoliberalism is a consolidation of power by dominant firms, who act first and foremost in their own private interest, which has not been satisfactory with regard to the fulfilment of social goals that conflict with economic imperatives.

Each of these three periods are considered below, after which I draw some general conclusions about the contemporary approach to Canadian communication policy and regulation.

Early Days: laissez faire and the inception of telecoms policy, 1870's-1900

The inception of the modern telecommunications industry is most often located in the late 1870's, following the contemporaneous "invention" of the telephone by several entrepreneurs, most notably Alexander Graham Bell, Thomas Edison, and Elisha Gray (Babe, 1990, pp. 65-68; MacDougall, 2014, p. 40; Winseck, 1998, pp. 115-116). This period is typically described as one of "unregulated competition" (Winseck, 1998, pp. 117-127). To be clear, "economic regulation" (in the form of price controls, see last chapter) was unknown, but this is not to say that the burgeoning telephone companies operated free from state control. Quite to the contrary, companies like the Bell Telephone Company of Canada relied heavily on a *supportive* state policy in order to succeed. This support came mainly in two forms: protection for patents and the granting of federal charters.

Alexander Bell secured the patents for his telephone for both Canada and the US in 1876, inaugurating a period of intense competition between Bell and a number of telephone concerns operating under the umbrella of the Western Union, which had obtained rights to the competing Edison patent (Babe, 1990, 66-67). The two technologies employed by these firms were not interoperable, meaning that a Bell customer could not call a Western Union customer, and vice versa. Customers, and businesses in particular, were known to have multiple phones on their desks from competing service providers, in order to be able to reach greater numbers of people. This was a direct result of incompatible customer equipment, and also refusal to interconnect between competing networks (MacDougall, 2014; Mueller, 2013).

In 1879, Bell gained a strategic advantage in Canada when Western Union retreated from the telephone market in order to focus on its core business, the United States telegraph market. Bell used its control over the telephone patent as well as its vertical relationship with its much larger American parent (which manufactured the equipment) to dominate smaller independent network providers, who were either forced to pay for the "privilege" of offering customers service or denied access to the necessary equipment in the first place (Babe, 1990, pp. 66-68, 74). Intellectual property protection facilitated Bell's efforts to consolidate the market for telephone service, and in cases where competition persisted, to extract rent from rivals who were forced to pay Bell to access its patents. Within several short years, the sheer scale Bell had achieved created a near-insurmountable barrier against new competitors seeking to provide alternative services or those serving areas ignored by Bell.

The second link in the relationship between telephone companies and the Canadian state, and another key to Bell's success, was the granting of a federal charter in 1880. As Winseck notes, the practice of offering charters to railroad and telegraph companies was common at the time, but Bell's charter was "the first time that government authority explicitly embraced *telephony*" (1998, p.119, emphasis mine). The charter (officially the *Bell Telephone Company of Canada Act*) imposed limits on capitalization, and although it did not explicitly countenance monopoly (Winseck, 1998, p. 120), it nevertheless signalled state endorsement by permitting Bell to manufacture telephone equipment, purchase other telephone operations, interconnect its network with others, freely access rights of way such as roads, sidewalks, and railway easements, and enter into exclusive territorial arrangements with municipal governments. In 1882, the charter was

amended to declare "the company's works to be 'for the general advantage of Canada'," officially placing telephone providers within the class of "business affected with the publick interest," otherwise known as public utilities (Babe, 1990, pp. 165-166; Melody, 1997, p. 11). The particular language used in the Bell Canada Act is : "the works of the company are hereby declared to be for the general advantage of Canada." In essence, Bell's charter cemented the notion that telephone companies were "instruments of the state, created to meet state objectives" (Wilson, 2000, 45).

Rideout describes the supportive measures extended to Bell by the Canadian state as part and parcel of an overarching policy of economic nationalism, with Bell's charter as one pillar of Canada's "First National Policy" (2005, p. 16). This means that the "public interest" with which the chartered telephone companies were "affected" was interpreted to mean the interest of the state in promoting capital accumulation, and more broadly the expansion of national commercial development (ibid). Babe (1990, pp. 68-71) and Rideout (2005, p. 19) note with irony that the Bell Telephone Company of Canada, supported in the name of nationalist policy goals, was in fact an appendage of the much larger American Bell Telephone company: its board comprised primarily American Bell executives, its manufacturing arm funnelled profits to the South, and eventually its long distance interconnection agreements would further integrate its operations with its American owners. Notwithstanding the questionable status of its national allegiances, Bell was thus a major part of the chosen vehicle of state economic policy, and was extended significant subsidies in support of its expansion. Taking advantage of its privileged position as a federally chartered operation, the Bell Telephone Company of Canada swiftly and ably monopo-

lized the burgeoning industry. This had advantages for business users who lived in urban areas and could justify monopoly prices for telephone service as a "cost of doing business," but rates remained too high for many and rural locations were often ignored (Rideout, 2005, p. 19-20).

According to Pike and Mosco: "by the end of [the 19th] century, the phone was widely perceived by public officials and substantial business executives in the large metropolitan centres as absolutely essential to the efficient performance of their duties." (1986, p. 21) However, by this time it was also becoming increasingly apparent that the Government's *laissez faire* approach to economic policy was failing to ensure that businesses and Canadians more broadly were well served by their telephone system. A combination of predatory business practices enabled by Bell's branch plant relationship with its deep-pocketed southern owners, restrictive covenants with the railroads, its exclusive municipal franchise agreements, and refusal to interconnect with competitors created tremendous success in urban areas for Bell and parts of the business community, but led to a sustained social outcry for relief from those who envisioned alternative uses of the telephone (Babe, 1990, pp. 91).

The rise of monopoly and the "regulatory bargain," 1901-1970's

Recognizing the importance of the telephone for commerce, early twentieth century communications public policy sought to spur the growth of the Canadian telephone system in the broader economic context of promoting capital accumulation, a goal that was helped along by strong and frequent appeals to national unity. This strategy worked well for Bell, but was less successful as far as its competitors and telephone customers were concerned. Competitors had earlier won concessions when Bell's patents were nullified in 1885, although the move came too

late for many, as Bell's dominance had already been established in the profitable metropolitan centres (Babe, 1990, pp. 74-79). Nevertheless, competition carried on at the fringes. A number of independent establishments (often run by doctors or farmers, some municipally owned and operated) went on to provide service in rural areas ignored by Bell and occasionally took a run at some urban centres (1990, pp. 80-86).

During the 1890's, social and political pressure mounted to the point that Parliament sought to extend federal jurisdiction over the telephone industry. The first effort to do so took place in 1892, but a subsequent judicial decision to the contrary ensured that the attempt was short lived (Babe, 1990, p 91). General discontent with Bell's business practices continued to build steam into the new century, until a series of petitions in 1901 and 1902 forced Parliament to address the problem again. Citizens, businesses, and municipalities were calling for government *control* of telephones, and some were agitating for government *ownership* (Winseck, 1998, p. 25). Parliament again responded weakly, this time by bestowing authority to approve rate changes on the Board of Railway Commissioners. This amounted to a token gesture which proved to be an ineffective means of quelling dissent (Babe, 1990, pp. 91-2). For the next twenty years, a contest ensued between groups who held competing visions of how the Canadian telecommunications ecosystem ought to take shape.

Early attempts to bring the telephone industry into line with notions of fair competition and inclusiveness were largely sloughed off until scandal erupted in 1903, when MP William Maclean revealed that the Minister of Railways (who was responsible for overseeing the telephone industry) was also the president of an eastern Bell subsidiary (Babe, 1990, p. 93). Expos-

ing this conflict of interest drummed up significant support for Maclean, who doggedly waged a political campaign to rein in Bell's continuing abuses. In 1905, his efforts paid off when the Laurier government convened a Select Committee of the House of Commons to "report upon the telephone situation and recommend what changes, if any, should be implemented" (1990, p. 95).

It was widely expected that the outcome of the inquiry would be government ownership, since its chair, Postmaster General Sir William Mulock, openly favoured nationalization. Babe writes that "this inquiry into telephony was one of the most exhaustive ever to take place in Canada" (1990, p. 97), although surprisingly in the end it all came to nought. Toward the inquiry's conclusion Mulock was mysteriously called away, and was replaced by a lame duck. The Committee was dissolved without making any recommendations, and shortly thereafter an election was called (1990, pp. 98-99). The Laurier government was reelected, but by the time Parliament reconvened, Mulock had retired. Much to the chagrin of activists like Maclean, Mulock's seat was filled by none other than A.B. Aylesworth, the lawyer who had represented Bell during the inquiry! Unsurprisingly, the issue of nationalization faded from the agenda, and in 1906 the Laurier government again placed "telephone companies falling within federal jurisdiction under regulatory supervision of the Board of Railway Commissioners for Canada" (1990, pp. 101,115-116), a move which, it may be remembered, was little more than a token gesture.

In the period that ensued, regulation was primarily directed toward promoting fair competition through dispute resolution, and did not encompass direct economic measures such as price setting. Canada experienced a sustained expansion of the telephone, both geographically into rural areas, and demographically into the homes of ordinary people. According to Pike & Mosco,

by 1919 “only 35% of all telephones in Canada, including pay phones, were designated as located in businesses, whilst the rest were designated as either residential (50%) or rural (15%)” (1986, p. 20). This represented a substantial shift in the user base, and the nature of use of the telephone from just 20 years earlier. Independent companies experienced “rapid and impressive” growth, accounting for roughly one third of all subscribers in Ontario and Quebec by 1915 (Babe, 1990, p. 115). Winseck writes that “[m]uch of their success was due to the fact that they provided services where Bell would not and at rates considerably lower for local telephone service” (1998, p. 132). Not all of the independent phone companies competed directly with incumbents; many served rural areas and required equipment from Bell or interconnection with its networks to operate. In the prairie provinces, the possibility of competition was foreclosed altogether by the provincial governments shortly after 1906. Provincially owned telephone monopolies and public utilities boards were established in Alberta, Saskatchewan, and Manitoba, in the latter with an explicit mandate “to give ‘a telephone system to all classes at cost’” (1990, pp. 102-110).

While the prairie monopolies persisted successfully into the 1990’s, competition in central and eastern Canada was shorter lived. Bell leveraged its vertical relationship with its manufacturing arm, its monopoly on long distance lines, and its cozy relationship with the BRC to squeeze the independents out of business one by one. In some cases, Bell isolated competitors by refusing to interconnect to its long distance network. Beginning in 1911, a series of government decisions favouring Bell’s (and the other non-competing federally regulated telco’s) cause signalled trouble for competitors (Babe, 1990, pp. 117-118), and the independents’ death knell was ringing in

1917 when Bell received regulatory approval to impose drawbacks on both competitors and "non-competing" telephone companies alike (Winseck, 1998, pp. 133-135). By 1925, the last competing telephone company had disappeared, inaugurating a period of regulated "natural" monopoly that would last another seven decades (1998, p. 135). Although numerous independent telephone companies existed throughout Canada during this time, they operated in isolation as local or regional monopolies, and did not compete directly with each other or with Bell except in a limited number of extraordinary circumstances.

"Natural" Monopoly

Through deft political maneuvering, Bell had escaped government takeover, and together with the other regional incumbents used control over existing infrastructure and a favourable regulatory regime to thwart independent competition. Beginning in the post-war years, the discourse shifted from one of the economic benefits of competition to those of natural monopoly. Rideout describes the period that ensued as one of "Fordist Telecommunications Policy" (2005, pp. 40-44). The system was indicative "of a policy approach occupying some of the large compromise ground between a pure market and a primarily state owned economy" (Crouch, 2011, p. 9). The shift to Keynesian demand management contributed tremendously to economic growth and the federally regulated telecom companies' success, but it was also a major boon to Canadians more generally in their personal and working lives.

The post war years marked the beginning of a period of unprecedented state intervention in the telecommunications sphere. Crouch would describe this as a "social democratic" approach, meaning it sought to combine "government power *with* the market to try to produce an economy

that maximizes efficiency in a manner consistent with the avoidance of manmade shocks, with the pursuit of certain social goals that seem difficult to achieve through the market alone, and with limitation of the inequalities that result from market processes" (Crouch, 2011, p. 9). During the 1950's, Cabinet actively promoted and invested in public and mixed public-private long distance and international communications infrastructure operations, for instance by establishing a publicly owned national microwave relay system and authorizing CNCP Communications, a telecommunications undertaking belonging to the national railway company, to extend its telegraph network from coast to coast (Rideout, 2005, pp. 40-41). At the beginning of this period, the Board of Transport Commissioners, successor agency to the Board of Railway Commissioners after 1938 (Rideout, 2005, p. 45), oversaw but generally approved requests for rate increases and capital expenditures by the telephone companies (2005, pp. 33). Over the course of the 1940's and 50's however, the state's previous approach of reliance on market mechanisms was eventually displaced by a system of public utility regulation.

To say that the forms of economic regulation that took shape in the 1950's "simulated competition" would be plainly incorrect. In fact, the mode of rate regulation that was developed at the time responded to the belief that telecommunications was a "natural monopoly," that is, an industry in which the most efficient arrangement is to have only one firm provide service, and sought to correct the troubles associated with this market failure by establishing a system of cost averaging and cross-subsidization from business users to residential ones and from urban to rural areas (Babe, 1990, p 139; Rideout, 2005, pp. 32-33). This approach could be described in technical terms as "economically inefficient," but it was designed to serve the dual purpose of fostering

the growth of the telecommunications industry (and with it commerce more generally) and at the same time was directed toward achieving service universality by maintaining "artificially" low rates for local calling (Melody, 1997, Ch. 13). According to Pike & Mosco, "[t]he substantial increase in household leasing of phones which occurred between 1940 and 1947 was the beginning of a surge in levels of phone possession which reached its peak during the 1950s, and which was thereafter followed by a steady 'filling-in' process culminating in the present state of almost universal household penetration" (1986, p. 21).

The period of Fordist telecommunications policy can be seen as a "social compromise," an evolution of the "regulatory bargain," since it fostered economic expansion, promoted social objectives such as universal service, and witnessed the ascendence of corporatist unions (Rideout, 2005, pp. 34-40). In effect, social and economic regulation were one and the same — control over the economics of the industry was used to further social goals. Pike and Mosco have concluded that "the long-term decline in the real cost of basic subscriber charges which, in combination with a rate structuring policy designed to place emphasis on universality of access to local telephone service, has brought the phone within easy economic reach of all classes of the population" (1986, p. 22). This was one important aspect of what Crouch meant when he described the period more broadly as one in which "[c]apitalism and democracy became interdependent (2011, p. 11).

Beginning in the 1970's, the social compromise in telecommunications (as elsewhere) began to unravel. Pressure from a number of angles slowly forced a change in approach from regulation of monopoly back to reliance on competition. This did not entail a withdrawal of the state

as is often claimed, but rather represented a change of tack. The following section traces the development of the neoliberal regulatory regime which prevails at present.

Neoliberal Telecommunications

The pivotal moment in the transition to neoliberal policy is typically located as the economic crisis of the 1970's (Crouch, 2011, pp. 13-15; Rideout, 2005, p. 47). The inflationary shocks that occurred during that time opened the door for the ideas of Chicago economists such as Milton Friedman to gain purchase with international state and industry actors, including policy coordination organizations like the OECD (Crouch, 2011, pp. 15-16). "The principal tenet of neoliberalism," according to Crouch,

> is that optimal outcomes will be achieved if the demand and supply for goods and services are allowed to adjust to each other through the price mechanism, without interference by government or other forces — though subject to the price making and marketing strategies of oligopolistic corporations (Crouch, 2011, p. 17).

In the context of Canadian telecommunications, multinational corporations exerted pressure to adopt these ideas through the use of lobby groups and research institutes, arguing first for liberalization and privatization, to be followed later by deregulation. Liberalization and deregulation are the main focus of this discussion. Historically, Canada's telecommunications industry has with a few exceptions consisted of private firms. During the 1980s and 90s, the major telecom operations that remained public were sold off, including satellite provider Telesat in 1992 (Wilson, 2000, pp. 220), undersea cable operation Teleglobe (Wilson, pp. 224-227), and the provincial monopolies, save for Sasktel, which remains the only state-owned telecommunications

provider in North America. The processes surrounding privatization in Canadian telecommunications is deserving of attention for future study, but it is nevertheless worth noting that Canada never achieved the levels of national- or provincial ownership of telecommunications firms that were common during the twentieth century in most of Europe.

Mosco defines liberalization as "a process of state intervention to expand the number of participants in a market, typically by creating, or easing the creation of, competing providers of communication services" (As quoted in Rideout, 2005, 65). The communication sector was a target for liberalization because it had "gained strategic importance to all the other sectors, particularly multinational capital" which "rely on new technological developments such as computers, telecommunications, and satellites for production, distribution, and other exchange- and trade-related activities" (2005, pp. 50-51). However, these efforts initially encountered a tepid response from government, and stiff resistance from a variety of other groups (Rideout, 2005, pp. 48-58).

The Department of Communication (DoC), which had been formed in 1969 with "a mandate that emphasized commercial, economic, and technical considerations" was initially circumspect regarding the prospects of liberalization and privatization; it interpreted its mandate in the terms of national interest and sovereignty (Rideout, 2005, pp. 41-44). Further, during the early 70's the DoC was bound by a policy statement (the Clyne Report, 1971) to promoting universal service, and was concerned along with other groups that it would be threatened by competition in long distance (remember that the telephone companies were allowed to charge rates higher than

cost for long distance services in order to cross-subsidize local telephone service for residential customers).

The monopoly telecommunication companies, unions, provincial governments, and newly formed consumer organizations outright opposed liberalization. These groups formed a somewhat uncommon coalition around the idea of universal service. Telecom companies benefitted from their monopoly status, and argued that competition would have harmful effects on universal service; unions feared workers would suffer losses as a result of international competition; and consumer groups argued that decreases in long distance rates would lead to increases for local service (Rideout, 2005, pp. 74-76). These groups coalesced around a common principle. Protecting universal service ostensibly entailed maintaining the established regulatory regime; competition in long distance and new data services sought by the multinationals was seen as anathema to the system of cross-subsidy and cost-averaging keeping the system in balance.

The neoliberal policy agenda made early headway when the CRTC assumed jurisdiction over telecommunications in 1976. The Canadian Transport Committee, previously in charge of overseeing the sector, had been notoriously technocratic and thus remained insulated from outside pressures. Unlike its predecessor, the CRTC held public consultations regarding the matters that came before it, which provided inroads not previously available to pro-competition groups. This may explain why it was the first government institution to embrace competition in communications. A series of CRTC decisions from 1979-1985 were crucial early steps toward realizing neoliberal policy goals. First, CNCP Communications (the telegraph company) was allowed to interconnect with Bell's networks in 1979, a decision that enabled it to provide private voice and

data services to business customers (a market previously reserved for the "natural monopolists"). Next, in 1982 the CRTC allowed customers to attach their own "terminal equipment" to the network, leading to the proliferation of an innovation we take for granted today: the phone jack. The importance of this decision can hardly be overstated; it was crucial to creating Canadian markets for answering machines, the fax, cordless phones, and eventually modems and connected computers. Finally, resale of services was authorized in 1985 (Rideout, 2005, pp. 75-79). These early decisions by the CRTC set the stage for broader government acceptance of neoliberal communication policy during the 1980's.

Following the recommendations of the 1984 Macdonald Commission, the Canadian state officially committed to a policy of liberalization with the adoption of the Canada-U.S Free Trade Agreement in 1987 and later NAFTA (Rideout, 2005, pp. 54-56). In the communications policy sphere more specifically, the DoC embraced liberalization to a limited extent in 1983 when it authorized competition in the provision of new mobile services (discussed at length in the next chapter). A firmer overall commitment was signalled later in the decade when the DoC issued a series of policy documents endorsing neoliberal goals (Rideout, 2005, pp. 93-97). The liberalized approach to Canadian telecommunications policy reached its culmination in 1993 with the passing into law of the *Telecommunications Act,* which includes amongst its objectives "to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications, […] "to foster increased reliance on market forces, […] and to ensure that regulation, where required, is efficient and effective" (TC Act, 1993, ss. 7(c) & 7(f)). By this

time, competition had been allowed in nearly all aspects of the telecommunications system, although liberalization of local access markets would not occur until 1997.

Deregulation without competition? Liberalization and oligopoly

Official government communication policy has unsurprisingly remained committed to promoting competition to the present day; the *Telecommunications Act* has received only minor revisions over the last 20 years, and a cabinet directive in 2006 reaffirmed the new Conservative government's commitment to "reliance on market forces." The process of deregulation, however, has proceeded unevenly and has been subject to significant and lasting friction, most significantly in consumer markets (Trebing, 1997).

The source of this friction can be traced to a fundamental problem with the neoliberal approach to economic organization: the fabled "free market" that underpins the theory, in which "[n]o one producer or consumer, or small group of such, is able to affect the prices by its own actions" (Crouch, 2011, p. 29), has in practice never emerged in many aspects of Canadian telecommunications. Recognizing this shortcoming "amounts to challenging neoliberals on their own territory" according to Crouch (2011, p. 29).

Far from realizing competition of the type envisioned by classical economic theory, market failures abound. Barriers to entry and exit remain high (Crouch, 2011, pp. 39-42), consumers lack bargaining power and adequate information about service costs and characteristics (Crouch, pp. 43-45), and existing former monopolies continue to exert substantial influence over the political and regulatory decision making processes (Crouch, pp. 45- 48). Communication markets, in

particular those for local services, remain under the control of "telecommunications firms so large and dominant in their markets that they pay little attention to customers' problems with their services [and] computer software and satellite television monopolists who fight every attempt to open their activities to competition" (Crouch, 2011, p. 24).

Today it is widely recognized that Canadian telecommunications firms comprise a "tight oligopoly" (Trebing, 1997, pp. 25-29), an observation supported by substantial evidence of increasing market consolidation (Winseck, 2014a & 2014b). This is a problem because deregulation has proceeded apace following decisions to *open* markets but prior to the actual emergence of sustained competition. Telecommunications may no longer be recognized as a natural monopoly, but an oligopoly brings functionally similar problems. According to Crouch, the persistence of market concentration reveals a major shortcoming in neoliberal thinking: "[i]f we are increasingly told to welcome 'more market' in our lives, but 'more market' really means 'more giant firms', we need to know more about these and their political implications" (2011, p. 52).

Following this thinking, Crouch poses the central dilemma that has occupied telecommunications policy and regulation since the 1990's, worth quoting at length:

> First, are the virtues of the market better expressed in the maintenance of competition, and therefore with the existence of large numbers of competing firms, as in pure economic theory, or in the outcome of competition, which may often mean the survival of a few giant corporations and diminished consumer choice? Second, if the former is preferred, and given that it usually needs anti-monopoly legislation to maintain large numbers of

> firms in markets that are prone to concentration, how much government intervention is acceptable in order to preserve competition? (2011, p. 53)

In my view, the rhetorical commitment to promoting and maintaining competition coupled with the simultaneous pursuit of a deregulatory policy is the central contradiction of the neoliberal approach to Canadian telecommunications. It is a problem that is strikingly similar to the one that animated policy in the early 20th century, although the paths taken to address it have diverged substantially.

Conclusion

According to Vincent Mosco, "[o]ne of the more useful ways to critically assess technological myths, including myths of cyberspace, is to excavate some of the similar tales that accompanied the rise of earlier "history-ending" technologies" (Mosco, 2004, p. 24). Today's communications networks are often held up as new, innovative, and thus completely detached from the technologies and policy approaches that came before them. However, in truth there is much in common between the technologies of today and those of the past. The contemporary telecommunication industry is the historical descendent of the telephone and cable TV industries. The majority of Internet and mobile wireless subscribers in Canada receive service from companies whose predominant business for most of their existence was the telephone, companies such as Bell, TELUS, MTS, etc, or former cable monopolies like Rogers and Shaw. The economics of telecommunication networks are similar across technologies, as are the roles they play in the everyday lives of ordinary people. In short, analysis of contemporary communication policy and regulation cuts across particular technologies and is informed by both similarities and differences

in material and historical considerations. This chapter has surveyed the historical development of telecommunications policy and regulation (centred around the telephone industry) with the goal of excavating the origins of our modern regulatory regime in mind. We saw that telecommunications development was actively encouraged by the state from its inception using economic measures. The natural monopoly regime was not inevitable, but rather the result of corporate maneuvering and the state's desire to match commercial growth with universal access to service. Lastly, the failure of neoliberal telecom policy to meet its own objectives was discussed. The next chapter takes up the discussion by examining the development of mobile wireless telecommunications in Canada.

CHAPTER 3: WIRELESS POLICY REVIEW

Introduction[1]

Forms of radio telephone were in use in Canada as early as the 1920's, mostly in the service of police departments and the military, although these preliminary technologies would hardly be recognized as mobile phones by today's standards (Goggin, 2006, ch. 2). By the 1970's, a slightly more familiar form of wireless service - the car phone - was on offer to the Canadian public, predominantly by regional monopolies Bell Canada and B.C. Tel. However, the equipment and networks were expensive and limited (more like walkie talkies than cell phones), which unsurprisingly contributed to ensuring that the customer base comprised mainly "important, impatient, busy people in business, professions, or government" (CRTC, TD CRTC 77-16,

[1] A version of this chapter was submitted to the CRTC as part of the author's participation in a public proceeding in 2014, the CRTC's review of mobile wireless wholesale services proceeding, TNC CRTC 2014-76.

p. 4). Demand for service grew alongside improvements in technology, like the development of the first recognizably modern cell phone by Winnipegger Martin Cooper, whose invention was being tested by AT&T in the US as early as 1978. In 1982 the Department of Communications (DoC) issued a call for applications to parties interested in providing cellular services (DoC, 1982). This represented the first in a series of policy decisions which would see mobile wireless networks develop along a distinct (but complementary) trajectory from other utilities like local and long distance telephone services, private lines, and new data services, although not under different ownership.

By the early 1980's the DoC and the Canadian Radio-television and Telecommunications Commission (CRTC) were in the midst of adjusting to new ideas for telecommunications policy and regulation. The boundaries of traditional forms of monopoly regulation were being tested; the CRTC, spurred on in large part by support from the broader business community (Wilson, 2000, pp. 203-206, 208), had undertaken to allow competition between the telephone companies and CNCP in the provision of certain commercially-oriented services. Private lines and data services had been liberalized during the latter half of the seventies (CRTC, TD CRTC 79-11) and, starting in 1982, subscribers were allowed to attach third-party equipment (such as answering machines, modems, and fax machines) to the telephone network via newly-installed phone jacks in their homes and offices (CRTC, TD CRTC 82-14). The early development of mobile wireless policy fits within this broader context, although it has received less attention than other aspects of telecommunications policy reform such as the introduction of competition in long distance and local exchange services.

Early Wireless Policy - Dept. of Communications and the Introduction of Competition

In the early phases of cellular policy development, and like the burgeoning neoliberal approach to wireline services, the Department of Communications undertook a new approach to the relationship between economic and social policy. It sought to balance demands for flexibility and efficiency from large telecommunications users like banks and other large (often multinational) corporations against the economic interests of existing industry players, mainly the incumbent telephone companies and their unions. Although the "consumer interest" was often aligned with these goals, ordinary consumers do not appear to have factored largely into the consideration of policymakers with regard to the early development of mobile policy, since it was expected that the primary users of the service would be business executives or other well-off people.

Competition between service providers, as opposed to regulated monopoly, was seen as a way of promoting efficiency (driving rates toward costs, reducing administrative burden) and innovation (by allowing more than one firm to determine the uses to which scare resources are put (Competition Bureau, 2008)). This method can be contrasted with the earlier regulated approach to local telephone exchange service in which carriers were granted local and regional monopolies in exchange for meeting social obligations revolving around price controls, universal availability, and quality of service. However, the contrast between monopoly and competition in telecoms has not been too stark, as initially competition was limited to two service providers in any area and has remained underdeveloped since.

In order to spur the development of the new mobile services in the early eighties, the DoC, under the leadership of Liberal Minister of Communications Francis Fox, exercised its control over radio communications by designating the "cellular" band of radio frequencies, named after the geometrical honeycomb configuration in which cellular towers are deployed in order to achieve adequate signal coverage and to facilitate call hand-off between different towers (Agar, 2013, chapter 3), for commercial use by companies who intended to provide service to the public. From the outset, the DoC's expectation was that cellular would be provided on a competitive basis (Competition Bureau, 2008) and, following this logic, the available frequencies were divided into two parcels, "sub-band A" and "sub-band B." Two companies would be licensed to offer service in each of 23 metropolitan areas across Canada; the first license was put out for open tender to "new entrant" providers, and the other was offered to incumbent telephone companies in their respective territories. This framework was set to establish a duopoly cellular service market in various areas across Canada, pending the results of the licensing process. A duopoly, rather than a fully open market, was favoured because the spectrum resource required to make telephone calls wirelessly is scarce, and the technology was highly limited at the time. In order to manage the development of the new cellular services in an orderly fashion, it was thought best to restrict the number of operators to avoid interference between the telephone calls of customers of competing service providers. Furthermore, problems in the US with spectrum "speculators" who would purchase licenses without any intention of deploying networks only in order to sell them for higher than they paid caused Canadian decision makers to shy away from a fully open market.

Beginning in 1983, the DoC evaluated applications from prospective entrants according to a process known as comparative selection, whereby the successful candidate is chosen based on relative merit (Industry Canada, 1996). This process has also been derided as a 'beauty contest' for reasons that should become obvious shortly. By April 1983, initial submissions for the A band had been received from seven companies, most notably CNCP Cellular Communications, Roam Communications and Rogers Cantel, the latter of which was jointly owned by the Rogers family (of cable television) and American telco AT&T (Clendenning, 1999, pp. 28-9). Nine submissions from smaller local and provincial telephone companies were also received. The proposals varied significantly; some were national in scope, while others targeted specific regions; some proposed to maintain Canadian ownership, while others sought foreign funding; some proposed to work with existing providers, while others sought to create an independent system.

That summer, the process took a controversial turn when Liberal Minister of Communications Minister Francis Fox decided to forgo a public hearing on the matter and instead struck a committee to consult with individual parties behind closed doors. Ostensibly, these meetings would allow participants the opportunity to discuss broad concerns related to the development of the cellular industry, although they were meant to exclude discussion of particular submissions in the interest of procedural fairness. However, accusations by CNCP that Cantel had used its time in front of the committee to make inappropriate *ex parte* overtures raised concern over whether this was truly the case. In September, the DOC called for a second round of submissions which required parties to address newly revised criteria, and there were more complaints from certain

quarters that these criteria closely (and suspiciously) mirrored Cantel's proposals (Clendenning, 1999, p. 36).

On December 14, 1983, it was announced that Cantel was the winner of a national cellular sub-band A license, with the remaining licenses being awarded to the existing local telephone monopolies, such as Bell Canada and B.C. Tel (Industry Canada, 2004). Managed competition in the provision of cellular services was thus off to an ignominious start amid political controversy and accusations of horse trading. However, these initial issues eventually fell by the wayside, as the debates turned to questions of how to integrate mobile service providers' networks into the broader telecommunications system.

The CRTC: the Role of Regulation in the Transition to Competition

Despite optimism surrounding the potential benefits of competition, liberalization represented a departure from the traditional Canadian method of telecommunications regulation. Not surprisingly, therefore, it faced stiff opposition from the incumbent telephone companies and therefore required substantial adjustment and oversight by the regulator. The approach to cellular split from previous practice in another important way: while the DoC retained regulatory authority over the airwaves, the CRTC retained jurisdiction over the activities of the licensees themselves. Although the DoC's comparative selection process had set the frame for cellular going forward, it was left up to the CRTC to work out the functional details of the transition to competition. Then-CRTC Chairman John Meisel contrasted the Canadian "toes-first" approach to competition against the decidedly more headlong transition in the United States as follows:

> The US is now experiencing a wave of deregulatory fervour, which, although less all-embracing than is sometimes claimed is certainly serious. It has led the Federal Communications Commission and other regulatory agencies to relax or completely abandon some of their former customary activities. While it is too soon to speak of the results of this policy, it is plain that it is not applicable in a Canadian context. In this country, we have always tempered the desire for economic prosperity with a broad, public concern for the achievement of political and social ends. These, over the long haul, have held firm and our economic successes have been traditionally marshalled in their service (Meisel, as quoted in Wilson, 2000, p. 233).

Such reservations characterized the period from 1984 to 1988, in which the cellular market was allowed to develop in a deregulated environment with oversight from the CRTC. It should be noted that "deregulation" in this context has a circumscribed application; it primarily means that cellular companies were exempt from the requirement (under subsection 335(2) of the *Railway Act*) to file tariffs for Commission approval prior to offering service; i.e. they were not subject to rate regulation. The offering of such an exemption by the CRTC is called "forbearance," and it forms the cornerstone of the contemporary regulatory approach. However, "forborne" industries are often subject to complex regulatory schemes, as is the case with the mobile industry in Canada, relating to issues other than price, such as the terms of contracts, service standards, and prohibitions against collusion or undue preference toward certain classes of customers or affiliated operations (such as the mobile companies' affiliated monopoly telephone operations).

Although the Commission was of the view that "the benefits which users may derive from this innovative service are likely to be greater if the terms of its provision are governed, as much as possible, by market forces rather than by regulation" (CRTC, TPN CRTC 1984-55), it is important to note that this shift did not amount to the adoption of a laissez-faire, "hands-off" approach as is sometimes assumed. Functionally the CRTC forbore from tariff approval (a practice referred to as industry co-regulation (Taylor, 2013, pp. 153-4), or a form of neo-regulation) but was nevertheless preoccupied with numerous proceedings related to structural issues in wireless, to do with interconnection and inter-corporate affiliations, for example. Thus, the market forces approach represented a tradeoff: the Commission and industry would avoid the cost and friction of tariff approval/traditional economic regulation/rate regulation through forbearance, but this entailed taking on an increasing role managing the relations between competing firms. The newly licensed cellular companies didn't take long to engage in a regulatory dispute — in fact, the CRTC's first case involving cellular carriers began before the first commercial phone call in Canada was even placed (CRTC, TPN CRTC 1984-55; Taylor, 2013).

Early Competitive Disputes in Wireless

The disputes that took place during the eighties mainly revolved around the relationship between new cellular service providers and the preexisting public switched telephone network (PSTN). Notably, incumbent telcos BC Tel and NorthwesTel outright refused to interconnect Cantel's network with the PSTN, and Bell Canada sought unduly advantageous terms for interconnection (Clendenning, 1999, pp. 29-30). The CRTC determined that that federally regulated telephone companies must offer unaffiliated cellular providers non-discriminatory interconnec-

tion (on similar terms as to their own affiliates), since otherwise Cantel's customers would not be able to make calls outside the cellular network (CRTC, TD CRTC 1984-10). Additionally, cellular operations were required to be undertaken at arms-length from affiliated local phone companies, that is to say, they were to be operationally separated. This means that the wireless carriers were spun off into separate corporate affiliates rather than being divisions of the existing phone companies. Ownership remained, of course, in the same hands. . This was required in order to prevent cross-subsidization from regulated monopoly services (primarily local telephone operations) to competitive services, which could have resulted in inflated rates for local service and predatory pricing in the mobile market (CRTC, TPN CRTC 1984-55; TD CRTC 87-13). Cross subsidization in this context would, for example, permit the large costs associated with establishing wireless networks to be accounted as costs of affiliated local telephone operations, thus inflating the rate base for regulated local telephone service. Federally regulated telephone providers were obligated to provide universal service to Canadian citizens at affordable rates, pursuant to the *Railway Act* subsection 340(1), as it stood in 1988, and allowing this form of cross-subsidization would have confounded the universal service objective by artificially raising the price of landline telephone services for ordinary Canadians.

Similar concerns pervaded regulatory discourse over the introduction of competition in long distance and local exchange markets for roughly 20 years, with proceedings in some cases resulting in decisions hundreds of pages long (e.g. CRTC, TD CRTC 1979-11) (not including individual submissions, transcripts, etc). And so, in retrospect, ascribing the term "deregulation"

to the introduction of competition in wireless markets seems somehow inaccurate, unless highly qualified.

After the initial interconnection disputes between the incumbent telephone companies and Cantel were resolved, the process of establishing "adequate safeguards" took three years to reach an initial decision (CRTC, TD CRTC 87-13). The efficacy of those safeguards was the subject of further contestation, and notably resulted in additional measures being implemented in 1992 (CRTC, TD CRTC 1992-13). Perhaps most significantly, in 1988 the Federal Appeals Court ruled that cellular providers could not be exempted from the requirement to submit tariffs for approval by the Commission (Canada, 1988). The CRTC obviously chafed under the court's decision, noting that it was of the view that "price regulation of cellular rates is not necessary" (CRTC, TLD CRTC 89-24), but nevertheless it complied. However, it could hardly be said that the industry's ability to meet demand for mobile wireless services had been hindered in the interim.

In summary, at the inception of the Canadian cellular market, the DoC and CRTC actively courted competitors through a limited liberalization of market entry. Industry Canada managed spectrum resources (that is, it controlled entry), while the CRTC ensured that the market was structured in such a way as to prevent abuse of pre-existing dominance against the "new entrant" Cantel to the advantage of the incumbents. It is safe to say that this approach was sufficient to satisfy demand for the mobile services, keeping in mind that demand was expected to come at the time mainly from business users, as one potential wireless carrier noted in a 1984 CRTC proceeding: "for all but 1% of the subscribers the [cellular] service is discretionary" (CRTC, TD

CRTC 84-10). The interplay between CRTC and the DoC can therefore be seen as complementary. The DOC set the policy stage, while the CRTC's active involvement was directed toward practical implementation of policy goals through targeted regulation. This relationship persisted for a time, but it began to unravel as cellular moved into the mainstream.

While a choice between two service providers in any given area remained sufficient for a time, as wireless services developed in the 1990s it became obvious that the structural duopoly established during the early days was failing to extend the benefits of mobile wireless services to ordinary Canadians. As expectations for access to the new and exciting wireless services grew, it became increasingly apparent that political intervention into the market would be required to satisfy demands from the broader public for inclusion. Beginning in the 1990s, the divergent approaches taken by the CRTC and Industry Canada (which succeeded the Department of Communications in 1992) began to show signs of tension that would shape the regulatory outcomes affecting Canadians' access to wireless services up to the present.

Competition in the Public Interest? The 1990s and 2000s

In 1993, the *Telecommunications Act* received royal assent under the Progressive Conservative government of Kim Campbell and prior to the ascendance of the Chretien Liberals that fall. The *Telecommunications Act* replacing the *Railway Act* as the primary legislation governing Canadian telecommunications, and for the first time in Canadian history there was a stand-alone act governing that sphere. The new act represents the culmination of the neoliberal period of telecom reform, by rejecting the previous reliance on regulated monopoly as the primary means of achieving the objective of growth and universal service in telecommunications and replacing

it with a market-first stance. Unlike its predecessor act, the new legislation endorsed competition as the desired approach to achieving Canada's telecommunication goals. Among numerous new powers, the *Act* officially bestowed upon the CRTC the ability to forbear from regulation where markets are workably competitive, and imposed the obligation to forbear where markets are found to be "sufficiently competitive to protect the interests of users," whereas the CRTC could not legally refrain from regulation even if it desired under the *Railway Act*. In 1994, the Commission exercised this new power for the first time when it forbore from regulating mobile wireless services, subject to similar conditions (surrounding interconnection) as were imposed ten years earlier (CRTC, TD 94-15). In its decision to forbear, the CRTC noted that competition from new wireless services - personal cordless telephone (PCTS) service, which was supposed to be like a cross between a wireless phone and a payphone with customers carrying personal handheld phones to be used in fixed locations like malls or restaurants - was likely to add to the march of innovation and impose increased discipline on the concentrated market. However, just as the CRTC was scaling down its involvement in the wireless industry, Industry Canada was raising warnings that Canadians weren't being well served by their cellular providers.

As it turns out, the competition expected from PCTS providers never materialized — despite its promise, the service never took off, and was abandoned by the industry a mere two years after the CRTC's initial decision to forbear. In 1995, under Liberal Minister John Manley's leadership, Industry Canada recognized that "cellular mobile telephone and data services are still comparatively expensive for the average person to use," and so it issued licenses to provide the next generation of wireless services - Personal Communications Services (PCS) - to two new

wireless firms. Clearnet PCS Inc. and Microcell Networks Inc. were licensed to operate on a national basis, and in addition PCS licenses were conferred upon existing cellular providers in their respective territories. IC sought to support "service provision to the greatest possible number of Canadians," in part by stimulating "additional choice in provision of cellular-like mobile radio/telephone services". Unlike early cellular services, PCS were "intended for everyone" (Industry Canada, 2001).

Following the announcement, in 1996 the CRTC held another public consultation, and again determined "as a matter of fact" that mobile wireless services "are, or will be, subject to competition sufficient to protect the interests of users" (CRTC, TD CRTC 96-14). Notably, because the CRTC considered "open access to telecommunications networks to be in the public interest", it decided to forbear conditionally, meaning it maintained authority to adjudicate disputes, and to regulate cases of unjustly discriminatory or unduly preferential business practices (CRTC, 1996). However, in practice the CRTC would remain largely inactive with regard to wireless for the next decade, rarely adjudicating disputes and only occasionally issuing a decision, usually to further deregulated particular aspects of the market.

Unfortunately, the best laid plans of mice and men often go awry; despite Industry Canada's attempts to draw more firms into Canada, the wireless market underwent a wave of consolidation beginning in the late nineties. In 1998, AGT Mobility Inc. combined with B.C. Tel and Québec Téléphone to form TELUS. In 2000, TELUS acquired Clearnet, and from 2001-2 the four local telcos in the Maritimes were amalgamated into Aliant Telecom Inc. (an affiliate of Bell Canada Enterprises (Industry Canada, 2004)). In 2001, Bell, Aliant, and TELUS announced a

"reciprocal agreement" which provided those carriers with expanded reach and cost savings not available to competitors (BCE, 2001), and in 2004 Microcell merged with Rogers (Competition Bureau, 2005). The competition Industry Canada trumpeted during the 90's had faltered, and the consolidation that followed had predictable results.

This wave of consolidation was a signal that the policy of promoting entry had faltered. From 2002-2006, industry average wireless average revenue per unit (ARPU), a measure reflecting the average customer's monthly bill, increased steadily from $48 to $56 per month. Today it sits just above $60. Capital expenditures declined sharply for most of that period (only rising in 2006) (CRTC, 2007, p. 100), while industry average operating profit increased from 26.8% to 41.9% (Bank of America, 2013). Rising profits in the face of falling expenses suggests what is known in economics as "supra-competitive pricing" - monopoly rents, or from the consumer's perspective, a rip-off. This of course is anathema to the stated goal of reliance on market forces: "increased efficiency," or bringing prices toward costs. Despite Industry Canada's efforts, the market power of the incumbent firms remained unscathed, or increased. In 2007 the CRTC acknowledged that "in spite of the growth in the wireless sector, approximately 66.8% of households currently have wireless services; [which] puts Canada's wireless penetration rates close to last place in comparison to other OECD countries" (CRTC, 2007, p. 92), despite the fact that service was *available* (in terms of geographical coverage) to 98% of Canadian households at the time. In fact, at the time the OECD reported that Canada's mobile wireless penetration was *the* lowest of member countries, having overtaken Mexico that year for the dubious distinction, and it remains in last place at present (OECD, 2013, p. 125).

In spite of the increasing importance of wireless in the telecommunications environment and growing problems with service affordability, the CRTC remained aloof with regard to wireless for the first decade of the twentieth century. Few public consultations were held, and only one major decision was issued between 2000 and 2008. It concerned the implementation of wireless number portability which mandates that customers who switch providers can retain their existing wireless phone number. In fact, the only other CRTC decisions to do with wireless during this time involved the implementation of enhanced 911 (and related orders determining remittance amounts), wireless number portability implementation, several minor forbearance orders, and interconnection agreements (connecting wireless networks to the regulated PSTN). None of these decisions touched on the issue of price, wireless firms' practices, or competition. In 2006, Industry Canada issued a directive to the CRTC ordering it to continue to take a "hands off" approach, essentially ensuring that the CRTC would remain aloof to wireless issues. However, shortly thereafter IC, under the leadership of the Conservative Minister Maxime Bernier, began another attempt to promoting market entry, this time through the use of spectrum auctions.

Telecommunications Policy Under Review: Industry Canada takes the Lead

In 2005, a committee struck by Liberal Industry Minister David Emerson was tasked with reviewing Canada's telecommunications policy, and was to make recommendations for improvement if needed (Longford et al, 2008, p. 5). In 2006 the Telecommunications Policy Review Panel (TPRP) released its final report, acknowledging that "[w]e were repeatedly impressed with the importance that Canadians accord to the future of telecommunications policy and the role of information and communications technology in improving their lives" (TPRP, 2006, p.

vi). Odes to the public interest notwithstanding, observers have argued that the TPRP was "dominated by industry and government concerns about competitiveness, productivity, and deregulation" (Longford et al, 2008, p. 6). The TPRP's *Final Report* would set the stage for Canada's telecoms policy going forward, and, as Longford, Moll, & Regan Shade tell us, "[t]o no one's great surprise, the Panel's major recommendation was that market forces should prevail in the telecommunications sector." (7) The actual text of the TPRP's *Final Report* covered a broad set of topics, ranging from economic, technical, and social regulation; the structure of regulatory and policy institutions; and obstacles to implementation (TPRP, 2006, p. vii) and its recommendations were more qualified and broad reaching than is usually appreciated. However, the de facto effect of its report boils down to a single imperative to the CRTC: forge ahead with telecommunications deregulation.

By the winter of 2006, the Conservative party had won a minority government, and Industry Minister Maxime Bernier issued a policy direction to the CRTC following the TPRP's *Final Report*. The now-famous "Bernier Directive" ignores the social recommendations of the TPRP, instead ordering the CRTC to "rely on market forces to the maximum extent feasible as the means of achieving the policy objectives," and "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" (Canada, 2006, emphasis added). Thus, following several years of consolidation, increasing prices, and lagging adoption, Industry Canada set about addressing Canadians' growing concerns with the

state of their wireless services in a familiar fashion, that is, by relying mainly on market mechanisms.

This approach can be seen as contradictory, and rooted in considerations of power between Industry Canada and the CRTC: after issuing a policy direction tying the hands of the CRTC in the end of 2006, Industry Canada recognized the need for "regulatory mechanisms" to enhance competition. In so doing, IC signalled that it would be taking the lead in shaping the wireless market, and that the CRTC was expected to take a "hands-off" approach. This arrangement was reflected in two related ways: active involvement in the wireless market by Industry Canada through its control over spectrum licensing auctions, and continuing inactivity by the CRTC with regard to the mobile wireless services industry from approximately 2007-2012.

Trust Us - Reliance on Market Forces

In June of 2007, Industry Canada issued the "Spectrum Policy Framework for Canada", the policy document which guides licensing for Canadian radicommunication service providers, including mobile wireless carriers. Taylor (2013b) argues the new framework is heavy on rhetoric and light on substance, since it reduced the explicit goals of spectrum policy from previously seven to now one, which "sets as the government's primary goal to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource" (Industry Canada, 2007a). This high-minded but ambiguous goal has been interpreted with significant discretion by Industry Canada, which has remained committed primarily to an approach that encourages market entry as the primary form of intervention.

The following November, then-Industry Minister Jim Prentice announced the details of the upcoming "advanced wireless services" (AWS) spectrum auction. Recognizing that "recent studies comparing international pricing of wireless services show Canadian consumers and businesses pay more for many of these services than people in other countries," Prentice stated that "we are looking for greater competition in the market and further innovation in the industry" (Industry Canada, 2007b). The goal of the auction was to entice additional firms to enter the market to compete with what had by then become a cozy oligopoly comprising three national providers, Bell, Telus, and Rogers (together with a handful of regional incumbents, primarily MTS, TbayTel, and SaskTel). In order to address the entrenched market power of the incumbent firms, Industry Canada established a "spectrum set-aside" that prevented incumbents from bidding on certain blocks of spectrum, and additionally exercised regulatory authority by attaching "conditions of license" to the spectrum licenses, requiring the national providers to provide roaming and access to cell towers on "commercial terms" to the "new entrants" (Industry Canada, 2007c). In practice, however, the results of the auction have failed to live up to expectations, and to the present the new entrants have proven insufficiently powerful to erode the dominant position of incumbent providers.

A number of firms acquired spectrum licenses in the auction, which was completed in 2008. Beyond the existing incumbent wireless carriers, the "new entrants" comprised a mosaic of different types of firms, some of which were already established in other sectors of the communications services industry and some that were totally new. They were mostly regional with only one new "national" player; and some were larger corporate entities while others represented

smaller niche players. The successful bidders were: Shaw Communications (western Canada's incumbent cable provider), Bragg Communications (operating as Eastlink, the Maritimes' incumbent cable provider); Vidéotron (the telecom branch of media company Québecor Inc., operating in Québec and the National Capital Region); Public Mobile (an independent operator); Globalive Wireless (operating as Wind Mobile, an independent with ties to Egyptian telecom provider Orascom); and Data & Audio-Visual Enterprises, or DAVE, operating as Mobilicity, another independent provider).

At the time, the auction was viewed as a success and served to legitimize the government's "consumer friendly" search for more competition. Numerous challengers had appeared to take on the incumbent providers, and hopes were high that the oligopoly's position would begin to erode (MobileSyrup, 2008). However, the viability of competitors was plagued with obstacles from the start. Shaw never launched a mobile wireless service, and instead sold Rogers an option to purchase its licenses after the expiry of a 5-year moratorium on transfers-of-ownership. Public mobile was restricted to a niche position due to the block of spectrum it had acquired, and Mobilicity was slow to launch, only doing so in a handful of urban centres in Ontario, British Columbia, and eventually Alberta. Wind was the subject of substantial friction between Industry Canada and the CRTC at first, and has since become a lightning rod for regulatory reform.

Wind Mobile - off to a rocky start

Wind Mobile was established by Canadian investor Anthony Lacavera with financial backing from Orascom SAE, a telecoms investment vehicle owned by Egyptian capitalist Naguib Sawiris, and it was the only new entrant to purchase licenses across the nation, although at

present it is mainly operating in urban markets in Ontario, Alberta, British Columbia, and the National Capital Region. Following Wind's acquisition of spectrum licenses, in the beginning of 2009 Industry Canada determined that Wind met the *Radiocommunications Act's* criteria to pass as a Canadian-controlled company, thereby giving Wind blessing to start operating. However, shortly thereafter the CRTC, urged on by a complaint over Wind's ownership filed by Telus and Shaw, initiated a similar ownership review under provisions found in its enabling statute, the *Telecommunications Act.* The CRTC ultimately determined that, contrary to Industry Canada's findings, Wind did not in fact meet the requirements and therefore the regulator denied it permission to operate in Canada (CRTC, TD CRTC 2009-678), for all intents and purposes leaving Wind in the doldrums.

This decision sparked a public confrontation between the CRTC and the Conservative government. Industry Canada, under then-Minister Tony Clement's leadership, issued a variance overturning the CRTC's decision to bar Wind from entering the wireless market (Canada, 2009). The variance was in the courts for years, but the issue was rendered moot when the *Telecommunications Act*'s provisions on foreign ownership were amended (in 2012) to allow smaller competitive firms to be foreign controlled (Paré, 2012; Sturgeon, 2012). Another variance from Clement in 2011 — this time in the surprising form of a tweet — would signal the beginning of a shift in approach for the federal government and CRTC, from one of regulatory reluctance to a more engaged and proactive stance. By this time, mobile wireless services had come to occupy a central place in the Canadian communications system, and the change in stance on the part of

policymakers reflected recognition of this fact. This inflexion point is where the next chapter picks up.

Conclusion

It is often said that the mobile wireless market developed as a "competitive market" from the beginning, and its growth and success are attributed primarily to industry ingenuity and a lack of state "interference." While correct in a certain sense, both of these statements need qualification. As I have shown in this chapter, a policy that favours liberalization and seeks to promote competition by first the Department of Communication and later Industry Canada has shaped the wireless market's development since its inception. The federal Department of Communication's early decision-making led to the cellular industry's beginning as a managed duopoly. In 1995, Industry Canada committed to a policy that sought to spur further competition, but the market consolidated in short order. Again in 2007 Industry Canada sought to inject more competition into the market, although troubles plagued the second wave of "new entrants" from the outset, threatening further concentration. As we will see in the next chapter, Industry Canada undertook a change in policy approach from one of promoting *entry* to promoting *fair competition* starting in earnest in 2013, one that required a more active role for the CRTC.

The CRTC for its part regulated selectively to manage competition during the 80's, and in the 1990's, following the enactment of the *Telecommunications Act*, it took a more passive position when it forbore from regulation. Despite industry consolidation, rising prices, and the growing importance of mobile devices in the Canadian communication system, the CRTC continued its passive role into the 2000's. Its hands off approach was reinforced under a 2006 policy direc-

tion from the federal government to "rely on market forces to the maximum extent feasible," although there are signs that this could be changing. Following Industry Canada's shift in approach, the CRTC now similarly appears poised to take a more active role, oriented toward protecting consumers and promoting fair competition. The next chapter examines these developments more closely in the context of the exciting political and regulatory events of 2013-15.

CHAPTER 4: REGULATION TO PROMOTE COMPETITION

Introduction

In a few short decades, the mobile phone has gone from being a luxury and a business tool to an ordinary fixture in Canadians' everyday lives. At the beginning of the century, there were roughly 8,700,000 mobile subscriptions in Canada, or 28.4 subscriptions for every 100 inhabitants. That number grew significantly to about 27.5 million at the end of 2013, meaning there were over 80 subscriptions for every 100 Canadians. (CWTA, nd). The pace of growth was initially rapid, but has slowly declined as mobile phones get closer to "saturation," or the point at which most people have at least one.

For most, mobiles have become a necessity, although for too many they remain an unaffordable luxury. According to data from the Organization for Economic Cooperation and Development, Canada's overall mobile penetration remains the lowest of the 34 member countries (OECD, 2014). Mobiles have grown in importance as a segment of the industry; in 2000 they generated about $5.5B in revenues, representing just 17.5% of total Canadian telecom revenues, while in 2013 mobiles services garnered over $20B and accounted for 49% of total industry rev-

enue (CRTC, 2014; OECD, 2013). They are no longer just a tool of business, but represent a central element of the telecommunications industry as the single largest revenue generating segment. In fact, mobile phones overtook the traditional landline telephone in terms of both total subscriber numbers and revenues in the latter half of the 2000s. While the CRTC continues to require telecommunication companies to provide landline service to all Canadians through the use of a subsidy regime, no such obligation exists for mobile connections. The lack of support for mobile universal access from the Canadian regulator is out of step with other jurisdictions; in the United States, for example, the Federal Communications Commission (FCC) has implemented a "Lifeline" program that subsidizes mobile access for low income families. If Canada is to close the gap on mobile adoption, it must recognize that the field of mobile communications is evolving away from landline telephony toward mobile, and adjust its policies accordingly.

The nature of "mobiles" changed in another way during this period as well: no longer simply "phones," mobile devices now more closely resemble handheld computers, and the networks that support them have been upgraded to provide wireless broadband connectivity of increasing capacity. The Canadian release of Apple's iPhone in 2008 is often pegged as the tipping point in the transition. The OECD reports that by 2010, Canadian mobile broadband penetration had reached 30.4%, but climbed swiftly to 45.1% by 2013 (OECD, 2014). Many Canadians now rely on their mobile connections to the Internet on a daily basis.

This transition has become more and more contentious. There are many who find mobile phones unaffordable — reflected by low adoption rates, particularly among the less well off. About 35% of households earning $27,000 a year or less have no mobile phone, and nearly 25%

earning between $27,000 and $48,000 have none, compared to 9% and 6% for households in the top earning income quintiles, respectively (CRTC, 2014, p.16). As new uses for mobile devices, such as messaging, social media, weather apps, emergency alert systems, and even mobile television services develop and proliferate, filling the gap in adoption becomes more important. People around the world are increasingly relying on mobile devices as their main form of connectivity; in countries where access is affordable, most citizens are able to take advantage of the benefits of the mobile Internet, and this is reflected in the very high penetration levels seen not just across the OECD countries but in Asian, South American, and African countries as well, where mobile adoption is increasing at a break-neck pace. Here in Canada, a recent study noted that nearly 50% of all time spent online by Canadians is done so on a mobile device (CBC, 2014b), demonstrating that Canadians, or at least those who can afford access, are enthusiastic about the opportunities mobile connectivity provides. Mobile phones are no less necessary for those who are less well off, however, and the disparity between those who have access to these services and those who do not represents a significant problem for telecommunications policy.

The carriers —widely perceived as an unresponsive oligopoly and a major part of the problem — have not lived up to their obligations and complaints have increased across the board, whether in the traditional media, online, or with the government, regulator, and industry ombudsman since its formation in 2008 (CCTS, nd; Klass, 2013). This chapter examines the contemporary social and political tension surrounding the mobile industry and analyses the responses of policymakers and the regulator as they have developed over the past several years,

and argues that the CRTC's recent involvement in the wireless industry signals a shift which, if sustained, may contribute to providing relief for consumers.

From Market Forces to Market Intervention: CRTC regulatory activity, 2007-2012

A year after the Conservative government issued its 2006 Policy Direction to the CRTC, ordering it to "rely on market forces to the maximum extent feasible,", Konrad von Finckenstein, a former Commissioner of the Canadian Competition Bureau and Federal Court judge, was appointed as Chairman of the CRTC. Despite the Government's directive, during von Finckenstein's tenure (2007-2012), the CRTC became increasingly focused on problems in the wireline Internet sector (fixed residential broadband). It is important to note that the wireless and wireline network segments of the telecommunications industry are in most cases controlled by the same companies. The three larges providers, Bell, Rogers, and Telus, collectively control 90% of the wireless market, and have since 2000. Bell, Rogers, and Telus each also control Canada's largest wired broadband networks which provide voice, internet, and cable/IPTV services (CRTC, 2014, p. iv). Dissatisfaction with the abuses of these service providers and the widespread perception that they were acting against the public interest in affordable rates and open communication networks forced the CRTC to intervene — in other words, over the course of von Finckenstein's time at the CRTC, both the regulator and the federal government came to take a more constrained view of what deregulating to "the maximum extent feasible" means in practice. This realization was not easily come by, and involved a substantial amount of friction, as described below.

In 2008, despite its ostensible mandate to deregulate, the CRTC determined that it would have to continue to regulate rates and terms of service for *wholesale* Internet access, which it recognized as a condition of survival for independent competitors across a variety of wireline service markets (CRTC, TD CRTC 2008-17). To refrain from regulating on the basis of the Conservative government's Policy Direction would have run counter to the CRTC's statutory obligation to "enhance the efficiency and competitiveness" of the Canadian telecommunications market, because to do so would place too much power in the hands of the dominant oligopoly, which had demonstrated the propensity toward anti-competitive behaviour and consumer neglect.

Examples of this tendency were impossible to ignore. Attempts by Bell to use network traffic management practices to "throttle" competitors (i.e. slow down or block their services) that same year generated palpable political opposition (Nowak, 2008), and spurred a series of interventions by the regulator over the next several years. In 2009, the CRTC issued its "network neutrality" framework, which denied Bell and other large network owners the ability to unfairly throttle customers' services or competitors' access to their networks (CRTC, TRP CRTC 2009-657). In 2010, Bell again attempted to impose limits on competitors' access to its network, this time through "usage based billing" which would have forced competitors to abandon flat-rate billing adopt a more expensive metered service favoured by Bell. In essence, Bell was attempting to use its market dominance (as well as the regulatory process) to force its competitors to adopt an inferior business model which would have put them out of business, similar to what had happened during the middle of the twentieth century between Bell and the competing telephone companies. The CRTC somewhat surprisingly approved Bell's proposals late in the year,

demonstrating the tension created by the federal government's Policy Direction — despite the likelihood that the decision would lead to the demise of independent competition in the Internet service market, at the time the CRTC clearly felt it had to defer to the federal government's orders. This decision led to a surge in public opposition — public advocacy group Openmedia gathered 500,000 petition signatures against the decision in a brief period of time, driving Conservative Industry Minister Tony Clement to return the decision to the CRTC for review (Sedlak, 2011).

This series of events represented a turning point in the Conservative government's telecommunications policy approach more generally, and resulted in a new more clearly consumer-oriented direction for the CRTC. Remember that the approach pursued by Industry Canada under Bernier's leadership (2006-2007) was directly oriented toward deregulation — the CRTC was under marching orders to take a "hands off" approach. This caused problems for the regulator, which clearly needed to take action to constrain oligopolistic market tendencies, but was ostensibly restricted from doing so. The public uproar that followed the usage-based billing decision forced a change in approach by causing a public confrontation between the CRTC and the federal government. Clement, by ordering the CRTC to review the UBB decision, essentially issued a *de facto* order to the CRTC indicating that the hands-off approach to regulation was past its prime. Although Bernier's 2006 Policy Direction remains in force, under Tony Clement's leadership Industry Canada did an about face in 2011, taking a more populist interpretation of the Direction. Former senior policy advisor to Clement Erik Waddell has described this new stance

as “a pro-consumer, pro-competition agenda *that more and more has led to direct market intervention*” (Comments of E. Waddell at ISP Summit, 2013).

The CRTC wakes up to wireless: 2007-2013

Although both Industry Canada and the CRTC had begun to take a more “activist” approach to telecoms policymaking and regulation in general, the CRTC was still sidelined from wireless for much of this period. Between 2007 and 2011, it only issued 22 decisions related to wireless out of a total of 542 telecom decisions, and conducted only 2 public consultations regarding wireless companies out of a total of 83. Industry Canada, on the other hand, continued its leading role by overseeing the entry of new firms in 2007 and by regulating through conditions of license, and by beginning to orchestrate the next spectrum auction in 2010.

The tension between the Minister of Industry and the CRTC over wireless regulation was evident following the Globalive ownership review decision (2009, see last chapter), and caused CRTC Chairman von Finkenstein to remark that

> It no longer makes sense to have a single regulator for wireline service providers, but two different civil regulators for wireless service providers. More to the point, the lack of regulatory coherence is an obstacle to innovation and competition, and makes it difficult to maximize economic and social benefits for Canadians (Quoted in O’Brien, 2010).

In fact the 2006 TPRP *Final Report* had earlier recommended “retaining responsibility for broad spectrum policy with Industry Canada, but transferring its spectrum regulation and management functions to the CRTC” (TPRP, 2006, s. 5-21). However, this hasn’t happened, and nor is likely

to in the near term. The issue of reorganization of regulatory jurisdiction over wireless spectrum remains alive (Lawford & White, 2014), but at present the CRTC has managed to engage more meaningfully using its existing powers.

A precursor to regulatory involvement in wireless came in 2010, when the CRTC modified its forbearance framework to reassert regulatory authority over mobile wireless data services, authority which had previously only applied to voice (CRTC, TD CRTC 2010-455). This decision was important for two reasons. First, the decision applied the CRTC's network neutrality framework to mobile services, implicitly recognizing the growing importance of wireless data services, as more and more people had come to adopt smartphones by this time. This meant that wireless operators would be subject to rules preventing blocking or throttling traffic on their networks, and would be prevented from otherwise discriminating against online competitors, whereas before this decision wireless Internet services were not subject to regulation at all. Second, this decision was the first time that the CRTC explicitly re-engaged powers from which it had forborne with regard to wireless, thus setting the stage for further engagement in the coming years. However, the authority was predominantly used in a passive manner, until recently.

Konrad von Finkenstein's term as Chairman expired in January of 2012 without further action on the wireless front. After an interim period, he was replaced by Jean-Pierre Blais, another veteran administrator who was widely expected to take up the mantle of the government's "pro-consumer" approach. Shortly after Blais assumed the position of Chairman, Huffington Post Bureau Chief Althia Raj turned up a letter from James Moore, then-Heritage Minister (Heritage is the department through which the CRTC reports to Parliament), to JP Blais, in which

Moore welcomed Blais to the position and laid out the guidelines he expected the CRTC to abide by. It created controversy, with some calling into question the CRTC's independence as an arm's length institution. Chairman Blais responded publicly by stating that "being arm's length doesn't mean that the arms can't touch" (as quoted in Dobby, 2015), and in the context of the confusion that plagued the CRTC during von Finckenstein's tenure as Chairman, the letter can be seen as providing clarity to the regulator with regard to the federal government's interpretation of the Policy Direction.

Reflecting the new consumer-friendly approach promoted by the federal government, and shortly after Blais assumed the helm, the CRTC issued a notice of consultation "to establish a mandatory code for mobile wireless services" (CRTC, TNC CRTC 2012-557). Although it had determined that it would not regulate rates or intervene in the "competitiveness" of the market, the CRTC would nevertheless proceed to regulate the terms on which customers are offered mobile services, addressing such issues as contract length, termination fees, locking of devices, and roaming fees, among others (CBC, 2013), a type of social regulation that is in line with promoting fair competition and ensuring that consumers have the information required to make informed choices in the marketplace.

The proceeding that led up to the "Wireless Code of Conduct" was received as a consumer-friendly move in the media (CBC, 2013), however it was spurred on by a number of factors of considerably greater complexity. Provincial governments in Quebec, Manitoba, and New Brunswick had instituted their own consumer protection laws in response to discontent with the wireless companies, and Alberta and Ontario were slated to join them. In fact a Wireless Code

proceeding was first requested by Telus in February 2012 and later by Rogers in March as a response to the "compliance costs" associated with the multiplying provincial codes, and thus in part represented an effort by the wireless firms to steer regulatory developments into an arena more receptive to industry influence than the provincial legislatures (Trichur, 2012).

The Wireless Code can and should be seen as the inauguration of a more active stance by the CRTC in wireless affairs. However, it is equally true that the move served to legitimize the government's "consumer friendly" approach while it also protected the industry from potentially stricter provincial regulation. Shepherd and Middleton note that the proceeding served to legitimize a neoliberal discourse about markets and consumer agency (2012, pp. 1-2), leaving more important issues such as competition, affordability, and broader social goals off the table. Indeed the Wireless Code (released in June, 2013; effective as of Dec 2, 2013) has proven to be no panacea for consumer problems in the wireless market, and instead only marked the beginning of a contentious period in Canadian telecoms policy and regulation.

The Wireless War of 2013

In April 2013, then-Industry Minister Christian Paradis began to send messages signalling an even more interventionist policy approach, when he intimated that the government would deny a proposed transfer-sale of Shaw's unused spectrum licenses to Rogers. Industry Canada was concerned that its efforts to spur increased competition in wireless were faltering, and sought to prevent "undue concentration" of resources into the hands of incumbent firms by blocking the deal (Ljunggren, 2013). In June, Paradis announced amendments to Industry Canada's "Spectrum License Transfer Framework" (Industry Canada, 2013), making the policy of opposing fur-

ther market concentration official. At the same time (the day after the Wireless Code decision was announced by the CRTC), Paradis denied the takeover of struggling new entrant Mobilicity by Telus, stating strongly that "I will not hesitate to use any and every tool at my disposal to support greater competition in the market" (Quoted in Acharya-Tom Yew, 2013).

In the first week of June, the Rogers-Shaw and Mobilicity-Telus deals had both been scuppered, and the Wireless Code decision was announced. Relations between Industry Canada and the CRTC, on one hand, and the wireless carriers on the other, were tense, or at least portrayed as suchin the media. The situation was not helped when carriers raised prices substantially that summer, blaming the CRTC Wireless Code for prohibiting 3-year contracts, and claiming that rates must go up to recover costs over a shorter period (Fan, 2013). Finally, these events were all taking place in the context of a major upcoming spectrum auction, which became the focus of open hostility between government and the Industry that would last throughout the summer.

The 700MHz auction was announced in March, 2013 after a lengthy consultation process, stretching back to 2010 (CSPR, nd.). The spectrum has been described as "beachfront property" due to its ability to penetrate obstacles and support broadband transmission, making it less capital intensive to deploy than other bands and therefore highly desirable to wireless firms. The event was also particularly important because it was the first auction to take place after the government relaxed foreign ownership restrictions on telecom firms in 2012 as discussed in the previous chapter. Expectations were high that a foreign firm might enter the market and bring relief to dissatisfied customers of "the big 3" - Rogers, Bell, and Telus, who collectively control over

90% of the market (by revenue and subscriber share, (Klass, 2013b)) and had just simultaneously raised prices. The federal government had helped to fuel these hopes by endorsing a pro-competition policy that explicitly sought to bring a "fourth carrier" to every region of the country by limiting the amount of spectrum incumbent firms could purchase.

On June 17, the Globe and Mail dropped a bombshell of a story announcing that Verizon, the American telecommunications giant, was considering entry to the Canadian wireless market by bidding for 700MHz licenses and possibly acquiring Wind Mobile (Chase, Erman, & Trichur, 2013). The story caused a stir and served to polarize debates on the wireless industry, particularly those that focused on policy. The incumbents, fearing that a well capitalized entry by Verizon could instigate price competition, launched a wide-ranging, pre-emptive public relations campaign against the "foreign giant." For weeks Bell, Rogers, and Telus ran full-page newspaper ads, television and radio spots, and a web campaign, using the slogan "Fair for Canada." The incumbents were openly and directly critical of the government's policy, arguing that Canada's "precious resources" should not be put under foreign ownership and control, and that Canadians should support home grown industry and not "special treatment" for foreign corporations (Klass, 2013c).

The campaign came across as hackneyed. Public reaction was less than sympathetic (O'Neil, 2013), and numerous industry observers roundly criticized the incumbent's claims as inaccurate, self-serving, and hypocritical on a number of counts (Klass, 2013d; Geist, 2013). When James Moore was shuffled into the role of Industry Minister in mid July, he immediately took up the pro-consumer pro-competition mantle and ran a media campaign to counter the wire-

less carriers' own (Dobby, 2013a). Moore's PR campaign revolved around the promise of a fourth wireless carrier and "lower choice, better service, and more choice," reflecting very closely the approach taken in 2008 as well as those of the 1990's (Industry Canada, n.d.).

The confrontational stance taken by both the Minister and the industry attracted a high profile in the media and garnered many headlines, radio and television interviews, and online debates. Their stance could be cast a break from the more laissez-faire and pro-deregulation approach hitherto adopted , but it can also be explained as a politically motivated Conservative government playing to its base; less substance than theatrics. The reality contains elements of both, and probably leans to the latter. In any case, the situation came to a head in the beginning of September when bidder registration came due (Trichur & Blaze Carlson, 2013). Not only did Verizon not register, but neither did Mobilicity, which had entered creditor protection after the deal with Telus fell through, nor Wind, considered the most viable "fourth carrier" for BC, Alberta and Ontario due to financial uncertainties. A major setback if not an outright failure for the government's "fourth carrier" policy, the auction's result in January saw no new firms entering the market, although Vidéotron bought licenses in BC, Alberta and Ontario which it has yet to deploy (Industry Canada, 2014).

Nevertheless, the government recommitted firmly to consumer and competition issues, which received attention during the Throne Speech that October (Canada, 2013). While Industry Canada appeared to be at a loss, however, the CRTC had begun an unusual undertaking: a "fact finding" exercise to investigate whether there were systemic anti-competitive practices taking place in the wireless market. This event would mark the beginning of a potentially new approach

altogether for the CRTC; for the next year it undertook a substantial proceeding to consider the possibility of economic rate regulation of wireless for the first time.

Regulating Roaming: The CRTC steps in

Wind Mobile had made a number of public complaints about the incumbents' unfair business practices since 2011, but no action had been taken by the CRTC or Industry Canada. That changed at the end of August 2013 when the CRTC announced it would be undertaking a fact-finding exercise (which it does from time to time), after having "been made aware of concerns with respect to the rates, terms, and conditions associated with wireless roaming" by consumer groups PIAC and Openmedia (CRTC, 2013a). Roaming is a wholesale service that carriers obtain from each other so that retail customers may "roam" outside of their service provider's network coverage area. Industry Canada mandates that carriers offer it as a condition of license — the rates are not regulated, but are to be negotiated on a "commercially reasonable" basis. If no agreement can be reached, parties can invoke arbitration, although it is costly and uncertain and has never been pursued. Roaming fees are contentious, particularly for data, because they are passed on to the customer, and can be quite exorbitant, for example, Wind was at that time charging customers $1/MB for roaming, several times the retail cost of on-network data, because of the high wholesale rates it was forced to accept from its roaming "partner" Rogers.

As part of the inquiry, all Canadian wireless carriers were initially required to file information about their roaming arrangements with the CRTC. The companies' public responses to the fact-finding exercise were filled with mostly technical information, and much of it redacted. But Bell provided a heavy-handed, rhetorical response which provided an early sense of the

event's importance. Bell argued that there "is no 'competition problem'" in the wireless market, that the CRTC could not legally regulate even if there was, and that high roaming rates are justified by costs including everything from cell towers to the kitchen sink (Bell, 2013, pp. 2-6). Such a virulent response betrayed Bell's anxiety that the CRTC, after seeing the figures underlying the rhetoric, would likely regulate roaming rates against Bell and the other incumbents' interest. These suspicions were well founded; roaming was targeted for attention in the October throne speech, and in December the CRTC issued a call for comments on whether there were unjustly discriminatory practices going on with regard to roaming, and also noted that it would be taking a closer look into the competitiveness of the wireless market in early 2014 (CRTC, TNC CRTC 2013-685).

The CRTC examined two issues initially: whether the rates some network owners (mainly Rogers) charged for roaming to smaller competitors like Wind were unjustly discriminatory, and whether the contracts for these wholesale services were unduly restrictive, for instance by forcing exclusivity clauses onto smaller carriers. In particular, the CRTC was concerned that "some Canadian wireless carriers are charging or proposing to charge significantly higher rates in their wholesale roaming arrangements with other Canadian carriers than in their arrangements with U.S.-based carriers" (CRTC, TNC CRTC 2013-685, para. 5). In other words, American companies like AT&T were paying companies like Rogers and Bell "many times" less for wholesale roaming services than Canadian competitors like Wind were for the same services.

During the proceeding, the small competitive carriers argued that the high rates charged by incumbents for roaming are prohibitive, not cost related, and anti-competitive. They pointed

to unfair roaming rates being the result of the superior bargaining power of Rogers due to its monopoly over technically compatible data networks (Lockie & Antecol, 2014). Since Bell and Telus did not have a compatible data network at the time the agreements were signed (2008), Rogers was able to force carriers like Wind into exclusive agreements at "take it or leave it" rates (Lockie & Antecol, 2014, para. 21). The carriers responded by arguing that "bilateral agreements" such as those they strike with each other and with American carriers are not strictly comparable to "unilateral" agreements with smaller companies like Wind and therefore the rate differences cannot be discriminatory. The Competition Bureau and others (the author included) intervened with arguments and evidence to suggest that the incumbent's practices were in fact anti-competitive and required regulation.

The CRTC decided the case in July of 2014. It concluded that the rates being charged were in fact discriminatory, and that the exclusive terms were discriminatory and would be prohibited (CRTC, TD CRTC 2014-398). Perhaps most important was the Commission's statement that "if new entrants are to compete effectively with national wireless carriers that have broad network coverage, they must enter into wholesale roaming agreements with those carriers in order to provide national mobile wireless coverage to their retail customers" (CRTC, TD CRTC 2014-398, para. 27). In effect, the CRTC had determined that it would have to examine economic regulation of wholesale rates. In fact, during the process two developments made this practically inevitable.

First, during the ongoing discrimination proceeding, in February the CRTC announced it would be conducting a separate broader consultation about the competitiveness of the wireless

market in general (CRTC, TNC CRTC 2014-76). Second, shortly after the CRTC's announcement and following the disappointing results of the 700MHz auction, in March Parliament took unprecedented step of introducing rate regulation directly into the *Telecommunications Act* itself as part of the spring omnibus budget bill. The changes capped the wholesale roaming rates carriers charge each other at no greater than the average retail wireless rates they charge their own customers. The amendments also included provisions which encouraged the CRTC to establish its own regulatory framework, which would supersede the legislated rates once it came into effect. Together these factors signalled a change in approach for the CRTC. Its previous *laissez faire* stance with regard to wireless was being questioned — for the first time since the *Telecommunications Act* was enacted, there was a real possibility that wireless services may become subject to economic regulation. The CRTC's "review of wholesale mobile service" would examine the conditions under which this would take place.

The Commission's "review of wholesale mobile services" proceeding was broad in scope, and involved all of Canada's wireless carriers. It comprised several rounds of interventions, several written question-and-answer periods (known as "interrogatories") between the CRTC, carriers, and other interveners, and an oral public hearing in the end of September. Numerous independent parties intervened, including the Competition Bureau, the Canadian Network Operators Consortium (CNOC, a trade group representing independent ISPs, mainly resellers), the French telecom giant Orange, several public interest advocacy groups, equipment manufacturers, municipal governments, and individuals (myself included). The proceeding focused on three main issues: whether and how to regulate roaming services, possibilities for regu-

lating the sharing of cell phone towers, and "other" wireless services, which referred to whether the Commission should mandate wholesale access for resellers known as mobile virtual network operators (MVNOs) (CRTC TNC CRTC 2014-76).

Like their position in the unjust discrimination proceeding, the incumbent firms typically argued that regulation is onerous and unnecessary and, if implemented, should consist of mediation and not direct rate regulation, or that rates should be set substantially above costs if they have to be regulated at all (Rogers). The competitors Wind, Eastlink, and Vidéotron argued that regulated access to roaming and towers was required for their survival and expansion, and that the existing carriers relied on these services from each other but denied them to new entrants. Independent parties (non-wireless carriers) were more of a mixed bag; the Competition Bureau pointed out that incumbent firms had incentives to vertically foreclose competitors by cutting off access to towers and roaming, and it produced a report which used economic modelling to predict the benefits of a fourth national mobile carrier. PIAC took a position supporting the new entrants, while CNOC, Jean Francois Mezei, some others and I took the position that the CRTC ought to mandate wholesale access for unlicensed third party resellers (MVNOs) in order to enable competition in a way that would be meaningful to consumers.

At the time of writing, a decision on a new framework for mobile wholesale services has not been rendered. However, given the Parliamentary amendment regarding roaming rates, it seems likely that the very least that could come of the proceeding would be regulated roaming rates to sustain existing smaller competitors. A decision to regulate wholesale rates in wireless would represent a departure from the previous 20 years of wireless forbearance, and a milestone

in the CRTC's approach to mobile telecommunications (de)regulation. The CRTC would recognize, for the first time, that the wireless market is not "sufficiently competitive to protect the interests of users" and regulate in order to remedy the problem. Such a decision would entail two important elements: one, the CRTC would no longer forbear interference in certain aspects of the wireless industry, effectively reversing its previous neoliberal stance toward wireless services. Second, the CRTC would determine wireless services meets the test for "an essential service," which means that they will be treated as a public utility for the purpose of wholesale access. In sum, the outcome of this proceeding will determine whether and how the CRTC, Canada's telecommunications regulator, will regulate wireless services going forward.

A decision to regulate wireless services would not entail a return to old-style monopoly regulation, since the regulation of retail rates is not under consideration at present. Rather it would establish the conditions on which competitors may access network infrastructure — unbundling of network components and corresponding rate regulation through tariffs would be established — like the approach that has been applied to wired telephone and broadband services since the 1990s. In plain English, the CRTC would bring its regulatory approach into line with Industry Canada's stated policy, that is the CRTC would become actively engaged in promoting fair and sustainable competition in the wireless market. Additionally, a decision to regulate would only be a precursor to more activity; inevitably, there will be follow-up proceedings to determine the particular details of how access is to be arranged, and competitive disputes needing adjudication are bound to arise, as they have in the wired broadband industry, which is subject to a similar regulatory regime.

To be clear, any single decision that invokes greater regulation will be met with stiff legal and rhetorical resistance from the industry, but bluster notwithstanding, in practice regulation is unlikely to harm the incumbent firms. Nor will it magically conjure competitors capable of swiftly eroding the current oligopoly. A decision by the CRTC to regulate wholesale services will contribute to a more functional market, with better outcomes for consumers, but it will not be a panacea. There remains substantial uncertainty as to the viability of certain competitors, and history has shown that the incumbent telephone companies are highly resilient when it comes to resisting competitive threats. There is a danger that the CRTC's decision will not go far enough, and leave the existing smaller competitors in a sort of limbo, to the strategic advantage of the incumbent firms. Time will tell what comes of this decision, but at present it is clear that the CRTC has broken from its historical inertia and has engaged with problems that have been brewing in the wireless market for a number of years. Its approach is one of promoting competition, and it is engaging a form of economic regulation to achieve this goal.

Conclusion

Over the past several years, we have witnessed a substantial shift in approach by Canada's communications regulator. For the past 20 years, the CRTC had assumed a passive role with regard to the mobile wireless industry, deferring to Industry Canada's policy of promoting competition through liberalization of entry by competitive firms. Growing dissatisfaction with the state of Canada's mobile industry has shown this passive approach to be a failure. Together the large firms that offer service more closely resemble and oligopoly than a truly competitive market as envisioned by the neoliberal rhetoric of "hyper competition" and "free markets." This fact

has become painfully obvious over time, and public discontent has ensured that it can no longer be ignored as it was in the past, most notably during the first half of the 2000s when the federal government confidently determined that all would be well with "maximum reliance" on market forces. The failure of these policies cannot be ignored when one considers that Canadian mobile adoption remains the lowest among OECD countries, the result of expensive pricing and other anti-competitive oligopoly behaviours. As mobile devices become increasingly central to Canadians' modern communication needs, this situation has become more pressing, and decision makers have realized that the "hands off" approach of times is like an emperor with no clothes, and cannot be relied upon anymore.

Beginning in 2012, the CRTC began to show signs that it was reconsidering its approach. Spurred on by the Conservative government's newly-interventionist take on telecommunications policy, the CRTC appears to have been shaken from its torpor, and has ostensibly adopted the federal government's "pro-consumer, pro-competition" mantra. The development of a Wireless Code of Conduct in 2012-13 signalled the beginning of this change, but on its own has been insufficient to quell Canadians' rising dissatisfaction with the wireless industry. More recently, the CRTC has sought to address its failure to achieve social policy goals by considering regulation to promote increased competition between wireless firms. It remains to be seen whether increased competition will take hold in a lasting way, however it is clear that the CRTC has recognized the need to address wireless market failures by eschewing its previous policy of forbearance, and engaging more actively in direct industry regulation.

Although competition is a major issue in wireless telecommunications, there is another problem that has developed along with the growth of mobile broadband networks. Consumer choice of competing network service providers front and centre, but another related issue is emerging that has to do with something more fundamental: the range of action available to mobile Internet users once online. Ensuring Canadians have a choice of service provider is one thing, but what happens when mobile carriers act to restrict online activity in order to promote their own broadcasting content? Increasing vertical integration across the industry as a whole has created incentives for carriers to do just this. The final chapter examines the growing trend of mobile service providers who use their networks to provide broadcasting services, which has significant implications for the preservation of common carriage and with it the capacity for Canadians to exercise autonomous choice when using mobile devices to access the Internet.

CHAPTER 5 The case of Bell's Mobile TV - Convergence, Common Carriage/Net Neutrality and Usage-Based-Billing in the Canadian mobile context

Introduction

For much of the twentieth century, broadcasting and telecommunications were treated separately in terms of technology, industrial organization, law, policy and regulation. Traditionally, broadcasters delivered programming, in contemporary parlance, 'content' which could come under editorial control of various sorts, to radio sets and televisions via dedicated radio waves or through coaxial cable wires, while telecommunication carriers provided telephones and other services for sending unedited personal messages using dedicated copper networks. A bifurcated policy approach developed along lines that mirrored these industrial and technological divisions.

On the one hand, our nationalist broadcasting policy has privileged a particular type of cultural production — "Canadian content" — through a system of industrial protectionism, largely due to fears that Canada's cultural industry would be overwhelmed by a flood of programming flowing from the much larger American industry (Barney, 2005, pp. 40-45; Smythe, 1981). Canadian telecommunications regulation, on the other hand, has encouraged universal access to service and non-discriminatory treatment of transmission content through the application of the common carriage principle, which "prevents telecom providers from exerting influence or editorial control over the content/messages flowing through their networks, a requirement that erects a defence against government or corporate censorship" (Winseck, 1998, 2-3).

In effect, state broadcasting policy (at present laid out by the *Broadcasting Act, 1991)* is primarily concerned with encouraging communication providers known as "broadcasters" to give preferential treatment to Canadian programming productions and to otherwise editorialize, for instance by censoring violence or obscenities, while telecommunications policy requires carriers to be neutral regarding the information they transmit. In other words, the former are encouraged by policy to discriminate in favour of a certain class of product, while the latter are prohibited by law from unjustly discriminating between types of communication (Telecommunications Act, 1993, § 27(2)) and controlling the content of the transmissions they carry for the public (§ 36). Over the past several decades, the widespread deployment of broadband networks and adoption of general purpose computers and smartphones has increasingly blurred the distinctions between the two in practice, creating attractive opportunities for telecommunications providers to move into the business of broadcasting, and vice versa. This process of technological and indus-

trial "convergence" has transformed the clear policy divisions of the twentieth century into muddy policy conundrums in the twenty-first.

Convergence and Vertical Integration

Technological convergence between broadcasting and telecommunications has gone hand in hand with increased industrial *vertical integration,* a situation in which a single firm or a small number of connected firms control multiple aspects of the supply chain. Although in the communications industry the two activities used to be carried on by discrete corporate entities each using dedicated technologies to provide distinct services for most of the twentieth century, this is no longer true. Telecom carriers have purchased broadcasting properties that are delivered via broadband networks and sold to the public as either advertising-supported or subscription-based services (e.g. cable/IPTV and over-the-top online video services). While other countries have generally witnessed a lessening of cross-media ownership in recent years (due to general relaxation of protectionist measures for national content industries, increased state protections for diversity in cultural sectors, and the natural failure of cross market integration between content & carriage industries, such as the failure of the AOL-Time Warner merger in the US), in Canada the trend has accelerated in the opposite direction over the past decade (Winseck, 2014b), highlighted recently by Shaw's acquisition of Global TV, Bell's (re)acquisition of CTV in 2011 and its merger with Astral Media (previously Canada's largest "independent" broadcaster, not including the CBC) in 2013. Rogers, historically Canada's largest cable TV company, moved into wireless services in the 1980s (see chapter 3) and wireline telecommunications beginning in the mid 1990's; and recently purchased 12-years of exclusive broadcast rights for the NHL in Canada for

roughly $5 billion. Regional cable companies Shaw, Cogeco, and Québecor Media, and numerous smaller local cable companies similarly began to offer broadband services during the mid-nineties.

Today, Canada's communications industry is characterized by limited regional oligopolistic competition between five corporations whose operations have converged to include both content and carriage activities (Telus is the only company of the five which is not vertically integrated, meaning it only owns transmission facilities and not the content that flows through them,), who collectively control 85% of revenues across the broadcasting and telecommunications industry as a whole (CRTC, 2014, p. 28). In fact, research has shown that Canada's communications industry has the greatest degree of media and telecoms cross-ownership of the 28 countries measured by the International Media Concentration Research Project, giving it, for all intents and purposes, the most vertically integrated communications industry in the developed world (Noam, 2013; Winseck, 2014b).

Ironically, less than a decade after vertical integration between customer equipment manufacturing and transmission was ended (Bell Canada Act, 1987), the regulator set the stage for vertical integration at a different end of the supply chain, between transmission and programming production, signalling a shift in importance from the "production of things" to the increased value of cultural and creative productivity in the communications industry. Prior to the 90's, telecommunications companies had been explicitly prevented from exercising editorial control over transmissions or holding broadcasting licenses (Winseck, 1998, p. 11). In 1994, that changed when the CRTC permitted telecommunication carriers to deliver "information services"

and acquire broadcasting properties, in order to encourage investment in broadband networks and as a concession for allowing competition in the telecommunications market (Barney, 2005; CRTC, TD CRTC 1994-19; CRTC, 1995). As a further contribution to the trend, in 1999 the CRTC began to actively promote convergence when it deregulated broadcasting over the Internet (CRTC, PN 1999-84), and a series of decisions over the course of the 2000s continued to build toward a situation favouring cross-ownership and operation between broadcasters and carriers (e.g. CRTC, BPN CRTC 2003-2; CRTC, BPN CRTC 2007-13; CRTC, BRP CRTC 2009-329; CRTC, BRP CRTC 2011-601; CRTC, BO CRTC 2012-409; Ozege, 2012).

Industrial consolidation and the technological drive to convergence between broadcasting and telecommunications, together with the CRTC's progression from "preventing to permitting to promoting" vertical integration (Winseck, 2014b), have created a substantial contradiction for policy makers and regulators. Telecommunications common carriers who increasingly also act as broadcasters are subject to conflicting imperatives: they seek to protect and promote their broadcasting businesses, while they are simultaneously required to treat the transmissions carried over their broadband networks without discrimination.

These developments have led to a problematic situation in which a handful of large communication firms are able to make advantageous use of their gatekeeper position to further their own private economic interests, often at the expense of broader social goals related to freedom of expression and equitable access to communication systems and information more generally. Policy has not kept pace with industrial and technological developments, and as we will see below, carriers have capitalized on the unclear lines between public goals by constraining or oth-

erwise discriminating between various types of telecommunications services in order to protect and promote their broadcasting operations. One such case recently came to the fore in the mobile sector.

Convergence in the mobile context

Goggin suggests that "the cellular mobile phone has moved beyond being a communication technology, in a way that is still recognizably an evolution from the telephone" and that mobiles ought to be looked at more broadly as a form of broadcasting media (2011, pp. 2-3). Anyone who remembers the rotary phone (and who might today have an iPhone or Android device in their pocket) should not have a hard time accepting this observation. Following the iPhone's Canadian release in 2008, people started in earnest to use mobile phones for broadband Internet access (Benkler, 2012, p. 101) and smartphones today are a commonplace sight — in 2013, mobile broadband penetration reached approximately 45% in Canada (OECD, 2014). In fact, Canadians consistently rank amongst the most prolific Internet users in the world, at 2nd place by hours spent online in 2014. Recent reports note that 49% of that time is spent accessing the Internet through a smartphone or other mobile device (CBC, 2014b).

The larger, higher resolution of today's mobile devices and the ubiquitous mobile broadband networks deployed by the wireless carriers create new affordances for mobile devices (Schrock, 2014). One of the main uses to which devices are increasingly being put is Internet access — 4 out of 5 smartphone owners access the Internet in some way using their devices, 3 out of 4 browse the web, and 3 out of 5 use their phones to check email (MTM, 2014a, pp. 19-21). Multimedia uses such as video watching and audio listening also figure prominently; nearly a

quarter of smartphone owners streamed audio and video on their smartphones in 2014, representing significant growth in media consumption on those devices (MTM, 2014b, pp. 4, 18-22).

These new uses have also created the opportunity for communication firms to reconfigure existing business models and to develop new ones that are testing the boundaries of the common carriage model. As described above, telecommunication carriers have increasingly moved into the realm of content production and distribution, both through traditional broadcasting channels and online, blurring the once clear distinction between the carriage and broadcasting (?) businesses. The mobile carriers, in particular those whose operations are vertically integrated between content and carriage (Bell, Rogers, Vidéotron) have begun to offer their own mobile television services in an effort to capture revenue from this growing trend. Converged networks — both wired and wireless — that deliver broadcasting and telecommunications services using the same infrastructure have become a growing concern for policymakers (CRTC 2010, 2011), and have raised substantial problems with regard to the way vertically integrated communication firms are regulated.

Bell's Mobile TV service: convergence and the problem with content discrimination

Along with the expansion of mobile broadband networks and the proliferation of smartphones, carrier-provided mobile broadcast services have grown in popularity over the past several years. Major vertically integrated wireless carriers Bell, Rogers, and Vidéotron have lately begun to offer mobile TV apps which provide access to live and on-demand television content on mobile devices such as tablets and smartphones. Despite their apparent popularity, these services are problematic from a regulatory point of view. Companies that provide mobile broadband ser-

vice on a common carriage basis while at the same time offering broadcasting content face a conflict between their public duty and their commercial incentives: they are expected to behave neutrally toward signals carried and their sources, but have an incentive to leverage their control of access networks in order to favour their own content, at the expense of competing services and user choice. The vertically integrated carriers in particular have demonstrated a propensity to act on these incentives, by offering their own broadcasting services on preferential terms while simultaneously limiting Internet access, negatively affecting Canadians' freedom to choose the terms under which they access the Internet for their own various purposes (CRTC, TRP CRTC 2009-657, Crawford, 2014).

In September 2013 Bell announced that its mobile TV service had reached 1 million customers, although the actual number of consumers demanding the service is unknown due to the fact that mobile TV is offered as a free promotion to new wireless customers, and usage statistics are treated as a trade secret. Bell's press release spoke of the service in glowing terms, describing mobile TV as a "breakthrough wireless data service that offers on-the-go access to more than 40 channels of live and on-demand sports, entertainment and children's TV programming" (Bell, 2013). In order to access the mobile TV service, Bell provides its customers with an app to download, and the wireless broadband network is used to deliver content to smartphone and tablet screens. As a common carrier, Bell Mobility is required to provide services at rates that are just and reasonable, and is prohibited from unjustly discriminating or conferring an undue preference upon any service or person. At $5 for 10 hours of viewing (and $3 per hour thereafter), the rates for mobile TV certainly seem "just and reasonable." However, there was a problem with

the service: the terms under which it was offered to customers reflected a discriminatory pricing structure that created advantages for Bell — it was using its control over the network to make its content available to customers at a rate so low that competitors could not hope to match it, a form of predatory pricing — and unjustly discriminated between customers of the mobile TV service and mobile Internet customers, since it appeared that mobile TV customers were being subsidized by other users of Bell's network.

Recognizing this as a problem, in November, 2013 I filed a "Part 1 application" to the CRTC — a 26-page formal request for the regulator to initiate a dispute resolution process — against Bell Mobility, alleging discriminatory practices (attached as Appendix 1 to this thesis). I have been told by CRTC staff that only 2 other private individuals have filed a Part 1 application since 2011 (prior to that date they were called "Part VII" applications) — applicants are almost exclusively filed by private companies, and to a lesser extent government bodies at various levels, or a handful of public interest groups. Individuals often comment on CRTC proceedings, and occasionally make oral presentations at hearings; apparently, they rarely make formal requests for relief. Notwithstanding its unusual source, the CRTC accepted my application and posted it on their website for public comment shortly after it was submitted.

The crux of the argument was this: that Bell was discriminating against its customers by using incremental pricing to *discourage* their use of mobile broadband networks for access to alternative information sources, while at the same time it was giving itself an unfair advantage against competitors by using its pricing power to *encourage* customers (through preferential usage allowances) to watch its own broadcasting service, which uses the very same networks that

carry competitors' traffic. I appealed to the CRTC to prohibit Bell (and any other carrier) from engaging in these discriminatory practices, which I argued were in contravention of certain provisions of the *Telecommunications Act*.

In order to unpack what all this means, and to demonstrate the issue's importance, it is first helpful to provide some background context. This is intended to share insight into the impetus for the complaint, and the method by which I went about conducting the research necessary to construct a credible claim. Additionally, I hope to shed some light on what goes into public participation at the CRTC, a process that has often been described as so complex and frustrating that it "invites individual passivity and abstinence from political activity" (Birdsall, 1999, p. 8; see also Salter, 2008). After that, I will explain the arguments made by the respondent and intervening parties during the process. I believe that the principle behind the issue is straightforward, but regulatory proceedings are thick with specialized jargon that calls out for clarification. Finally, I provide an analysis of the CRTC's ultimate decision, and speculate about its implications for the future.

Background/Method

The idea behind asking the CRTC to examine the case, and the motivation for undertaking the process loosely began to develop earlier that year, in the summer of 2013. In May, I attended the Canadian Spectrum Summit at Ryerson University, a private sector-government-academic conference on industry and regulatory developments in the Canadian wireless sector. The conference presented a unique opportunity for an eager student to learn from the experts, and

connect with noted scholars like Catherine Middleton, Greg Taylor, Daniel Paré, and David Ellis, as well as consultants and journalists working in the field.

Several weeks later, relations between government and industry became tense when Industry Canada announced that it would block the sale of Mobilicity to Telus, and the news broke that Verizon might establish operations in Canada (Chase, Erman, & Trichur, 2013). Following these and other controversial developments, a national conversation unfolded about the wireless market, the companies who currently serve Canadians, and the appropriate role to be played by state communications policy. The issue became politically charged — ordinary Canadians were frustrated with the wireless companies who were in the midst of raising rates following the CRTC's order to eliminate 3-year contracts; the wireless companies feared the threat of foreign competition and were at odds with a government policy that promoted such an outcome; and the federal government sought to curry favour with the voting public by taking a pro-consumer, pro-competition stance against an industry widely regarded as a cozy oligopoly. In the thick of it all stood the media — newspapers, radio stations, television, and digital channels — collectively serving as a (not always neutral) battleground for parties to meet, spar, and draw support for their sides in what has been coyly referred to as the "Wireless War of 2013" (Geist, 2013b).

In the middle of September, eyebrows were raised at the press release announcing Bell mobile TV's 1,000,000th subscriber. It was recognized right away that there was something wrong with the way the service was being provided. According to Bell, "…Mobile TV is uniquely easy to access too — Bell enables customers to watch mobile TV *without impacting their regular data usage*" (BCE, 2013, emphasis added). The practice of applying data usage limits, oth-

erwise known as “data caps” or “usage-based billing (UBB)” invokes the CRTC’s policy on Internet traffic management. Knowledge of these practices and policies is crucial background to understanding the mobile TV situation.

Regulatory Background

In 2006, Bell Canada implemented usage-based billing on the Internet services it offered to retail customers. UBB, as opposed to flat-rate unlimited service, is a the practice of limiting customers’ monthly Internet access by usage volume — after a monthly threshold of usage is reached, additional network access is metered and billed incrementally. UBB is essentially a system of price discrimination in which the monthly rates paid by customers rise along with network use: the more “Internet” you use, the more you pay. On the flip side, usage-based billing functions as an economic disincentive intended to “discipline” “excessive” Internet use, but it is also an economic mechanism used by carriers to increase revenue. Those who can afford to pay more do so, those who cannot can use the mail. In 2007, Bell also began to “throttle” (i.e. slow down customers’ Internet speeds during “peak” traffic hours) certain Internet applications, notably peer-to-peer file sharing.

In a modern democratic society, equitable access to and unrestrained use of communication networks are promoted, not discouraged. It is therefore unsurprising that both business practices, UBB and throttling, have proven persistently contentious, since they limit citizens’ ability to freely communicate using the Internet. While unpopular with the public, carriers such as Bell argue that these measures are necessary in order to prevent “network congestion” caused by growing usage of capacity-intensive Internet services and applications — without such measures,

it is argued, congestion caused by "heavy users" would render networks unreliable or useless for some or all users. Essentially, "network management" is propped up as a necessary evil required to prevent a tragedy of the commons, although it has been argued convincingly that carriers' profit motives to charge higher prices for greater use, despite there being no increase in marginal cost for network use, and not genuine concern for user experience, have played the dominant role in decisions to employ UBB and throttling (Geist, 2011).

In any case, as far as Bell was concerned the heaviest users of its networks were those of its wholesale customers, who also act as competitors which rely on elements of Bell's infrastructure to reach their own customers. In 2008, Bell attempted to impose throttling on customers of competing ISPs who share its network, spurring a complaint from a trade group representing those competitors, the Canadian Association of Internet Providers (CAIP). Bell argued that it applied throttling to its own retail customers, and so it was only fair to do the same for its wholesale customers, represented by CAIP. CAIP responded by arguing that the services it purchases from Bell must be free from throttling in order for its members to compete effectively, and that it was not within Bell's rights to control the use of services which CAIP members had bought and paid for. Others, such as the Canadian Internet Policy and Public Interest Clinic, argued that throttling, whether of retail or wholesale customers, contravened the prohibition against editorial control set out in the *Telecommunications Act*, and ought to be prohibited on that basis. The CRTC denied CAIP's request for relief, but contemporaneously initiated a public consultation to review carriers' network management practices (CRTC, TPN CRTC 2008-19). During this broad consultation, ISPs such as Bell Canada continued to argue that the practice of

throttling was necessary in order to manage network congestion and that otherwise service quality would be negatively affected for many customers (Chung, 2009). Others, including consumer advocates and private citizens, argued that alternatives such as ongoing investment toward increasing overall network capacity would mitigate the threat of congestion, and that network management has the potential to be unjustly discriminatory "towards end-users, application providers, and secondary ISPs" (CRTC, TRP CRTC 2009-657, paras. 21-23).

As a result of the consultation, in 2009 the CRTC issued regulatory policy guidance concerning network management. In the "Review of the Internet management practices of Internet service providers" (or the "ITMP Framework," as it came to be known), the CRTC set out guidelines for how it would approach "net neutrality" concerns, that is, concerns related to ensuring that carriers are neutral toward the information that travels over their infrastructure. The Commission recognized that "at the core of the debate over "net neutrality" is whether innovation will continue to come from the edges of networks, without permission," and indicated its hope that citizens would "continue to have full access to that innovation" (CRTC, 2009-657, para. 4). However, it also acknowledged that "due to the limited capacity of their networks, carriers have legitimate interests in the management of these networks" (CRTC, TRP CRTC 2009-657, para. 4). Since these objectives often find themselves at odds, the CRTC sought to a balanced approach to network management.

The policy permits carriers to continue managing retail traffic, but effectively prevents network owners from imposing measures on competitors. The CRTC indicated that priority should be given to network investment and other "economic measures" (e.g. price discrimina-

tion/UBB, overage fees) as means of managing traffic, as opposed to technical measures such as throttling. When technical measures are found to be necessary, the CRTC requires that carriers implement them in a manner that minimizes discrimination and is transparent to consumers. It also implemented an *ex post* process for approaching cases where traffic management is alleged to result in unjust discrimination — in particular indicating that management practices would be met with scrutiny when applied to specific applications or classes of traffic. Overall, the CRTC hoped that it had "establishe[d] a principled approach that appropriately balances the freedom of Canadians to use the Internet for various purposes with the legitimate interests of ISPs to manage the traffic thus generated on their networks" (CRTC, TRP CRTC 2009-657). However, issues related to throttling and deep-packet inspection (a contentious technical means by which carriers inspect the private communications traffic of their customers) have surfaced periodically since, calling the effectiveness of the *ex post* approach and other aspects of the policy into question (CBC, 2011).

The CRTC's ITMP framework ostensibly limited the use of traffic management practices such as throttling, UBB, or outright blocking of traffic to cases where they are "designed to address a defined need, and nothing more", namely the need to prevent or mitigate network congestion. By grounding its approach in section 27 of the *Telecommunications Act,* the regulator provided certainty for the industry and upheld "the basic principle behind a network anti-discrimination regime," which, according to Tim Wu, "is to give *users* the right to use non-harmful network attachments or applications, and give innovators the corresponding freedom to supply them" (Wu, 2005, p. 142, emphasis added). Interestingly, the CRTC did not employ the language

of users' *rights* in its decision; rather it opposed "society's *interest* in innovation in computer communications" to "the *rights* of carriers to manage traffic thus generated" (CRTC, TRP CRTC 2009-657, para. 9, emphasis added). Despite this, the Commission ensured that carriers could not impose restrictive practices on their competitors or consumers when it would be unjustly discriminatory to do so. However, the policy is tilted decidedly in favour of preserving industry prerogative, and has been subject to criticism on the following related points. First, the regulatory policy places a very important component of common carriage outside its purview: in cases where carriers are alleged to use ITMPs to exert editorial or censorial control over the messages they carry, the "net neutrality" framework, with its primary focus on non-discrimination, will not be engaged. Instead appeals of such a nature must be made to section 36 of the *Telecommunications Act,* which states that "[e]xcept where the Commission approves otherwise, a Canadian carrier shall not control the content or influence the meaning or purpose of telecommunications carried by it for the public" (Telecommunications Act, 1993, s. 36). This is problematic for a number of reasons. According to a 2006 CRTC letter "the scope of this power [under section 36] has yet to be explored" (CRTC, 2006). In other words, complaints that ITMPs are being used for purposes other than traffic management (e.g. those related to censorship, editorial control, or data collection) must contend with untested interpretations of an ambiguous statutory provision, one which has been mostly ignored since it was incorporated into the *Telecommunications Act* in 1993. Although section 36 has been interpreted (in the few cases where it has been invoked) as primarily applying to carriers who block certain traffic, it is equally likely that carriers use ITMPs to "control the content" of telecommunications, that is, to favour content that they own. In the face of growing vertical integration between carriers and broadcasters, hiving off concerns

about the relationship between ownership of content and control over transmission appears, in retrospect, to have been short sighted.

The second criticism to be levelled at the CRTC's ITMP framework is that it ignores the fact that in practice some carriers, especially those that are vertically integrated, have ulterior motives for using ITMPs. According to Barratt & Shade, "[t]he extent of cross-ownership in Canada provides incentives to our large media firms to privilege their own content on their own networks" (2007, p. 298). Usage-based billing is a case in point; research has shown that UBB bears at best a tenuous relation with network management (Anderson, 2011b; Geist, 2011; Odlyzko, 2001), and that the imposition of data caps can be more directly attributed to profit motives and an ISP's interest in protecting affiliated video distribution services (i.e. cable or IPTV) from online competitors (Dai & Jordan, 2013; Minne, 2012). The way this plays out in practice is fairly obvious: cable TV is offered on an unlimited basis, while Internet traffic carried over the same network (including online video viewing) is typically subject to a cap, beyond which users incur additional fees. Permitting UBB effectively enables network owners to act on the incentive prioritize their own video services (Minne, 2012), placing competing online video providers at a disadvantage. For users, this results in a situation of artificially restricted choice between information sources, and has potentially harmful effects on competition in online broadcasting. In other words, UBB is a tool that carriers such as Bell use to circumvent the CRTC's net neutrality rules, and to discriminate against competitors and classes of traffic and customers while maintaining a patina of legitimacy by appealing to concerns about network congestion.

Carriers have increasingly relied on "economic traffic management practices" such as UBB after 2009, since which time the use of peer-to-peer throttling has declined to the point that many carriers no longer employ the practice (not coincidentally in lock-step with users' transition away from reliance on peer-to-peer file sharing services, e.g. bit torrent, a popular file sharing protocol, as a major source of entertainment). As the threat of piracy has subsided and legal services such as Netflix have grown in popularity, the focus has shifted squarely onto UBB, and as more content moves online, the role of usage-based billing in shaping the competitive dynamics of online broadcasting will only become more controversial. Despite the CRTC's affirmation that data caps "match consumer usage with willingness to pay, thus putting users in control and allowing market forces to work" (CRTC, TRP CRTC 2009-657), the practice has consistently drawn fire from opponents who question whether its primary purpose is truly to manage congestion, or rather if it is not primarily driven by strategies of profit-maximization and the suppression of competition (Geist, 2011).

The UBB Debate

In 2010, the CRTC extended the ITMP framework as well as its power to address issues of unjust discrimination to cover the activities of mobile carriers, which until that time had enjoyed more or less blanket forbearance. That year, Bell launched its Fibe TV service (i.e. IPTV, a form of broadcasting distribution). At the same time, economic traffic management practices — which the commission had recently endorsed as a preferred means of preventing network congestion — became the subject of heated political controversy, similar to the one that surrounded throttling, but greater in intensity. As with its previous attempts at throttling, Bell sought to im-

pose usage-based billing on wholesale customers operating as competitive ISPs, again ostensibly to "discipline" heavy users. Until this point in time, the only option available for accessing the Internet on an unlimited basis in many cases was to choose an independent ISP; Bell's proposal would have effectively ended the ability of customers to subscribe to unlimited Internet services regardless of their choice of service provider.

Initially, the CRTC approved the request, but the decision proved tremendously unpopular. In early 2011, citizens' advocacy group, Openmedia, circulated a petition against UBB, which garnered around 500,000 signatures over the span of a week. This overwhelming opposition led the Minister of Industry to overturn the CRTC's decision, and the regulator was ordered to rethink its approach. Almost immediately, a war of words broke out in newspapers, on radio and television, and online. Bell senior vice president Mirko Bibic, for instance, argued in the National Post that "we must face the reality of the super-heavy user, who threatens to impact the Internet experience of all customers. Approximately 15% of users," he continued, "consume the vast majority of our bandwidth at peak periods — and most of them are customers of third party ISPs" (Bibic, 2011b). Bibic's point was clearly intended to convince the public that the more Internet you use, the more you should pay, and that the money belonged to Bell. Competitors and opponents responded, pointing out the self-serving motivations of Bell proponents. Independent ISPs argued that "only Canada seeks to impose a usage-based billing system on the wholesale Internet market […] this makes Canada seem like one of the few countries in the world that wants to discourage access to the Internet" (Gaudrault, 2011). Citizens' groups like Openmedia

joined in, and argued that "the big phone and cable companies should not use their control over infrastructure to unfairly hogtie their smaller independent competitors" (Anderson, 2011a).

On paper, the main focus of the CRTC's UBB proceeding was commercial arrangements, and when the commission ultimately prevented network owners from imposing UBB on their competitors, its decision was grounded in concerns about anti-competitive behaviour and did not contemplate imposing terms on retail service offerings (CRTC, TD CRTC 2011-703). Moving beyond a cursory view, it is apparent that there was much more at play than inter-corporate agreements. Canadians had engaged in a broader discussion about the appropriate role of network owners in shaping the character of online communications. For the average person, the issue wasn't about technical matters like wholesale vs. retail services, or average-volume pricing vs. capacity-based billing; it was about maintaining competition, promoting citizen agency, and preserving an open Internet. When Shaw held focus groups on the topic in 2011, for instance, participants spoke in terms of fairness and responsibility, in terms of user choice and open access to information. People respected carriers' need to manage traffic, and the hard efforts of the carriers to provide quality service to all customers, but questioned the motives behind limiting Internet access and charging fees for "overuse," and expressed concern that their voices weren't being heard.

At present, wireline carriers have moved away from the practice of throttling. However, only 12% of Canadian residential subscribers have unlimited Internet access (CRTC, 2014, p. 178), and just less than 10% are served by independent wholesale-based competitors (CRTC, 2014, p. 176). Canada's 5 largest ISPs continue to command roughly three-quarters of revenues

generated by 11.3 million home Internet subscriptions (CRTC, 2014, p. 171), and continue to offer proprietary unlimited video services while claiming that network congestion requires Internet traffic to be capped. The vast majority of Canadians have no choice but to begrudgingly accept limitations on their use of the Internet imposed by network owners. The situation is more drastic in the mobile wireless market — despite carriers' investments in next-generation mobile broadband networks, wireless services remain almost universally subject to the constraints of usage-based billing, which is substantially more restrictive than in the case of home Internet. As mobiles become increasingly central to the mediated communication sphere, limits imposed on their use will become harder to justify, and ever more contentious.

Bell's Mobile TV service

Returning to the case of Bell's mobile TV, recall that in 2013 Bell had announced it was offering the service without an impact on customer's data limits. 10 hours of viewing — the equivalent of 5 gigabytes (GB) of network traffic — available for $5 a month. In fact, in many cases, Bell was including the mobile TV service "for free" when customers signed a two-year contract. On the surface, it appeared that Bell was simply offering a perk to its customers. Why was this a problem? Why complain?

During the UBB debates in 2011 (the same year Bell began to offer IPTV and the mobile TV service), Bell vice president Mirko Bibic argued that applying data caps unevenly violated "the principle that most Internet customers should not have to subsidize those few who chew up the most Internet capacity." "It's a straightforward concept" Bibic explained, "If you use a lot more, you really should pay more than those who don't" (Bibic, 2011b). He argued that Bell had

to apply UBB evenly: that "Bell's objective, our duty, is to ensure that we are able to balance the demand of all our customers in order to deliver the best possible Internet experience for everyone" (Bibic, 2011a). Yet in the mobile TV case, Bell was clearly violating the same so-called principle that it had claimed to hold dear.

Video streaming is a bandwidth-intensive application, and by providing its service with a preferential data cap, Bell encourages its customers to use the network more without paying more, to put significant traffic on the network without corresponding increases in costs simply because those customers would be accessing Bell's own content. This was clearly against its older argument that it must use data caps to prevent congestion. Either congestion is a problem — in which case network management is required as Bell had argued in 2011 — or it isn't. By offering more generous access to its own mobile TV service than for other similar uses of the network, Bell had tipped its hand; it could not coherently argue that usage-based billing is an effective or necessary means of managing traffic while at the same time exempting its video service from the limits.

Exempting the mobile TV from data caps could have several negative consequences. First, increasing use of mobile TV due to Bell's preferential pricing could potentially cause network congestion for all users. While is it was true that Bell had been upgrading to a high capacity next-generation (LTE) network since 2012, if this meant that congestion was not a threat, then the data caps could not be justified. They would result in consumers being regularly overcharged for unnecessarily limited Internet access. Second, since the mobile TV service is offered to customers free in many instances even though the content rights and carriage capacity cost

money for Bell to provide, there was the danger that Bell's mobile broadband customers were cross subsidizing mobile TV users, against the CRTC's policy of promoting a competitive wireless market. Third, and perhaps most important, Bell was effectively exercising its power as a gatekeeper to make competitors' video services and access to the Internet in general more expensive for consumers. If Bell offers customers 10 hours of video for $5, but charges customers many times more to view similar amounts of competitors' video, then those competitors cannot hope to survive. The average mobile user has a monthly data cap of 1 or 2GB per month, while the mobile TV service allows for 5GB. On the one hand, by charging $5 for the service Bell was effectively pricing network access at $1 per GB when customers watch its content. By my estimate, on the other hand, the price for all other Internet use on the most popular plans ranges from $8 to $40 per GB. As a common carrier, Bell is not permitted to unjustly discriminate against, or give an undue preference to, any person or entity, including itself. Yet by giving preferential pricing to its mobile TV customers, it was doing just that.

Filing the "complaint" - method

Foreclosure of competition is taken seriously by the regulator, and it was obvious that Bell's primary motive for using discriminatory data caps (effectively discriminatory pricing) was to stifle competition. Upon seeing Bell's announcement in September of 2013, I knew that this was an issue that needed to be dealt with. However, recognizing this as a problem was one thing; figuring out a way to get the commission to do something about it was another. A formal procedure exists for consumers who wish to complain about misuse of Internet traffic management practices, but the process is flawed. The CRTC publishes quarterly reports on complaints related

to ITMPs, but they are virtually devoid of useful information (CRTC, n.d.). Very little (if any) information about the nature of these complaints or the circumstances surrounding their resolution is made public. I did not want to undertake the work required to compile a credible complaint only to see it swept under the rug.

That summer, I had come into contact with Jean François Mezei, a telecommunications analyst and regular independent participant in CRTC proceedings. In fact, Mr. Mezei (who is better known by the name of his business, Vaxination Informatique) had been instrumental in overturning the CRTC's original 2011 decision allowing Bell to apply UBB to its competitors, and has an unparalleled understanding of the commission's inner workings. In discussions over the course of the fall, he provided me with procedural guidance. He recommended that I compile evidence and arguments, and file a formal "Part 1 application" requesting relief, as a way of ensuring the complaint would be taken seriously.

A Part 1 application, as mentioned earlier, is a commercial dispute resolution mechanism, typically handled by lawyers. After the initial complaint, the respondent and interested parties may comment or "intervene", after which the applicant has right of last reply. This takes place over the course of about a month, after which the CRTC typically takes four months to consider evidence on the public record and render a decision. In my case, I relied on assistance from Mr. Mezei in getting the process started, and soon learned that participating in CRTC proceedings is relatively straightforward. The CRTC's website, labyrinthian though it may be, provides a wealth of information about procedure. The CRTC's "Rules of Practice and Procedure" (Canada, 2010) are laid out in plain English online, along with a variety of information bulletins that provide

greater detail on particular matters. Staff is typically responsive to queries about procedure, if the answer can't be found online. After undergoing a crash course in the rules, I registered for a "GC Key" (an authenticated online account used to file formal documents with the government), and I used my account for several "dry runs" — I chose two proceedings that were open for comment, conducted research, and submitted interventions.

The process was daunting at first and without substantial assistance it would have been much harder. I was lucky. Although the logic of a statutory regulatory agency does eventually reveal itself with effort, there is nevertheless quite a steep learning curve for individual citizens who wish to participate in a meaningful way. If it is still true, as Birdsall noted fifteen years ago, that "[t]he CRTC prides itself on its efforts to solicit submissions" (1999, p. 5), then the commission may want to consider making greater resources available to independent participants. This it could do, for instance, by holding seminars, making space for citizens in active working groups, or by creating a forum for assistance and feedback on its website. There has already been some progress in this regard with the recent creation of a consumer department, CRTC engagement on social media, the publication of a brief citizen's guide to participation, and a commitment to "embrac[e] open government by expanding opportunities for citizen engagement" (Blais, 2013). However, from my experience I would say that there is still room for improvement. The Commission should continue to seek better ways to engage the public, but could stand to be more proactive in its approach.

By the middle of November, I had completed the necessary research and written the complaint. The last thing that remained to be considered was timing. I contacted the Public Inter-

est Advocacy Centre (PIAC), a law clinic with a long track record of independent participation at the CRTC. PIAC's representatives expressed some reservations, questioning whether the time was right just before the holiday season and wondering ifit might be better to wait until the new year. I had been invited to attend an industry conference in Ottawa put on by the Canadian chapter of the International Institute for Communications, so I set the complaint aside to think it over while out of town.

The conference attendees were a who's who of the Canadian communication industry, at least to a student who had studied the field from afar. The main attraction for me was a panel featuring Jeffrey Church, an economist at the University of Alberta, Martin Masse, former aide to the Minister of Industry, and Dwayne Winseck, professor in the Communication department at Carleton University. Church and Winseck had produced opposing reports on the question of "how competitive is Canada's wireless sector?," and the debate did not disappoint. Dr. Winseck, for whom I had periodically acted as a research assistant, had invited me to the conference as a guest.

Over lunch, I sat with journalists and several telco executives while Bell Media president Kevin Crull gave a keynote presentation lauding the quality of Bell's broadcasting services and its contributions to Canadian cultural production. Mr Crull argued that Canadians prefer "curated" content — that is, video selected by the network owner — over online video from a variety of sources, and that Bell was the best company to provide it. I scratched my head when he displayed a slide comparing the "value for dollar" of Bell's IPTV service (minimum $50 per month) against that of Netflix ($7.99 per month), which showed the former to be cheaper! (Must have

been using creative math). I knew that this was not true, and that users, not network owners, ought to decide how to best use the network. It was truly an eye opener to see and hear the president of Bell media espousing such a view when I knew that his company was employing discriminatory practices for its TV service. So I made up my mind then and there that I would file the complaint when I got home.

The Mobile TV proceeding: Arguments, New Developments

I submitted the application to the CRTC on November 20th, 2013 after I returned to Winnipeg. Shortly thereafter, PIAC submitted a procedural letter requesting the Commission expand the complaint into a broader procedure, to consider whether similar practices by Rogers and Vidéotron were also in violation of the anti-discrimination rules. The CRTC denied the request; on January 29, Bell provided its response, and interventions were made by Bragg Communications, Telus, the Canadian Network Operators Consortium (CNOC), Dr. Fenwick McKelvey (a professor at Concordia University), Steven James May (a PhD student at Ryerson), Vaxination Informatique, the Canadian Internet Policy & Public Interest Clinic (CIPPIC) on behalf of Openmedia, and PIAC. All parties (with the exception of Telus) were in support of the complaint.

The reasoning behind the argument against mobile TV has been described above, and my original complaint as well as arguments of the various parties are available in full on the CRTC's website. In brief, I argued that Bell was unjustly discriminating between customers, by exempting its own video customers from data charges; that either use of mobile TV could contribute to network congestion, in which case the preferential pricing encouraged congestion and corre-

spondingly discriminated against other users of the network, or, if congestion was avoided by adding capacity, that the data caps are unnecessary; and finally that Bell's treatment of mobile TV caused an undue disadvantage to competitors in the online video market. I proposed a number of alternative ways that the mobile TV could be offered more fairly and asked the CRTC to prohibit Bell from continuing to show an undue preference to itself.

Bell's response was simple and heavy handed: it claimed that its mobile TV service contributed to the broadcasting policy objectives (i.e. promoted Canadian content), and simply denied that there was any discrimination taking place. To support its position, Bell pointed to the mutual exclusivity of the *Broadcasting* and *Telecommunications Acts,* arguing that since mobile TV is a broadcasting service, and the application was made under the *Telecommunications Act*, the complaint was legally inapplicable. This aspect of the response was unexpected because in my understanding the mobile TV service was a broadcasting service delivered by means of a telecommunications service and I believed it was therefore subject to both Acts. Bell thought differently, and in effect attempted to exploit a loophole in order to defeat the charges.

Normally, following interventions the applicant would reply and the record of a proceeding would close. However, in this case, PIAC filed two similar applications, one against Rogers and one against Vidéotron at the same time as it intervene in the Bell proceeding. Together with the question regarding the legal nature of the service, this forced the CRTC to combine the three complaints, since to hold similar proceedings concurrently while the CRTC considered its decision in the Bell case could have prejudiced the outcome of the original filing. The commission also indicated that, since the application raised issues to do with broadcasting and telecommuni-

cations, it would examine the facts under both Acts. It extended the process to include an additional round of comments, a fact-finding exercise ("interrogatories"), and final replies from all parties were to be submitted by May 15, 2014.

In their filings, Rogers and Vidéotron opposed the request, but took a different stance than Bell. Both companies acknowledged that there was a preference being shown to their own services/TV customers, but attempted to justify the treatment on the basis that mobile TV viewing is a "nascent" activity and that they were experimenting with new business models. Bell maintained that its service was exempt from regulation, and I, PIAC, and Vaxination argued that the transport of mobile TV was a telecommunication service subject to regulation, and in any case, Bell could not use the *Broadcasting Act* as a shield to protect itself from the prohibition against discriminatory behaviour. During the latter rounds of comments, several other interveners submitted supporting comments, including Dr. David Ellis, a York University lecturer, and Teresa Murphy, an independent consumer advocate. After the official close of record, the CRTC issued additional interrogatories to Bell, Rogers, and Vidéotron in order to gather facts further required to support a decision. Following questioning in August 2014, Rogers announced that it had ended the practice of exempting its video service from data caps, and Vidéotron indicated that it would be phasing it out as well.

Over the course of the proceeding, the story was picked up by the media, first by Huffington Post, then the *CBC*, *The Wire Report*, the *Toronto Star*, the *National Post*, and the *Globe & Mail*. In the news, the issue was cast as a breach of "network neutrality," the idea "that a maximally useful public information network aspires to treat all content, sites, and platforms

equally" (Wu, n.d., quoted in Barratt & Shade, 2007, p. 298). The CBC noted that "[e]xempting Mobile TV from monthly data caps is a de facto subsidization of the content Bell licenses and owns" (Stastna, 2013). In the *Star*, Michael Geist pointed out that "the core question [of network neutrality] invariably boiled down to whether Internet providers would attempt to leverage their gatekeeper position to create an unfair advantage by treating similar content, applications, or other services in different ways (2014a). Geist, a leading Canadian legal scholar, argued that Bell, Rogers, and Vidéotron were creating a two-tier Internet to favour their own content. "Sensing consumer frustration with data caps," he wrote, "network providers have begun to offer access to some services or content that does not count against the monthly cap. The result is a new two-tier Internet: one Internet that counts against the monthly data cap and another that does not" (2014a). In the Globe & Mail, Ryerson professor Dr. Gregory Taylor put the question of network neutrality succinctly: "[t]he main point here is: How can you favour some data over another?" (Dobby, 2014b)

The "Klass Decision"

On January 29, 2015, the CRTC issued its decision on the mobile TV case. At a press conference in London, Ontario, CRTC Chairman Jean Pierre Blais announced that the commission had banned Bell and Vidéotron's practice of unduly preferring their own mobile TV services (recall that Rogers ended the practice of its own accord in June 2014). Blais stated that "at its core, this decision isn't so much about Bell or Vidéotron. It's about all of us and our ability to access content equally and fairly, in an open market that favours innovation and choice […] We

also want to ensure that abuses of power in the system do not go unchecked […] we will defend and support an open Internet" (Blais, 2015).

In the *Mobile TV* decision, referred to as "the Klass decision" by CRTC commissioners and staff (CRTC, BTD CRTC 2015-26), the CRTC addressed three main issues: first, whether the mobile companies were to be treated as telecommunications common carriers in the delivery of their mobile TV services; second, whether their treatment of mobile TV constituted a violation of the ITMP Framework; and third, whether the differential treatment of mobile TV was unduly preferential or unjustly discriminatory. In the threshold issue, the CRTC determined Bell acted as a common carrier when delivering the mobile TV service. The importance of this determination should not be understated: ever since the CRTC deregulated "new media" broadcasting in 1999, there has been substantial uncertainty regarding the regulatory status of online broadcasting. CRTC Commissioner Timothy Denton stated that, by characterizing online broadcasting as an "application" delivered by means of a regulated telecommunications service, the CRTC had "achieved a conceptual revolution" by adopting "an essentially Internet view of the businesses they regulate" (Denton, 2015). Whereas prior to the decision, broadcasting and telecommunications were treated according to a regulatory "silo" approach, Denton argued that the CRTC had correctly determined in this instance that broadcasting is equivalent to an application just like any other network traffic (in this case an application dedicated to providing access to content) that is transported by means of underlying telecommunications facilities, and that this signalled a positive shift in thinking at the CRTC.

The Commission determined that the 2009 ITMP Framework did not apply in this instance; instead it relied on the *Telecommunications Act's* broader prohibition against discrimination (ss.27(2)) in supporting the ban. In the Toronto Star, Geist called it "a landmark decision" grounded in "first principles" of non-discrimination (2015a). In effect, the CRTC had reaffirmed its commitment to maintaining common carriage/network neutrality. By preventing network owners from using price discrimination (as opposed to technical measures such as throttling) to stifle competition in the online broadcasting marketplace, the decision also represented a broadening of the commission's approach. According to Geist, it "points to an evolving network neutrality framework that includes analysis of both the net neutrality rules [the 2009 ITMP framework] and the principles of undue preference." This combination, he noted, "leaves Canada with an even stronger net neutrality framework that better safeguards new innovative services that will leave U.S. net neutrality advocates looking north with envy."

The decision came as regulators in the United States, Europe, and elsewhere continued to grapple with similar issues. The US is currently embroiled in a debate over net neutrality; at present the American Federal Communications Commission (FCC) is considering a proposal to classify wired and wireless broadband as a utility and subject it to regulation in order constrain the market power and editorial control wielded by network owners such as Comcast and Verizon. President Obama has even weighed in on the situation by urging the FCC to "implement the strongest possible rules to protect net neutrality." Noting that "rules also have to reflect the way people use the Internet today, which increasingly means on a mobile device", Obama argued that, for the FCC, "there is no higher calling than protecting an open, accessible, and free

Internet" (White House, 2014). Like Bell, American wireless carriers such as T-Mobile are currently "zero-rating" subscribers' access to certain streaming music services and, although the FCC's current proposal does not contemplate regulating zero-rated services, the FCC has indicated that it will continue to monitor the situation as it unfolds (personal correspondence, FCC Commissioner Mignon Clyburn). As the European Commission moves forward with its "digital single market" initiative, similar struggles are taking place. The EC is at present discussing how best to establish "clear principles for traffic management in general, as well as the obligation to maintain sufficient network capacity for the internet access service regardless of other services also delivered over the same access" (Hern, 2014).

The situation remains largely unresolved, however. Court challenges mounted by incumbent cable and Internet companies are practically guaranteed to result in challenges to the major pro-net neutrality decision taken by the American regulator, the FCC, on February 26, 2015. The European framework is far from complete and, according to telecom analysts at Rewheel, carriers are increasingly using data cap exemptions which they term "positive price discrimination" as a means to interfere with customers' Internet services. While the Scandinavian countries, the Netherlands, and Slovenia have banned the practices, there has been no comprehensive EU-wide consensus amongst regulators. (Rewheel, 2015).

Further, at the time of writing, Bell has filed a motion to appeal the *Mobile TV* decision in the Federal Court of Appeal. It argues that the CRTC was jurisdictionally incorrect to apply the *Telecommunications Act* to the delivery of its mobile TV service. since in Bell's view the mobile TV service is a unified broadcasting service, and that broadcasting is *ultra vires* the *Telecommu-*

nications Act, and requests that the decision be reversed. The issue is likely to take years to resolve through the court process and that creates significant uncertainty for how online services are to be treated from a regulatory perspective. Similar challenges to online video services such as Rogers Gamecentre, Bell's CraveTV, and shomi (a joint venture of Rogers and Shaw) are pending before the CRTC, each highlighting different problematic aspects of vertical integration between broadcasters and Canadian carriers.

Conclusion

Vertical integration between broadcasters and telecommunication service providers creates unique challenges for the regulation of modern communication services. These previously-distinct services have by and large "converged" to the point at which a silo approach to regulation increasingly seems anachronistic. Calls for review of the prevailing legislation and policy approach have surfaced with some regularity (Geist, 2014b; C.D. Howe Institute, 2014), and the problems created by convergence and vertical integration seem likely only to grow more acute in the absence of a fresh rethink.

As mobile technologies evolve, and devices and the networks that support them become further integrated into Canadians' communications practices, they will be further implicated in the problems that arise on account of vertical integration and convergence. Issues related to vertical integration are no longer confined to the residential services market; in fact, substantial problems have already arisen in the mobile context, as shown by the case of Bell's mobile TV. Although the CRTC decision in that case seemed to place limits on carriers' ability to control content for their own benefit, Bell's court challenge has cast doubt on the ultimate outcome.

While the present government seems committed to protecting consumers and the open Internet, whether it be accessed on wireline or mobile networks, developments around the world show that there is substantial uncertainty as to how the situation will play out, and with the interests of powerful communication firms on the line, it is certain that issues relating to network neutrality and common carriage are far from resolved.

CHAPTER 6: Conclusion

This thesis began with a simple observation: mobile adoption is substantially lower in Canada than it is in any other OECD country. This fact is surprising, given the commonly held view that Canada is a leader in uptake and deployment of communication technologies. It is true that Canadians who have access to mobile broadband networks use them a lot: approximately half the time we spend accessing the Internet is on a mobile device, and overall usage patterns are similar to other technologically advanced nations like the United States, the UK, Japan, and Australia (Israel, 2014, p. 6). Representatives of the national wireless carriers Bell, Rogers, and Telus often point to high usage levels, broad geographic coverage, capital investment levels, and technological innovation as signs that the wireless market is healthy and competitive. However, those statistics are likely to come as cold comfort to the many Canadians who struggle to pay their monthly communication bills, and those who cannot afford service in the first place as well.

This problem did not appear overnight. As early as 1995, the federal government recognized that mobile service is expensive and out of reach for many, and called for measures to extend service to all Canadians. This objective, and its subsequent reiteration over the years, is in

line with Canadian telecommunications policy more broadly, as laid out in the 1993 *Telecommunications Act*. The law states that telecommunication services must be affordable, reliable, of high quality, and available to all Canadians living in both rural and urban areas, and that they must serve the interests of users of those services. As mobile devices have gone from being a business tool to a trapping of everyday life, and from simple phones to miniature computers, the need to live up to the standard of universal service has only become more pressing. Yet, despite several decades of promises from the government, this objective has yet to be achieved.

This thesis asked why, after mobile services have been available in Canada for thirty years, have we failed to achieve universal service? Why, while one country after another has achieved near universal service, has Canada fallen behind? The answer this thesis posits is that Canada's policy approach of passive reliance on market forces—liberalization and deregulation in the main—is responsible for persistently high prices in the mobile sector, and for corresponding low levels of adoption, and that a more active approach is called for if Canada's telecommunications policy objectives are to be achieved.

The case for this idea was made in five phases. First, a basic framework for understanding the role of the state in markets was presented. This suggested that the state has a vital role to play in structuring and guiding markets, in order to pursue objectives that pure market behaviour has been historically incapable of providing. Second, the historical development of telecommunications policy and regulation was reviewed. Although technology, industry, and state policy have changed substantially over the past century and a half, it was shown that there are nevertheless persistent themes which provide lessons for the present. Third, the focus was narrowed to

specifically analyze the mobile wireless sector, from its inception in the eighties to the present. We found that a bifurcated approach has developed, in which the federal government has pursued a policy of liberalization, while the CRTC has been largely idle with respect to market guidance. This approach stands in contrast not only with that of other jurisdictions, but with the role the CRTC itself has played with respect to wireline telecommunications, where it actively intervenes to promote competition. The fourth and fifth chapters presented evidence that the existing arrangement has come under fire, and that the government and regulator appear to have each taken a new, more active stance. This entails structural regulation of the wireless market by both institutions, aimed toward promoting fair and sustainable competition, rather than simply allowing multiple firms entry into the marketplace. Additionally, due to the evolving nature of mobile technologies and convergence between business practices, new regulatory considerations have arisen around the role of telecommunication carriers that are also broadcasters. The conflicting policy goals of these connected statutes demands regulatory attention, and recently the CRTC has been forced to deal with this issue with increased frequency and urgency. While many challenges remain, these new developments hold the promise of improvement for the situation of Canadian communication users who have long been left in the lurch.

Regulation

This thesis began by laying out a conceptual understanding of regulation. Regulation is typically considered a response to a market failure, such as monopoly or the exercise of significant market power, and in this view state intervention represents interference in the otherwise 'natural' workings of a market. If only the market were perfect, that is, if only better information

were available, there were more sellers, it produced homogeneous goods, and investments were mobile, then the market could be left to its own devices. In reality, it is a rare industry that meets these criteria and escapes state intervention altogether especially in contemporary capitalism which is dominated by the 'giant corporation'. This is not without good reason, and although there are many problems with public policy and regulation, these do not diminish the fact that there are many legitimate public goals that markets will simply not autonomously provide.

Conceiving of regulation as a tool by which public policy is implemented, the various modes of regulation were enumerated and categorized according to two schema: economic regulation and social regulation. These were viewed on a continuum from active to passive regulation, with direct involvement in the business operations of firms falling in the former, with today's neoliberal form of market self-regulation falling into the latter. The institutional mechanisms that act to shape regulation were explored, and it was concluded that while the legislative and executive branches of government play a leading role in setting policy, and specialized agencies are largely responsible for crafting industry-specific regulation, the separation between policy and regulation is not so neat in practice.

The focus was then narrowed to examine the specific forms of regulation applied to the telecommunications industry: the concept of public utility regulation was introduced, a form of regulation designed to discipline the market power of firms that provide essential services in monopoly or concentrated industries. Next, the concept of common carriage was presented, whereby the editorial influence of firms that are responsible for carrying information is restricted in exchange for freedom from liability. Lastly, the justification for regulation of the telecommunica-

tions industry in particular was outlined. It was argued that telecommunications play a vital role in the commerce of the nation, but that this is just one part of the picture. Public policy goals also countenance the importance of telecommunications in broad swaths of non-economic social activity, and are also becoming increasingly important in facilitating participatory civic life as well.

Historical review

The second chapter of this thesis took a sweeping, long-term view of the Canadian telecommunications industry, with a particular focus on the role of public policy and regulation in shaping its historical development. Its main argument was that, although technologies have undergone significant transformation over the last century and a half, the role of the state has remained central in shaping the industry and the social uses of the services it has provided. The relationship between the state and industry players has been longstanding, as firms such as Bell Canada and B.C. Tel (now Telus) have been around in one form or the other for over a hundred years. Over this time, the principles of telecommunications public policy and regulation have developed through practice and experience, and a variety of historically-specific configurations of state-industry interaction have developed. Although these configurations were unique to their time, there are nevertheless overarching trends that run through them, and therefore there are lessons to be learned for the present by studying their history.

Three formative historical periods were identified. First was the *laissez faire* period, lasting from the 1880's until the turn of the twentieth century. During this time, the telephone transformed from a laboratory experiment to a full-fledged industry, indispensable to the conduct of business and a status symbol. The telephone industry's dramatic rise was helped along by a sup-

portive state policy, which included such measures as the granting of charters, public subsidies, and patent protection. Although Canada's early telecommunications policy was ostensibly undertaken in the interest of nation building, it is interesting to note that the two major phone companies to receive government favours, Bell Canada and B.C. Tel, each maintained deep ties with their American parent companies, ties which extended from the boardroom all the way down to their manufacturing operations. These companies ably dominated the telephone industry within a few short years, leading to social unrest and eventually to a stark change in state policy.

The turn of the century inaugurated the second foundational period in telecommunications policy and regulation, and involved an increasing role for the state. Initially, social unrest and political pressure nearly caused the phone companies to be nationalized, but the failure of that process in 1906 led instead to the extension of federal regulatory jurisdiction over the industry, carried out by the Board of Railway Commissioners. Although the Board was a technocratic entity that played a passive role with regard to rate-setting and approval for increased capitalization, it nevertheless acted to promote competition throughout the early decades of the twentieth century by forcing interconnection between competing and independent non-competing telephone networks. By the war years, social use of the telephone had become commonplace, and the devices could be found in residences across the nation. Following the second world war, the state gradually accepted the doctrine of natural monopoly in telecommunications as part of the broader macroeconomic trend toward promoting a welfare state. This view entailed the acceptance of a compromise: large, dominant companies such as Bell were granted monopoly privileges by the state in exchange for submitting themselves to economic rate regulation and a prom-

ise to deliver access to anyone requesting service. The independent competitors that had grown up during the first half of the century withered and ultimately vanished, save for a handful of local companies serving rural and remote areas.

The natural monopoly regime lasted several decades, but was supplanted following the global economic crisis of the 1970's by a neoliberal regulatory regime period that embraced the notions of competition and market self-regulation. Counterintuitively, even this approach required significant state intervention, in order to unseat vested interests represented by the existing monopoly providers, consumer groups who valued universal service, as well as labour unions threatened by loss of jobs to foreign competitors. Viewed in this light, the shift from active involvement in the affairs of the telecommunications market to the passive neo-regulatory paradigm was no small feat. The neoliberal policy regime resulted in the enactment of the prevailing piece of legislation, the *Telecommunications Act* of 1993, which emphasizes that regulation should enhance the competitiveness and efficiency of the market. This approach has persisted to this day, although it too shows signs of change, as social unrest and political pressure are currently assailing the notion that market self-regulation is sufficient to achieve the policy goals of universal service, economic competitiveness, and progressive technological innovation.

Wireless policy review

The third chapter of this thesis covers the development of Canadian mobile wireless policy since its inception in the early 1980's. It begins by examining the Department of Communications' decision to open the wireless market to competition from the outset through a licensing process which proved to be contentious due to accusations of favouritism and horse trading. Re-

gardless of criticism, the market was structured as a duopoly comprising regional incumbent telephone operators and a national player, Rogers Cantel. The CRTC embraced the DoC's approach by instituting a policy of regulatory forbearance—it decided that the best approach was to allow market forces to guide the development of the new cellular services, although this too involved a fair deal of CRTC involvement in such matters as interconnection, affiliation and marketing restrictions.

The industry initially catered to a clientele composed of high-flying businesspeople and the rich—the handsets ran in the thousands of dollars, and per minute airtime was prohibitive for most. By the nineties, adoption of mobile phones around the world had begun to pick up, and the government recognized that extending mobile service to all Canadians would be in the nation's best interest. This it sought to do by liberalizing the market: in order to challenge the existing duopoly, Industry Canada licensed two new national service providers in 1995, Microcell and Clearnet. The CRTC, upon review of its policies following the enactment of the *Telecommunications Act,* and in consideration of the arrival of new competition, determined that it would continue to pursue a hands-off approach to the wireless industry by reaffirming its commitment to forbearance in two decisions, one in 1994 and again in 1996. However, by the early twentieth century, the industry underwent a wave of consolidation; the challengers both failed and together with the smaller local telephone companies who had been awarded licenses in the eighties, were absorbed by Rogers and Telus, respectively. Prices rose during the first half of the 2000s, and again in 2007-2008, Industry Canada sought to attract new competition to the marketplace, this

time opting to rely on market mechanisms in the form of spectrum auctions instead of the previous approach of awarding licenses based on a process of comparative selection.

Similarly, the CRTC continued to forbear from regulation, in the expectation that the "new entrants" would contribute discipline against the market power of the incumbent firms. Furthermore, a 2006 order from the Governor in Council had directed the CRTC to "rely on market forces to the maximum extent feasible" and to minimize regulation whenever possible, with which the CRTC willingly complied. However, both Industry Canada and the CRTC were forced to rethink their approach when the expected competitive pressures failed to materialize.

Promoting fair competition

Like the humble telephone a hundred years ago, by the mid-2000's the mobile phone had gone from being a luxury to a utility within reach of nearly everyone. However, concentration in the marketplace for wireless service and the resulting high prices continue to prevent many Canadians from taking advantage of its benefits. Recognizing this in 1995 and reiterating it frequently since—the ruling Conservatives are currently running a campaign on the "consumer friendly" slogan of "more choice, lower prices, better service," for example – the the federal government has nevertheless failed to deliver on these promises. The incumbent firms have proven adept at minimizing the threat posed by new competitors and at maintaining lucrative profit margins. The effects of smaller firms have been typically localized and short lived. This situation has caused a substantial amount of unrest, as citizens are increasingly frustrated with not only their service providers but with the lack of concrete results from their elected representatives.

During this time, the CRTC was largely inactive with respect to the wireless market. In 2009, then-Industry Minister Tony Clement ordered the CRTC to review a decision to block foreign-owned Wind from entering the Canadian market, an early signal that the federal government was not content with the CRTC's approach to wireless. In 2012, the CRTC decided to institute a "Wireless Code of Conduct" under pressure from incumbent firms who feared strong controls from provincial governments would undermine their control over the market. The Code, which was developed following a public proceeding which included an oral hearing, was designed to empower consumers to switch providers, by setting limits on contract length and forcing providers to unlock devices, and to protect consumers by capping data overage charges and contract termination fees.

The Code came into effect in June of 2013, just as tensions between the wireless carriers and Industry Canada was reaching a fever pitch. Speculation that Verizon (the American telecommunications giant) was considering coming north led the incumbent firms to wage a public relations campaign in the media that had polarizing effects. The "wireless war" of 2013 ultimately marked a firm departure from the status quo in wireless policy. The Conservative party, sensing widespread consumer frustration, took advantage by aggressively promoting its opposition to the national carriers' position. In the fall of 2013, the CRTC became involved by initiating a proceeding to determine whether there had been instances of anti-competitive behaviour on the part of the incumbent carriers. After a finding that there had been such conduct, the regulator began a broader investigation in early 2014 to consider whether it would be necessary to intervene by regulating the wholesale market for wireless services—roaming, tower sharing, and

wholesale network access for third parties—in order to ensure that the new entrant carriers could deliver on the promise of more competition.

This increase in activity over the past several years represents a substantial departure from the CRTC's previous regulatory approach to the wireless industry. Market self-regulation was relied upon when the wireless industry was just getting started, and suited the purposes of business users who could afford to pay for access incidental to commerce. However, the deregulatory environment has failed to ensure that the benefits of new mobile services have been attainable on a universal basis. If the market will not provide service to all Canadians, then state intervention is required. While positive steps have been made in this regard, there remains much uncertainty as to whether the CRTC's new approach of actively promoting fair competition will, in fact, result in a better situation for Canadian users of wireless communication services.

Mobile media—Common carriage and broadcasting

The fifth and final chapter of this thesis examined a new problem with respect to the issue of convergence—the blurring of technological, business, and regulatory lines between cultural broadcasting activities and telecommunications services. The diffusion of smartphones has displaced the previously widespread use of basic cell phones, and mobiles today are better understood as a form of media rather than exclusively as a tool of interpersonal communication. Mobile services capable of delivering broadband access to the Internet engage policy objectives that cut across the traditional divide between telecommunications and broadcasting, and thereby create new challenges for policymaking and regulation.

Over the course of the past decade, the industry has played a formative role in this transformation. Previously separate spheres of industrial activity have been merged by giant conglomerates such as Bell Canada Enterprises, Rogers Communications, and Shaw Communications, who have become vertically integrated; that is, they now control both the means by which communication is accessed and delivered, as well as substantial portions of cultural content productions. These vertically integrated communication companies have proven willing to act on incentives to discriminate in favour their own content at the expense of users' ability to control their communication experience.

The case study presented in chapter five detailed the implications of these trends as they are playing out in the mobile sphere. It focused on a formal complaint lodged by the author against Bell Mobility with the CRTC, which sought redress to discriminatory practices favouring Bell's mobile TV application. It detailed the interactions between broadcasting and telecommunications policy objectives, and highlighted the contradictions therein. After over a year of procedural investigation, the CRTC determined that vertically integrated mobile companies do have incentives to unduly influence Canadians' communication services, and determined that intervention was necessary to bring an end to these practices. This decision falls within the broader frame of a reinvigorated regulator, one which recognizes that active guidance of oligopolistic markets is necessary to ensure that Canadians are well served by their communication system.

The future

As I write this concluding chapter, the CRTC has issued its decision in the wireless wholesale proceeding that was the subject of chapter 4. The CRTC has determined that the large

carriers indeed have exercised market power contrary to the policy objectives of promoting fair competition in the marketplace, and has decided that rate regulation of the terms under which carriers provide each other services will be necessary. This decision essentially confirms the hypothesis of this thesis: that market regulation is necessary to ensure the telecommunications policy objectives are achieved, and that an approach which relies on market self-regulation is insufficient to the task.

This overarching view is bolstered by this year's earlier decision to ban preferential treatment of mobile TV apps, described in chapter 5. However, it remains to be seen whether these decisions will in the end have their intended effect. The national carriers (Bell, Telus, and Rogers) have proven remarkably adept at evading regulatory edicts, and the decision to reinstitute regulation will surely be met with stiff resistance. The path from a decision to regulate rates to a situation in which fair terms are established is long and fraught with perils—it will inevitably involve years of further debate as to the appropriate mechanisms for rate setting, access for competitors to confidential information, and potential court challenges. Similarly, Bell Mobility has already challenged the CRTC's mobile TV decision at the Federal Court of Appeals, at best delaying the effect of the CRTC's decision and at worst reversing the protections that are currently in place for common carriage.

The outcome of these proceedings will influence the ways in which Canadians access communication technologies for years to come. However they turn out, one hopes that the CRTC will uphold its commitment to promoting the public interest, and remain open to new possibilities for progressive policymaking. As new opportunities to influence the policy process arise, it is

essential that interested parties continue to engage with the regulatory institution in order to ensure the rights of all people to access communication services are upheld.

Appendix

The following is the Part 1 application I filed in November of 2013 relating to my complaint about Bell Mobility's unduly preferential/unjustly discriminatory practice of exempting its mobile TV service from the data caps which apply to other mobile wireless data traffic. The full record of the proceeding, consisting of all relevant interventions, letters, orders, interrogatories, decisions, and orders, can be found at the following link:

https://services.crtc.gc.ca/pub/instances-proceedings/Default-Defaut.aspx?lang=eng&YA=2014&S=C&PA=t&PT=pt1&PST=a&_ga=1.211304213.1670752342.1416024332#201316646

Benjamin Klass

Submitted via GC-Key

November 20, 2013

Mr. John Traversy
Secretary General
Canadian Radio-television and
Telecommunications Commission
Ottawa, ON K1A 0N2

Dear Mr. Traversy,

Subject: Part 1 Application requesting fair treatment of Internet services by Bell Mobility, Inc., pursuant to CRTC 2010-445 and CRTC 2009-657, and *The Telecommunications Act,* s.24 & subsection 27(2).

I. Summary

1. I, Ben Klass, make this application, pursuant to Part 1 of the *CRTC Rules of Practice and Procedure,* s.24 and subsection 27(2) of the *Telecommunications Act,* requesting that the Commission prohibit Bell Mobility, Inc from giving itself an unfair advantage by applying a separate data cap to its own new media broadcasting undertaking ("NMBU") service.

2. Bell Mobility, Inc. ("Bell Mobility") is a mobile wireless service provider ("WSP") that offers Canadians voice and data services. Bell Mobility also offers a NMBU service called "Mobile TV," which allows users to watch live and on-demand video over the Internet via an app on their smartphones. I put this application before the Commission because I believe that Bell Mobility, by applying an application-specific economic ITMP to Mobile TV, gives itself undue preference, and in so doing unjustly discriminates against consumers and competitors.

3. Bell Mobility is a subsidiary of Bell Canada Enterprises ("Bell"), which is Canada's largest communications company; in 2012 it accounted for 26.4% of all 4. Canadian

communications industry revenues.[2] Another subsidiary of BCE, Bell Media, owns 12 of the 43 programming undertakings offered through Bell Mobility's Mobile TV service.[3] As BCE's subsidiaries are part of a large, vertically integrated communications organization, and since BCE recently undertook a major corporate merger, any suggestion that its various operations may be exercising market power in an anti-competitive manner is cause for concern. Bell Mobility's preferential treatment of Mobile TV is one such case.

5. Mobile TV qualifies as a NBMU service under to the definition put forward in Public Notice CRTC 1999-84, as amended by CRTC 2009-660; in other words, it is an Internet service that is delivered to consumers' mobile devices. Given the status of NMBU Internet services, Bell Mobility is exempt from regulation under certain sections of the *Broadcasting Act*. However, this exemption is subject to a number of qualifications, most notably that Bell is prohibited from giving itself undue preference and that the CRTC retains the power to collect information when allegations of preference are registered.

6. Furthermore, as an Internet service, Bell Mobility's treatment of Mobile TV is subject to regulation under TRP CRTC 2009-657, "The ITMP Framework", which applies to mobile wireless data services (TRP CRTC 2010-445).

7. Bell has seen fit to make Mobile TV subject to a separate data cap than that which applies to all other Internet traffic. This practice results in discrimination which negatively affects all Bell Mobility customers, as well as a number of competitive service providers. In what follows, I provide evidence in support of the assertion that Bell gives itself undue preference. It does so by applying an application-specific economic Internet traffic management practice ("ITMP") to its Mobile TV service, causing unreasonable disadvantage to competitors and harming consumer choice.

8. For the reasons explained in this filing, I request that the Commission prohibit Bell from employing such an application-specific economic ITMP pursuant to section 24 and subsection 27(2) of the *Telecommunications Act*.

9. The Canadian mobile wireless data services market is complex and dynamic: "Due in part to the large number of existing ISPs", paragraph 46 of TRP CRTC 2009-657 established that "primary ISPs may continue to apply ITMPs to retail Internet services as they consider appropriate".

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[2] Figure 3, Canadian Media Concentration Research Project, "Media and Internet Concentration in Canada, 1984-2012", Accessed November 2, 2013. http://www.cmcrp.org/2013/10/22/media-and-internet-concentration-1984-2012/

[3] CRTC Communications Monitoring Report 2013, Table 4.3.14 2/6, http://www.crtc.gc.ca/eng/publications/reports/policyMonitoring/2013/cmr.htm, Number of channels based on a customer who does not also subscribe to Bell Canada home BDU services.

10. However, as per TRPs CRTC 2009-657 CRTC 2010-445, the Commission retains its powers to regulate the practices of WSPs when they give themselves undue preference under s.24 and subsection 27(2) of the *Telecommunications Act*.

11. The data caps which Bell Mobility selectively applies to the Internet services it offers customers appear to be unduly preferential.

12. The ongoing practices of Bell Mobility suggest that the issues raised herein may go beyond the singular practice of Bell's preferential treatment of its Mobile TV NMBU Internet service. If the Commission were to deem that these issues merit a broader proceeding, I would have no objection.

Table of Contents

I. Background

What is Mobile TV?

13. Bell describes Mobile TV as a "breakthrough *wireless data service* that offers on-the-go access to more than 40 channels of live and on-demand sports, news, entertainment and children's TV programming." In September 2013, Bell announced its 1,000,000th subscriber to Mobile TV.[4]

14. Bell Mobility, by offering its customers the Mobile TV service, fits the definition of new media broadcasting undertaking ("NMBU") originally set out in CRTC 1999-84, as amended by Broadcasting Order CRTC 2009-660, which states:

> "The undertaking provides broadcasting services, in accordance with the interpretation of "broadcasting" set out in *New Media*, Broadcasting Public Notice CRTC 1999-84/Telecom Public Notice CRTC 99-14, 17 May 1999, that are:
>
> a. delivered and accessed over the Internet; or
> b. delivered using point-to-point technology and received by way of mobile devices."[5]

15. Mobile TV is "delivered using point-to-point technology and received by way of mobile devices", and it is "delivered and accessed over the Internet."

16. The Commission exempts Bell Mobility "from any or all of the requirements of Part II of the [Broadcasting] Act or of a regulation thereunder",[6] albeit with several important caveats, including that:

> "The undertaking does not give an undue preference to any person, including itself, or subject any person to an undue disadvantage"; and that
>
> "The undertaking submits such information regarding the undertaking's activities in broadcasting in new media, and such other information that is required by the Commission in order to monitor the development of broadcasting in new media, at such time and in such form, as requested by the Commission from time to time."[7]

17. Although Mobile TV is not subject to certain broadcasting regulations as described above, as an Internet service, it *is* subject to regulation under the *Telecommunications Act* and regulations thereunder, in particular TRPs CRTC 2009-657 and CRTC 2010-445.

18. *If* Mobile TV were not an Internet service, it would not qualify for status as a new media broadcasting undertaking, raising the spectre of the need for regulation under the

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[4] Emphasis added. http://www.bce.ca/news-and-media/releases/show/bell-mobile-tv-welcomes-one-millionth-subscriber?page=1&perpage=10&year=&month=9&keyword=

[5] Paragraphs 5 & 9, http://www.crtc.gc.ca/eng/archive/2009/2009-660.htm
See Also: Appendix A, CRTC 2009-330 http://www.crtc.gc.ca/eng/archive/2009/2009-330.htm

[6] CRTC 1999-197. http://www.crtc.gc.ca/eng/archive/1999/PB99-197.HTM

[7] BRP CRTC 2009-660, Appendix A, paragraphs 2 & 3. http://www.crtc.gc.ca/eng/archive/2009/2009-330.htm
Established by Broadcasting Order CRTC 2009-660. http://www.crtc.gc.ca/eng/archive/2009/2009-660.htm

Broadcasting Act. In the concluding paragraphs of Broadcasting Regulatory Policy 2009-329, Commissioner Denton indicated in his concurring opinion that such regulation would be undesirable.

19. Furthermore, if Mobile TV were not an Internet service, the implication would be that it would be a standard broadcasting distribution undertaking ("BDU"). Bell Mobility would require prior consent from the Commission to offer such a BDU service under section 36 of the Telecommunications Act, consent which, to my knowledge, has not been granted as of this date.

20. That Mobile TV is indeed an Internet service and not a BDU is confirmed by the fact that is available to customers who connect their smartphones to any home broadband network via Wi-Fi. It is interesting to note that, when viewed in such a fashion, Mobile TV is not subject to an application-specific ITMP; when delivered over a wired network, Mobile TV is treated like all other Internet services (subject to monthly caps). Viewed on a mobile network, Mobile TV is exempt from the standard data caps, a practice which is not technologically neutral. As is shown below, this preferential treatment is not related to the management of network congestion but instead is suggestive of anti-competitive practices by Bell.

21. My primary concern is whether Bell gives itself undue preference, thus causing unjust discrimination against consumers, competing WSPs and/or competing over-the-top (OTT) services through Bell Mobility's use of ITMPs.

22. Therefore, the proper frame of reference for evaluating Mobile TV is the ITMP framework set out in CRTC 2009-657 and CRTC 2010-445, discussed below.

23. In 2009, the Commission issued the "Review of the Internet Traffic Management Practices of Internet Service Providers,"[8] commonly referred to as the "network neutrality framework." Subsequently in 2010 the Commission determined that the framework applies to "mobile wireless data services."[9] As was mentioned above, Bell explicitly categorizes Mobile TV as a "wireless data service." As well, Bell's website and financial reporting make repeated references to Mobile TV viewing as "data."[10]

24. In the ITMP framework, "*The Commission establishe[d] a principled approach that appropriately balances the freedom of Canadians to use the Internet for various purposes with the legitimate interests of ISPs to manage the traffic thus generated on their networks, consistent with legislation".*[11]

25. Due to the "varied and evolving nature of networks, services being offered, and user needs",[12] the Commission determined that it would not establish "bright-line rules" for evaluating ITMPs, but rather take an *ex post* approach, in which complaints are to be addressed on a case-by case basis. What immediately follows is a description of how MobileTV relates to the ITMP framework.

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[8] CRTC 2009-657 http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm

[9] CRTC 2010-445 http://crtc.gc.ca/eng/archive/2010/2010-445.htm

[10] "Plus, the data used for Mobile TV viewing will not impact your data plan";
"The data required for Mobile TV viewing on Bell's mobile and Wi-Fi networks is included and will not impact your data plan."http://www.bell.ca/Mobility/Products/Mobile_TV

[11] CRTC 2009-657 http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm

[12] ibid, paragraph 37.

II. Does Bell give itself preference?

Uncapping Mobile TV

26. Bell's preferred method of managing wireless network traffic is to apply a specific type of economic ITMP to the wireless data services it offers customers. Commonly known as "monthly data caps," the method by which this type of ITMP purportedly manages congestion is by *"match[ing] consumer usage with willingness to pay, thus putting users in control and allowing market forces to work."*[13]

27. However, here's the catch: *Bell exempts Mobile TV from standard monthly data caps*. "Any Bell customer with a smartphone and a data plan can get 10 hours of mobile TV viewing as a $5 a month add-on, *without affecting the data allotment in their plan*."[14] The two relevant facts that this statement shows are:

a.) Bell's Mobile TV service gets special treatment;

b.) Wireless service subscribers can watch up to 10 hours of content before reaching the Mobile TV cap.

28. In other words, Bell employs two different data caps, one of which is specific to the Mobile TV application, and another that applies to all other Internet traffic. The former is an application-specific economic ITMP, set at 10 hours of viewing per month, while the latter varies according to the rate plans offered by Bell.

29. By exempting Mobile TV from the caps that otherwise apply to all Internet traffic, including competing OTT services such as Telus's Optik-on-the-Go app, Netflix or the CBC Radio app, etc, Bell gives itself preference. This raises the question: is such preference undue?

30. The evidence presented in this application shows that Bell does indeed give itself undue preference, putting competing service providers at an unreasonable disadvantage and harming consumer choice.

III. What is the nature of the preference that Bell gives itself?

Innovation

31. A data cap is a form of usage-based billing ("UBB"), otherwise known as an economic ITMP. An economic ITMP is not a rate; the former is a means by which WSPs purport to manage traffic on their networks, while the latter is how a business generates compensatory revenue. The Commission currently forbears from regulating retail wireless rates (TRP CRTC 2012-556) but it does take an *ex post* approach when considering whether to regulate economic ITMPs (TRP CRTC 2009-657, section II).

32. Data caps are meant to 'discipline' consumers' use of the Internet. Due to the finite capacity of networks at any given time, 'congestion' is said to occur when 'too many' users attempt to access the Internet concurrently. In economic terms, data caps are an inefficient means by which WSPs artificially limit demand by restricting output. Output is restricted by raising the price of services, in this case the price of monthly access to data, above competitive levels. The creation of artificial scarcity in such a way represents a distortion of market forces, albeit one that is purportedly necessary to ensure reliable service, *assuming that congestion occurs* past a certain threshold of concurrent Internet use.

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[13] ibid.

[14] Emphasis added. http://www.bce.ca/news-and-media/releases/show/bell-mobile-tv-welcomes-one-millionth-subscriber?page=1&perpage=10&year=&month=9&keyword=

33. The problem with static monthly data caps is that congestion is a highly dynamic, ephemeral phenomenon, particularly when it occurs on mobile wireless networks. Anyone who has attempted to access the Internet on their smartphone during an arena sporting event or concert intuitively knows this to be true. Minutes after a crowd has dispersed, service returns to normal. Similarly, congestion may occur in one geographic location with no effect in others. The link between a monthly data cap and fleeting moments of localized congestion is tenuous at best.
34. In response to an industry survey by Heavy Reading research, one mobile operator declared:

> "We often have no clear understanding of outages and degradations and what causes them, and our RAN vendors often don't understand either."[15]

35. Rogers recently experienced one such high-profile outage. It identified the cause somewhat ambiguously as a "software glitch";[16] in other words the outage was not, as one might have expected, due to "excessive usage" by consumers.
36. The Commission has stated that "Network investment is a fundamental tool for dealing with network congestion and should continue to be the *primary solution that ISPs use*." (TRP CRTC 2009-657, emphasis added)
37. *WSPs have made considerable investments in their networks*. From 2009-2012, Bell Mobility and Telus, who share network infrastructure, collectively made nearly $5 billion of capital expenditures on their shared mobile wireless infrastructure.[17] In order to further expand network capacity, these companies have also spent considerable sums to purchase additional spectrum licenses as they have become available. In 2009, Bell and Telus deployed a shared HSPA network with a capacity of 21Mbps per unit. Since then, their network has been upgraded to HSPA+ (42Mbps) across most of their footprint, and LTE (150Mbps) in many areas. The 700MHz auction promises to contribute to the continuing trend of rising network capacity at historically flat levels of capital investment.
38. As well, part of the capital investment WSPs have made in their networks has gone toward fibre backhaul and high-capacity radio links, which have been steadily replacing copper and outdated microwave arrays as the means by which wireless towers are linked back to WSP central offices and the Internet. Further, carriers such as Bell have deployed ubiquitous Wi-Fi networks as an ITMP designed to offload traffic onto home and business networks, thus reducing the possibility of congestion on mobile networks.
39. Sandvine reports that average North American monthly mobile data consumption was just less than 450MB per month in the second half of 2013.[18] This figure contradicts

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[15] "Mobile Broadband brings High-Profile outages, Heavy Reading finds" accessed November 16, 2013. http://www.lightreading.com/services-apps/broadband-services/mobile-broadband-brings-high-profile-outages-heavy-reading-finds/d/d-id/706202 see also: "Mobile Ops lose 15B yearly to Network Outages" accessed November 16, 2013 http://www.lightreading.com/mobile/mobile-security/mobile-ops-lose-$15b-yearly-to-network-outages/d/d-id/706609?&_mc=SM_LR_Edit

[16] "Rogers says software glitch led to massive wireless outage" *The Globe and Mail*, accessed November 16, 2013. http://www.theglobeandmail.com/report-on-business/rogers-not-clear-on-what-triggered-service-failure/article14797280/

[17] Bank of America Merrill Lynch Wireless Matrix, 2013.

[18] Sandvine, 2H 2013 Internet Phenomena Snapshot - North America Mobile, https://www.sandvine.com/downloads/general/global-internet-phenomena/2013/2h-2013-global-internet-phenomena-snapshot-na-mobile-pdf.pdf

claims that there is 'explosive demand' for mobile data usage, and is likely more reflective of the behaviour of consumers who restrict their use of available network capacity for fear of incurring punitive data overage fees (See appendix A).

40. On Bell's 150Mbps LTE network, a consumer could download this amount of data in just over 20 seconds at full bandwidth. Such abnormal use of the network *may* contribute to congestion for 20 seconds in a particular area for a very brief period of time, but the vast majority of the time normal usage does not cause congestion. Monthly data caps do little if anything to alleviate this type of situation; in fact it is likely that a mobile data user who wishes to avoid the risk of data overage fees might refrain from ordinary use of the Internet at times and in places where the potential for congestion is vanishingly small, if not otherwise nonexistent.[19] Would consumers be making greater use of wireless networks to talk, watch, and shop in the absence of data caps? It seems likely. Would such ordinary use cause crippling network congestion? I sincerely doubt it. Should we consider normal use of the Internet excessive? Absolutely not.

41. Despite the expanding capacity of wireless networks, and the increasing availability of Wi-Fi 'safety valves,' data caps remain a primary feature of wireless services in Canada. This comes as a surprise, considering that all three national providers introduced new plans this summer, shortly after the debut of their new high capacity networks. The new plans' rates reflect the investment made by Bell, that is to say they increased. Curiously, the new plans' data caps did not similarly reflect expanded capacity. I sincerely doubt that the Commission's intention when issuing the ITMP framework was to encourage the continued use of metered service once network capacity became abundant.

42. In fact, data caps have become the most prominent distinguishing feature of mobile wireless advertising. Each of the 3 national providers advertises the speed of their LTE services, but differentiates their plans mainly based on data caps. Isn't offering a customer a LTE smartphone plan with a 1GB data cap like selling a sports car with a 1 litre tank, and then sending the driver off to the track?

43. Bell's current wireless data caps range from 250MB/month to at most 10GB per month; even on the high end plan a consumer could reach their cap in under 10 minutes. On an average plan (1GB), under normal use a customer would reach their cap after watching just 1 hour of HD video. The fact of the matter is, wireless network investment has eliminated the need for restrictive data caps at this point in time and for the foreseeable future.[20]

44. So why do national WSPs persist in universally applying data caps to their service plans? The short answer appears to be that data caps are not a proportional means of managing Internet traffic; rather they are used to restrict output (thus keeping prices artificially high), and, perhaps more importantly, they are a means to protect WSPs' programming and broadcasting distribution affiliates. Left unchecked, this type of unduly self-preferential behaviour has the potential to stifle innovation and restrict consumer choice, and may have serious consequences for the ability of the broader Canadian economy to harness the potential benefits of digital networks.

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[19]Pages 16-17 openmedia.ca, "Reply Comments of openmedia.ca" to CRTC Telecom Notice of Consultation 2011-77, http://www.crtc.gc.ca/PartVII/eng/2011/8661/c12_201102350.htm

[20] Burstein, Dave. "First Look: How the Spectrum Shortage is Solved" Accessed November 19, 2013.

Clarity

45. In the ITMP framework, the Commission considered that "where ITMPs are employed, they must be designed to address a defined need, and nothing more."[21]

46. Considering that Bell Mobility and others have made significant investments to expand their network capacity, I must ask: what is the "defined need" of creating a separate data cap for Mobile TV?

47. The press release for Bell's 2013 first quarter report stated:

> "Service revenues grew 7.2% to $1,303 million due to a larger smartphone base and higher blended average revenue per user (ARPU), fuelled by [...] *increased use of data services like Bell Mobile TV by smartphone customers.*"[22]

48. Bell's second quarter report for 2013 stated:

> "Data ARPU growth of 16.8% this quarter and 18.2% year to date reflected increased use of [...] *mobile TV*".[23]

49. Bell also identified "the increased adoption by customers of alternative TV services" as a "risk that could effect [sic] our business and results".[24]

50. The same report stated: "Part of managing our business is to understand what these potential risks could be and to mitigate them where we can."

51. An academic study published in the *Federal Communications Law Journal* argued that "data caps may be a method for ISPs to price gouge and to protect an ISP's video business."[25]

52. The above statements from Bell's financial reporting contradict claims that data caps are designed to address the defined need of managing network congestion, and nothing else.

53. It's no secret that Bell earns revenue by selling wireless data services. But by applying data caps to its mobile wireless services, Bell forces customers who make normal use of the network to bear a share of cost that is disproportionate to use. It seems that the primary effect of applying a separate cap to Mobile TV is not congestion management; rather its main effect is to put competitors at an unreasonable disadvantage.

Competitive Neutrality

54. As noted above, Bell signed up its millionth Mobile TV customer in September 2013, and it has certainly added even more subscribers since then. This figure represents a

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[21] CRTC 2009-657, http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm#l

[22] Emphasis added, Page 3, "News Release" http://www.bce.ca/assets/investors/Q1-2013/Q1_2013_Press_release.pdf

[23] Page 16, 2013 Second Quarter Shareholder Report. http://www.bce.ca/assets/investors/Q2_2013/Q2_2013_Shareholder_report.pdf

[24] Page 27, ibid.

[25] Jacob Joseph Orion Minne,"Data Caps: How ISP s are Stunting the Growth of Online Video Distributors and What Regulators Can Do About It,"*Federal Communications Law Journal*, April, 2013, available at http://dx.doi.org/10.2139/ssrn.2049174

significant portion of Bell's total wireless subscribers, who numbered 7,716,000 at the end of the second quarter.[26]

55. The large and growing number of Mobile TV subscriptions suggests that Bell Mobility's wireless network is capable of handling considerably greater data usage per user over and above the current monthly caps. Mobile TV content uses significant network capacity without creating disproportionate congestion and at existing levels of network technology and investment.

56. Mobile TV and other Internet services use the same network resources; they share end-users' devices, the spectrum between a tower and end-users, backhaul, and routing and switching facilities. Bell offers 5GB of Mobile TV content to "anyone with a smartphone and a data plan", in some cases at no charge; this fact implies that Mobile TV usage does not cause congestion disproportionately to other mobile Internet services using the same facilities. Yet the size of the data caps that apply to non-Bell content services are wildly out of proportion to those applied to Mobile TV, dollar for dollar. This disparity in data caps is tantamount to Bell reserving network capacity for its own content. Can there be any legitimate justification for such a practice?

57. Bell's practice of reserving network capacity for itself neither puts users in control nor does it allow market forces to work.

58. Actually this practice is an anti-competitive market failure. According to my analysis (see Appendix A), Bell applies a markup of at least 800% to customers' mobile use of Internet services like YouTube and Netflix, compared to the customer's cost of watching Bell's Internet content.

59. To my knowledge, "undue preference" in its statutory meaning and in the context of wireless communications refers to a situation in which a carrier charges different rates for services that have the same cost to the carrier, based solely or primarily on the ownership of those services. Unless Bell is forced to pay eight times more to transmit competing Internet data than it pays in underlying costs to transmit its own Mobile TV data, or its own service uses different spectrum resources than third party Internet traffic, then it is reasonable to conclude that the application-specific economic ITMP Bell Mobility applies to its own NMBU is unduly preferential, and by implication discriminates unjustly against Internet services not owned by Bell or BCE.

60. Bell's ability to give itself this undue preference necessarily depends upon its unrestricted use of retail UBB - in particular, data caps. Data caps are not the same as rates, as noted above, and the Commission's power to regulate the use of unduly preferential economic ITMPs such as these does not run afoul of its current approach to wireless forbearance, which was affirmed in TRP CRTC 2010-445 and again in CRTC 2012-556.

61. In the following paragraphs, I will use a series of hypothetical but representative situations to illustrate how the undue preference Bell gives to itself in its current operation results clearly and directly in reduced competition and harm to consumers. The figures employed are not hypothetical; they are based on Bell's online advertised

[26] BCE, Q2 2013 Investor Fact Sheet, http://www.bce.ca/assets/investors/Q2_2013/Q2_2013_Investor_fact_sheet.pdf

rates, current as of November 19, 2013[27] (See Appendix A for tables). In setting out these scenarios I am drawing in part on an academic study prepared by by computer scientists Wei Dai and Scott Jordan, who have used mathematical modelling to show that "users with medium to high valuations on video streaming and low incomes are hurt by the data caps."[28]

62. Consider a consumer named "Mary" who lives in Alberta. Mary owns a tablet and subscribes to Bell Mobility's "Tablet Flex" data plan. The "Tablet Flex" plan is a data-only mobile wireless service; Mary purchased a SIM card from Bell that she uses for mobile Internet access on her tablet.

63. The "monthly access fee" for this plan is $5 with a 10MB cap; if Mary uses more data than that, her plan is automatically "bumped up" to the next tier, for which Bell charges $20/month with a 1GB cap and then $40/month with a 5GB cap.

64. After 5GB, each additional GB of use will cost Mary either $10 or $15.36, depending on which part of Bell's web page you read.[29]

65. Mary has also purchased Bell's "Mobile TV add-on" for $5, which fee allows her to watch 10 hours (i.e. 5GB)[30] of Bell TV. If Mary were to watch 5GB of a competitor's OTT service, Bell Mobility would charge her $40.

66. In addition to her Bell mobile plan, Mary subscribes to Telus's Optik TV home BDU service, which includes many of the same channels as Bell's Mobile TV (e.g. CTV, CTV2, CBC, CBC NN, City TV). Included in the price of the Telus Optik TV service is access to the Optik-on-the-Go app, which Mary can use to watch TV on her tablet using Bell Mobility's Tablet Flex data plan. Telus's Optik TV app competes directly with Bell's Mobile TV app.

67. Let's say Mary watches 5GB of Optik TV on her tablet. To do so, she must pay Bell Mobility $40 on the Tablet Flex plan. According to the Tablet Flex plan's data caps, Bell would thereby be marking up her use of Optik TV by 800% compared to the rate she would pay if she watched ***exactly the same programs*** on Bell's Mobile TV at a cost to her of $5. Even though Mary is already paying for the Telus Optik-on-the-Go service, *she has no choice but to pay Bell an extra $5* to watch programming on her tablet.

68. So why doesn't Mary cancel her Tablet Flex plan with Bell Mobility and switch to a similar plan with Telus Mobility?

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[27] At the IIC13 Canada Conference, Ottawa, November 18, 2013, Gerry Wall of Wall Communications indicated that his firm relied upon advertised pricing in order to analyse wireless prices. I have also checked these prices and the terms of service against what is being offered in the literature available from Bell's retail kiosks.

[28] Dai, Wei and Jordan, Scott, University of California Irvine and the Don Bren School of Information and Computer Science "How do ISP Data Caps Affect Subscribers?" March 27, 2013. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2240424

[29] "Data plans for tablets from Bell Mobility", accessed November 16, 2013. http://www.bell.ca/Mobility/Cell_phone_-plans/Tablet_PC_data_plans/Flex_plans.tab Bell Mobility lists two contradictory prices on the web page for Tablet data plans. It prominently displays "Data use exceeding 5GB will be charged $10/GB", however under the heading of "Additional Information" it says "Data usage over 5 GB: $0.015/MB", which works out to $15.36/GB. This is an example of the confusing nature of advertising commonly employed not just by Bell but by other national WSPs as well. See: http://benklass.wordpress.com/2013/09/17/316/

[30] "For example, 60 minutes of viewing uses about 0.5 GB of data." From Bell's Website, page: "What is the Bell TV app and how do I use it? : Information for Bell Mobility customers" Accessed November 19, 2013 http://support.bell.ca/tv/channels/what-is-the-bell-tv-app-and-how-do-i-use-it?step=5

69. First, Telus does not excuse Mary's use of the Optik app from standard data caps. Unlike Bell Mobility, Telus respects the CRTC's ITMP framework insofar as it does not apply an unduly preferential application-specific economic ITMP to its Optik-on-the-Go app. If Mary wanted to use the Optik app with Telus Mobility, it would count against her data usage. She would have to pay $50, which is $40 more than she would to watch Bell Mobile TV or $10 more than she would to watch the Optik app as a Bell Mobility subscriber. Additional Optik viewing on Telus Mobility's network beyond the initial 5GB would cost Mary $51.20/GB,[31] whereas for a Bell Mobile TV subscriber the same amount of Optik app usage would cost only ~$15/GB.

70. Second, although the Optik app is available to mobile subscribers regardless of which WSP they choose, the converse is not true: Bell's Mobile TV service is offered exclusively to Bell's mobile customers.[32] While Telus's approach is competitively neutral as it relates to consumers' mobile access to the Optik app, Bell Mobility's self-preferential practices create a situation in which Mary must choose Bell's Tablet Flex plan. Because of the preference Bell gives to its own content, Mary cannot rationally choose to subscribe to Telus Mobility's mobile data plan. In any situation where Mary wants use a mobile network to watch TV on her tablet, *her only choice is to subscribe to Bell Mobility's Tablet Flex plan and pay the extra $5 for Bell Mobile TV, regardless of the fact that she has already paid for the Optik service from Telus.*

71. As far as I can tell, there is only one reasonable explanation for these discrepancies: the UBB data caps which Bell applies to all Internet usage other than Bell Mobile TV are not commensurate to the purpose of managing network congestion. Since Bell can offer its customers at least 5GB of Mobile TV without contributing disproportionately to congestion, in some cases for no charge at all, and by virtue of the fact that all other Internet services share the same network with Mobile TV, then there is no reason to believe that at least 5GB of any non-Bell Internet service would contribute to congestion, either.

72. One question remains: why doesn't Mary switch to Wind Mobile, which offers 'unlimited' data service for the considerably more reasonable price of $30?[33] One reason may be that unlike Telus's Optik app, Bell's Mobile TV is unavailable to Wind subscribers. If Mary wanted to watch the Optik app on her Wind mobile device, she would still have to pay $30 to Wind, $10 less than she would with Telus Mobility but still $15 more than Bell would charge for watching the same programming on Mobile TV.

73. Further, Wind's home network in Alberta is limited to urban Calgary and Edmonton. If Mary lives or travels outside these areas, she will be charged $1/MB ($1024/GB) for data use; unless Mary is independently wealthy, she effectively cannot use her data service outside the city limits of Calgary or Edmonton with Wind.

74. Even *if* Mary lives in a place where Wind offers coverage, she still has no choice but to subscribe to Bell Mobility's service if she wants to watch TV on her tablet.

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[31] "Data plans for tablets", Telus Mobility website, accessed November 16, 2013. http://mobility.telus.com/en/AB/ipad_plans/plan_ipad.shtml

[32] Curiously Mobile TV is also offered as a $5 add-on to Virgin Mobile customers. Virgin Mobile, of course, is Bell Mobility's "flanker" brand: another wholly owned subsidiary of BCE.

[33] "Plans" accessed November 16, 2013 http://www.windmobile.ca/plans-and-devices/plans#phone-plans

75. This might explain why less than 3% of Alberta subscribers have chosen Wind's mobile data services.[34] Few would deny that sufficient competition is desirable in the Canadian mobile wireless data services market. However, it is clear that, to this date, competition from new entrants has been insufficient to attract a significant market share, to provide adequate network coverage, and to induce the national WSPs to provide innovative new ways of offering service, particularly regarding the ITMPs they employ.

76. The only providers who enjoy significant market share *and* offer "unlimited" data plans are to my knowledge Sasktel and MTS. However, my opinion that the Prairie telcos are amongst the industry's best kept secrets notwithstanding, people are certainly not flocking here to take advantage of our abundant network capacity. Even here in "friendly Manitoba," no national carrier competes by offering UBB-free plans; this is reflected in provincial market shares. Here, $65 will get a Bell customer a 5GB data cap on a smartphone plan. However, in other provinces, national providers' data cap limits are actually *lower* dollar-for-dollar than they are in Manitoba and Saskatchewan (See Appendix A: Tables 3 & 4)

77.In Alberta and Ontario, for instance, $70 will get a customer a smartphone plan with 250MB (Roughly 1/20th the data for 1.07 times the price, see Appendix A: Table 5). This is in spite of the fact that Loxcel, a Canadian wireless industry analysis firm, has indicated that there are about twice as many towers per 10,000 inhabitants in Toronto or Calgary as there are in Winnipeg.[35] It may cost more to install towers, but twice as many towers suggests greater network capacity, and therefore less chance of congestion, raising the question of why data caps are so low in Ontario and Alberta.

78. It seems that competition in the Prairies is such that the national carriers have been forced to offer slightly less parsimonious data caps, but their service coverage and data cap offerings have not been sufficiently innovative to attract customers away from MTS and SaskTel, who each offer province-wide coverage and plans with unlimited data and calling for $70 a month.[36]

79. In provinces like Ontario and Alberta, where Bell is an incumbent WSP competing with new entrants, its rates have increased, while its data caps have not.[37] In Manitoba and Saskatchewan, where it competes with provincial incumbents, it continues to offer data caps at rates much higher than MTS or Sasktel. In MB, Across the nation, its unduly preferential treatment of its Mobile TV service continues unabated.

80. Marketplace competition is supposed to prevent unjustly discriminatory or unduly preferential behaviour. Even in the Prairies, Bell continues to apply data caps and unduly prefer its Mobile TV service. Everywhere else in Canada, their data caps are lower and prices higher, and Bell still gives preference to Mobile TV.

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[34] CRTC Communications Monitoring Report, table 5.5.5.

[35] Loxcel Geomatics, July 16, 2013. Cell towers/10,000 population, 20 largest cities http://www.loxcel.com/canada-cell-tower-news.html

[36] See: http://www.sasktel.com/search/controller/_/R-Product_Services_Talk%26%2344%3B_Text_%26amp%3B_-Data_Plans and http://www.mts.ca/mts/personal/wireless/plans/4g+smartphone+plans MTS plan $60 "UNLTD Talk & Surf" + $10 national LD add on. SaskTel plan "Ultimate 70."

[37] Jeff Fan, presentation at IIC13 Canada Conference, Ottawa, November 18, 2013. 1GB cap plan price increased by 9% this summer, 3GB cap plan price increased by 19%. (This in spite of the rollout of LTE networks.)

81. In the ITMP framework, the Commission determined that:

> "Consistent with the current regulatory approach, under which the Commission has granted forbearance for retail Internet services, primary ISPs may continue to apply ITMPs to retail Internet services as they consider appropriate, with no requirement for prior Commission approval. *This approach remains valid due in part to the large number of existing ISPs*. A change in the approach would amount to interference with market forces and would result in inefficient regulation, which is contrary to the Policy Direction."[38]

82. In the wired Internet market, "Canadians were served by over 500 Internet service providers"[39] in 2012. By contrast, in the wireless market, "Canadians [were] served by three large facilities-based national WSPs, a number of smaller regional facilities-based WSPs, and a small number of MVNOs."[40] By my count, there are 16 non-national facilities-based WSPs and not more than half a dozen MVNOs. Most markets in Canada are served by 3 mobile providers or less. Furthermore, there is no wholesale framework for wireless services, and in no province did the top two providers account for less than 62% of all subscribers in 2012.[41]

83. The current arrangement does not put the consumer in control nor does it allow market forces to function; it creates an unreasonable disadvantage to competing producers and is harmful to consumer choice.

84. At a time when many communities across Canada are losing their free over-the-air access to CBC,[42] Bell is collecting revenue by charging Canadians for access to the CBC (amongst other programming). The increasing costs of wireless data access, coupled with preferential practices employed by Bell, means that Canadians are more and more being forced to pay private service providers for access to the public broadcaster. It is no small irony that the 700MHz spectrum to be auctioned for mobile data services in 2014 once provided free over-the-air broadcasting to Canadians nationwide.

85. Due to its ownership of both content and a network that consumers and OTT providers rely upon for access to and delivery of Internet services, and its ability to apply UBB to (i.e. mark up) competing Internet services, Bell Mobility has an irresistible incentive to employ an unduly preferential economic ITMP. Bell is giving preference to its own wireless data services at the expense of competing service providers and the "freedom of Canadians to use the Internet for various purposes."

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[38] Paragraph 46, CRTC 2009-657. Emphasis added. http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm

[39] Section 5.3, Communications Monitoring Report, 2013. http://www.crtc.gc.ca/eng/publications/reports/policyMonitoring/2013/cmr5.htm#n11

[40] ibid, Section 5.5

[41] ibid, Table 5.5.5.

[42] May, Steven J. "Handy list of communities that stand to lose CBC/Radio-Canada OTA TV after July 31, 2012", July 31, 2012. http://dudewhereismytv.wordpress.com/2012/06/12/handy-list-of-communities-that-stand-to-lose-cbcradio-canada-ota-tv-as-of-july-31-2012/

See Also: CBC.ca, "Coverage Maps", Accessed November 3, 2013. http://www.cbc.radio-canada.ca/en/explore/strategies/dtv/coverage-maps/

86. It is clear from the evidence given above that Bell uses an application-specific ITMP to unduly prefer its Mobile TV service. As I understand it, according to subsection 27(4) of the *Act*, Bell will be given a chance to show cause for its use of the application-specific ITMP it gives to Bell Mobile TV, pursuant to the ITMP framework.

Transparency

87. It is expected that ITMPs will be transparent: the Commission considers that "economic practices are the most transparent ITMPs."[43] However, not all economic practices are created equal.

88. The application-specific data cap that Bell applies to Mobile TV is measured in hours of viewing. For consumers, this is a familiar and intuitive way of gauging time spent watching video. If a Mobile TV customer watches an extra hour (beyond the cap of 10 hours), they are charged $3. Simple. Transparent.

89. On the other hand, if a consumer wants to watch or listen to competitive OTT services like Netflix, Telus Optik-on-the-Go, CBC Radio, YouTube, or any other of the myriad choices available to Canadians on their smartphones, their usage is measured in gigabytes (GB), megabytes (MB), and or kilobytes (KB). This is not so intuitive.

90. Earlier this year, the Public Interest Advocacy Clinic released the results of an online survey of 2,002 Canadians about broadband advertising, conducted on their behalf in 2011 by Environics Research Group.[44] While the survey mainly focused on home Internet connections, the results speak to how Canadians understand data plans and caps in general.

91. When asked how familiar they are with download speeds, 71% of respondents chose either 'somewhat familiar' or 'very familiar.' When asked about monthly data caps, 58% indicated similar familiarity.[45]

92. Despite this perceived familiarity, when asked "Do you happen to know what the speed of your home Internet service is according to the company that provides your service?" a stunning 75% of respondents answered that they didn't know, which is all the more surprising considering their answers came by way of the Internet.[46]

93. Again, the primary subject of the survey was home Internet, not wireless, but the two products are marketed in a very similar fashion, in most cases by the same company. If anything, it would be harder to gauge the speed at which wireless data services are offered; considering that wireless speed and reliability are highly variable based on factors such as distance from the nearest tower, the existence of physical obstacles, and concurrent users, a consumer can hardly be expected to accurately gauge the quality of their service from one day to the next. Information pertaining to these conditions is largely absent in wireless advertising.

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[43] ibid.

[44] PIAC, Appendix A, "Transparency in Broadband Advertising to Canadian Consumers", January 2013. http://www.piac.ca/files/piac_transparency_broadband_ads_final.pdf

[45] ibid, pg 49-50.

[46] ibid, pg 50.

94. Unfortunately, the PIAC survey did not ask whether customers knew what their data cap was. But given that fewer customers indicated familiarity with caps than with speeds, I would speculate that the number who don't know what their cap is to be even higher. Other questions that would have been illuminating: how many megabytes in a gigabyte? How many hours of viewing per GB?
95. York University lecturer and telecom expert David Ellis has written extensively on the deep rift that exists in many peoples' minds between understanding a GB and understanding an hour as they relate to TV viewing.[47] In my view this is only natural: computers understand bits and bytes, human beings understand seconds, minutes, hours. I'll be the first to admit that I have no idea how many MB a Youtube video takes up on my 3G iPhone 4.
96. In 2011 Howard Maker, the Commissioner for Complaints for Telecommunications Services, said to the Toronto Star that:

> "I don't know much about Measurement Canada, but standardization and transparency in the way usage is calculated would benefit consumers and allow the industry to maintain and regain consumer trust".[48]

97. This was said in the context of the revelation that Bell had "overbilled 2,700 customers [including wireless customers] because of a faulty Internet usage tracker." If the Commissioner for CTS isn't certain about how data is measured in Canada, is it reasonable to expect that ordinary Canadians should know?

98. This is a problem that is not limited to the distant past. In 2012-2013, the CCTS received 539 complaints related to wireless data charges, and 1,040 related to incorrect charges.[49] Bell Canada was the subject of 28.56% of all complaints received,[50] surpassed only by Rogers. The large number of complaints against Bell and Rogers represent Canadians' continuing dissatisfaction with their national wireless carriers.

99. The amount of data required by OTT services varies widely, not only by type of service, by provider, but as well by the particular device a consumer uses, and seems to be changing at a rapid pace. Consumers cannot be reasonably expected to measure their online content consumption in MB, nor should they be. At a fundamental level when we engage in activities that use data, we experience them in passing time, not in GB.
100. By offering their own Mobile TV service in hours when technological necessity forces consumers to measure all other services in bytes, Bell gives itself preference over its competitors. This situation results in an unreasonable disadvantage for competing OTT services who cannot hope to offer their customers a similar level of transparency when their services are accessed via Bell's wireless network.

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[47] See: "Digital Literacy Topic List", http://www.davidellis.ca/category/digital-literacy/

[48] Roseman: Let's talk about faulty internet meters, Toronto Star, Feb 11, 2011. http://www.thestar.com/business/personal_finance/spending_saving/2011/02/11/roseman_lets_talk_about_faulty_internet_meters.html

[49] Page 33, CCTS Annual Report 2012-2013, http://www.ccts-cprst.ca/wp-content/uploads/pdfs/en/2012-2013/CCTS-Annual-Report-2012-2013.pdf

[50] ibid p 44

101. Simply changing the way Mobile TV is offered to customers, from 10 hours to 5GB[51], would simply not solve the problem of preference as it relates to transparency.
102. By measuring Mobile TV usage in hours, Bell has taken steps to partially reduce another explicitly identified risk: "the complexity of our product offerings".[52] I wonder if the lack of similar innovation with regard to other data caps might contribute to the mitigation of the risk presented by increased adoption of alternate services?

Possible and Existing Alternatives (That don't involve undue preference)
103. There are a number of readily available innovative alternatives that Bell could choose to employ:

104. Since it appears that Bell's network capacity is greater per user than is reflected by the current data caps, perhaps Bell or any other WSP wishing to offer new media broadcasting undertaking services could offer its customers a general purpose "open data add-on" that matches GB-for-GB the data offered by a WSP for their own new media, for the same price. In the case where Mobile TV is offered as a 'bonus', customers could be given the option to pick either Mobile TV or the proposed open data add-on.

105. Under a second option, Bell could raise its data caps, eliminate the separate application-specific data cap, and offer Mobile TV as a subscription-based service like Netflix. In fact, wouldn't this option create the opportunity for Mobile TV to reach a broader audience, generating even more revenue for the company? Netflix reaches a broad international audience. Given that Bell Media owns many of the channels offered on Mobile TV, international licensing would hardly be a concern. So why has Bell restricted Mobile TV's audience to its existing mobile wireless customers?

106. Some providers, such as WSPs MTS and Wind Mobile and ISP Shaw, offer plans that do not apply "hard" data caps. Instead, "soft" caps are employed, whereby users do not face overage fees when they exceed the suggested data usage for the month. Instead, these providers employ an"excessive use policy": the provider exercises discretion as to what constitutes excessive use. Once it is determined that a user is negatively impacting the network, they can have their Internet capacity reduced in order to ensure that capacity is available for other customers.

107. The reduction in a subscriber's bandwidth would typically only be applied during demonstrable peak traffic times. Capacity would be reduced just enough to manage network congestion, but leave customers able to access a broad range of services. It would be important for providers to be specific about what constitutes excessive use. Simply stating that there is such a thing as 'excessive use' is not a transparent approach in and of itself.

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[51] "60 minutes of [Mobile TV] viewing uses about 0.5 GB of data" http://support.bell.ca/tv/channels/what-is-the-bell-tv-app-and-how-do-i-use-it?step=5

[52] Page 28, ibid.

108. As was mentioned, this type of system is in use by several Canadian WSPs and ISPs. This practice indicates that WSPs have the technical capability to control the speed of their users' services. As far as I know, Shaw does not as a standard practice charge its customers for excessive usage. No surprise bills, fewer complaints.

109. So, instead of offering a 150Mbps LTE plan with a 1GB data cap, why doesn't Bell Mobility offer a 5Mbps plan with a 100GB soft cap? Or without a cap at all? If Bell wanted to be really innovative, this is an approach that they could readily adopt using existing technology. For instance, instead of offering 200, 500, or 1000MB (etc) monthly caps, they could offer 5Mbps, 10Mbps, and 20Mbps (etc) plans, eliminating the need for hard caps. An analogous approach exists in the system by which wired ISPs provide wholesale resellers with service, and in fact retail capacity-based billing is employed universally by wired ISPs (Canada has the international distinction of being one of only 4 OECD countries whose ISPs almost universally apply data caps[53]).

110. This approach would be considerably more efficient and dynamic than the current practice of using static monthly data caps; it would also better reflect the way people use the Internet on a regular basis. Right now, customers choose their monthly data usage when they sign their 2-year contracts, or in some cases on a month-to-month basis. In the proposed system, not only could WSPs more accurately predict how much network capacity they will need to provide with regard to peak traffic, but consumers could choose a plan based on how much data they would need to use *at any given time*, rather than only in monthly or biannual increments.

111. It must be noted that this type of system is not the same as 'throttling;' it *does not* 'slow down' specific Internet applications. Citing Akamai's State of the Internet Report, Richard Bennett, Senior Research Fellow at the Information Technology and Innovation Foundation recently wrote:

> "…web pages don't load substantially faster in cities with the highest network speeds than they do in the average American city. This is simply because network speed is less likely to be the limiting factor than is server capacity."[54]

112. Significantly, capacity-based billing would not prevent users from watching online video or using Skype, as Dr. Bennett elaborates further:

> "It's also the case that video streaming is a 2 – 3 megabit/second application, and video conferencing runs at roughly the same rate divided between the upstream and downstream directions."[55]

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[53] New America Foundation, "The Cost of Connectivity 2013", Table 2. Accessed November 2, 2013.

[54] "Server capacity" here refers to the capacity of a third-party provider's servers, (i.e. google.ca, or crtc.gc.ca, not the capacity of the WSP's residential network. Bennet, Richard, "Qu'ils mangent de la brioche?", October 28, 2013. http://www.hightechforum.org/quils-mangent-de-la-brioche/comment-page-1/#comment-265368

[55] ibid.

113. In other words, what use is having ultra-fast LTE if you can (A) incur punitive fees after exceeding your cap in seconds and (B) realistically only ever require less than 1/10th of that capacity? If 10Mbps is more than fast enough for all but the most demanding individual uses of mobile data services,[56] what purpose does offering service at speeds that can cause a user to exceed their cap in seconds really serve?

114. These are just a few suggestions that illustrate the possibility of real, existing alternative approaches. I believe that each is superior to the current system of monthly caps in terms of empowering consumer choice and creating incentives for innovation, and in each case, preference for applications is determined by the consumer, not the WSP.

115. The fact that Bell continues to apply an unduly preferential data cap to its Mobile TV service, and the fact that it continues to rely primarily on data caps with overage fees suggests that the current level of reliance on market forces vis-à-vis the ITMP framework is insufficient to motivate Bell to adopt innovative approaches to the ITMPs it employs for its retail services.

Recommendation

116. In light of the above evidence, I request for immediate consideration that the Commission prohibit Bell from applying an application-specific economic ITMP to the Mobile TV service.

117. The separate cap that Bell applies to Mobile TV is just one particularly flagrant example of unduly preferential practices which result in unreasonable disadvantage to competitors and harm to consumers. At the heart of this problem, however, lies the persistence of WSPs in employing unnecessary data caps, confusing practices, punitive overage charges and who have been reluctant to innovate.

118. I gather that regulation in many cases is costly and can be burdensome. However, the practices of private providers sometimes comes into conflict with statutory public interest obligations. In the case in question, it appears that existing market forces have been insufficient to protect the interests of users of Bell's wireless telecommunications services.

119. However, the implications of the evidence presented in this application do not imply that *ex-ante* tariff approval is the only available option before the Commission. The Wireless Code is a prime example that shows the Commission is capable of

[56] i.e. using tethering to back up a large hard drive to "the cloud." However someone would have to be independently wealthy to use their phone in this manner, or completely ignorant of the financial consequences. Transferring even a small 16GB hard drive over Bell's mobile network in Ontario would currently cost a consumer with a 10GB monthly data cap $307.20 in overage fees. (6GB over cap)

protecting the public interest by implementing creative, flexible regulation that is consistent with the Policy Direction.[57]

120. Canadians have access to what is unquestionably the most diverse array of programming ever in history. We should be able to choose what to watch, when to watch it, and which screen we watch it on. What we don't want is the choice between a low rate for Bell's programming and an unfairly marked-up rate for all other programming. But this is the choice that many customers are stuck with. In fact, it's not much of a choice at all.

121. Bell is simply acting upon the irresistible incentive it has to exercise self-preferential market power as the carrier of both its own new media broadcasting undertaking service and of third-party services that compete directly with services owned by Bell. In light of this market failure, it is reasonable to conclude that some intervention from the Commission is required.

122. For the reasons stated above, I request that the Commission prohibit Bell Mobility from applying an application-specific ITMP to its Mobile TV NMBU, pursuant to TRP CRTC 2009-657, TRP CRTC 2010-445 and section 24 and subsection 27(2) of the *Telecommunications Act*.

123. It should be noted that the allegations of undue preference supported by the details above and in appendix A are also relevant in consideration of the prohibition against preference viz. NMBUs, found in Broadcasting Order CRTC 2009-660.

124. Considering the evidence put forward in this application, I believe it would be beneficial for the Commission to investigate further. The situation is dynamic, complex, and has far-reaching implications.

125. There is much to be lauded in the ITMP framework. The Commission has recognized that "dissociating the ability to innovate from the ownership of networks, and the costs of innovation from the costs of maintaining networks, has led to unprecedented innovation."[58] Measures pertaining to ISP disclosure, fair-play rules for wholesale services, and privacy protection all contribute to the promotion of a vibrant Canadian communications system. However, there are serious issues with an approach that views UBB as a simple market mechanism that unproblematically results in positive outcomes. In fact, UBB's link to its purported designed need is tenuous at best. UBB is at the heart of the market failure that is the subject of this application, and as such I believe that it merits considerable scrutiny.

126. In light of the increasing importance of wireless data services in the lives of Canadians, and the apparent failure of market forces to spur innovative service offerings, it is my sincere hope that the Commission will take whatever action is

[57] SOR/2006-355

[58] CRTC 2009-657, paragraph 3.

necessary to ensure that users and providers of Internet services in Canada are treated fairly by the WSPs upon whom they rely.

Concluding Remarks

127. I consider myself blessed to be part of a supporting family, workplace, and community. Together, these factors have allowed me to dedicate the many hours of work it took to put together this application.

128. Most Canadians simply don't have the time to devote to such endeavours, yet we have no choice but to grin and bear the unjust practices of our wireless providers.

129. At a time when the Commission is asking Canadians to 'talk TV,' I believe that the information contained in this application and the requests made herein could be instrumental to ensuring that Canadians have an informed understanding of their communications environment.

130. My goal in writing and submitting this application has been to provide you with the truth that, left unchecked, Bell has abused the public trust invested in it as Canada's largest communications company.

131. It is my sincere hope that you will use whatever powers are at your disposal to protect the public interest in these matters.

I would like to thank the Commission for considering this application.

Yours truly,
Ben Klass

Appendix A: Bell Mobility: Mobile TV and UBB, Manitoba vs Ontario

This analysis is based on the advertised rates found on Bell's website as of November 13, 2013. As such, it is based on the assumption that Bell earns revenue of at least $5/month per Mobile TV subscriber, except under circumstances under which the "Mobile TV add-on" is offered as a "bonus add-on" (for free). This figure may be greater depending on usage. The analysis also assumes that a customer does not exceed their usage limits, except in the case of Table 3. Bell's itemized financial reporting does not include line items for wireless data revenue or Mobile TV revenue, and therefore this analysis must be construed as a best-effort estimate based on the information that is readily available to consumers. Monthly plans offered by Bell in Alberta and Ontario are identical.

I compared the 5GB Mobile TV data add-on with the "Tablet Flex" plan, which offers only data, up to a 5GB cap.

Table 1 shows that Bell marks up competing services that use data (including but not limited to Netflix, Youtube, and Telus's Optik-on-the-Go app) by 800%.

Table 1: Monthly Data Rates

	Mobile TV Add-On 5GB of Mobile TV data	Tablet Flex Plan 5GB of Any Data	Non-Bell Data Markup
Month-to-Month, Manitoba	$5	$40.00	800%
Month-to-Month, Ontario/Alberta	$5	$40.00	800%

Source: Bell Website, Nov 13, 2013

Table 2 shows a comparison between the data overage fees charged for 500MB of usage (equivalent to 1 hour of Mobile TV programming) beyond the 5GB data caps that apply to the Mobile TV add-on and the Tablet Flex plan.

Table 2: Data Overage Fees

	Mobile TV add-on	Tablet Flex Plan	Non-Bell Data Overage Fee Markup
Data Overage Fee per 500MB, past 5GB cap	$3	$5	166.67%

Source: Bell Website, November 13, 2013

Table 3 shows a comparison between a 1GB voice and data plan offered by Bell Mobility in Manitoba and the same 1GB voice and data plan offered by Bell Mobility in Ontario. The Ontario plan includes a 'bonus' 1GB of data, as a promotion which is set to expire January 6, 2014. This comparison assumes that the Ontario plan will revert to 1GB after that date, for the same price. The only other difference in these plans is the province in which they are offered.

Table 3: Manitoba vs Ontario/Alberta Voice & Data Plus 1GB Rate Plans

	Manitoba (Monthly Rate)	Ontario/Alberta (Monthly Rate)	Difference
1GB Voice & Data Plus Rate Plan, 2-year contract	$55.00	$85.00	$30.00

Sources: Bell Website, Nov 13, 2013

Table 4 compares overage fees in Manitoba vs Ontario for the plan described in Table 3.

Table 4: Data Overage Fees, Manitoba vs Ontario/Alberta

	Manitoba	Ontario
1 GB Voice & Data Plus Plan,Data Overage Fee per 500MB, past 5GB cap	$10	$25.00

Table 5 compares roughly price equivalent (ON/AB price = 1.07 times MB price) rate plans in terms of the data caps offered.

Table 5: Roughly equivalent Price Voice & Data Plus Plan, MB vs ON/AB

	Manitoba Data Cap	Ontario/Alberta Data Cap
Voice & Data Plus 65 Rate Plan, MB $65/mo.	5GB	N/A
Voice & Data Plus 70 Rate Plan, ON/AB $70/mo.	N/A	250MB

*****END OF APPENDIX*****

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