THE GROWTH OF THE NETWORK MEDIA ECONOMY IN CANADA, 1984-2017

REPORT
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Canadian Media Concentration Research Project
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The Canadian Media Concentration Research project is directed by Professor Dwayne Winseck, School of Journalism and Communication, Carleton University. The project is funded by the Social Sciences and Humanities Research Council and aims to develop a comprehensive, systematic and long-term analysis of the media, internet and telecom industries in Canada to better inform public and policy-related discussions about these issues.

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Open Access to CMCR Project Data

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Executive Summary

Every year the Canadian Media Concentration Research Project puts out a series of reports on the state of the telecoms, internet, and media industries in Canada. This is the first installment in this year's series.

The report examines the development of the media economy over the past thirty-three years. We do so by examining a dozen or so of the biggest telecoms, internet and media industries in Canada, based on revenue. These include: mobile wireless and wireline telecoms; internet access; cable, satellite & IPTV; broadcast, specialty, pay and over-the-top TV; radio; newspapers; magazines; music; and internet advertising. We call the total of these sectors "the network media economy". Our method is simple: we begin by collecting, organizing, and making available stand-alone data for each media industry individually. We then group related, comparable industry sectors into three higher level categories: the "network media" (e.g. mobile wireless, internet access, broadcast distribution), the "content media" (e.g. television, newspapers, magazines, etc.) and "internet media" (e.g. internet advertising, search, internet news sources). Ultimately, we combine them all together to get a bird's-eye view of the network media economy. We call this the scaffolding approach.

Why do we do this? Simply put, it helps us understand the state of the telecoms, internet and media industries in Canada. It helps us to see which of these industries are growing, which are stagnating, which are in decline, and to identify those that appear to be recovering after years of misery. The following figure offers a high-level snapshot of where things stood at the end of the last year.

Table 1: The Growth, Stagnation, Decline and Recovery of Media within the Network Media Economy, 2017

Growth	Stagnation	Decline	Recovery (?)
Mobile Wireless		Wireline Telecoms	Music
Internet Access		Cable	
IPTV		DTH Satellite	
Internet Advertising		Broadcast TV	
Pay & Specialty TV		Radio (?)	
OTT Services		Newspapers	
Total TV		Magazines	

Understanding the media environment also helps to focus attention on the pressing issues of the day. Communication and media scholars, for example, typically emphasize the importance of content media and accordingly place a central focus on developments in advertising-based media. Our analysis, however, suggests that "bandwidth," "connectivity", and media that we pay for either by subscription (e.g. internet access, mobile wireless service, pay and internet streaming TV services such as Crave, Netflix, Amazon Prime, etc) or directly (e.g. books, mobile phones, TV, etc.) are far more important than is often assumed.

In fact, in terms of all of the sectors of the "network media economy" that we look at in this report, subscriber fees outstrip advertising dollars by a five-to-one ratio. Moreover, total advertising spending across all forms of media has been declining relative to the size of the overall economy for the last five to ten years, both in real dollar terms and on a per capita basis. This year's report adds a new section and much expanded discussion that illustrates and analyzes the significance of the declining place of advertising revenue within the network media economy and the broader Canadian economy. It also draws out the implications of this for how we think about media and cultural policy in the age of an evermore internet- and mobile wireless centric media universe. This helps to inform consideration of the alleged impact of Google, Facebook and the internet more generally amidst such a critical but heretofore fundamental reality of the media economy.

The upshot of these observations is that focusing solely or primarily on advertising-based content media is akin to looking at the world through the wrong end of the telescope. For those who long to "repatriate" advertising dollars from Google and Facebook, such a strategy is like re-arranging the deck chairs on the titanic—that is, if the decline of advertising is really such a terrible thing after all. To be sure, advertising-supported media are undoubtedly facing tough times. But it would be misguided to take this singular problem as the basis for making diagnoses and policy recommendations that apply across the network media economy as a whole, as is all too common. Within this context, our work and reports can be seen as a plea to reset the hierarchy of intellectual and research priorities, and to match them with the increasingly broadband- and mobile-centric media universe, and one where "the pay-per media", not advertising-supported media, are the number one priority.

Our goal is also to bring a wealth of historically- and theoretically-informed empirical evidence to bear on contentious claims about the media industries. Within a context where the role of policy and regulators looms large, knowing both the details and the broad sweep of the network media economy allows us to make informed contributions to the debate from an independent standpoint. This is especially true this year given that reviews of the Telecommunications Act, the Broadcasting Act, the Copyright Modernization Act and the Personal Information Protection and Electronic Documents Act (PIPEDA) are now in full swing. In light of such realities we need the best, independent view of the landscape that we can get, and that is what we strive to do with our annual reviews and regular updates to our data sets (which are available freely to anyone). In short, doing this kind of research is about tooling up for the policy battles to come.

In these ongoing "battles over the institutional arrangements of the information economy" (Benkler, 2006), our research is about contributing to results that benefit the citizens and businesses they affect. Our approach contrasts with that of the companies who stand to gain directly by influencing policy that impacts the bottom line; such representations are typically partial, and they are certainly designed to win policy battles rather than to offer rigorous and fair-minded analyses of the media world. Independent research like ours aims to bring balance to the record.

We view our efforts as all the more important given the vast difference in resources available for such endeavours. Consider, for example, that Bell maintains a stable of lawyers reputed to be forty or more deep, Telus and Rogers in the mid-twenties, and Quebecor more than a dozen—human resources that are in constant motion attempting to influence the outcome of relevant government policy and regulatory affairs. This obvious disparity weighs against the idea that we can totally balance the scales. Nonetheless, there is much value in contributing what we know about the communications and media services and markets in Canada because increasingly they are the foundations upon which more and more of our economy, society, polity and daily life depend.

Moreover, a rising backlash against the growing dominance of global internet giants—e.g. Google, Amazon, Facebook, Apple, Microsoft and Netfix—has led to the revival of the antimonopoly movement in the US; it has put blackbox algorithms under greater regulatory scrutiny than ever; and it has raised probing questions about the compatibility between the kind of "surveillance capitalism" their activities portend, on the one hand, and people's rights and security, and even the integrity of democracy, on the other. The feverish pitch of this backlash makes the kind of measured, independent research we present in this report more essential than ever.

...we need to better appraise where the internet giants currently stand within Canada. Of course, we know that they loom large, but how large?

The revelations in early 2018 that Cambridge Analytica harvested personal information from 87 million Facebook users' profiles—including 620,000 in Canada—and that that information was then used as part of questionable electoral campaign strategies and disinformation campaigns—i.e. the 2016 US presidential election, the Brexit referendum in the United Kingdom, elections in the Netherlands, Germany, Brazil and other countries around the world—has added a whole new dimension and sense of urgency to such concerns. Fundamental questions about whether the very business models and extraordinary market power of internet giants such as Facebook and Google are inherently primed for such nefarious possibilities, regardless of their owners' best intentions to connect the world and foster community, are now on the table like never before.

Questions are also being raised about whether these entities have, essentially, become too big to effectively govern—either through self-regulation or by government (see Standing Committee on Access to Information, Privacy and Ethics' report as well as the Information Commissioners Office's report). Indeed, the Canadian at the head of the Information Commissioner's Office in the United Kingdom, Elizabeth Denham, now questions whether commercial business models based on the unlimited harvesting of personal data and brute market power are compatible with fundamental privacy rights, personal data protection, and even the integrity of democratic elections, That Amazon, Facebook or Google could be broken up just like AT&T was in 1984 is no longer a far-fetched idea (Khan, 2017; Vaidhyanathan, 2018; Wu, 2018). Indeed, the issue is no longer if the platforms and internet content will be regulated but when and how (see, for example, President Emmanuel Macron of France's speech to the Internet Governance Forum in November 2018).

While some smell "blood in the water", there is also a need to distinguish between tough regulatory remedies and being propelled over the edge of the cliff by a hyped up sense of moral panic. The rush to harness Facebook, Google, Twitter, and other internet intermediaries to the tasks of cracking down on disinformation, mass piracy, counterfeit goods, the sex trade, terrorist propaganda, and so on, are all examples of real problems to be dealt with. But the remedies commonly proposed to address these problems--treating the platforms as publishers, broadcasters or media companies—could be worse than the ailment they seek to cure, and so care must be taken to properly understand the situation before blindly rushing to action.

As this report indicates, experience to date already shows that these companies tend to be ham-fisted when it comes to making refined judgements about art, sexuality, culture and context. The idea that they should take on content filtering and blocking efforts on their own or be dealt with by the state in the same way as traditional publishers, broadcasters or media companies, seems ill-fitting, and threatens to open the sluice gates to a never-ending list of self-seeking demands from special interests. Unless the rules governing such companies' conduct arise from, and are guided by, duly constituted legal and democratic oversight by parliaments, the courts, or administrative agencies, such demands will likely make the "black box" nature of internet platforms even more opaque than they already are.

Ironically, labeling the internet companies as either publishers or broadcasters in order to imbue them with a greater sense of responsibility with respect to content moderation could bolster their claims that they are entitled to the highest standards of free speech protection possible—at the expense of their users' speech rights and other democratic fundamentals. Such an outcome would strengthen corporate rule while ignoring a fundamental problem: governments' failure to govern on behalf of their citizens. The upshot overall would be yet greater accumulations of 'power without responsibility'.

Later in this report we will also suggest that, instead of the analogy to broadcasting or media companies, perhaps a better analogy is to banks? This is because, like banks, Google and Facebook, for example, are repositories of what many see as the main source of wealth in the digital economy: data. Perhaps they should also have, again, like banks, fiduciary obligations towards their users, including safe-guarding their data and personal privacy. Furthermore, just as banks are regulated by strong authorities and must undergo certified audits and report those to regulators, similar regulatory requirements would open up the "black box" containing the algorithms and other critical infrastructure that underpinning more and more of the economy, society and our day-to-day lives? And just as HSBC, for example, sets up branches in each country it operates—i.e. HSBC Canada, HSBC Mexico, etc.—so, too, might it be a good idea to require Facebook and Google to establish a national branches where they operate.

To be clear, we are fully supportive of concerns regarding the scale of these companies, their clout, and the threats that they pose to the internet, democracy and society in general. However, our analysis suggests that a healthy amount of skepticism should meet claims that the internet hypergiants' fortunes are being made solely off the backs of "content creators" and by cannibalizing the revenue that journalism and the music, movie, television and publishing industries need to survive as, for example, Jonathan Taplin's polemic against the "vampire squids of Silicon Valley", Move Fast and Break Things, asserts. Such sentiments have been embraced in Canada, where industry players and think tanks as well as the trade associations and labour unions that represent the "creative industries" vilify Google, Netflix and Facebook for allegedly laying waste to Canadian media and culture (the Public Policy Forum's Shattered Mirror and Democracy Divided reports exemplify the point; also see Winseck, 2017 for a critique of the first of the Shattered Mirror).

To help understand this tangled knot of issues we need to better appraise where the internet giants currently stand within Canada. Of course, we know that they loom large, but how large?

Our data show that the US-based internet giants may, in fact, be on a path to monopoly in some media and data markets. Indeed, the shift to the "mobile internet" has helped Google and Facebook to consolidate their strangle-hold on the $6.2 billion internet advertising market in Canada. They accounted for three-quarters of the internet advertising market by 2017, and a little over a third of the $13.3 billion advertising spent across all media. This is critical to comprehending the bleak place that many advertising-based media now stand. However, it is a fundamental error to generalize from the digital duopoly's dominance of the internet advertising market in Canada to the $80.3 billion network media economy as a whole. The same applies globally.

Treating developments in the advertising-based sectors as representative of the overall direction of the industry also obscures the reality that while the internet companies may be giants globally and on the basis of market capitalization, within countries (Canada in particular), and on the basis of revenue, they continue to be outstripped by a large margin by the biggest national communications and media groups: e.g. Bell, Rogers, Shaw, Quebecor and Telus (the "big 5"). The Canadian situation is also unique insofar that all the main commercial

TV services are owned by telecoms companies and their operations span aspects of the network media economy that go far beyond internet advertising as well. Given this set of facts, while the impact of GAFAM is undoubtedly great, we must ask whether they really pose as much of a challenge to the network media economy in Canada as so many commentators assert? The answers to these and other questions have significant implications for how we understand the media and what we do about the very real problems that do exist, as our research shows.

To get a better sense of all the moving parts and how they intersect and overlap, we need to understand the many media markets in which these and other companies operate and whether, simply put, they are becoming bigger or smaller in terms of revenue and more or less profitable over time. The answers to those questions informs our understanding of how the entities that comprise the broad network media economy interact and sometimes compete with specific firms like Netflix, Google and Facebook. In other words, the approach our research takes provides context that is crucial to developing an informed and holistic understanding of contemporary developments within and across the various sectors of the network media economy.

The answers to the questions posed above also have much to add when evaluating assertions that we should discard the regulatory and legal frameworks set down a quarter-of-a-century ago, when the internet was just a glimmer in a few people's eyes, in order to unshackle Canadian players so that they can rise to the challenge posed by the internet hypergiants and the shift to what some refer to, amorphously, as "the digital media universe".

All-in-all, the media's place in the economy, society and our everyday lives is changing dramatically and is now up for grabs in ways seldom seen. The stakes are high; they are not just about numbers, revenue, market shares, and economic trends, but what kind of communications and media landscape we want and deserve, and how such a landscape fits within a democratic society. Some communication historians call times like these a "critical juncture", or a "constitutive moment", when decisions made will become embedded in technology, markets and institutions, and then press down on us, for a very long period of time thereafter, perhaps a century or more if the lessons of "the industrial media age" offer any guide to the contemporary debates surrounding the "internet" or "digital media age". The CMCR Project does its best to engage with such realities in a bid to help secure the communication and media that we need and deserve. ■

Summary of key findings and insights

- The network media economy has more than quadrupled in size, from $19.4 billion in 1984 to $80.3 billion last year.
- mobile wireless and internet access services continue to grow briskly, with revenues rising to $25.5 billion and $10.9 billion, respectively, last year; while cable, IPTV and satellite TV continued to slide to $8.5 billion—a decline from all-time highs of $8.9 billion four years earlier. Wireline revenues (e.g. revenues from "plain old telephone service") continued their long-term fall to $13.1 billion in 2017.
- the adoption and use of wireline internet access is high in Canada relative to other OECD countries, but speeds are mediocre, prices high, data usages slightly below average, and data caps extensively used and set at low levels whereas in most countries that are comparable to Canada they are rare and the cost of exceeding them not as punishingly expensive.
- mobile wireless (i.e. the mobile internet) adoption in Canada ranks very poorly against other OECD countries. For example, Canada ranks a lowly 30th out of 36 OECD countries in terms of adoption—a drop in rank compared to other countries over the previous year. Canada also does not fare well in terms of mobile data use, either, ranking 26th out of 35 OECD countries surveyed with an average of 1.9 GB of mobile data usage per subscriber per month—well below, for example, Finland (15.5 GB), Austria (11.2GB), Denmark (5.7 GB), France (3.4GB) and the United States (3 GB).
- nearly one-in-three households in the lowest income quintile do not subscribe to a mobile wireless service, while only one-in-seven of those on the next rung up stand in the same position. By contrast, mobile wireless service is nearly universal for the most well-off in society.
- the cost of media devices is plunging but the cost of communication services like broadband internet access, mobile phone and cable TV (including IPTV) continue to rise briskly relative to the consumer price index.
- advertising spending has been in decline in inflation-adjusted "real dollars", on a per capita basis, relative to the media economy, and in relation to the gross domestic of Canada. On a per capita basis, it was $351 per person in 2017—down from $371 a half-decade earlier.

- TV advertising spending also peaked at $112 per capita in 2011 but fell to $86.23 last year in real dollar terms. Across the TV marketplace—broadcast TV, pay and specialty services, and streaming TV services—subscriber fees account for 56% of all revenue (excluding the CBC's Parliamentary grant). TV remains a pillar of the internet- and mobile wireless-centric media ecology, but the ways in which it is accessed and paid for are changing.
- advertising is in relative decline but internet advertising soared to an estimated $6.2 billion last year versus $5.5 billion the year before.
- Internet advertising is becoming more concentrated, with the top ten internet companies accounting for 86% of all revenue in 2017, up from 77% in 2009.
- Google and Facebook dominate the internet advertising market, with nearly three quarters of the market under their control in 2017—up from two-thirds a year earlier.
- Subscriber fees outstripped advertising revenue by more than 5:1 in 2017. The "pay-per media" (e.g. mobile phones, internet access, pay and streaming TV services) are vastly more significant in terms of sheer economic size than advertising-based media (e.g. broadcast TV, internet advertising, newspapers).
- Bell, Rogers, Telus, Shaw (Corus), Quebecor (Videotron), Google, CBC, Facebook, Cogeco and Sasktel are the ten largest communications and media companies in Canada by revenue, in that order. The "big 4" Canadian companies' revenues are several times higher than the Canadian revenues of the US internet giants.
- The telcos in Canada own all the major TV services, except the CBC. This arrangement stands in contrast to those in the US, UK and most of Europe. This helps explain why broadcast TV and stand-alone internet streaming options have fared poorly in Canada relative to those countries.
- While broadcasting TV in Canada is in dire straits, it is important to ask why conditions are especially bad in Canada relative to other countries where, while not thriving, broadcast TV is surviving.
- The TV marketplace in Canada has and is thriving with fundamentally new pay TV sectors added to it over time, including the rapid growth of over-the-top streaming services today. Based on CMCR data, total TV revenues had soared to over $8 billion in 2017 and to an estimated $9.6 billion if the CRTC's figures for streaming, transactional video-on-demand (TVOD) and ad-based video-on-demand (AVOD) services are used, although this report is skeptical of the value the Commission assigns to Netflix, Youtube and Apple's iTunes.
- Netflix had an estimated year-over-year average of 6.6 million subscribers and $820.6 million i n Canadian revenue in 2017. It is now the fifth largest TV service operator in Canada, and bigger than Quebecor's TV operations (not including cable). At year's end, just less than half of all Canadian households subscribed to Netflix (~49%).
- Telus, Bell and SaskTel had nearly 2.8 million IPTV subscribers between them at the end of 2017 and accounted for roughly a quarter of all cable TV subscribers and revenues. Competition between the telcos' and cable companies' video distribution platforms has intensified in recent years.
- Cable "cord-cutting" is real but remains modest. Total subscribers fell from 11.5 million in 2012 to 10.7 million last year. Accounting for population growth, 76% of all households subscribed to a cable television service last year--down from 85.6% in 2011.
- Fibre-based broadband infrastructure is under-developed by international standards, and access for end-users is expensive. Penetration levels are roughly half the OECD average. Canada ranked 27th out of 36 OECD countries in 2017 in terms of fibre-to-the-doorstep—the internet infrastructure of the 21st Century.
- The CRTC's actions over the past few years responded appropriately to reality and matched those of regulators in the EU and the FCC in the US—although this appears to be changing under the direction of the Commission's new chair and as the regulatory framework in the US is hastily dismantled by the Trump administration's appointed chair to the FCC, Ajit Pai.
- The impact of cord-cutting, Netflix, Google, etc. on the "broadcasting system" is real but exaggerated. Framing these factors as threats to the "broadcasting system" biases how these issues are framed, and in so doing constrain the range of media and cultural policy options on the table and how they are discussed.
- Appeals to policy makers and the CRTC to adopt an "internet levy" and to require that ISPs and mobile operators selectively use data caps and zero-rating to promote Canadian content should be treated skeptically in light of these realities.
- Newspapers are in turmoil with revenue plunging from a high of $4.7 billion in 2008 to under $2.6 billion last year. Laying the blame for this state of affairs at the feet of Google and Facebook is common but ignores how self-inflicted wounds and the decline in total advertising revenue, have contributed greatly to this state of affairs.
- The number of full-time journalists has grown modestly over the long run (i.e. since 1987) but stayed fairly steady at ~11,500 for the past five years. The ratio of public relations, advertising and marketing professionals to journalists, however, has soared from four-to-one in 1987 to eleven-to-one at present.
- Canadians consult a wide-range of "old" and "new" as well as "domestic" and "foreign" news sources online: e.g. the CBC, Postmedia, Torstar, CTV, Globe and Mail, Huffington Post, CNN, the New York Times, Washington Post, The Guardian, the BBC, Yahoo!-ABC, etc. However, there are no "digital native" Canadian news organizations such as iPolitics on the list of the top 50 internet news sites visited by Canadians.
- The collapse of advertising reveals the fact that people have never paid the full-cost of a general news service. Such services have long been subsidized by wealthy patrons, advertising, or the public purse. It's time to figure out who will pay what all over again, and while the "pay-per" model will pick up some of the slack, it won't be enough and comes with the additional problem that it aggravates information inequality.
- Thus far, analogies to broadcasting, publishing and media companies have driven the agenda when it comes to proposing regulatory remedies to the dominance of digital platforms. This report suggests that we should think of them as being more like banks that store a new source of wealth—data, who have a fiduciary obligation to protect the sanctity of their users' privacy, and whose complex machinery should be subject to regular and regulated audits to ensure accountability and that they operate in the public interest. ■

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The Growth of the Network Media Economy in Canada, 1984-2017

Current Developments and Debates

Every year for the past six years the CMCR Project has put out a series of reports on the state of the telecoms, internet and media industries in Canada (see 2016, 2015, 2014, 2013, 2012 and 2011). This report is the first installment in this year's series.

The report examines the development of the media economy since 1984, with the "media" defined broadly to include mobile wireless and wireline telecoms services; internet access; cable, satellite & IPTV; specialty and pay TV; broadcast TV; radio; newspapers; magazines; music; and internet advertising.

Its aim is to get a good sense of how all the different sectors of the telecoms-internet and media industries have developed over time, and how they fit together to form what we call "the network media economy". It is also to determine which of these industries are growing, stagnating or in decline, while shining light on those that are showing signs of renewal, like the music industry. It also examines whether internet streaming services like Netflix, Crave and Spotify, and trends such as cord-cutting, are delivering lethal blows to established media or helping to expand the size and diversity of the media economy overall.

A key development identified in this report is the extent to which advertising-supported media (i.e. broadcast television, radio, newspapers and magazines) are being eclipsed by the "platform" and "pay-per" media industries (i.e. mobile wireless, wireless telecoms, ISPs, as well as cable, DTH and IPTV services). The "platform" segments of the media—the pipes, bandwidth and spectrum that people use to connect with one another, to media content, the internet, and so forth—accounted for just under three-quarters of all revenue generated within the network media economy by the end of 2017. The revenue of "pay-per" media that mainly rely on subscriptions and direct now outstrips that of advertising-based media, including internet advertising, by more than five-to-one.[1] In an increasingly internet- and mobile wireless-centric world, connectivity and subscriber fees, not content and advertising, are king (see Odlyzko).

The gap will likely grow over time because, while nominal advertising revenue for all media has inched upwards over the past decade, it fell on a per capita basis and in inflation-adjusted terms (see the "Ad$ All Media" sheet in the Excel Workbook). This stagnation/slight decline is likely due to two factors: anemic and unsteady economic growth since the financial crisis of 2008, and that internet advertising displays very strong economies of scale. These strong economies of scale are driving consolidation in the internet advertising market on a national and global scale and having devastating effects on traditional advertising-based media. Local, regional, or national media outfits that lack the economies of scale and the ability to measure and target advertising as precisely enjoyed by the global internet companies, and thus find themselves at a structural disadvantage when it comes to competition for advertising dollars (Hindman, 2018).

Given these realities, it is not surprising to learn that the top ten internet companies' combined share of online advertising revenue grew from ~75% in 2009 to 87% in 2017. Google and Facebook alone accounted for an estimated 75% of the $6.2 billion in internet advertising revenue last year. This was a very sizeable increase from their estimated two-thirds share of the internet advertising market the year before.[2] Both companies have taken advantage of the rise of mobile internet to consolidate their duopolistic control over the internet advertising market—a point that we will take up in further detail in the next report. Of decisive importance is the fact that the "digital duopoly" now controls more than a third of the $13.4 billion in advertising spending across all media in Canada—a scale that has soared rapidly in recent years. The fact that Google and Facebook are consolidating their grip over a slowly shrinking pool of advertising revenue has also sharpened and intensified the conflict between them and other media companies that still rely on advertising to survive.

Many media companies, trade associations, and trade unions representing the creative industries have called for a levy to be applied to internet service providers (ISPs) and

1 Pay-per media refer to media that people pay for through subscriptions or directly. They include network media/communication services plus subscription-based content media like pay & specialty TV, OTT, video games, movies, music and books. They are different from media that are subsidized by advertising or government-funding (as in the case of the CBC) or wealthy patrons (as in the "high arts"). I take the "pay-per" term from Vincent Mosco's *Pay-Per Society* (1989). The video game, film and book industries are not included in this report because of data availability limitations, but see PWC, 2017 for evidence that bolster the point being made here.

2 See the "Internet Ad$ + Other" sheet in the Excel Workbook.

mobile wireless carriers to offset these losses.[3] The Creative Canada Policy Framework released by the Department of CanadianHeritage in September 2017, however, rejected the idea. While the aim of supporting journalism and original audiovisual media content is laudable, using an ISP levy to do so deflects attention away from the decline in advertising revenue and the broader economics of internet advertising. It also ignores the fact that people have never directly paid the full cost for media that have "public good" characteristics and that such consumption has long been subsidized by either advertising, government funds or wealthy patrons.

The ISP levy is based on policy tools that have been designed within the context of a cable television-centric "broadcasting system" over the past fifty years. It attempts to take policy tools built for a single purposes network—cable TV—and to apply them to general-purpose internet access infrastructures. One major consequence of the early approach, however, was that the potential for cable systems to be developed as multi-purpose common carrier networks was delayed in favour of developing them as dedicated broadcasting distribution networks explicitly used to tilt the media ecology in favour of Canadian TV (Babe, 1990).

As a rule, a general-purpose network should not be taxed to support specific cultural policy aims. Instead, those goals should be dealt with directly through general taxes and politically—i.e. in the public arena—rather than through an opaque labyrinth of intra- and inter-corporate cross-subsidies along lines that developed in the 1960s and 1970s when cable television became the foundation of Canadian broadcasting and culture policy. Similar mistakes must be avoided today in relation to broadband internet access and mobile wireless networks because they already support a far wider and still expanding diversity of uses, users, services and apps than cable ever did.

Subordinating telecoms operators and ISPs to cultural policy goals would also embed conflicts of interest into the heart of media and cultural policy given the unusually high levels of vertical integration in the communications market. The Government's pledge in the Creative Canada Policy Framework to increase the amount of funds it directly gives to the CMF to help offset the lost contributions from "cord-cutting" is a step in the right direction.[4] In a similar spirit, whatever funds are allocated to media and cultural policy should go directly to the media workers who make journalism, television, film or video games rather than to distributors with the hope that such funds will trickle down to others.

What we think of as culture policy often tends to be institutional and professionally-oriented. It is also often elitist and rooted in conservative notions of merit. A broader view,

3 The best expression of such calls is probably a report prepared by Peter Miller (2015 for ACTRA, the Canadian Media Guild, the Directors Guild of Canada, Friends of Canadian Broadcasting, Unifor): *Canadian Television 2020: Technological and Regulatory Impacts*. The report's ideas were once again put on the public record in the *Canadian Content in a Digital World* consultation, but rejected. Most recently, however, the new chair of the CRTC, Ian Scott, has mounted the call to create a levy on internet access providers—wireline and mobile (Scott, 2018; CRTC, 2018). The Government, however, has continued to reject such calls, as did the Standing Committee on Access to Information, Privacy and Ethics' 2018 *The Protection of Net Neutrality in Canada* report.

4 I have developed these points at greater length in a report entitled From the BDU-Model of TV to Radical Unbundling: Common Carriage and Culture Policy for the Internet Age (2016).

Google and Facebook alone accounted for an estimated 75% of the $6.2 billion in internet advertising revenue last year.

however, also sees "connectivity" policy as a form of "culture" policy because it encourages "mass self-expression" and social interaction (see Castells, 2009; Rainie & Wellman, 2014). The principle of common carriage (Net Neutrality) is also violated when companies' control over internet access is leveraged to promote some kinds of messages over others.

These and a wide sweep of other critically important issues are now on the table in ways they have not been for years. For one, the CRTC continues to address a wide range of telecoms, internet and television issues after having found core segments in each of these markets woefully uncompetitive and unresponsive to people's needs and desires.[5] Beyond this, questions about whether there should be an "ISP tax" or a specific "Netflix tax" earmarked for the production of Canadian content remain unanswered. Beyond such specific taxes and the thicket of issues they raise about cultural policy in the "internet age", others see no reason why Netflix, Google, Facebook, Apple or others like them should not pay corporate income and sales taxes like every other business—a stance that this author agrees with, but one that will likely be dealt with by the Finance Minister, not the Department of Canadian Heritage.

Finally, the fact that Google and Facebook are consolidating their control over a shrinking pool of advertising revenue is sharpening the conflict between them and the commercial media companies that still rely on advertising to survive. The internet companies now face more pressure than ever to bring them under tighter regulatory control, for better and for worse—as we shall see. The widespread concerns with disinformation campaigns and the integrity of democratic elections in the US, UK, France, Germany and elsewhere have reinforced the drift, making them much more vulnerable than just two or three years ago. There is a sense of "blood in the water" as the push to bring them to heel seems to grow by the day. Unfortunately, many familiar industry-insider groups appear to see the ongoing review of the Telecommunications Act and Broadcasting Act in singular terms, as an opportunity to harness the evermore internet- and mobile wireless centric media and cultural landscape to regulatory methods and policy prescriptions drawn from the past half-century. At the end of the day, a good body of data is better than hyperbole and nostalgia. This report aims to constructively add to the discussion of these issues out of sense that we are currently living in a constitutive moment when choices made now or in the near future will have enduring and cumulative effects on what the media and communications ecology will look like for much of the rest of the 21st Century. ■

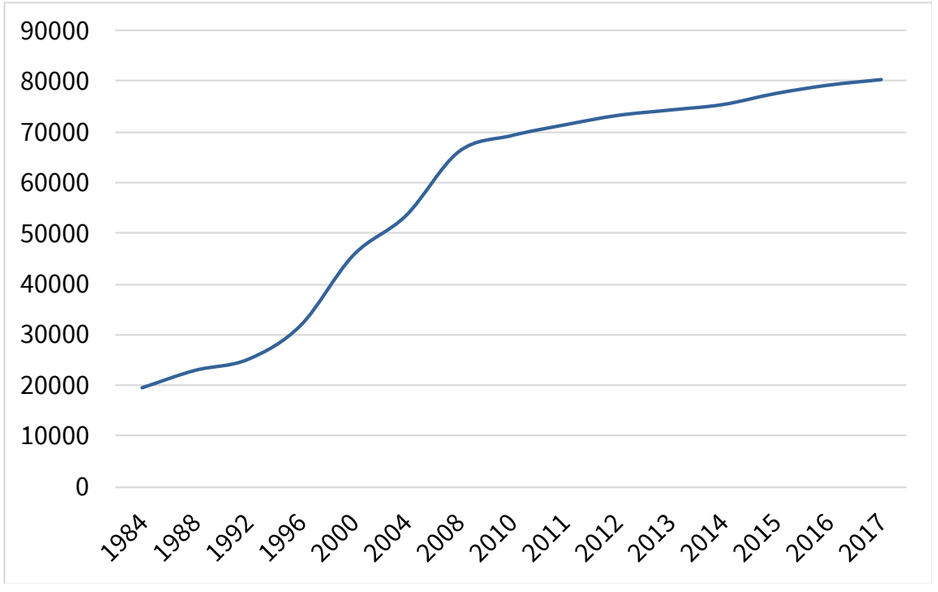
5 See, for example, the CRTC's trilogy of Talk TV decisions in 2015, it's wholesale roaming investigation (2014-398), wholesale mobile wireless (2015-177) and wholesale wireline (2015-326) decisions, the mobile TV decision (2015-26) and its decision to generally prohibit ISPs and mobile operators from zero-rating services in favour of upholding common carriage principles (2017-104), and the decision by the Liberal Government to reject Bell's appeal to overturn the CRTC's decision giving independent ISPs wholesale access to the incumbent telephone and cable companies' fibre-based networks. These gains, however, now appear to be in jeopardy under a new Chair who seems more inclined to take a softer stance on the industry. This can be seen, for example, in the recent renewal of BDU licenses (BD 2018-263), the Order-in-Council (PC 2017-0557) requiring the CRTC to reconsider its Wholesale Mobile Wireless Roaming Service Tariffs Decision (TD 2017-56) and which ultimately that led to its ongoing Lower-Cost Mobile ata-Only Plans proceeding (Telecoms NC 2018-98) and its *Harnessing Change: the Future of Programming Distribution in Canada* report that marks a return to the 'integrated systems' view of communications and broadcasting policy that the Commission had been inching away from under the previous two Chairs of the Commission.

The Network Media Economy in Canada

Growth, Stagnation, Decline or Recovery?

The overall network media economy continues to expand considerably. Indeed, between 1984 and last year, revenue quadrupled from $19.4 billion to $80.3 billion (current $). Figure 1 below illustrates the trends.
While the media economy in Canada is often seen as a pygmy amongst giants, especially relative

Figure 1: Growth of the Network Media Economy, 1984-2017 (current $, millions)



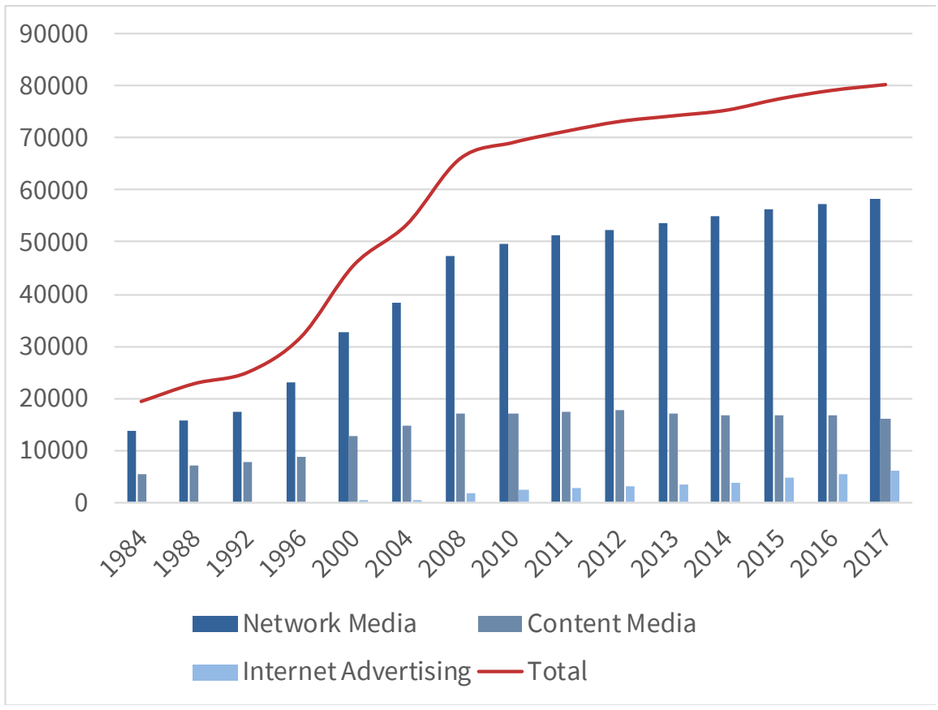
Source: see the "Media Economy" sheet in the Excel Workbook.

to the colossal size of the US media economy, the fact is that is that it ranks among the ten biggest in the world. Of the thirty countries examined in *Who Owns the World's Media*, the sum total of which account for 90% of the world's media revenues, Canada ranked 9th (Noam, 2016, pp. 1018-19).

The media economy in Canada, as elsewhere, is also becoming ever more internet- and mobile-centric. "Network media" (i.e. wireline, mobile wireless, ISPs and cable, satellite and IPTV) have grown much faster than the "content media" (i.e. television, radio, newspapers, magazines, music), especially those that depend on advertising. Network media altogether accounted for nearly three-quarters of all revenue in 2017. While internet advertising has grown swiftly into a $6.2 billion industry, it represents just 8% of all revenue across the media economy (see the "Media Economy" sheet in the Excel Workbook).

Figure 2 below illustrates the divergent development trajectories for the "network media", "content media" and "internet advertising" over the past thirty years. The most outstanding observations are, first, scale of network media is vastly larger than that of the "content media" and, second, the former has grown at a much quicker pace than the latter. Finally, while internet advertising is crucial, and growing fast, its place within the overall scheme of things is more modest than one might assume given all the attention paid to it and the sectors of the media that either depend on, or are affected by, its rapid

Figure 2: Development of Network media vs Content Media and Internet Advertising, 1984-2017 (current $, millions)

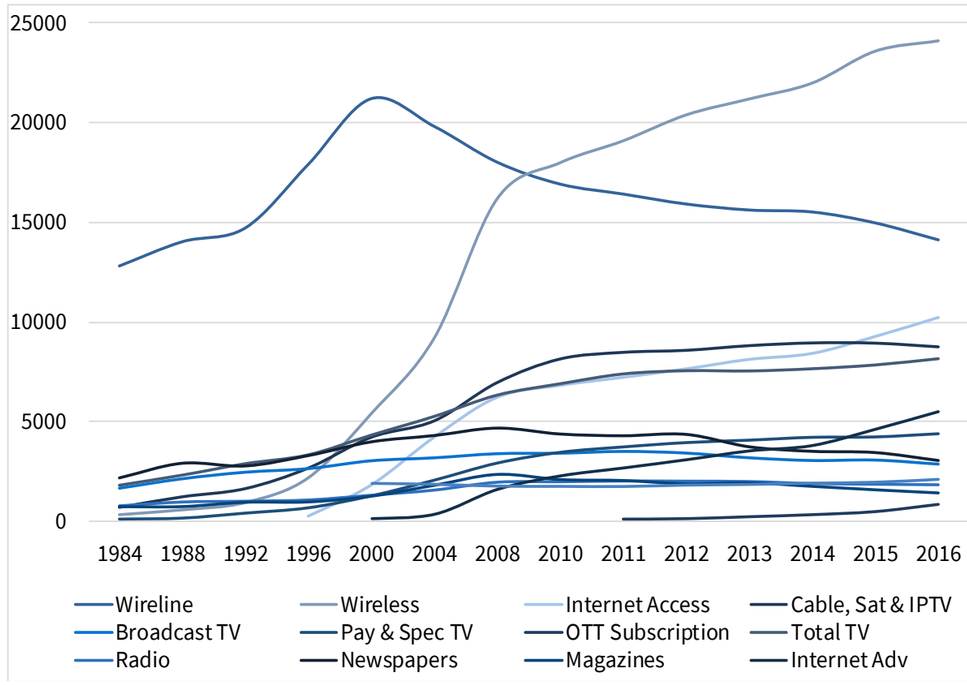


Source: see the "Media Economy" sheet in the Excel Workbook.

growth, to say nothing of the two behemoths that have been its biggest beneficiaries, i.e. Google and Facebook.

Figure 3 goes a step further by separately depicting each sector covered in this report.

Figure 3: Separate Media, Distinct Evolutionary Paths and the Network Media Economy, 1984–2017 (current $)



Source: see the "Media Economy" sheet in the Excel Workbook.

While all areas of the telecoms-internet and media industries have grown substantially over the long-run, there are unique differences among them that merit closer attention.

The rise of wholly new media sectors – e.g. mobile wireless, internet access, pay and specialty TV, internet streaming TV services, and internet advertising – has added immensely to the size of the network media economy. It has become much larger and structurally more complex as a result.

Another thing that stands out in Figure 3 is the sharp kink in the revenue lines since 2008 for all sectors on account of the impact of the global financial crisis. Indeed, the compound annual growth rate (CAGR) for the network media economy as a whole has fallen to less than two percent per year on average ever since—a third of the rate of the previous decade. In terms of inflation-adjusted dollars, the absolute size of the media economy has increased very slowly at a rate of just one percent since 2010 amidst the uncertain economic times.
The financial crisis and economic downturn have had an impact on all media, but the

severity of the impact has varied greatly. After 2008, the earlier rapid pace of growth for mobile wireless, internet access, broadcasting distribution undertakings, specialty and pay television services and even internet advertising slowed. It declined outright for wireline telecoms, direct-to-home satellite, cable television, broadcast television, newspapers and magazines. The music industry, in contrast, went into decline early in the decade. It bottomed out in 2012, after which it appears to have turned a corner (see Picard, Garnham, Miege, Vogel on the relationship between the fate of the media economy and the general economy).

Table 1 below gives a snapshot of which telecoms, media and internet sectors have grown, stagnated, declined or recovered in the past few years. ■

The network media industries have grown enormously, from $13.8 billion to $58.2 billion

Table 1: Growth, Stagnation, Decline and Recovery in the NME, 2017

Growth	Stagnation	Decline	Recovery (?)
Mobile Wireless		Wireline Telecoms	Music
Internet Access		Cable	
IPTV		DTH Satellite	
Internet Advertising		Broadcast TV	
Pay & Specialty TV		Radio (?)	
OTT Services		Newspapers	
Total TV		Magazines	

Source: see the “Media Economy” sheet in the Excel Workbook.

The Network Media Industries

Bandwidth and the Pay-Per Media are King, Not Content and Advertising-Supported Media

between 1984 and 2017. Table 2 below shows the trends. They account for approximately 72% of all revenue, and are thus the fulcrum upon which the media economy pivots.

Table 2: Revenues for the Network media Industries, 1984-2017 (current $, millions)

	1984	1988	1992	1996	2000	2004	2008	2010	2011	2012	2013	2014	2015	2016	2017
Wireline	12787	14007	14700	17900	21200	19800	18000	16900	16400	15900	15600	15500	14951	14100	13149
Wireless	321	565	931	2175	5400	9200	16200	18000	19100	20400	21200	22000	23119	24119	25531
Internet Access				239	1800	4200	6200	6800	7200	7625	8100	8400	9249	10200	10945
Cable + DTH	716	1243	1651	2677	4219	5,027	6831	7844	7,988	7,818	7,786	7,390	7,298	6,879	6,371
IPTV						13	122	286	471	743	1008	1540	1620	1856	2167
Total $	13824	15815	17282	22991	32619	38239	47354	49830	51159	52486	53694	54830	56237	57153	58162

Source: see the “Wireline”, “Wireless”, “ISPs” and “CableSatIPTV” sheets in the Excel Workbook.

Mobile Wireless

Mobile wireless services have expanded quickly since the turn-of-the-21st century to become a cornerstone of the digital media ecology. Revenue grew more than five-fold during this time, from $5.4 billion to $25.5 billion last year. Wireless services also overtook plain old wireline telephone services in 2009 based on revenue, while in 2014 the number of Canadian households subscribing exclusively to mobile services for their voice calling needs exceeded those relying exclusively on landlines for the first time (CRTC, 2015, p. 1).

The growth spurt in mobile wireless services has tracked an expanding array of devices that people use to connect t o mobile wireless networks—feature phones, smartphones, tablets, wifi connected laptop PCs, and so on. The scope of mobile services on offer has widened substantially as well, based on the transition from voice- and text-based networks in the early years of the century, to broadband networks that today enable a broad range of internet-based communication applications. Consistent with this trend, mobile data traffic doubled in Canada between 2012 and 2013, and has continued to grow in the 40-60% range every year since. Cisco projects that mobile data traffic will grow five-fold between 2016 and 2021.

Despite this fast growth, mobile broadband (i.e. the mobile internet) adoption and usage in Canada continues to rank poorly against other OECD countries. Indeed, Canada ranks a lowly 30th out of 36 OECD countries in terms of adoption—a drop in rank compared to other countries over the previous year. Canada also does not fare well in terms of mobile data usage, either, ranking 27th out of 36 OECD countries with an average of 1.9 GB of mobile data usage per subscriber per month last year. This is well below usage levels in Finland (15.5 GB), Austria (11.2GB), Denmark and Sweden (5.7 GB, respectively) and considerably less than in France (3.4GB), the US (3 GB), UK (2.5 GB) and Australia (2.1). While there are many reasons for this state of affairs, price and affordability are certainly two key considerations (OECD, 2018; FCC, 2017; Klass & Winseck, 2018). The concentrated structure of mobile wireless markets and diagonally-integrated nature of the firms that operate in them are also key factors. Incoherent policies and inconsistent actions by the CRTC, Competition Bureau and ISED/Industry Canada also contribute greatly to this state of affairs (see Middleton, 2017 and Benkler, et. al. 2009).

Like other sectors, revenue growth in mobile wireless slowed post-2008. Some have argued that this is the result of a maturing market (Church and Wilkins, 2013, p. 40) but this single-minded focus is myopic.

For one, the pace set during the early uptake of new technologies cannot be sustained forever. Mobile wireless has unsurprisingly followed the classic “S-pattern” of diffusion, i.e. slow adoption at first, rapid uptake as the new technology becomes mainstream, and a return to flatter growth thereafter as “late adopters” come on board.

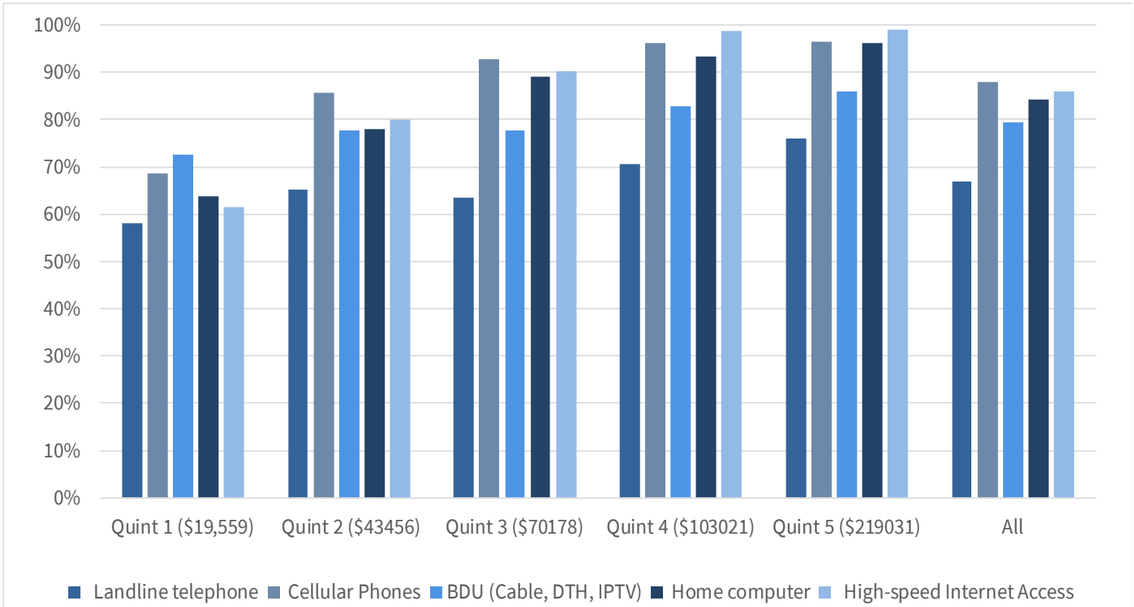
However, more than just following the typical “technology diffusion curve”, the flattening of mobile wireless growth dovetails with the financial crisis. In fact, revenues for the network media economy worldwide declined between 2008 and 2009. Some of the world’s biggest media economies shrank in the next few years thereafter (e.g. Germany, UK, Italy and Spain), while others stalled (e.g. Japan and France) or grew only modestly (e.g. US, Canada and Korea). Mobile wireless revenues were not hit as hard as other media sectors by the collapse of the dot.com bubble in 2000 or the Anglo-European financial crisis (2007-2008ff), but the recent let-up in the pace of wireless growth amidst such conditions is not surprising.

The network media industries have grown enormously, from $13.8 billion to $58.2 billion between 1984 and 2017.

The “mature market” explanation also ignores the under-development of the mobile wireless market in Canada relative to all but a few of its OECD peers. The latest Statistics Canada data indicates that 89% of Canadian households had a mobile phone subscription at the end of 2016. That data also shows that the adoption of mobile wireless services, as well as other information and communications media, is highly unequal and stratified by income.

For households in the lowest income quintile, nearly one-in-three do not subscribe to a mobile wireless service, while just a little over one-in-seven of those on the next rung up the income ladder stand in the same position. At the opposite end of the income scale, however, mobile wireless penetration is nearly universal at 96%.

Figure 4: Household Access to Information and Communication Technologies by Income Quintile, 2016



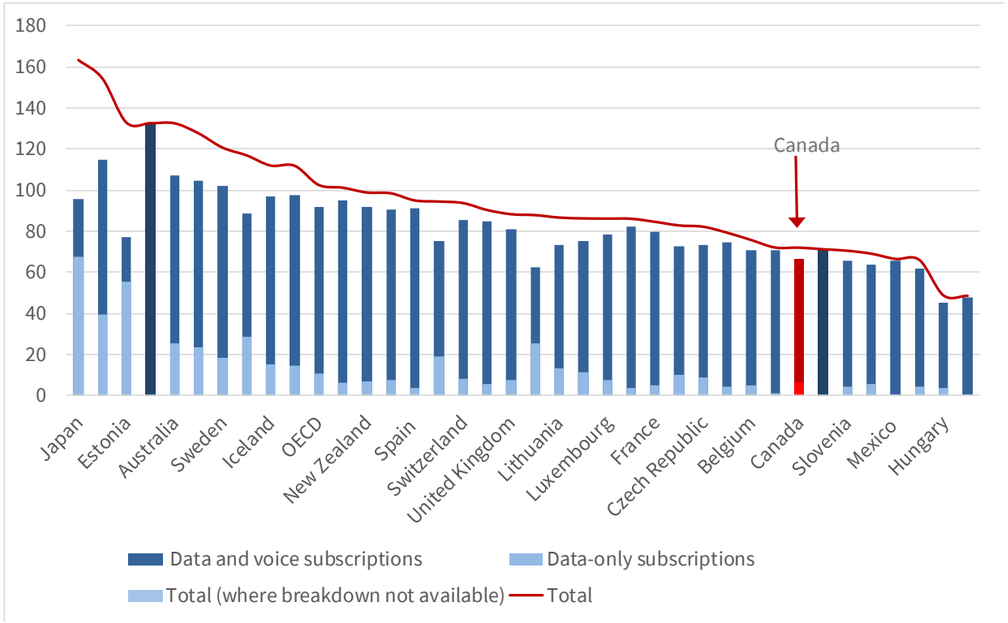
Source: Statistics Canada (2018). Dwelling characteristics, by household income quintile, Canada, 2016, in Statistics Canada, 2018. *Survey of Household Spending.*

Rogers, Bell, Telus, and other observers who are content with this state of affairs often distract attention from these low levels of penetration by touting the supposedly large number of subscribers who have smartphones. However, fewer than three-quarters of Canadians had a smartphone at the end of 2017, whereas in a majority of OECD countries this number was greater than 80% (OECD, 2018). Thus, smartphone adoption in

Canada is not a triumph to be celebrated but another indicator of bigger problems that need to be redressed, i.e. low levels of mobile phone adoption, high prices, and substantial inequalities in terms of adoption rates.

That this is so can be seen from the fact that Canada ranks a lowly 30th out of 36 OECD countries for broadband wireless penetration as of December 2017—well below levels in the US, UK, Denmark, Australia, and many other countries. Figure 5, below, illustrates the point. Moreover, this is a position that Canada has languished in for years (Benkler, Faris, Glasser, Miyakawa, Schultze, 2010; OECD, 2011). ■

Figure 5: OECD Wireless Broadband Subscriptions per 100 inhabitants, by Technology, December 2017



Source: OECD Broadband Portal.

Plain Old Telephone Service, Internet Access and Internet Protocol TV (IPTV)

While mobile wireless services now occupy the centre of the media universe, the wireline telecoms infrastructure that supports plain old telephone service (POTS), internet access, cable and IPTV networks continues to be a pillar in the network media economy. Combined, these services accounted for over half of all network media revenue (53%) in 2017. Mobile wireless services accounted for 44% and direct-to-home satellite services made up the rest.

On its own, however, plain old telephone service revenue has fallen to $13.2 billion (current $) last year—far off their high-water mark of $21.2 billion in 2000, but with the steep drop-off abating in recent years. Those decreases, however, have been offset by gains in internet access, IPTV and cable revenues. Telecoms and cable companies have also acquired data centre operations in recent years, although the lack of available data does not allow us to gauge the size of their revenues from these activities with any precision.

Internet access revenues have grown immensely in the past decade, similar to mobile wireless. Internet access revenues were roughly $10.9 billion last year, up considerably from $10.2 billion the previous year, and well over five times what they were at the turn-of-the-21st century ($1.8 billion). The adoption of wireline internet access in Canada is high relative to other OECD countries, but so too are prices, while available speeds are only mediocre, household data use comparatively low (97 GB per household per month), and data caps commonplace, whereas in most comparable countries they are rare and overage charges not as punishingly expensive (OECD, 2018; FCC, 2017; ITU, 2018; Cisco, 2017).

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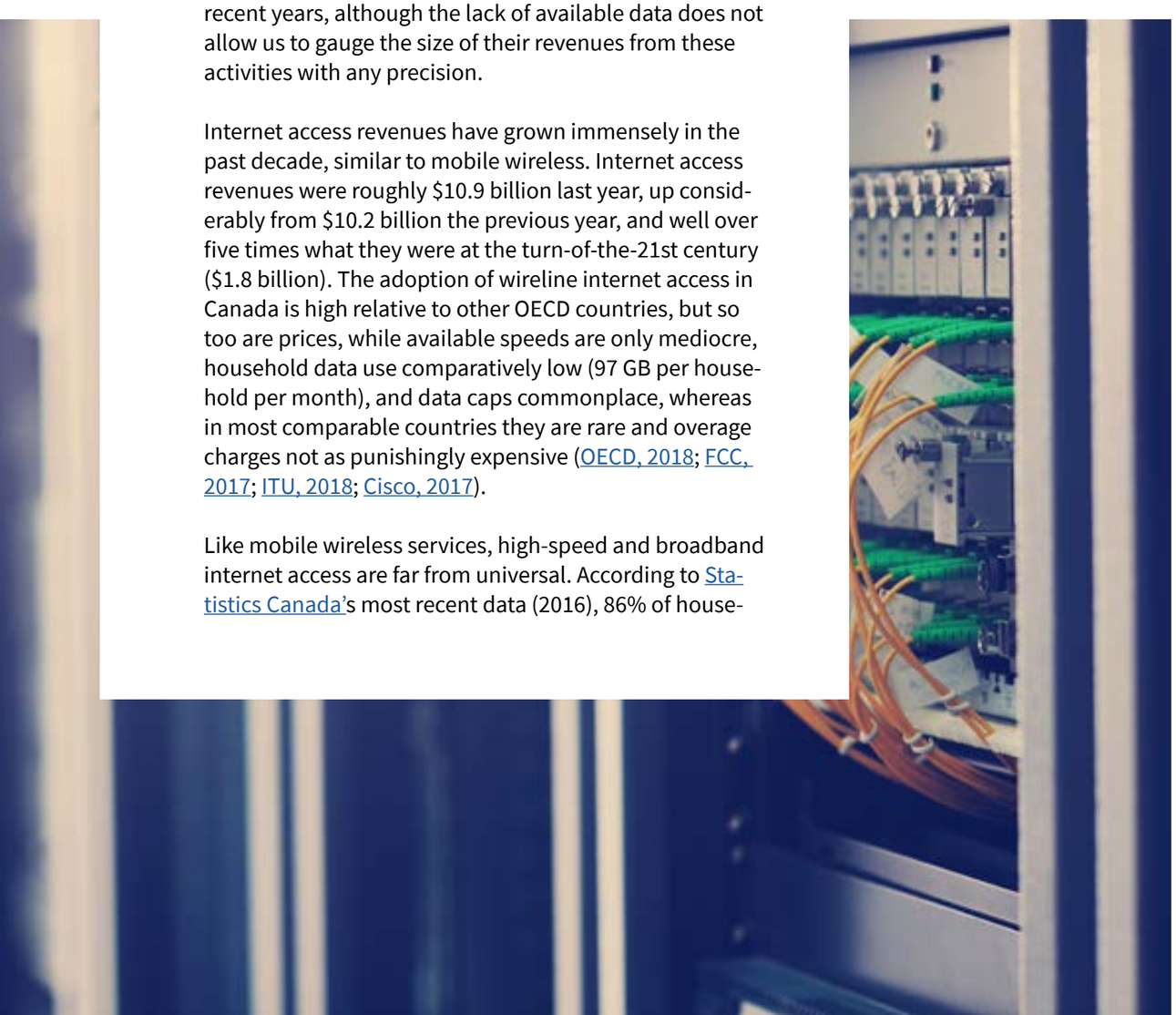

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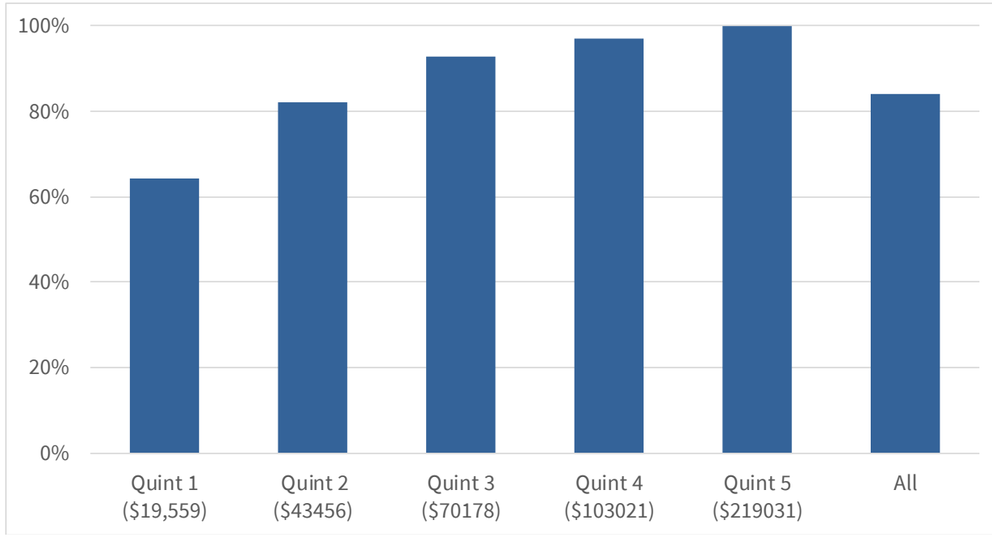
Like mobile wireless services, high-speed and broadband internet access are far from universal. According to Statistics Canada's most recent data (2016), 86% of households have adopted high-speed internet access service (i.e. > 1.5 Mbps). If we consider the uptake of services that meet the broadband universal service target of 50 Mbps up and 10 Mbps down adopted by the CRTC in 2016, however, the number falls to 22% (see CMR 2017, Table 2.0.9). Additionally, we observe that access cuts strongly across urban vs rural and remote lines and people's adoption of broadband is divided starkly along income lines. Figure 6 illustrates the point.

Figure 6: High-Speed Internet Access by Income Quintile, 2016



Source: Statistics Canada (2018). Dwelling characteristics, by household income quintile, Canada, 2016, in Statistics Canada, 2018. *Survey of Household Spending*.

A key recent development has been the rapid growth of the telephone companies' (e.g. Telus, Bell, SaskTel) Internet Protocol TV (IPTV) services. These incumbent telcos' managed internet-based tv services now compete with traditional cable television services. The number of IPTV subscribers has more than doubled over the last five years, to 2,761,300 at the end of 2017. Table 3 below shows the trends.

The telcos' revenue from IPTV service has also increased sharply from $1 billion in 2013 to nearly $2.2 billion last year--again, more than double the amount five years earlier. Table 4 below shows the trends. The subscriber and revenue figures reported in Tables 3 and 4 have tended to be slightly higher than those reported by the CRTC. This is likely to be the case again this year, although we cannot know for sure because its Communications Monitoring Report is far behind its usual publication date. Regardless, the discrepancy is probably explained by the fact that the CRTC's data is taken from the end of August each year as opposed to the companies' fiscal year-end, as we have done. The CRTC's estimated "average revenue per user" (ARPU) has also been consistently lower than what the telcos cite in their own audited annual reports. Lastly, the lack of consistent, full disclosure by both the telcos and CRTC further obscures the exact number.

Table 3: The Growth of IPTV Subscribers in Canada, 2004-2017

	2004	2008	2010	2011	2012	2013	2014	2015	2016	2017
Bell Fibe TV			29,788	93,640	249,511	514,416	788,292	105,0931	1,260,368	1,446,622
Telus		74,100	242,000	411,500	593,500	746,500	865,500	960,500	1,032,000	1,077,500
MTS Allstream	16,289	82,278	88,244	92,722	96,354	101,047	106,479	107,200	107,152	BCE
SaskTel	12,500	70,463	81,684	89,749	95,611	99,205	102,432	105,519	108,956	110,296
Total IPTV Connections	28,789	226,841	441,715	687,610	1,034,976	1,461,167	1,862,702	2,224,149	2,508,476	2,634,418

Source: see the "IPTV" data sheet in the Excel Workbook.

Table 4: The Growth of IPTV Revenues in Canada, 2004-2017

	2004	2008	2010	2011	2012	2013	2014	2015	2016	2017
Bell Fibe TV			5	21	106	234	593	750	921	1244
Bell Aliant			7	31	63	94	123	BCE		
MTS Allstream	8	50	59	71	79	82	85	89	93	BCE
Telus		34	166	279	380	496	605	650	706	769
SaskTel	4	39	53	60	67	71	80	88	94	92
Total IPTV $	13	122	286	471	743	1008	1540	1620	1856	2167

Source: see the "IPTV" data sheet in the Excel Workbook.

That said, the growth of IPTV services is significant for many reasons. First, the addition of IPTV as a new television distribution platform brings the telcos deeper into the cable companies' traditional turf. By 2017, IPTV subscribers and revenue accounted for roughly a quarter of the TV distribution market—a large increase over a relatively short period of time and a change that is undoubtedly causing the cable companies to feel the increasing competitive pressures posed by the telcos' IPTV services.

The increased competition posed by IPTV hit the western provinces earliest where Shaw has faced three companies that have been quickest to roll out IPTV services: Telus in Alberta and BC, SaskTel in Saskatchewan and, until last year before it was taken over by Bell, MTS in Manitoba. From Ontario to the Atlantic, in contrast, Bell's roll-out of IPTV has lagged, and this deferred the competitive impact on Rogers, Quebecor, Cogeco and Eastlink until around 2013.

Cable and satellite companies are losing subscribers to the telcos' IPTV services as a result. Altogether, they have lost nearly 3 million subscribers since 2009—the peak year for cable subscriptions in Canada. Their revenue has also dropped by 20% (~$1.6 billion) since the high point in 2011, as Table 5 illustrates.

Overall, the number of subscribers for all broadcast distribution undertakings (BDUs as they are called in Canadian regulatory parlance) has slipped from 85.6% of households at its highpoint in 2011 to 76% last year (CRTC, Distribution Statistical and Financial Summaries, 2017). These losses—and thus the phenomenon of cord-cutting--are real, to be sure. However, they are not the calamity that some might have us believe (see the Miller Report, 2015 as an example of such claims).

Most of the cable and DTH satellite TV providers' losses—notably, Rogers, Shaw, Videotron, Cogeco and Eastlink—have redounded to the benefit of Telus, Sasktel, MTS and Bell's IPTV services. Moreover, the loss in subscribers that has taken place has resulted only in modest revenue losses of just over four percent to the BDU sector for the last four years. This is largely because at the same time that cable subscribers were starting to cut the cord there have been steep increases in subscription prices for BDU services. Crucially, just as people have turned to the internet to access streaming TV services directly in lieu of a cable subscription the price of internet access has jumped. Indeed, the price of subscriptions for both cable TV and internet access have risen well above increases in the consumer price index, as Figure 7 illustrates, and this continues to be the case. The sharp rise in internet access prices since 2010-2011, just as cord cutting was starting to cut into the cable operators' revenues, is especially noticeable.

The trend indicated in Figure 7, in turn, partly justified the CRTC's efforts to promote the unbundling of cable TV packages and pick-and-pay options in its trilogy of "Talk TV" decisions in 2015 and 2016--against the protests of industry and culture policy groups. The latter, in particular, want to retain and even extend the methods used in the past to the internet—bundling content with access to the network, and the levy on distribution to subsidize content, while the former mainly want the Commission to stand aside and let the industry do as it pleases, or for the CRTC to be dismantled altogether and what's left of its mandate handed to the Competition Bureau (see, for example, the reports by the C.D. Howe Institute, the Fraser Institute, the Montreal Economic Institute and the MacDonald Laurier Institute on this point).

Despite this recent reversal in direction and disposition, however, the CRTC's efforts until recently matched the realities just described and were firmly in line with similar efforts that were being taken by the FCC in the US (which have also been thrown into reverse under the Trump Administration's choice to head the FCC, Ajit Pai) as well as by regulators in Europe.

Table 5: Cable & Satellite Provider vs IPTV Revenues, 2004-2017 (current $, millions)

	1984	1988	1992	1996	2000	2004	2008	2010	2011	2012	2013	2014	2015	2016	2017
Cable + DTH	716	1,243	1,651	2,677	4,219	5,027	6831	7844	7,988	7,818	7,786	7,390	7,298	6,879	6,371
IPTV						13	122	286	471	743	1008	1540	1620	1856	2167
Total Cable, DTH + IPTV	716	1243	1651	2677	4219	5039	6954	8130	8459	8561	8794	8930	8918	8734	8538

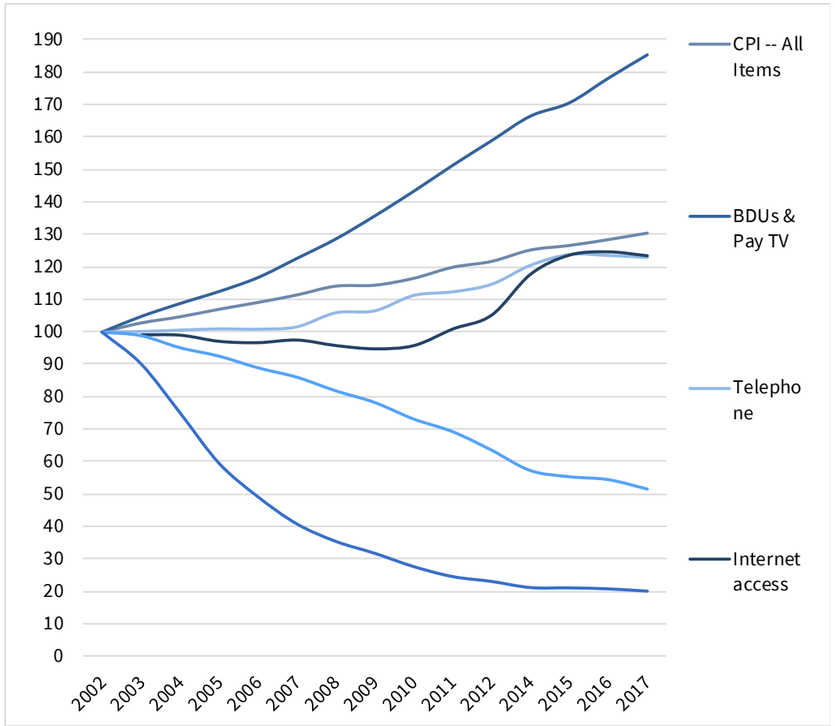
Sources: see the "IPTV" and "CableSatIPTV" data sheets in the Excel Workbook.

While IPTV services have taken off in many cities across the country, a few things need to be kept in mind. First, different companies have followed different strategies. For one, it was the prairie telcos, followed by Telus, that took the lead in deploying IPTV in the early- to mid-2000s. In contrast, Bell launched IPTV relatively late, first via its then affiliate Bell Aliant in 2009, before slowly rolling out the service in the high-end districts of Montreal and Toronto over the next two years—half a decade after MTS and SaskTel took such steps in the prairies. Bell's has picked up the pace since 2012 and subscriber numbers and revenue have risen significantly for the Bell Fibe service as a result. Bell's slow start is likely due to its desire to minimize the impact of its IPTV roll-out on its existing investment in DTH satellite TV. It has turned the corner since, however, and it had nearly 1.6 million IPTV subscribers by the end of 2017. Bell has been the largest BDU in the country since 2014, with a market share of just under 30% (see the "CableSatIPTV (RV)" and "IPTV" sheets in the Excel Workbook).

The telcos have also been finally ramping up their efforts to bring next generation, fiber-based internet networks closer to subscribers, mostly to neighbourhood nodes and increasingly to people's doorsteps. If the distribution of television is key to the take-up of next generation fibre optic broadband networks, as I believe it is, IPTV is and will continue to be a key part of the demand drivers for these networks (see below).

The rate of IPTV adoption in Canada is relatively high by international standards. Just under 19% of households in Canada subscribed to IPTV services in 2017. This is similar

Figure 7: The Price of Communication Services and Devices vs the Consumer Price Index, 2002-2017



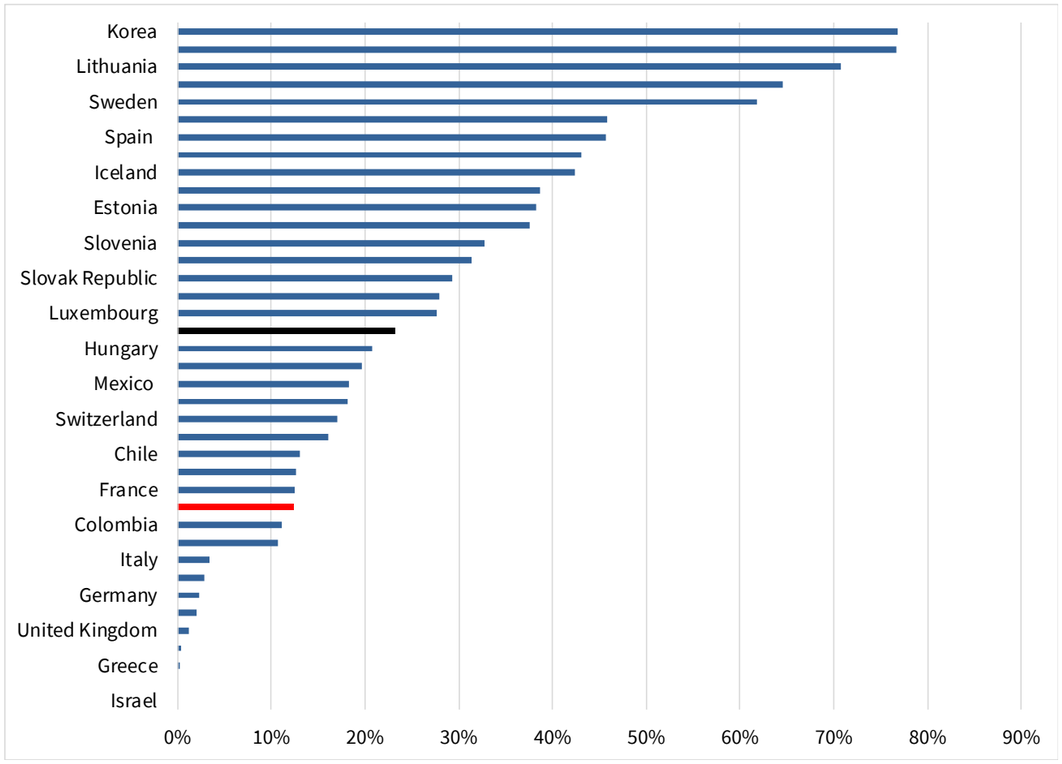
Source: Statistics Canada. *Table 326-0020 - Consumer Price Index, annual (2002=100)*

to Spain (where uptake of IPTV reached 20% of households), China (21%) and Sweden (17%) but well above the US (9%), Japan (8%), Germany (6%), the UK (7%) and Australia (7%). However, IPTV uptake in Canada lags behind France (40%), Korea (32%) and the Netherlands (30%) (note that figures are for the end of 2016 for these other countries vs the year-over-year average for 2017 in Canada (Ofcom, p. 106).

While Canada has done well with respect to IPTV, the picture changes for fiber-to-the-doorstep (FTTP). Indeed, just 12.3% of broadband connections in Canada use FTTP—roughly half the OECD average (23.3%). At the high end of the scale, in countries such as Slovenia, Australia, Norway, Finland, Sweden, Japan and Korea, between one third to more than three-quarters of all broadband connections are fiber-based. According to the OECD, Canada ranked 27th out of 36 countries on this measure as of December 2017—a slight decline over the preceding year. Figure 8 illustrates the point.

In sum, when it comes to fibre-optic networks, the prairie telcos and Telus were early leaders, not Bell. Globally, Bell's late turn to IPTV and FTTP in Ontario, Quebec and Atlantic Provinces has also dragged Canada down in the comparative league tables. Canada continues to lag significantly behind comparable countries on this measure. ■

Figure 8: Percentage of Fibre Connections Out of Total Broadband Subscriptions (December 2017)



Source: OECD (2018). Broadband Portal, Table 1.10.

Broadband Policy, Politics and Public Interests

One Step Forward, Two Steps Back?

The general evolutionary pattern that we see replays a long-standing practice for new services to start out as luxuries for the rich before a combination of competitive markets, public pressures and public policies turn them into affordable necessities for people at large (see Richard John with respect to the US history, Robert Babe for Canada). Current debates over access to broadband infrastructure are the latest iteration of this old story (Winseck Reconvergence, Winseck and Pike, John, Babe, Middleton). In fact, this could be seen at the end of 2016, when the CRTC set new standards for universal and affordable broadband internet service: minimum speeds of 50 Mbps up and 10 Mbps down to 90% of the population by 2021 (and the rest of the country a decade to a decade-and-a-half later), and with an unlimited option on offer—that is, an internet connection with no data cap, a concept that is actually the norm for most people in the developed world but rare and expensive in Canada. While policymakers have recognized that access to the internet is no longer a luxury, large strides will be needed to ensure that aspirations meet the reality on the ground, as Canada's standing with respect to deployment and adoption of fibre-to-the-doorstep reminds us.

A similar relatively large view of the public's interests was pursued in early 2017 under the previous CRTC chair when the regulator adopted new rules that stop the telcos and ISPs from using zero-rating to pick and choose some services, apps and content that won't count against subscribers' monthly data caps while everything else does. While zero-rating can be attractive to the companies as a way to differentiate their services from those of competitors, and to some consumers who see this as way of getting data for "free", such practices are largely marketing gimmicks propped up by artificially low data gaps and limited

choices. In places where data caps are large or non-existent, zero-rating is rarely used, whereas in countries where they are low, like Canada, it is far more common—at least until the CRTC's ruling that effectively banned it.

Data caps are also low and extensively used where markets are highly concentrated, as mobile wireless markets tend to be. The same is true where telephone companies own many of the most important TV and entertainment services, as is in Canada, because under circumstances where vertical integration is the norm, carriers have

...questions about zero-rating embody a philosophy of communication...

both the incentive and the ability to zero-rate their own services while counting everything else towards subscribers' monthly data allowance. In other words, several structural features of broadband and mobile wireless markets in Canada bias them toward low and restrictive data caps, with concomitant pressures from service providers to adopt "zero-rating" as an alternative to bigger data allowances, or even unlimited services as the norm versus an expensive and rare option (see, for example, Rewheel/Digital Fuel Monitor, 2018).

Ultimately, questions about zero-rating embody a philosophy of communication, one that says that when data caps are high or non-existent, people can use bandwidth to communicate, entertain, express themselves, work and do with as they want—within the limits of the law, of course. When they are low, however, what people can and cannot do with "the means of communication" at their disposal is restricted. Seen from this angle, the issues at stake are not just about prices but whether the speech and editorial rights of people, "content creators and distributors", apps makers and service providers come first or whether those of the telephone companies and ISPs are paramount. In early 2017, the CRTC ruled in favour of the first group, and drew on the principles and history of common carriage[6] to do so (see Klass, Winseck, Nanni & McKelvey, 2016).

Both rulings—the new basic service standard and the zero-rating decisions—staked out a fairly ambitious view of what Canadians need and deserve in

6 In contemporary parlance, the concept of "net neutrality" often serves as shorthand for core principles of common carriage.

"the digital media age". On the one hand, it includes affordable access to high quality communication services and gives priority to the speech and expressive rights of people, content creators, apps developers and service providers over the those who own and control the networks. Consequently, people don't have to accept only what the market gives them because communication needs have been recast in a more expansive way in the light of conditions in the 21st Century.

The telephone companies do not like this run-of-events one bit and have wasted no effort fighting to change it over the course of the last year. Thus far, however, their main success appears to have been only to slow down the pace of change and to turn back the clock with respect to the CRTC's general disposition. The upcoming reviews of the Telecommunications Act and Broadcasting Act, and the swapping out of the public interest friendly J.P. Blais for an industry insider in September 2017, however, are fraught with risk and there is already some evidence of back-peddling by the Commission.

When the new Chair of the Commission was given the reins of the CRTC he was met with skepticism but also a willingness amongst critics, reformers and public interest advocates to suspend judgement because in the very recent past their early suspicions of appointees who seemed too close to industry—i.e. Tom Wheeler's position at the helm of the FCC in the US from 2013 to 2017—or too close to the government—i.e. Daniel Therrien, a former national security specialist in the Harper Government, as the head of the Office of the Privacy Commissioner a year later—ended up pursuing courses of actions that confounded early expectations, and with impressive results. That well of goodwill, however, is beginning to run dry in light of, for example:

- the new Chair's seeming deference to industry insiders,
- the call to "harness" the internet to a model of cultural policy created over a half-century ago and maintained since (CRTC, 2018),
- similar calls by the Chair for an ISP-levy (Scott, 2018),
- the constrained basis for the Commission's rejection of an industry proposed website blocking scheme designed to combat piracy (CRTC, 2018, TD 2018-384),
- and a seeming reluctance by the Chair to gird the CRTC's collective spine to face the realities of persistently high levels of concentration and sky-high levels of vertical integration in key communications and media sectors that have not served citizens, consumers, creators or the public sphere well.

It may still be too early to render a final judgment on the current approach to policy and regulation at the CRTC. However, numerous warning signs have been sounded that should not be ignored. ■

The Content Media Industries

Content Media and the Shrinking/Stagnating Advertising Economy

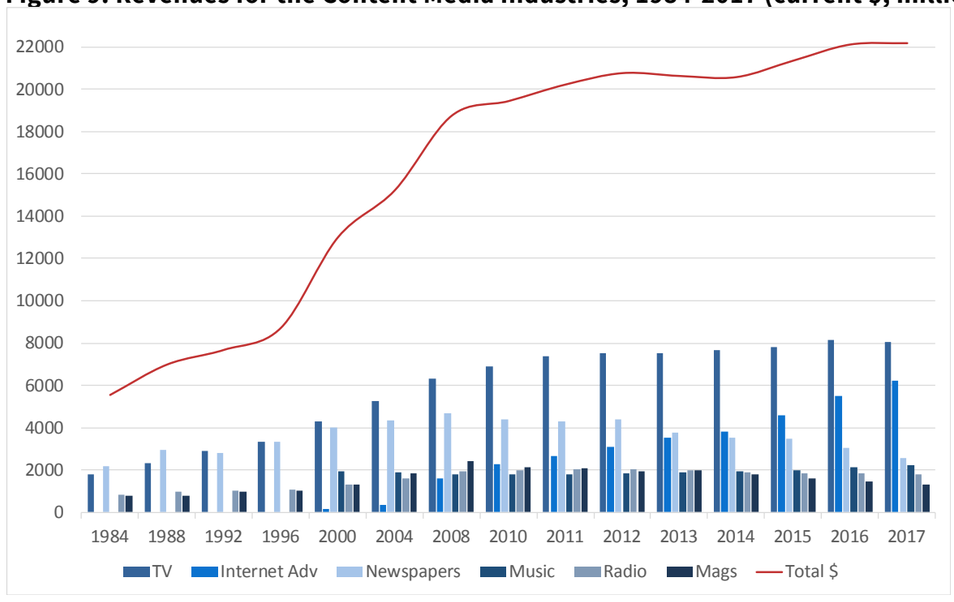
The remainder of this report looks at the content media industries: broadcast TV, pay and specialty TV, internet streaming services such as Netflix, Amazon Prime, Crave, Illico, radio, newspapers, magazines, internet advertising and music. The analysis highlights four key themes.

First, these sectors have grown considerably over the thirty-plus years covered by our project. However, most content media sectors have hardly grown at all since the financial crisis of 2008. Second, advertising is still the most significant source of revenue for the content media sectors, but the pay-per model based on subscriber fees has grown significantly over time. Third, total advertising revenue across all media has drifted upwards very slowly over the past decade in current dollar terms, but it is actually declining in inflation-adjusted real dollar terms, on a per capita basis, relative to the size of the media economy, and compared to the economy as a whole. This is a major and typically overlooked reality of the media economy. It merits a great deal of attention. Lastly, the advertising revenue that does remain has shifted rapidly to the internet and is being consolidated under the control of just two internet behemoths: Google and Facebook.

In 1984, nominal revenue for the content industries was $5.6 billion; in 2017, it was four times that amount, or $22.2 billion. In inflation-adjusted dollars, revenue nearly doubled from $11.4 billion to $21.3 billion. Growth was steady throughout this period until the Great Financial Crisis of 2008, except for several years in the early 1990s recession.

Since 2008, however, revenue for most content media sectors has fallen. As a basic rule-of-thumb, the more a medium relies on advertising the steeper the drop-off in revenue. In contrast, pay and streaming television services and the music industries have grown significantly during this period. The latter in particular appears to have entered a recovery phase in the past five years, after being in what many saw as a death spin in the first decade of the 21st Century at the hands of the internet and rampant piracy. Figure 9 depicts the growth of the content media sectors covered in this report and overall. These trends reflect the fact that the fate of the advertising-supported content media industries tightly follows the twists and turns of the broader economy (see Picard, Garnham, Miege and Vogel). The upshot of that observation is that media that rely the most on advertising are also the ones that are hit hardest by a weak or faltering economy: e.g. broadcast TV, radio, magazines and newspapers.

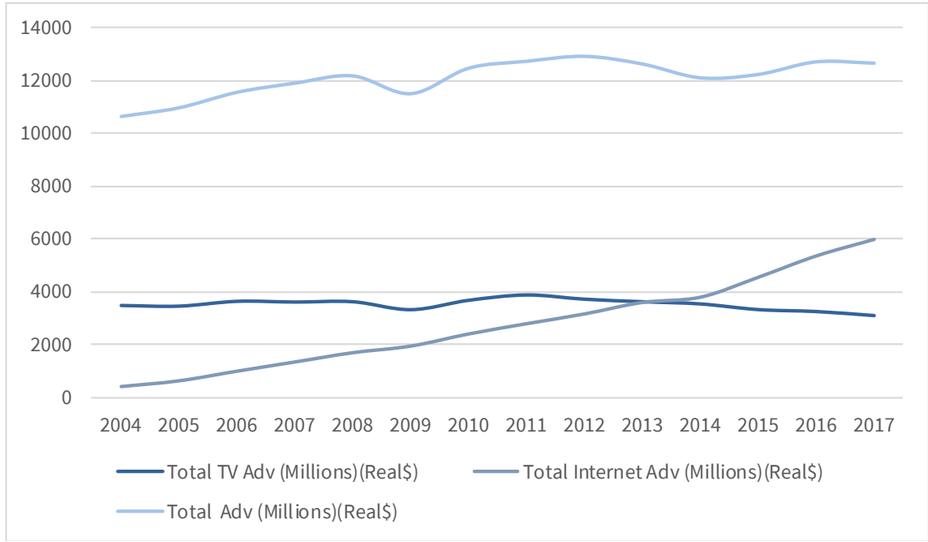
Figure 9: Revenues for the Content Media Industries, 1984-2017 (current $, millions)



Source: see the "Media Economy" sheet in the Excel Workbook.

Given this, it is not surprising that the vicissitudes of advertising revenue have moved in lockstep with the state of the economy in Canada since 2008. Overall advertising spending has grown from $11.5 billion in 2008 to $13.2 billion last year in current dollar terms (CAGR of 1.5%). Switch the metric to real dollars, however, and the story is one of stagnation, with revenue crawling up from $12.2 billion in 2008 to $12.7 billion last year (CAGR of less than a half-of-a-percent). Figure 10 depicts the point for advertising across all media and for both television and the Internet.

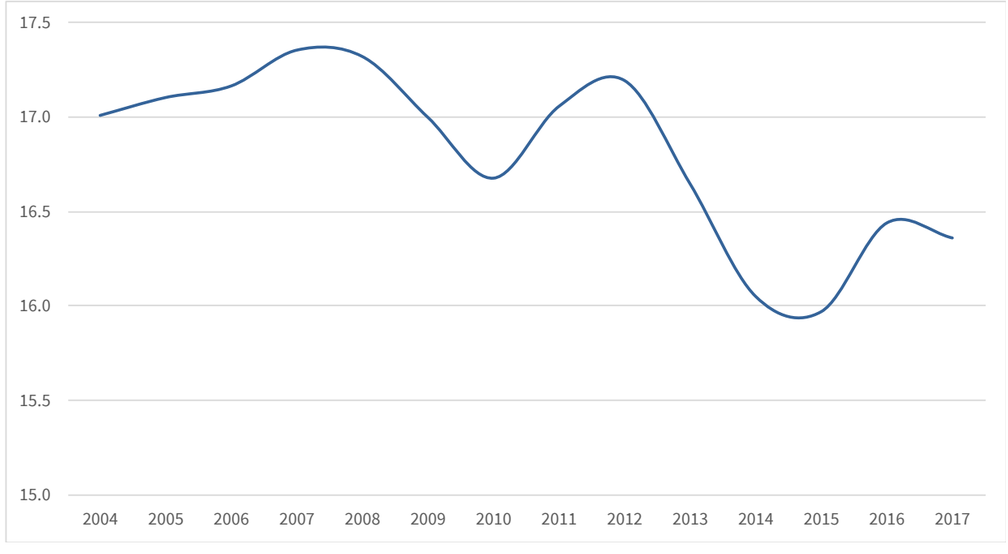
Figure 10: The Shrinking Advertising Economy, I—Total Advertising Revenue for Television and the Internet, 2004-2017 (Real $, millions)



Source: see the "Ad$ All Media" sheet in the Excel Workbook.

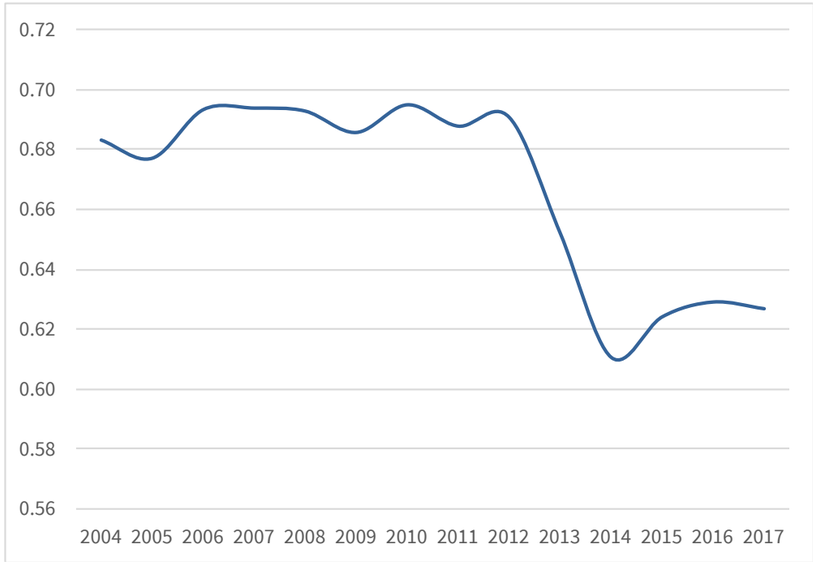
Figures 11 and 12, respectively, also illustrate the point that advertising spending is either stagnating at best or shrinking outright in real dollar terms. Figure 11 does so in relation to the size of the network media economy while Figure 12 illustrates the point in relation to annual gross domestic income.

Figure 11: Advertising Spending as a Percentage of the Entire Network Media Economy, 2004-2017



Source: see the "Ad$ All Media" sheet in the Excel Workbook.

Figure 12: Advertising Spending as a Percentage of Canadian Gross Domestic Income, 2004-2017



Source: see the "Ad$ All Media" sheet in the Excel Workbook.

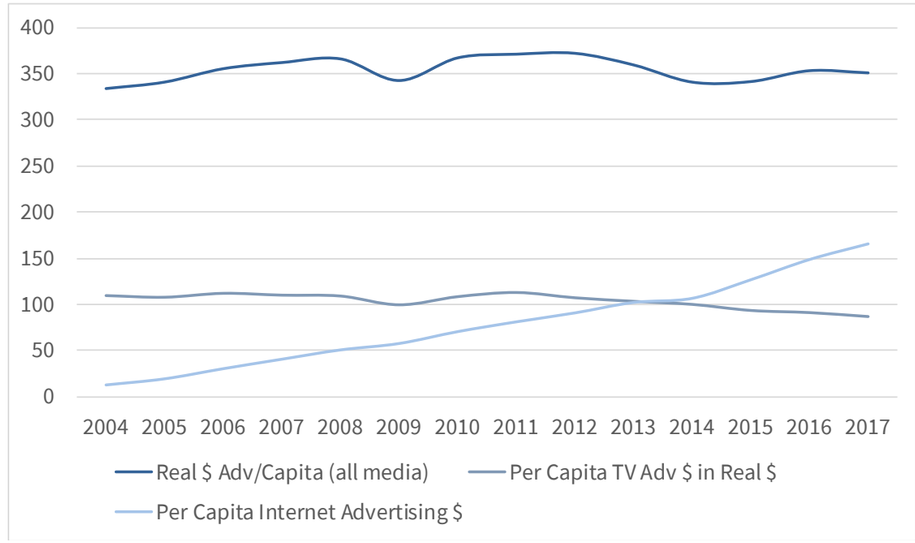
Given that such realities have largely been overlooked in the existing research it is useful to sketch out a few more dimensions that help to add colour and detail to the overall picture. To do so, we can consider another telling measure, i.e. advertising revenue on a per capita basis and in real dollar terms.

On this basis, advertising spending across all media stalled between 2008 and 2012 at roughly $365 to $371 per person but fell thereafter. Last year, it was $350.49. For TV alone, advertising revenue hovered around $110 per Canadian for the first eleven years of the 21st Century. Since then, however, it has fallen fast to about $86 per capita last year. Internet advertising, in contrast, has steadily risen greatly from $51 per person in 2008 to more than triple that amount last year, i.e. $165.39. It bears repeating, however, that this spectacular rise in internet advertising has not offset the overall decline on either a per capita basis or in total. Figure 13 depicts these points.

The trends depicted in Figures 10 through 13 illustrate the relationship between advertising revenue, on the one hand, and the economy and fate of different media, on the other (see, for example, Picard, Garnham, Miege and Vogel). These figures all point to one thing: based on total ad spending across all media, relative to the size of the media economy and gross domestic income, and on a per capita basis, advertising revenue is, at best, stagnating or, worse, shrinking.

This has major implications for professional journalism, local news and original media production given the historic role of advertising in subsidizing the commercial content media throughout the 20th Century. That role is now waning. It also needs to be stressed that while Google, Facebook and the internet play a role in such trends, it is unlikely that their impact alone explains the woes now afflicting advertising dependent media. ■

Figure 13: The Shrinking Advertising Economy, II-Ad Spending Per Capita, 2004-2017 (Real $, millions)



Source: see the "Ad$ All Media" sheet in the Excel Workbook.

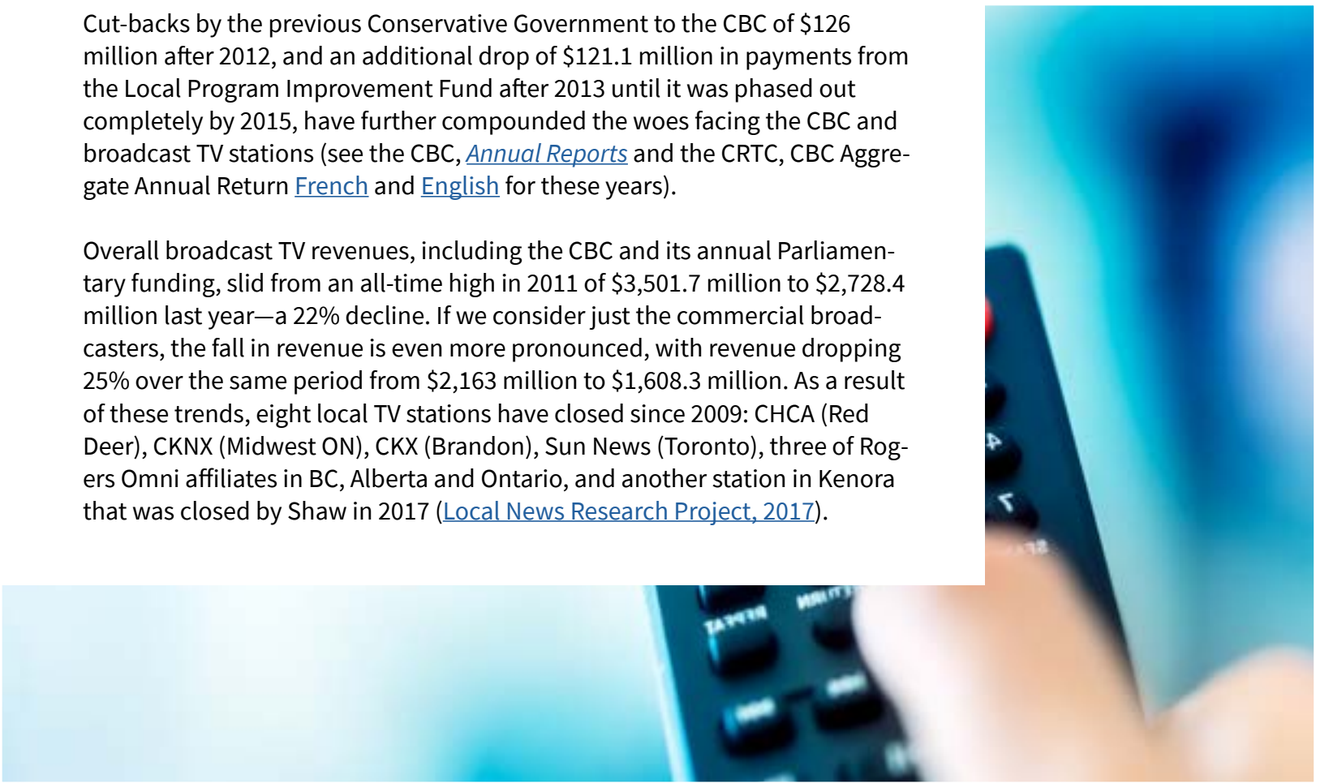
The Rumoured Death of Television is Much Exaggerated

Broadcast TV

Advertising for broadcast television grew more or less steadily until reaching a high point of $2.4 billion in 2008. It has declined ever since. By last year, broadcast TV advertising had fallen to $1.8 million—a drop of twenty-five percent. The shift of advertising revenue to specialty cable and satellite channels such as TSN, RSN, Discovery, the Cartoon Network, etc. helped to recover some of the slack but overall advertising across the total TV landscape has declined from a high of $3.6 billion in 2011 to $3.1 billion last year.

Cut-backs by the previous Conservative Government to the CBC of $126 million after 2012, and an additional drop of $121.1 million in payments from the Local Program Improvement Fund after 2013 until it was phased out completely by 2015, have further compounded the woes facing the CBC and broadcast TV stations (see the CBC, *Annual Reports* and the CRTC, CBC Aggregate Annual Return French and English for these years).

Overall broadcast TV revenues, including the CBC and its annual Parliamentary funding, slid from an all-time high in 2011 of $3,501.7 million to $2,728.4 million last year—a 22% decline. If we consider just the commercial broadcasters, the fall in revenue is even more pronounced, with revenue dropping 25% over the same period from $2,163 million to $1,608.3 million. As a result of these trends, eight local TV stations have closed since 2009: CHCA (Red Deer), CKNX (Midwest ON), CKX (Brandon), Sun News (Toronto), three of Rogers Omni affiliates in BC, Alberta and Ontario, and another station in Kenora that was closed by Shaw in 2017 (Local News Research Project, 2017).



Lay-offs and cut-backs are now a constant theme. Between 2012 and 2015, for example, local news staff was cut by an estimated 4%, according to Colette Brin's contribution to the Reuters Institute's Digital News Report (p. 80). In 2015 alone at least 1,200 full-time television and radio jobs were cut: 460 at Bell, 439 at Rogers, 244 at the CBC, and 129 at CHCH (see here, here, here and here). The following year, Rogers cut another 200 jobs at its television, radio and publishing divisions, while Corus (Shaw) cut another ten positions at Global News when it cancelled its investigative news program, 16X19. Bell made further cuts last year when it laid off twenty sports news journalists (Watson, 2017), while Shaw cut eighty positions but softened the blow by adding fifty, mostly local journalism jobs in Ontario (Brin, 2018).

A study prepared for the Friends of Canadian Broadcasting and Unifor by Peter Miller (2015) estimated that even more carnage was likely, with the potential that half the local TV stations in fifty-six small and mid-size cities across Canada, and an additional 900 jobs, could be lost by 2020 if major policy changes are not adopted (pp. 14-15). While this would decimate local broadcast journalism and programming, we are now well past the half way point in that dire scenario and thus far the report's predictions have not come to pass.

Conditions have been severe enough, however, to have spawned two reviews in 2016 of the state of local news and journalism in communities across Canada, one by the Canadian Heritage Parliamentary Committee and another by the CRTC. Both reviews added further insights into the situation but ultimately struggled to come up with workable solutions to the problems at hand. The Liberal Government also added $675 million to the CBC's funding envelope spread out over the next five years. The Liberal Government also added $675 million to the CBC's funding envelope spread out over the next five years. The step reversed the cuts undertaken by the last government but does not come close to countering the decline in advertising revenue at the CBC.

In sum, four points help to explain the stagnation and recent decline of broadcast TV:

- declining advertising revenue since 2011;
- budget cuts to the CBC;
- the phasing out of the Local Program Improvement Fund between 2012 and 2015;
- the big four commercial TV providers – Shaw, Bell, Rogers and Quebecor – shift of resources from their broadcast TV holdings to the much faster growing stable of pay, specialty and other subscriber-based TV services that they own (i.e. mobile, IPTV) (see the CRTC's 2017 *Communication Monitoring Report*, pp. 186-190 as well as Individual Financial Summaries for a list of the 107 pay and specialty services the big four combined owned as of 2017).

While the dire condition of broadcast TV in Canada is obvious, a crucial question remains as to why things are so poor relative to conditions in the US and some other countries? To put this another way, while broadcast TV is not thriving anywhere, the turmoil in Canada is especially severe. Why?

Take, for example, the US, where the number of US households that are broadcast-only (that is, households that do not subscribe to cable but receive television over-the-air) has inched upwards in recent years, from 10% to 11%, according to the FCC's two most recent reports on Competition in the Video Marketplace (and here). As these reports note, broadcast network affiliates and independent TV stations "total day share of viewing" increased from 30% in the 2012-2013 to 32% in 2013-2014 and then again to 33% in the 2015-2016 season. Prime time viewing for the same TV stations also rose from 33% to 36% over the same period. Broadcast TV revenue rose from $24.3 billion in 2013 to $27 billion in 2015 as well (see paras 116-119 in both reports).

Looking further afield, the UK communications regulator Ofcom observes in its 2017 *International Communications Market Report* that the average amount of time that people spend watching broadcast television has slid but gently. Perhaps of more interest, though, is the following observation:

> . . . In all the countries we surveyed, the most popular way of watching video was 'TV programmes or films at the time of broadcast on free-to-access channels'. More people said they watched free-to-air broadcasts than broadcasts on pay-TV, even in the US, where the large majority of households take a pay-TV service (p. 89).

Ofcom's recent reports also note that government funding for public service media has remained fairly stable for most of the last decade (Ofcom, 2015, pp. 125-138; Ofcom, 2017, p. 89). One particularly striking observation in Ofcom's reports is the extent to which television advertising continued to grow over the 2011 to 2016 period in eight-out-of-the-twelve countries that it surveyed (i.e. the U.S, China, Germany, Japan, the UK, Brazil, India, and Korea) while remaining basically flat in three others (i.e. France, Australia and Spain. Television advertising revenue has only collapsed on a comparable scale to Canada in one other country: Italy Ofcom, 2017, p. 98).

Why is this? Miller explains that the markedly better conditions in the US are a function of policies adopted there that are more supportive of local broadcasting (pp. 4-5). There is no doubt some truth in this because localism has been a bedrock principle in US communications policy for much of the past century. However, that is far from a sufficient explanation.

For one, it ignores events in the UK and other countries. Second, and crucially, it ignores the extent to which the crisis in Canada is a function of the structure of an industry where all the main commercial television services are owned by telephone companies. The deterioration of broadcast TV in this country mostly reflects an era of unprecedented consolidation. But even this is not a sufficient explanation because the TV market in most countries tends to be quite concentrated (Noam, 2016, pp. 1070-1077). Instead, Canada differs fundamentally from its international peers in terms of its extraordinarily high levels of diagonal and vertical integration across the network media economy (for a fuller elaboration of this claim, see CMCRP, 2016).

While we must be cautious about identifying any one cause for the dramatically different situations in Canada versus the US (and elsewhere), one key difference stands out: broadcast TV providers in the US (and elsewhere) are not nearly as integrated into the telecoms-internet sectors and specialty and pay TV services as they are in Canada. Other than Comcast's ownership of NBC Universal, for example, none of the main broadcast TV ownership groups in the US have been owned by telecoms companies or BDUs (although this changed in 2018, with AT&T's take-over of Time Warner). Indeed, broadcast TV ownership groups in the US are sizeable entities in their own right: CBS, Sinclair, TEGNA Inc., Comcast, E.W. Scripps, Gray, Nexstar, Univision, Walt Disney, Fox, and Media General. Other than Disney (the ABC network) and Fox, broadcast TV ownership groups do not also own a fleet of specialty and pay TV services – again, unlike Canada—where all of the biggest commercial broadcast TV as well as pay and specialty TV services are owned by one and the same players, e.g. Bell, Shaw (Corus), Rogers and Quebecor (see FCC, 2016, para 84).

In contrast to the situation in Canada, the separate broadcast TV and pay TV ownership groups compete head-on with one another rather than functioning as arms of the telecoms giants which operate with one eye fixed on their rivals and the other on ensuring that whatever competitive strategies they adopt do not side-swipe other aspects of their vertically- and diagonally-integrated telecoms-internet and TV operators, as is the case in Canada. Conditions similar to those in the US also hold true in Europe.

These observations mean three things of critical importance. First, stand-alone broadcast TV services in the US compete vigorously with specialty and pay TV services as well as OTT rivals like Netflix, Hulu and Amazon Prime. As the FCC observes, "they have increased the amount of online offerings of their ad-supported prime-time programming on their owned-and-operated sites between 2014 and 2015" (see FCC, 2016, para 134). In fact, the catalogue of episodes they offered online "increased between 10.6 percent to 119.3 percent between the end of 2014 to the end of 2015" (see FCC, 2016, para 135). Notably, however, NBC (owned by Comcast) still limits access to its online library of programming only to people with a BDU subscription—much like its similarly structured counterparts in Canada.

Not surprisingly, US broadcast TV stations are also obtaining more revenue from internet advertising, which grew from 5% of their total revenue in 2012 to 7% in 2015 (FCC, 2017, para 119). The figure in Canada lags considerably, rising from 3.2% in 2012 to 5% in 2016—for all TV services (TVB, 2017).

Second, US, UK and European broadcasters and pay TV providers have been quicker to unbundle specialty and premium pay TV services from an underlying cable subscription to make them available over-the-top (OTT). Examples include Time Warner's HBO (although this, too, is now being clawed back after Time Warner's integration into AT&T), Disney's ESPN, several services owned by CBS and Viacom, and some of the major sports leagues like the NFL and MLB. By not being vertically-integrated, and as "content media" providers only, these operators aim to get their content before as many people across as many platforms as possible with less concern that offering their services over the internet and mobile wireless connections might cannibalize the subscriber and revenue base of an affiliated BDU—at least not to the same degree, since BDUs are still their main source of revenue.

The contrast with Canada is striking, and it is this reality that underpinned the CRTC's recent TalkTV rulings. Looking ahead slightly, this point is driven home by the case of HBO. In the US, it has been offered as an OTT service for several years, but in Canada, where Bell owns the distribution rights, it was only in 2018 that Bell began to make it available on a stand-alone basis. In that interim period, however, smaller BDUs such as MTS complained bitterly about not being able to get equitable dis-

tribution rights to premium pay TV rights such as HBO, and Canadians, consequently, were denied the choice of being able to subscribe to HBO Go.

Third, not only are all the major commercial television services owned by telecoms companies but there are no stand-alone mobile wireless operators left in Canada after Shaw acquired Wind in 2016, which is important because without a stand-alone, competitive mobile phone operator, prices for mobile phone service tend to be higher and data caps lower, and the cost of exceeding them steeper. The upshot is that low data caps and expensive overage charges deter the use of new media to consume all forms of audiovisual content, including broadcast TV (see Rewheel, 2016; Rewheel, 2018).

Consider the US, UK and EU, where there are major stand-alone mobile wireless operators such as T-Mobile, Vodafone, Hutchison and Free, for example. They are all fierce rivals to the integrated wireline/wireless operators. The Finnish consultancy Rewheel documents how stand-alone mobile or mobile-centric network operators that compete with groups that have both mobile wireless and wireline platforms offer more affordable data plans as well as data caps on 4G LTE services—i.e. those that are well-equipped to handle watching TV on wireless devices—that are between two and eight times higher than those of diagonally-integrated groups (see Rewheel, 2016; Rewheel, 2018).

None of these points are discussed by the various reports prepared by Miller on behalf of the "cultural industries communities" (e.g. ACTRA, CMPA, Unifor, Friends of Canadian Broadcasting, etc.) or by the implacable foes of the CRTC and other policy makers at the Competition Bureau and the Department of Canadian Heritage. That none of the recent reports from these groups or the C.D. Howe Institute, the Fraser Institute, the Montreal Economic Institute or the MacDonald Laurier Institute address these structural realities while chastising policy and regulation as the source of the content media industries' woes is a major concern. They reflect the extent to which questions about media ownership and the structure of media markets are "off-limits" in the mainstream discourse. Instead, such efforts strive to change government policies in favour of industry interests, rather than dealing with the structure of the network media industries and the biggest players in them.

Pay and Specialty (Subscription) TV

For all the woes affecting broadcast TV, the overall TV universe is doing well, although it is not without issues that need to be addressed. Looking beyond the Cassandra calls of industry-friendly policy rhetoric one soon discovers new centres of development while established operators are forced to adapt to changes in both technology and how audiences use television. The real growth in television has been in subscriber fees and the pay-per and OTT streaming models of TV, as is the case in many countries around the world.

The UK regulator, Ofcom, underscores the point: "Subscription revenues [worldwide] continue to be the key driver of this growth, rising by 5.4% to reach £125bn, just over half of total revenue", and a cumulative annual growth rate of 5.3% over the last five years (Ofcom, 2015, pp. 139-141). As Ofcom's (2017) most recent report observes, "Pay TV remains the largest source of TV revenue across comparators" (p. 97). The same applies to Canada.

Once we widen the lens to look at the fastest growing areas of television, it is clear the chorus of voices declaring the supposed "death of television" are wide of their mark: specialty and pay TV services, OTT services, mobile TV, IPTV, and television distribution have done especially well. Pay and specialty TV services have been fast growing segments since the mid-1990s, and especially so during the past decade, although that pace has stalled in the past three to four years.

Specialty and pay TV revenues eclipsed those of broadcast TV in 2010, when revenues reached $3,474.6 million. By 2017, revenue for this segment

of the TV universe was $4,365 million—a slight drop from the previous year when revenue was $4,415.6 million. The new engine of growth, however, is shifting to OTT services.

Mapping the Total Television Universe

In order to complete the picture of the "Total TV Universe" we need to add over-the-top (OTT) streaming services. Doing so, however, is difficult given the dearth of reliable publicly available information, from either Netflix, the biggest OTT provider in Canada, Bell's Crave or relatively new additions to the field such as Amazon Prime or SN Sports (Rogers and Shaw's jointly-owned shomi was closed in November 2016). However, we can arrive at reasonable subscriber and revenue estimates for Netflix's operations in Canada based on its annual reports and a large-scale survey by Statistics Canada released earlier this year.

The CRTC has not yet released the full Communication Monitoring Report so we do not know what its 2017 estimates are for internet-based services TV services. Last year's version of the report, however, offered valuable new insights into internet streaming video services like Netflix, Crave and illico, etc. as well as transactional video on demand services, notably the purchase of TV programs and films through Apple's iTunes (see pp. 146-148). As valuable as those insights were, however, we felt that its estimate that Netflix had Canadian revenue of $766 million in a streaming TV market worth $1081.2 million in 2016 to be implausible for two reasons. First, the CRTC relied on year end subscriber estimates that did not take into account year-over-year growth. Second, US dollars were converted into Canadian dollars despite the fact that Netflix itself does not adjust its pricing plans to reflect the exchange rate (CRTC, CMR 2017, p. 146). The standard package, for example, is the same dollar amount in both the US and Canada. The effect was to inflate subscriber numbers by a couple of hundred thousand and pricing for Netflix by a third.

Our estimate at the time was on the low side, but we have raised it since in light of the Statistics Canada survey of streaming television adoption in Canada mentioned a moment ago. According to that survey, 45% of Canadian households—or 6.3 million homes—subscribed to Netflix at the end of 2016. Using that as a base, and Netflix's own estimate that its subscriber base grew by 10% over the year, we estimate that there were ~6.9 million households in Canada—or 49%--that subscribed to Netflix at the end of 2017. After taking yearly growth into account, we estimate that Netflix had an average of 6.6 million subscribers and revenues of $820.6 million last year.[7] Adding in the revenue for Quebecor's illico ($39.7 million) in 2017, and the estimated revenue for Bell's Crave ($110.4 million), and total Canadian revenue for OTT services in 2017 was ~$970.7 million.

7 See Netflix, 2017 Annual Report, p. 20 on yearly growth in North American subscribers. For further notes on the method used to arrive at this estimate, see the Netflix entry for 2017 in the "Top 20 w/ Telecoms" worksheet in the Excel Workbook. The gap between the figure reported here and by the CRTC would not likely be accounted for, either, by including Amazon Prime or SportsNet revenue, especially because the former did not launch service in Canada until the end of 2016.

This amount is still over $100 million less than the CRTC's estimate last year—a figure that we do not feel is plausible for the reasons just indicated. But more than just being concerned about the veracity of the number, we are concerned that the larger figure might be being used as a kind of "threat inflation" that plays into the hands of those who claim that the scale of foreign OTT operations in Canada pose a mortal threat to Canadian broadcasters and Cancon. Equally troubling is that the Commission seems more disposed to accepting just such claims under its new chair, given his own calls for an ISP-levy to fund Cancon and the tone set in this spring's *Harnessing Change: the Future of Programming Distribution in Canada*.

One way or another, and based on the data that we do have, it is clear that far from being close to the "death of TV", television is thriving even if some of its elements (i.e. broadcast TV) are in deep trouble. However, once we add broadcast TV to the specialty and pay TV services and OTT services, an unmistakable picture emerges: total TV revenue grew four-and-a-half fold from $1,804.3 million in 1984 to $8,064 million last year.

The picture is even more vivid if, for the sake of argument, we take the assumptions that informed the Commission's Communications Monitoring Report last year as the basis for building some estimates of where things stood in 2017. Unfortunately, such a step is necessary given that the CRTC's flagship annual report is still not available and long overdue, despite the fact that legislative reviews of the all the major acts in this domain are in full-swing and a full public record of good evidence perhaps more important than ever. That aside, however, taking last year's assumptions as a basis for estimating where things might stand this year, at least in the Commission's eyes, and assuming a fifteen percent growth rate over the year, would add another $275 million in internet streaming television revenue on top of our estimate of $970 million referred to just above, plus $453 million for TVOD services such as Apple's iTunes, Google Play, CinemaNow, etc. and $552 million for AVOD services such as Youtube. Table 6 below summarizes the results of these estimates.

Table 6: Estimated Revenues for Internet-based Video Service in Canada, 2017

	2016	2017	Est. Growth (%) 2016-2017
Subscription VOD (e.g. Netflix)	1082	1245	15
Transaction VOD (iTunes)	394	453	15
Ad-based VOD (Youtube)	480	552	15
Total	1956	2250	15

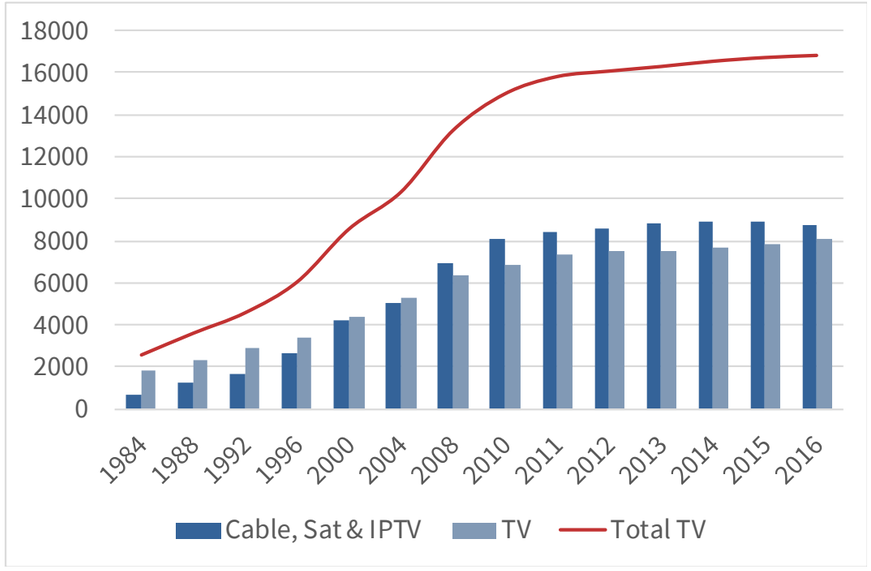
Source: Estimate based on CRTC, CMR 2017, pp. 146-147.

Netflix's share of all TV revenue has grown from zero seven years ago to more than 10.2% last year, making it the fifth largest television operator in the country—just behind Rogers and ahead of Quebecor. In sum, the advent of Netflix has added to the size and diversity of the TV market, and kept revenue on an upward trend (more on this in the next report in this series).

The fact that TV services based on subscriber fees rather than advertising continue to grow briskly even in the face of economic headwinds reveals a crucial point: the TV business has shifted to the direct pay-per model. Subscriber fees, as noted at the outset of this report, are now the centre of the media universe, not advertising. The pay-per model is more resilient to economic shocks compared to the hyper-twitchy nature of advertising revenue. However, this shift raises pressing questions in terms of affordability and inequalities of access after nearly a century of policies that have tried to foster universal and affordable broadcasting services.

If we add cable, satellite and IPTV distribution to this portrait the trend is even more undeniable. Indeed, sum up all the elements of "Total TV" and TV distribution sectors and the TV marketplace accounted for nearly $16.8 billion in revenue in 2016 (i.e broadcast TV, pay and specialty TV, streaming TV services and BDUs). To put it another way, in 1984, all segments of the TV industry combined accounted for 13% of revenue across the media economy. That figure is now 21%--a slight dip over the last decade but still a clear indication that television continues to be a central part of the internet- and mobile-centric media universe. Figure 14 illustrates the trends.

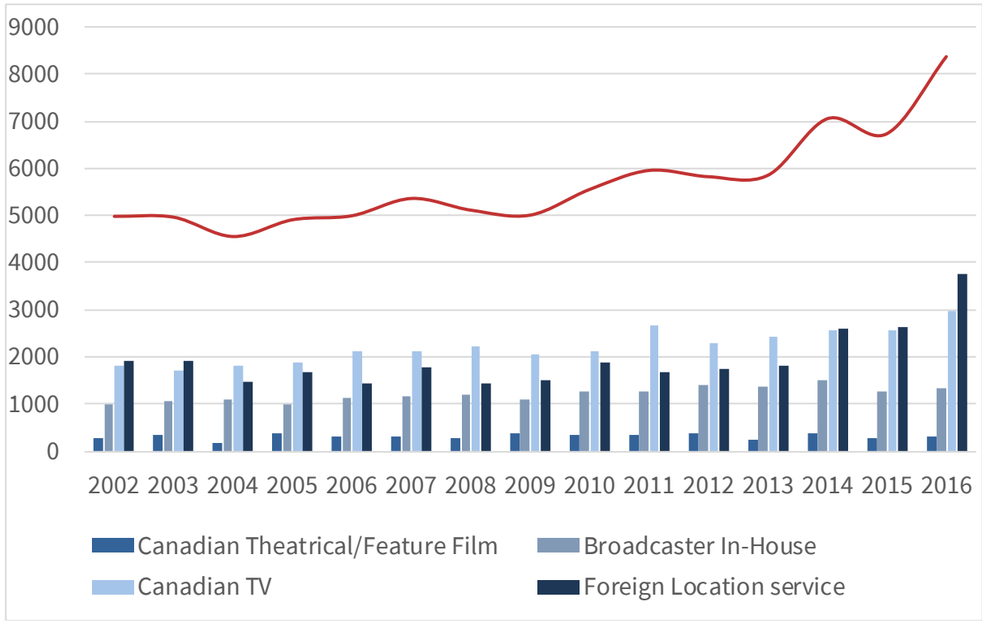
Figure 14: Television at the Centre of the Network Media Economy Universe, 1984-2017 (current $, millions)



Sources: see the "Total TV" and "CableSatIPTV" sheets in the Excel Workbook

There is yet another indicator that, far from being in crisis, television in Canada is vibrant and undergoing a phase of substantial growth: investment in television and film production. Spending by Canadian TV and film producers has increased but the vast majority of the growth has been due to a spike in foreign location production in Canada. This has been magnified as streaming TV services such as Netflix, Amazon and Hulu ramp up their investment in original productions. Policy in Canada has been to attract as much of foreign investment as possible into the production of film and TV for both international and domestic distribution. It should continue to do so.

Figure 15: Total Film and TV Production in Canada, 2000-2016 (Millions, $)



Sources: CMPA/Heritage Canada (2018). Economic Profile, Exhibit 1-2 Total volume of film and TV production in Canada; CMPA (2010). Economic Profile, Exhibit 1-1 Total volume of film and TV production in Canada. See the "Film & TV Production" sheet in the Excel Workbook

The upshot of such observations is that, far from being in crisis, television and film production in Canada is thriving. Before we heed calls for an ISP levy or other steps to "harness" the future to a very particular Canadian conception of television, it is useful to reflect on the above observations to ask just what the problem is that these measures aim to solve?

Of course, all of the evidence does not point in one direction. For example, the time the people spend watching television 'the old-fashioned way" has fallen by about one hour per week over the last five years. That decline, however, has been more than offset by a rise in TV viewing over the internet and mobile wireless connections (CRTC, 2017, p. 157).

A recent Canadian Media Usage Study paints a similar picture, with time spent watching television weekly in Canada growing in the past decade-and-a-half once streaming services are included. As it says, "all [o]ffline media have experienced declines in their ability to generate weekly reach over the last 14 years. The TV medium is the exception" (p. 4). Another recent version of that report also observes that TV viewing has grown by nearly 200 minutes per week during the last decade-and-a-half, with almost all of that gain being attributable to the growth of streaming television services.

In a 2012 article, Why the Internet Won't Kill TV, Sanford C. Bernstein & Co. senior analyst Todd Juenger helped shed light on the point regarding increased TV viewing across media platforms and devices. As he observed, "so far teens are following historical patterns, and in fact, their usage of traditional TV is increasing". Their use of computers, smart phones and tablets adds to, rather than takes away from, how much they watch television. As Marshall McLuhan once put it, old media are not wiped out by the new but rather become the content of new media.

Data from Cisco and Sandvine also suggest that television and online video are driving the evolution of the internet, with more than half of all down-stream internet traffic now accounted for by Netflix and Youtube. For the past few years, Netflix alone has accounted for at least a third of all internet traffic in North America (p. 4). Internet traffic also ebbs and wanes over the course of a day in ways that match traditional television viewing patterns. Elsewhere, I have called this the rise of the prime time internet.

The proliferation of devices is contributing a reconfiguration or rearrangement of the time and space/place that television occupies in people's lives. That Netflix is engineered to be watched on 800 devices highlights the point. To be sure, watching television the "old fashioned way" is on the way out, but this is largely being offset by changes in how people watch television. In this regard, watching television over the internet and via mobile devices has resulted in television viewing time remaining relatively constant over time.

Of course, this does not mean that that life is easy in the television business. Indeed, all its constituent elements must come to terms with an environment that is becoming structurally more differentiated because of new media, notably IPTV and over-the-top (OTT) services such as Netflix, and because of major changes in how people use the multiplying media at their disposal.

Incumbent television providers have leaned heavily on the CRTC and Parliament to change the rules to bring OTT services into the *broadcasting* regulatory fold, or weaken the rules governing their own services, on the grounds such services threaten the economics and cultural policy objectives of the Canadian television system. Others are pushing hard for a levy on internet access and wireless services in support of Canadian content, and to selectively lift data caps for Canadian content while applying them to "foreign" TV services and everything else that people do with the internet and mobile phones. While strange bedfellows in the best of cases, the incumbent, vertically-integrated telecoms and TV service providers and reinvigorated cultural nationalists are rallying

around the idea that keeping the BDU-centric TV model for as long as possible is a wise thing to do (see Bell's submission, notably pp. 22-24 and the Miller Report (2015b) commissioned by the ACTRA, CMPA, Writers Guild of Canada, the Directors Guild of Canada, the Friends of Canadian Broadcasting and Unifor).

In sum, instead of cannibalizing the revenue of the television industry, developments in OTT streaming services and new modes of consumption using the internet, IPTV and mobile wireless services have added to the size of the pie. Watching TV online has become a core activity in the internet- and wireless-centric media universe. In fact, such activities are driving the uptake and use of mobile wireless and internet services. Not surprisingly, therefore, Rogers, Telus, Shaw, Bell and Videotron all use television to drive the uptake of 4G wireless services and broadband internet access. To paraphrase Mark Twain, rumours of television's demise are greatly exaggerated.

Internet Advertising

In nominal terms, advertising spending in Canada has stalled for most of the past decade. Switch the measure to real dollar terms, and it has actually declined over the last half-decade. More significantly, on a per capita basis, it fell from an all-time high of $371 to $351 over the same period (in real dollar terms) (see "Ad$ All Media" sheet in the Excel Workbook).

Amidst the declining role of advertising revenue in the media economy, the growth that has occurred in internet advertising looks all the more stunning—and to some, menacing. Estimated internet advertising revenue in 2017 reached $6.2 billion—up from $5.5 billion a year before that and just $1.6 billion in 2008. Internet advertising continues to grow briskly despite the economic doldrums that have prevailed since the onset of the financial crisis nearly a decade ago, and perhaps even because of them.

It has also become markedly more concentrated. With estimated revenue of $3,1813 million and $1,443 million in Canada, respectively, Google (51.3%) and Facebook (23.3%) accounted for nearly three-quarters (74.6%) of the online advertising market in 2017—up from a little over two-thirds a year before. In fact, all the gains, and then some, went to Google and Facebook. When it comes to internet advertising, the two digital behemoths are in a league of their own. By 2016, the share of the "big ten" reached 86% (see "Internet Advertising Market share, 2014-2017" on the "Internet Ad$ + Other" sheet in the Excel Workbook).[8]

Google is now the sixth largest media company operating in Canada, after Bell, Rogers, Telus, Shaw and Quebecor; Facebook ranked eighth, behind the CBC but bigger than Cogeco, Sasktel, Netflix, Postmedia, Torstar, Eastlink, the Globe and Mail, Power Corporation and Groupe Capitales Médias. Altogether, Google and Facebook account for 35% of the $13.1 billion spent on advertising across all media in Canada (see "Internet Advertising Market share, 2014-2017" and "Ad$ All Media" sheets in the Excel Workbook).

[8] The last time the Interactive Advertising Bureau broke out that number was in 2015, and at that time, the top ten firms accounted for 86% of internet advertising revenue (IAB, 2016, p. 9).

For its part, Facebook had an estimated 23 million users in Canada at the end of 2017. With each Canadian user worth $137.90 to the company per year, Facebook's Canadian revenue can be estimated as being $1,443 million in 2017, or ~24% of all internet advertising revenue (Facebook, *Annual Report* 2017, pp. 35-37). Its annual ARPU—the internet industry's measure for the value of the "audience commodity"—has soared in recent years. It is now nearly ten times what it was in 2012 when the company first went public (i.e. CDN$16).

Internet Advertising's Duopoly Problem: Google and Facebook

Google and Facebook have become major players in Canada in a very short period of time. They form a duopoly in internet advertising and the scale and scope of their influence is growing and consolidating.

Their move from the desktop internet to the mobile internet has expanded their influence considerably. Google has also expanded far afield from its iconic search engine to owning a huge system of overland and submarine fibre cables (it's one of the biggest internet traffic carriers in the world), data centres, mobile operating systems (Android), software and document storage, maps, urban development projects (Toronto); news delivery, artificial intelligence, autonomous vehicles, and other bits and pieces of the emerging internet-of-everything. Facebook has moved aggressively into messaging services (WhatsApp), additional social media sites (Instagram), marketing campaigns, political campaign management, virtual reality, news delivery and more as well.

The extent of Google and Facebook's domination of internet advertising and a growing range of activities has led to justifiable concerns about the extent of their power and influence. As they expand their dominions, they flirt with the outer edges of the law—or, "move fast and break things", as Taplin puts it. Their technocratic elitism and hubris grates, and is basically authoritarian and anti-democratic, he adds. Both companies set take-it-or-leave-it terms of service policies for all who would use their services. They strip mine personal and public (e.g. geomatics data) information. If their dominance of the internet advertising market wasn't a big enough problem, their growing clout across the economy has stirred the antimonopoly movement in the US back to life (Khan, Pasquale, Zuboff, Taplin). Could it migrate to Canada and elsewhere as well? There are signs in Europe that it already has.

The extent of Google and Facebook's domination of internet advertising and a growing range of activities has led to justifiable concerns about the extent of their power and influence.

That Google and Facebook should be regulated for monopoly power in their respective areas of operation, and sometimes stopped from entering certain new ones, is no longer a far-fetched idea but one that is now more influential than it has ever been. The European Commission's €2.3 billion (CDN$3.4 billion) fine levied against Google for its anti-competitive tactics in Europe is one step in this direction. Max Schrems' tenacious and successful Europe versus Facebook battle, and its impact on the General Data Protection Regulations adopted last year, is another such instance. The EC's declaration that Apple's sweet tax deal with Ireland is an unfair state subsidy, and ordering the company to return back taxes of €13 billion (CDN$19.3 billion), is another that seems both fair and in line with fostering open markets. I will return to this further in the next report when we consider further the evidence of consolidation across the larger advertising market rather than just the internet advertising market, as is being done here.

As worries mount about whether the internet giants pose a threat to democracy, there is much thought being given to new ways to bring the online behemoths under more effective regulatory control. Indeed, ideas that would have been unthinkable just two or three years ago now seem entirely sensible and well within the bounds of reason. Here I want to briefly sketch four such ideas.

1. **Draw analogies between online platforms and banks not broadcasters, publishers or media companies.** As mentioned at the outset of this report there is a strong tendency, especially amongst communication and media scholars to think about platforms as a new kind of digital media company. To be sure, there are some functional equivalencies between what they do and that label but there are also many crucial differences, especially the fact that they do not function mainly by commissioning original creative productions. They do not own the rights to a catalogue of content, at least not in a way that is core to their business. The primarily host and organize other people's content not their own. The essence of the editing that they do is that the work is automated and done by machine whereas publishing and program scheduling, in contrast, are fundamentally based on human editing from start to finish.

Given these fundamental differences it may be more useful to think of massive online platforms as being more like banks than media companies. Several ideas flow from this analogy. Regulated (i) **Algorithm Audits**: Just as banks must do regular and regulated certified audits, annual audits of Google and Facebook's algorithms could go a long way toward improving disclosure about their inner operations and make them more accountable to the publics they serve. In this scenario, just like banks and the financial reporting requirements for publicly-traded firms, a new Federal Algorithm Commission would oversee a certified annual audit of the companies' "blackboxes" (Bracha & Pasquale, 2008); (ii) Just as banks have **fiduciary obligations** to maintain their clients' privacy and limits on third party access to their information, so too could the principle of information fiduciary be applied to online platforms (Kerr, 2002; Balkin, 2016). The flipside of protecting for privacy is the existence of well-established procedures governing the monitoring of 'suspicious' transactions, for example, money laundering, and for disclosure of personal information in such contexts; (iii) Just as one of the main functions of banks is to **store and protect the value** of money/capital, in the era of big data and the data economy, online platforms might have the same roles in relation to data; finally, the history of banking is also the history of the modern interconnected capitalist world but unlike the pretenses to a borderless and global world that has attended the internet giants' self-conception of themselves, banks have relied on an 'international form', i.e. the multinational corporation with national subsidiaries subject to the laws of the host country. With "data sovereignty" back on the agenda in a pronounced way, the notion of Facebook Canada, or Google Germany may make a great deal of sense and shift things away from stale debates over the supposedly unregulable internet to a view where the democratic rule of law at both the national and supranational level is just what is needed to avoid the 21st Century version of "power without responsibility" that seems to have carried the day thus far.

2. **Election Rules Apply.** The same Elections Canada rules that apply to broadcasters and the press with respect to funding, disclosure, links to third parties, restrictions on foreign funds, use of voter information and so on during election campaigns, including all the locational and targeting data connected to such campaigns, should be applied to Facebook, Google and other digital platforms, as Owen, McKelvey and Dubois have proposed. These ideas are already being implemented by the companies themselves, notably in the form of Facebook's searchable archive of political advertisements distributed on the site during election periods. While this development is also being backed by different political actors in the US, Canada and elsewhere (e.g. the Honest Ads Act in the US), in *Custodians of the Internet*, Tarleton Gillespie and others wonder if the line between political and other kinds of advertisements can be so easily drawn and if it might not be better to erase the line between them altogether so as to disclose the money and identity of the funding source behind all advertisements?

3. **Advertising Whitelists.** The top 10 to 100 advertisers could be required to use regularly updated "whitelists" of URLs to determine where their ad dollars go instead of relinquishing control to Facebook and Google's algorithms. This would help break up the latters' power over the social flow of information and at least make the allocation of advertising money more pluralistic. This would be real progress against Google and Facebook's duopoly over such activities, even though it falls far short of being a democratic solution. Vodafone, one of the world's leading mobile wireless companies, for instance, has implemented just such a whitelist to block advertising on "fake news' and "hate speech" sites globally.

It is also essential for regulators to lean much more heavily on anti-trust and other principles of competition law as well (Khan, 2017; Vaidhyanathan, 2018; Wu, 2018). It still remains questionable, however, if even all these measures would do much more than pull away the curtain on a larger, systemic problem: the internet has been fundamentally rewired based on, as Ghosh and Scott (2018) put it, behavioural data tracking, online ad buying, search engine optimization as well as artificial intelligence in advertising, marketing and political campaigning. The combined effect of corporate consolidation on the internet and a rewiring of its fundamental DNA has resulted in a "new internet" devoid of much of its original promise—even if many of us still use it for many things, in-

cluding those with a great sense of purpose and many others a great deal of pleasure.

It is obvious that the extent of Google and Facebook's domination of internet advertising justifies a range of actions to curb their growing clout. However, there is also a sense that we may be being swept along by the force of events in ways, a moral panic of epic proportions—which are never good times to make "media regulation". There is a strong need to be careful and ensure that whatever remedies are adopted function not under the compulsion of moral duress but according to sound judgement, and not as a sledgehammer but a scalpel.

In this regard, there is much reason for concern. Extrapolating from Facebook and Google's undeniable dominance of internet advertising to blaming them for all the woes that supposedly ail the media is commonplace, and one of the tendencies that we should be wary of. Taplin exemplifies this stance in Move Fast and Break Things when he repeatedly asserts that as much as "$50 billion per year [in the US] has moved from the creators of content to the owners of monopoly platforms" (p. 7). He bases the figure on a tally of the losses to "recorded music" (down $12.6 billion per year), "home video" ($3.6 billion) and "newspaper advertising" ($42.2 billion) over the past decade or so.

These numbers are not wrong, but they are misleadingly partial. There's no sugar-coating the economic losses to daily newspapers but when it comes to the music industries, by cherry picking losses in "recorded music" he ignores gains that add up to an overall recovery in, and growth across, the music sectors. Taking these into account, the music industry has been regaining lost ground since 2011. At that time, music revenues were at all-time-contemporary low of $16.9 billion; last year, revenue in the US was $22 billion. While "home video" was losing, the whole TV landscape was being remade . . . and expanded. A decade ago, the TV market in the US—the largest one in the world by far—was worth $37 billion; last year it was worth $60 billion. Film exhibition revenue in the US is also up: rising from $12.6 billion to $17.3 billion (USD) over the same period (all figures based on US Census Bureau, 2017. Service Annual Survey Latest Data (NAICS-basis): 2016 and various years). While home video collapsed, just as Taplin laments, the reality is that the whole of the total TV landscape grew rapidly from $200 billion in 2008 to $309 billion a decade later. The same story can be told for video games, but Taplin does not mention any of this—and nor do those who follow in his footsteps.

Taplin not only misleadingly cherry-picks his numbers, he also misleadingly blames all of the ills he's revealed on the alleged villains of his piece: Google, Facebook and Amazon. This same style of analysis and rhetoric defines a report released early this year by the Public Policy Forum in Canada, The Shattered Mirror: News, Democracy and Trust in the Digital Age. I have addressed this report at length elsewhere, but a brief reprise will help highlight its main claims, and the problems with them. Others in the Public Policy Forum's series on how the platforms are destroying the universe also skirt close to the edge in this regard but without quite crossing it (Greenspon & Owen, 2018, *Democracy Divided*; Tenove, Tworek & Mckelvey, 2018, *Poisoning Democracy*).

The *Shattered Mirror* report's portrait of the state of journalism in Canada is grim indeed: advertising revenue has plunged; newspapers have been closed down, merged or pared back; local TV stations have been shuttered with more closures likely to come; 12,000 journalism jobs have vanished, it states; fake news is pouring in to fill the void; and the 20th Century's beneficial three-way relationship between advertisers, journalists and the public (with the latter getting its news "for free" because advertisers paid the bill), is on the brink of collapse. These arrangements literally supported the "free press", and democracy was the better for it, the report's authors lament, but all of this is now falling apart because "foreign giants are getting most of the advertising money the news outlets rely on to pay for quality journalism", they say (p. 78). That needs to change, they declare.

However, like Taplin, The Shattered Mirror report misleadingly takes the receding parts of the media economy—advertising supported broadcasting and newspapers, mostly—and lets them stand in for the media economy, tout court. Its focus on a few segments of the media that are in trouble ignores or downplays the successes of those that are not, such as internet news, pay and specialty TV as well as internet streaming services. It also ignores the fact that the the centre of gravity in the media economy is shifting away from advertising to the "pay-per", subscriber-based model. It seems oblivious to the possibility that advertising revenue is actually declining as we have seen: relative to the size of the media economy, in "real dollar" terms, on a per capita basis, and relative to gross domestic income. In so doing, the PPF lashes the sails of the free press to a sinking ship. It also puts a gloss on the advertising-based model of "the free press" without considering any of the well-known criticisms of it. Blaming Facebook and Google for much of the woes besetting some aspects of the media and journalism in Canada, the Public Policy Forum's authors were blind to many of the defining features of the contemporary media.

The advertising revenue that does remain is increasingly going to Facebook and Google. This is beyond dispute. That does not mean, however, that they are venal (although they might be). Instead, it reveals that they enjoy economies of scale that legacy media organizations simply cannot replicate, and which consequently leave them at a structural disadvantage in terms of competing with Facebook and Google (Hindman, 2018). The push from within the commercial world by companies like Bell and Shaw (Corus) is to allow them to engage in ever more behavioural and hyper-targeted advertising of their own. However, rather than ratcheting up the extent of the data that they can hoover up from their audiences and the environment around them perhaps a better idea would be to severe limit the extent to which personal information can be harvested and traded amongst third party data brokers and ad networks (Ghosh and Scott, 2018). Even if Facebook and Google's advantages were cut down to size by such measures, it is still unlikely that advertisers would rush back to broadcasters and newspapers.

The *Shattered Mirror* report also downplays the fact that general news services have long been subsidized by either wealthy patrons, governments and advertising. With the "advertising subsidy" for journalism now in free-fall, and the willingness of people to pay for news growing but still weak, how an approach focused on the getting "lost advertising money" back will stem the carnage is a bit of a mystery. Other evidence that does not fit the one-dimensional story of doom and gloom that the authors want to paint is ignored as well: notably, Statistics Canada data showing that the number of journalists in Canada has actually ticked upwards over time (also see below).

Lastly, the Public Policy Forum's call to treat Facebook and Google as publishers or broadcasters is worrisome, for reasons outlined earlier. It is also worrisome because both companies have been proven to be clumsy, too enamoured with technological solutions rather than more hands on human ones, and flat-footed when it comes to making sensitive judgements about content and context (Gillespie, 2018; Klonick, 2018). Facebook's ham-fisted approach to enforcing its "community standards" was on full display, for example, when it censored the Pulitzer Prize winning "napalm girl" photo of Kim Phuc running naked away from a village just after it was bombed by the US during the Vietnam War. It has also taken down or restricted access to images of the Statue of Neptune in Bologna; the *Little Mermaid Statue* in Copenhagen; Evelyne Axell's *Ice Cream*; Gustave Courbet's *Origin of the World* and Illma Gore's recent sketch of Donald Trump in the nude (see here if you must).

We should also be wary of the claims about "fake news" in The Shattered Mirror report and elsewhere that are leading the push to enroll Facebook, Google and others in efforts to stamp it out. Those calls may seem appealing now given the mounting evidence about the extent and role of "fake news stories" in the 2016 US presidential election and elections in the UK, France and others. However, caught up in a political maelstrom and a sense of moral panic, we must keep in mind that the effects of "fake news" are probably not as strong as many seem to think.

In a recent study, "Social Media and Fake News in the 2016 Election", Hunt Allcott and Matthew Gentzkow from New York University and Stanford University, respectively, find that even though Americans use social media a lot, only a small portion of them relied on social media as their "most important source of news" during the election. TV was the main source of political news, by far. Those who did get their news mainly from social media were exposed to fake news that favoured Trump over Clinton by a wide margin, but few could remember "the specifics of the stories and fewer still believed them", notes a Poynter Institute commentary of the study. Other scholars reach similar conclusions (Dutton). It is also likely that the increasingly partisan media, and Fox News specifically, in the US played a greater role in 'poisoning' the well of public discourse and, thus democracy, than Russia's disinformation campaigns and efforts to meddle in the American elections (Benkler, Faris & Roberts, 2018).

The evidence, to be sure, is neither clear-cut nor complete, but that, too, should be reason for pause. Indeed, it is still far too early to say anything conclusive on these matters, but just as with the question of the broader political and social effects of the internet giants so too is it necessary to rein in claims about their alleged impact on so-called legacy media.

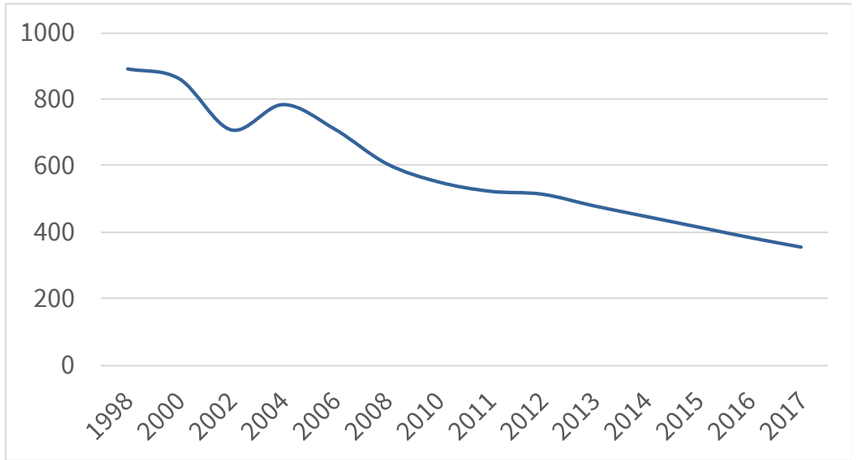
The Music Industry: From Ruin to Recovery

While many have held up the music industry as a poster child for the woes besetting "traditional media" at the hands of digital media, the music industry in Canada, which is not in crisis, stands as a sobering counterpoint. The picture to be sure, is mixed but seemingly improving. The analysis that follows is also instructive in relation to the kinds of claims that Taplin makes in Move Fast and Break Things and those that we find in The Shattered Mirror report, where the selective use of data for one specific aspect of a media sector is misleadingly held out to stands for the whole when it does not. Taplin's repeated references to the steep drop in revenue for "recorded music" is of this type. Why that is so misleading will become evident in the discussion of the music industries in Canada that follows immediately below.

Indeed, like Taplin, many observers have argued for more than a decade that the music industry is in crisis. Indeed, the notoriety of file-sharing and peer-to-peer (P2P) networks from Napster in the late-1990s, to Grokster, Pirate Bay and the closing of Limewire, reinforced the view of an industry under siege, and that this would only get worse as broadband internet became more widely used and search engine giants like Google built the businesses on top of linking to other people's media content without permission and proper payments. For a decade-and-a-half, the Recording Industry Association of America and the International Federation of Phonographic Industries (IFPI)—two international trade associations that represent the music industries—consistently argued that the industry's revenues were in decline and that the music business is the 'canary in the coalshaft' for things to come for the rest of the media.

And like Taplin, the evidence with respect to the deep and long-term plunge in "recorded music" revenue is clear cut and convincing, as Figure 16 below depicts.

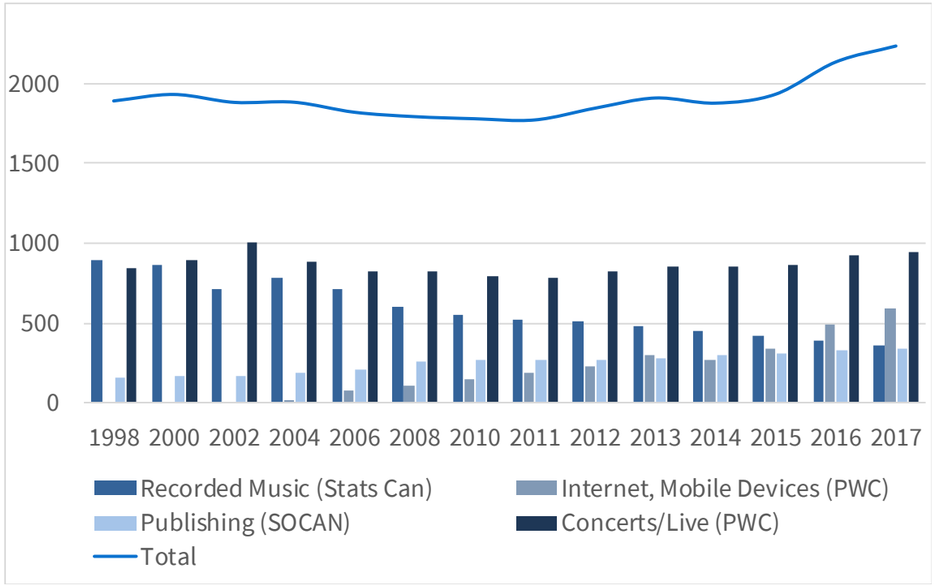
Figure 16: The Collapse of the Record Music Industry in Canada, 1998-2017 (current $, millions)



Source: Statistics Canada, Sound Recording and Music Publishing, Summary Statistics CANSIM TABLE 361-0005

This image of a beleaguered industry, however, is badly flawed. This is because it refers only to the "recorded music" segment of the industry and lets that stand for the whole. Figure 17 below, however, tells a very different story once the three other key segments of the music industry are brought into the picture: (1) concerts and live performances, (2) music downloaded or streamed on the internet and mobile devices, and (3) publishing (lending rights + more digital and network distribution platforms).

Figure 17: Total Music Industry Revenues in Canada, 1998—2017 (current $, millions)



Sources: Recorded Music from Statistics Canada, Sound Recording and Music Publishing, Summary Statistics CANSIM TABLE 361-0005; Sound Recording: data tables, October 2005, catalogue no. 87F0008XIE; Sound Recording and Music Publishing, Cat. 87F0008X; Publishing from Socan, Financial Report (various years); Concerts and Internet from PriceWaterhouseCooper, Global Media and Entertainment Outlook (various years); USD converted to CDN$ using Bank of Canada Year Average of Exchange Rates.

To be sure, this is not entirely a "good news" story. "Recorded music" has gone into seemingly terminal decline. The sum of all revenues from the main elements of the music industry – i.e. recorded music, digital sales, concerts and publishing royalties – indicates that the music industry revenues declined from $1,889.7 million in 1998 to $1,769.8 million in 2012 or so. Revenue began to rise thereafter, however, and has continued to crawl upwards gradually since to reach $2,237 million last year. At the very least, this evidence tempers claims about the crisis of the music industry. Such findings once again reveal the problem of selectively plucking figures about one aspect of media markets and using them to stand for the whole, as Taplin and the Public Policy Forum do.

Conditions in Canada mirror those in the music industry worldwide: an uptick in revenues in the past few years and a pathway to recovery clearly in sight. To be sure, certain

elements within the music industry—recorded music—have suffered badly, but publishing has grown greatly. It is also clear that digital/online/mobile revenues have exploded while concerts remain a crucial cornerstone of the industry. Recognizing that the music industry had clearly turned a corner, Socan, the trade association that represents music composers, writers and publishers in Canada, has boasted of "a banner year" and "record revenue" for the last three years in a row (Socan, 2015, pp. 1 & 8). In 2016, it had "record revenue" of $330 million, with the amount money distributed to music creators and publishers up nearly five percent, international royalties up by nearly a third over the previous three years and internet-related revenue more than doubling in that year (Socan, 2016 Annual Report, p. 5). 2017 was the year of "financial greatest hits", the organization once again gloated (Socan, 2018, p. 2).

Similar accounts can be seen at the international level, too. Thus, as the IFPI stated in its 2013 *Digital Music Report*, "the music industry achieved its best year-on-year performance since 1998" (p. 5). In 2014, the same publication observed, "Recorded music revenues in most major markets have returned to growth" (p. 5). The IFPI struck a more measured note last year but was still upbeat, the upshot of which is that the lingering sense of an industry is in crisis is slipping into the past:

> . . . After two decades of almost uninterrupted decline, 2015 witnessed key milestones for recorded music: measurable revenue growth globally; consumption of music exploding everywhere; and digital revenues overtaking income from physical formats for the first time. These are positive metrics of accomplishment. They reflect an industry that has adapted to the digital age and emerged stronger and smarter (IFPI, 2016, p. 5).

A common thread in each of these sources is that, because the music industries embraced digital/internet sources of revenue earlier than other media, their fortunes have turned around more quickly. Already by 2012, the industry was obtaining about 15% of its revenues from online, mobile and digital sources compared to the single digit figures for newspapers and television that still prevail today. In other words, after having suffered the blows from the onslaught of the internet and piracy early in the game, the music industry was out in front of others in embracing the realities of an ever-increasing internet- and mobile-centric media world. These lessons may hold for other media as well.

The upshot is that after having gone through wrenching changes, the music industry has been recomposed along new lines. To illustrate the points further, Figure 18, 19 and 20 depicts the transformation of the sector away from one centred on recorded music to one where concerts, the internet and mobile devices, and publishing play pivotal and growing roles.

Figure 18: Composition of Total Music Revenues, 2000

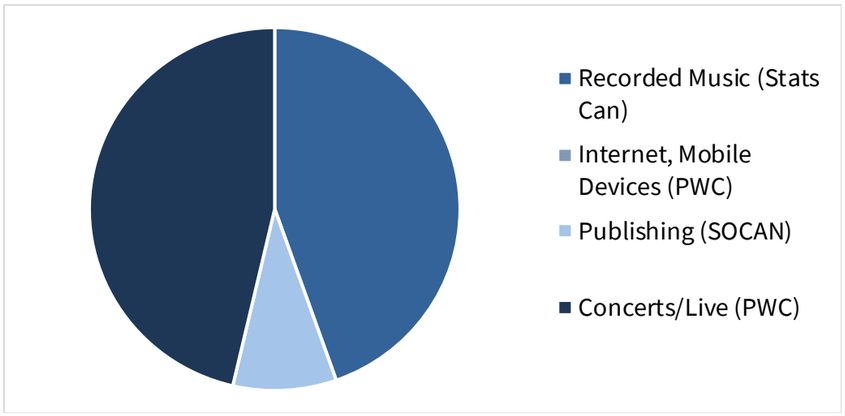


Figure 19: Composition of Total Music Revenues, 2008

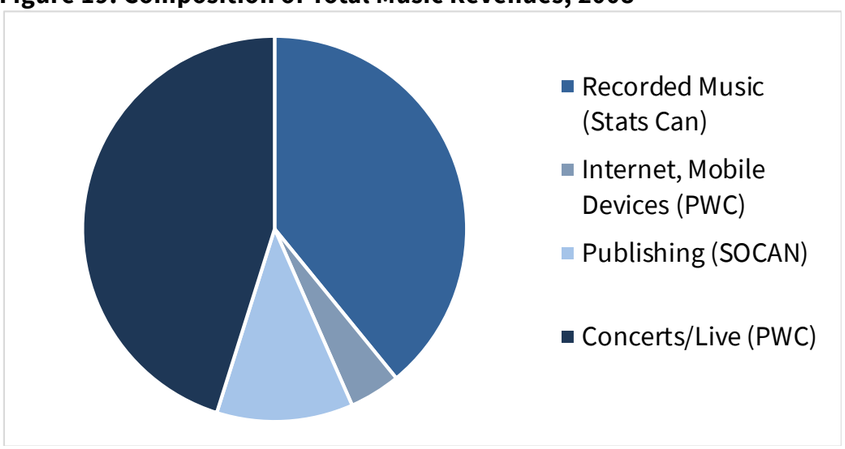
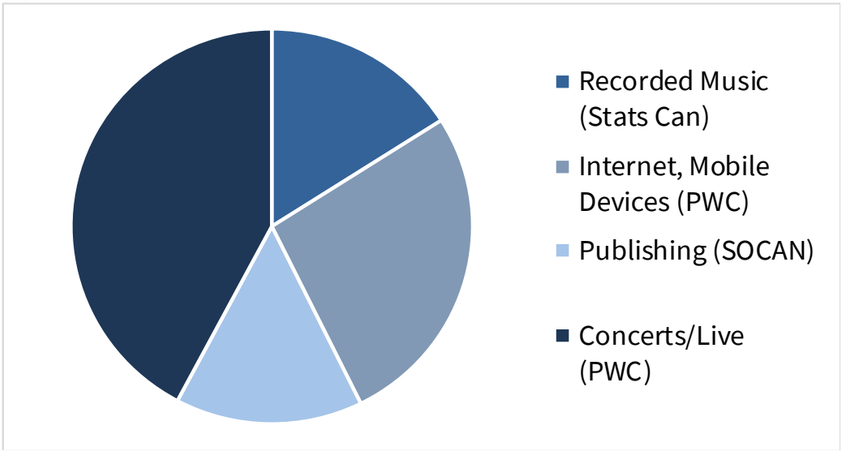


Figure 20: Composition of Total Music Revenues, 2017



Sources: Recorded Music from Statistics Canada, Sound Recording and Music Publishing, Summary Statistics CANSIM TABLE 361-0005; Sound Recording: data tables, October 2005, catalogue no. 87F0008XIE; Sound Recording and Music Publishing, Cat. 87F0008X; Publishing from Socan, Financial Report (various years); Concerts and Internet from PriceWaterhouseCooper, Global Media and Entertainment Outlook (various years); USD converted to CDN$ using Bank of Canada Year Average of Exchange Rates.

Radio

Radio stands in a similar position to the music industries a few years ago. Revenues appear to have peaked in 2011, at $2,016 million (including the CBC's parliamentary appropriation). They have fallen slowly but steadily since, reaching $1,1832.1 million last year (current dollars). Change the measuring stick from nominal to real dollars, and the decline is even more pronounced. Indeed, revenue declining from $2,137.3 million at the sector's high point in 2010 to $1,738.6 million a year ago – a drop of ~19% (see the "Radio" sheet in the Excel Workbook).

Magazines

Magazines are another instance where there has been a steep drop in revenue after peaking in 2008. In that year, magazine revenue was $2,394.4 million. By 2012, it had fallen to $1,922.2 million. Fast forward to 2017, and revenue had plunged to $1,320.8 million—a drop of nearly 45% from the peak. This is a clear instance of a medium that basically pioneered commercial advertising and depended extensively on it ever since that is now in a state of economic free-fall (see the "Magazine" sheet in the Excel Workbook).

Newspapers

Perhaps the most dramatic tale of doom and gloom in the network media economy comes from the experience of newspapers, although it is not that there are no bright spots on the horizon. However, the more conspicuous reality is that circulation and revenue are in long-term decline, the nature of the industry and of journalism as a profession are in turmoil, and understanding what is going is made difficult by the fact that much of

the data that researchers have been able to access and use in the past (e.g the daily circulation numbers and ownership groups) are drying up and the that which does remain a real “mess”, as one industry insider who tallies up the data told me.

As ways of reading the newspaper change to include the internet, tablets and mobile devices, the notion of circulation has had to change, but so too have definitions of the “daily newspaper” been altered to fit the new reality in which many so-called dailies don’t actually publish every day of the week but just four or more. Even the simplest of questions, therefore, like, “What’s a daily newspaper?”, have no easy answer. In 2016, the newly renamed News Media Canada stopped publishing circulation figures altogether because its members could no longer agree on what should count toward them and what should not.

The extent of these conceptual and empirical difficulties makes it hard to keep a standard measure of newspaper revenues over time. Nonetheless, using a mixture of data from Newspaper Canada, Statistics Canada and corporate annual reports, we can get a reasonably good portrait of the industry over time and its main players.

Based on revenue, the evidence is clear: it peaked between 2006 and 2008 at around $4.8 billion but has plunged since. Last year, total revenue was just $2.6 billion, according to News Media Canada—a loss of nearly half of all revenue in under a decade. Table 7 below illustrates the trends.

In real dollar terms, the drop is steeper and longer in the making. From this angle, newspaper revenues peaked in 2000 ($5,299 million), drifted downward until 2010 ($4,783.7), and then fell off a cliff to reach $2,464.7 million last year – a drop of just over 50%. Digital/internet revenues have increased but not even close to enough to replace the revenues lost. As of last year, they made up 11.3% of all revenue albeit on a much smaller revenue base than in previous years. While digital/online revenue has increased considerably from $180 million a decade ago to $290 million last year this has not been anywhere close to replacing the substantial losses that have taken place.

The tough times can also be seen in the fact that since 2008. The number of daily newspapers has dropped from 139 to 88 over the same period (Blatchford, 2018). The punishing effects of these trends over the past several years are clear: [9]

- In November 2017, Torstar and Postmedia announced a major deal to swap forty-one newspapers, mostly community papers, the vast majority of which (i.e. 37) were immediately shut down and 290 employees set to be laid off. The companies’ paper swap also effectively divided the province of Ontario into two zones of mutual exclusivity, or local monopolies—all of which begot an inquiry into potential collusion and anti-competitve behaviour by the Competition Bureau (2018) (also see Jackson, 2018). in which of the papers and lay off about 290 employees due to the transaction.

9 Thanks to Sabrina Wilkinson, an MA student at the School of Journalism and Communication at Carleton University, whose research for her MA thesis led me to several of these examples and sources.

Table 7: Newspaper Revenue, 2004-2017 (current $, millions)

($ million CAD)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Daily Newspaper Adv	2,611	2,659	2,745	2,722	2,670	2,031	2,103	1,971	2,019	1,679	1,392	1,424	1,258	750
Daily Newspaper Circ	745	789	819	807	808	813	825	794	787	763	729	700	650	604
Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	61	62	NA	54
Online Newspaper	-	-	110	150	181	186	214	242	235	221	229	229	219	251
Total Daily Newspaper $	**3,356**	**3,448**	**3,675**	**3,679**	**3,659**	**3,030**	**3,141**	**3,007**	**3,041**	**2,662**	**2,412**	**2,415**	**2,127**	**1,659**
Community Newspaper Adv	961	1,016	1,094	1,154	1,211	1,213	1,175	1,211	1,253	1,027	968	881	874	835
Community Newspaper Circ							43	43	43	29	22	27	24	26
Community Digital/Online	NA	NA	NA	NA	NA	27	32	44	35	31	33	40	40	39
Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	90	96	NA	NA
Total Community Newspaper $	**961**	**1,016**	**1,094**	**1,154**	**1,211**	**1,240**	**1,250**	**1,298**	**1,331**	**1,087**	**1,112**	**1,045**	**938**	**900**
Newspaper Canada Total $	**4,317**	**4,465**	**4,769**	**4,832**	**4,870**	**4,270**	**4,391**	**4,304**	**4,372**	**3,749**	**3,523**	**3,460**	**3,064**	**2,559**
Statistics Canada Total $	**5,034**	**5,194**	**5,354**	**5,395**	**5,482**	**4,939**	**4,943**	**4,832**	**4,721**	**4,388**	**4,056**	**3,749**	**3,465**	**2831**
Internet $/Total $ (in %)			**2**	**3**	**4**	**5**	**6**	**7**	**6**	**7**	**7**	**8**	**8**	**11**

Sources: see the “Newspaper” sheet in the Excel Workbook for industry revenues back to 1984. Newspaper Canada from 2000 onwards; Statistics Canada before. The CMCR Project’s Methodology Primer and additional thoughts on sources and method offers further discussion on the methodological issues at play.

- Torstar had already cut 220 positions in the year leading up the proposed newspaper swap while new contacts at Saltwire (which took over the Halifax Chronicle Herald earlier in 2017) and the Postmedia’s *Vancouver Sun* and *The Province* led to twenty-six and thirty-three jobs being cut, respectively.
- Reduced publishing schedules across the Postmedia chain adopted in 2012 (the Calgary Herald, Edmonton Journal and Ottawa Citizen) and previous years (e.g. the National Post) have been maintained and are now the norm at these papers;
- eighteen positions were cut in 2014 at the Globe and Mail (i.e. nine editorial, three photographers, three copy-editors and three others, bringing the number of lay-offs to 100 since 2012); plans to have editorial staff write “branded content” for adver-

tisers met stiff resistance from journalistic staff and were dropped; new voluntary retirement programs for journalists and editorial staff were put in place at the *Globe and Mail* with the goal of reducing staff by about 60 (here ar[9] here);

- lay-offs by Postmedia continued with 90 more jobs cut in Vancouver, Calgary, Edmonton and Ottawa in 2016, with expectations that 50 more employees would take voluntary lay-offs; at least a half-dozen journalists and editors in its Parliamentary Bureau and across the chain were cut in previous years, and a standing offer of buy-outs and early retirement packages has been in place place;
- twenty lay-offs at the Halifax Chronicle-Herald, while staff at the paper were on strike for much of 2015 and 2016;
- lay-offs of nine editorial and photographic staff across the Brunswick News chain in the Maritime provinces;
- Postmedia struck a deal to acquire Quebecor's chain of six major urban dailies, 27 community dailies, 140 weeklies, the 24 Hours free papers in Toronto and Vancouver and a variety of websites for $306 million (a massive write down from the $983 million Quebecor paid for the papers when it bought them in 1998). The transaction was approved by the Competition Bureau in 2015;
- Six French papers in Quebec (Le Soleil, Le Nouvelliste, Le Quotidien, La Tribune, La Voix de l'Est, Le Devoir) were sold by Gesca/LaPresse to Group Capitales Médias in March 2015;
- *La Presse* announced the elimination of 102 full-time staff positions and fifty-six in September 2015;
- several small dailies stopped publishing: *Kamloops Daily*, *Vernon Morningstar Daily*, *Alberni Valley Times* and *Peace Arch News Daily*, and *Metro London*, Metro Saskatoon and Metro Regina and the *Dawson Creek Daily News* merged with the *Alaska Highway News*;
- some newly emerging journalistic organizations have begun to bulk up. iPolitics had 15 full time journalists, five staff and a number of free-lancers, for example, as of 2015.

Taking a broader view that includes broadcasting, Romayne Smith-Fullerton, of the Faculty of Information Studies at Western University, says that "in the last seven or eight years, we've lost more than 10,000 journalism jobs". The idea that all of this is part of a crisis of journalism was one of the reasons that brought about the Canadian Heritage Parliamentary Committee and CRTC reviews of the state of local news in communities across Canada in the past year as well.

The most systematic attempt to keep track of these changes is a project led by Ryerson University and University of British Columbia professors April Lindgren and Jon Corbett. Their interactive Local News Map chronicles the closures and cutbacks at newspapers and broadcast stations across the country, but also the emergence of new ventures and recent hires that effect the production of news as well (also see Watson, 2016).

Another significant change to take place in the last five years is the extent to which daily newspapers have been put behind paywalls. Prior to 2011 there were no significant dailies with paywalls; two years later, there were 27 dailies accounting for roughly 45% of daily circulation were behind paywalls. By 2015, the number had grown to 38 dailies, a number that still stood in 2017.

Paywalls became a defining feature of the daily newspaper landscape in Canada between 2011 and 2015, and at a rate higher than in the US or the UK (see here). The Toronto Star has gone back-and-forth over whether to maintain a paywall. It's first attempt in 2013 ended two years later but in September 2018, the publisher once again reinstated a paywall. As a result, two-thirds of daily circulation in Canada is behind a paywall. Table 8 illustrates the point.The number of journalists and newspaper staff cut, and the industry's turn to paywalls, however, have not come even close to offsetting the lost revenue that has accumulated over the years. All of this add to the image that "journalism is in crisis". In light of the run-of-events reviewed thus far, it is hard to imagine how things could be described otherwise but are they really as bad as commonly contended?

In the past, I have been reluctant to agree that newspapers were in crisis because the trends had not been long enough in the making to draw a firm conclusion one way or another. I also saw many of the wounds that the industry is suffering as being self-inflicted by decades of consolidation, bloated debts, and timid approaches to new technology and new markets. The latter point is too-often overlooked but the evidence of the carnage besetting the industry is still piling up and is undeniable.

That said, Yochai Benkler's argument at the turn-of-the-last decade also still holds. As he put it, we are in a period of turmoil, but instead of outright catastrophe there are also critical new developments that are taking place in Canada, the US and many other countries highlight the emergence of a new crop of:

- commercial and donor supported, internet-based approaches to journalism and public commentary (e.g. iPolitics, National Observer, Canadaland, Blacklock's Reporter, the Tyee, Huffington Post, Buzzfeed, Vice, AllNovaScotia, Policy Options, etc.),
- the revival of the partisan press (e.g. Blogging Tories, Rabble.ca, Rebel.ca)
- a couple of non-profits and cooperatives (e.g. the Dominion),
- a larger role for academic experts who are bringing their specialized knowledge into the public domain; and
- citizen journalists.

Whether these changes will ultimately prove to be a boon for a free press, however, remains to be seen and I am more skeptical on this point than Benkler. That they are taking hold, however, is promising. So, too, is the fact that most of these ventures have been launched by professional journalists. They have broken several major stories. Some have specialized expertise like iPolitics, Policy Options and The Wire Report. This new raft of ventures run by professional journalists, and flanked by a renewed partisan press, lively public conversations led by academic experts and citizens, suggests that there is a healthy dose of good news to consider over and against the steady flow of bleak images of an industry otherwise in peril.

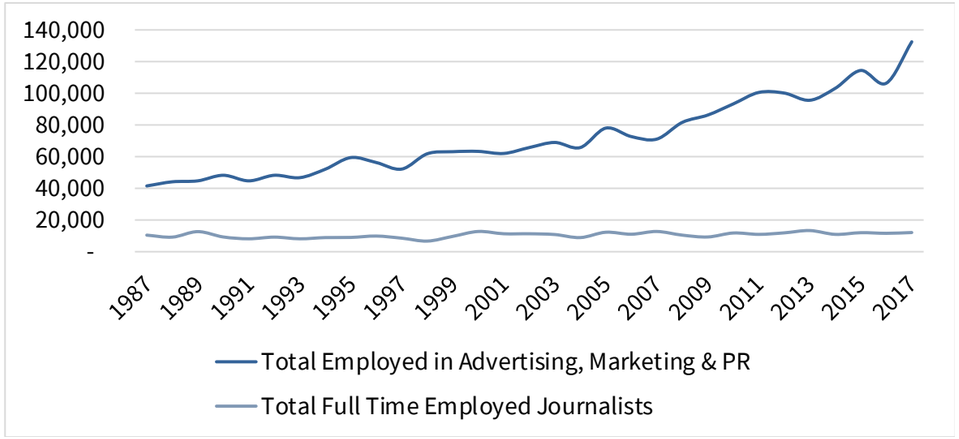
Table 8: The Rise of the Great Paywalls at Canadian Newspapers, 2011-2018

Newspaper	Language	Paywall	Owner	Weekly Total	Daily Avg.
Whithorse Star	English	2004	Independent	8993	1,799
Times Colonist, Victoria	English	May 2011	Glacier Media	349,784	58,297
The Daily Gleaner, Fredericton	English	Nov 2011	Brunswick News Inc.	99,696	16,616
Times-Transcript, Moncton	English	Nov 2011	Brunswick News Inc.	170,412	28,402
New Brunswick Telegraph Journal	English	Nov 2011	Brunswick News Inc.	161,100	26,850
Gazette, Montreal	English	May 2011	Postmedia Network Inc.	485,369	80,895
Red Deer Advocate	English	June 2011	Black Press		
% of Circ behind Paywall (2011)				4	4
Cranbrook Daily Townsman		Feb-12	Black Press	23,834	4,767
Daily Bulletin		Feb-12	Black Press	15,215	3,043
Vancouver Sun	English	Aug 2012	Postmedia Network Inc.	820,719	136,787
The Province, Vancouver	English	Aug 2012	Postmedia Network Inc.	686,805	114,467
Ottawa Citizen*	English	Aug 2012	Postmedia Network Inc.	550,777	91,796
Journal de Montréal	French	Sept 2012	Quebecor/Sun Media	1,626,327	232,332
Journal de Québec	French	Sept 2012	Quebecor/Sun Media	1,063,611	151,944
Globe and Mail	English	Oct 2012	Globemedia Inc.	2,018,923	336,487
Ottawa Sun	English	Dec 2012	Quebecor/Sun Media	238,584	34,083
Toronto Sun	English	Dec 2012	Quebecor/Sun Media	849,131	121,304
Winnipeg Sun	English	Dec 2012	Quebecor/Sun Media	328,303	46,900
Calgary Sun	English	Dec 2012	Quebecor/Sun Media	302,938	43,277
Edmonton Sun	English	Dec 2012	Quebecor/Sun Media	263,542	37,649
% of Circ behind Paywall (2012)				31	31
Medicine Hat	English	April 2013	Glacier Media	73,938	12,323
National Post	English	May 2013	Postmedia Network Inc.	1,116,647	186,108
Calgary Herald*	English	May 2013	Postmedia Network Inc.	641,495	106,916
Edmonton Journal*	English	May 2013	Postmedia Network Inc.	555,252	92,542
Windsor Star	English	May 2013	Postmedia Network Inc.	297,679	49,613
Guardian, Charlottetown	English	May 2013	TC Media	86,261	14,377
Leader-Post, Regina	English	May 2013	Postmedia Network Inc.	204,814	34,136
StarPhoenix, Saskatoon	English	May 2013	Postmedia Network Inc.	234,045	39,008
Lethbridge Herald	English	Jun-13	Glacier Media	115942	16563
Daily News, Truro	English	July 2013	TC Media	26,820	4,470
Chronicle-Herald, Halifax	English	August 2013	Halifax Herald Ltd.	548,938	91,490
The Journal-Pioneer, Summerside	English	Nov 2013	TC Media	36,169	6,028
% of Circ behind Paywall (2013)				45	45
Western Star, Corner Brook	English	Jan 2014	TC Media		
Cape Breton Post, Sydney	English	Feb 2014	TC Media	101,179	16,863
Trail Times	English	Mar 2014	Black Press	11,200	2,800
Telegram, St. John's	English	April 2014	TC Media	171,054	28,509
Prince Albert Daily Herald		June 2014	Star News	31,425	5,238
% of Circ behind Paywall (2014)				58	58
Nanaimo Daily	English	Sept 2015	Black Press	43,185	7,198
% of Total Circ beind Paywall (2015)				58	58
Toroto Star	English	Sept 2018	Torstar	2,162,443	308,920
% of Total Circ beind Paywall (2018)				65	64
# of Dailies Behind Paywalls				38*	38
Total Circulation				**30,406,493**	**5,090,390**

Sources: Newspaper Canada 2015 Daily Circulation Report and observations.

One striking indicator that things may not be as dire as often depicted can be seen from data on the number of full-time journalists over the past three decades. While the steady drumbeat that "journalism is in crisis" narrative leads one to suspect that the picture is dire, the number of full-time journalists in Canada has not plummeted. In fact, it has actually crawled (stumbled?) upwards over time. Figure 21 illustrates the points.

Figure 21: Journalists vs the PR, Advertising and Marketing Professions, 1987-2017



Sources: Statistics Canada (2018) Employment by occupation: 1123 Professional occupations in advertising, marketing and public relations and Statistics Canada (2016). Employment in Journalism occupation, by province. Custom LFS tabulation. File on record with author.

The number of full-time journalists rose from 10,000 in 1987 to 11,700 last year. This is a small increase, to be sure, but an increase all the same. Also consider the fact that, in the 1990s, after years of slow growth, extensive consolidation and cut backs, the number of journalists had fallen to a little over 6,000 in 1998. If we take that as our base, the number of working journalists has nearly doubled and the period since looks more like one of recovery with some modest growth rather than a catastrophe.

At the same time, however, given that the media economy has quadrupled in size while the number of journalists has stayed relatively steady means that the number of journalists has shrunk relative to the size of the network media economy. In other words, there are fewer journalistic resources in a much bigger media pie. In addition, the modest growth in journalists has been vastly out-paced by the number of people working in the PR, advertising and marketing professions. In 1987, there were four people working in the publicity industries for every journalist; last year, the imbalance had swelled to more than 11:1.

We also need to consider that while the increasing number and diversity brought about by new journalist ventures is important, none of these efforts – e.g. iPolitics, Blacklocks Reporter, Canadaland, etc. – even ranks in the top 60 internet news sources that people in Canada go to for their news (see the "Internet News Sources" sheet in the Excel Workbook). This implies that they account for under one percent of internet news traffic, suggesting that they speak mainly to small and specialized audiences.

Their presence in the online news environment is vastly outstripped by mostly well-established news organizations like the CBC, Postmedia, Torstar, Quebecor, CTV, the Globe and Mail, the BBC, the New York Times, CNN, The Washington Post, the Guardian, and an assortment of "internet native services" like Buzzfeed, MSN News, TRONC, RT, etc. While the range of internet news sources now used by Canadians is a diverse mixture new and old, as well as local, national and international sources, the emergent crop of online journalistic ventures have yet to register significantly in the public mind except for the occasional intervention when they really do lead the charge and set the agenda by breaking stories that others have missed (e.g. the Jian Ghomeshi story and the Snowden disclosures, amongst many others).

For the time being, however, traditional news organizations are still the most important sources of journalism in the network media economy. They are still the content factories that produce news, opinion, gossip and cultural style markers that by and large set the agenda and whose stories cascade across the media in a way that is all out of proportion to the weight of the press in the media economy. In other words, the press continues to originate far more stories that the rest of the media pick up, whether television, radio or via the linking culture of the blogosphere, than its weight suggests. Thus, problems in the press pose significant problems for the media, citizens and audiences generally.

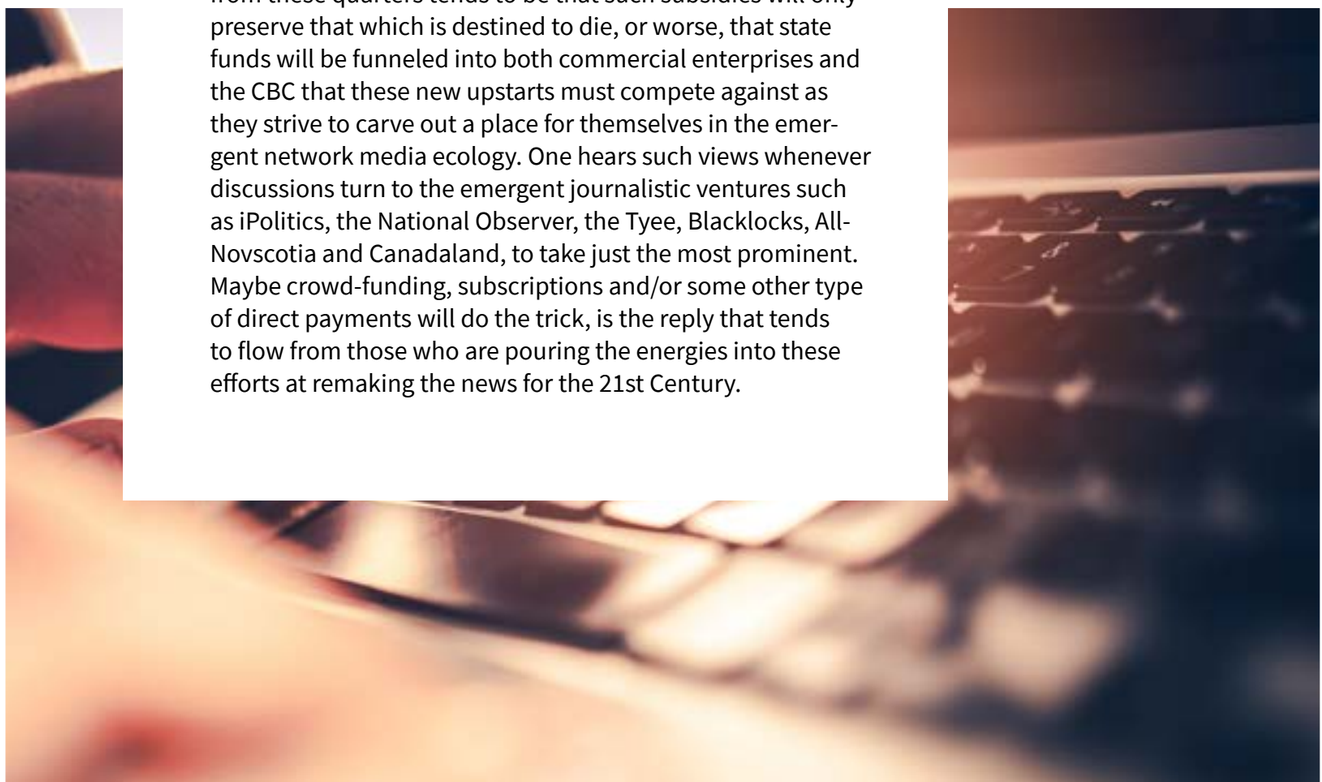
All-in-all, these developments suggest that journalism is not dead but in a serious moment of soul searching and transformation. Whether the changes will ultimately prove to be a boon for a free press, however, it is still too early to tell. And on this point, I am considerably more skeptical than Benkler and others who put their faith with the new online ventures, not least because the central problem, in my view, is nowhere near being adequately solved: i.e. the people have never paid the full cost for the news. For the past 150 years, advertising played an ever-increasing role in covering up that reality, but that façade is now collapsing before our eyes (John & Loeb-Silberstein, 2016).

As the advertising subsidy dries up, or is diverted to the internet and into fewer and fewer hands, who or what will fill the breach? ■

Some Reflections on Subsidies and Public Goods

Of course, the major English- and French-language press groups have called for subsidies, and for those subsidies to be given to them in particular (see, for example, Postmedia CEO Paul Godfrey's call to the Canadian Heritage Parliamentary Committee along these lines, as well as similar calls from Quebec-based newspaper groups (see here).

Such calls for public subsidies for journalism, of course, have been resisted in many quarters, not least by many of the new journalistic ventures that have emerged (see, for example, Canadaland's position statement on the issue). The view from these quarters tends to be that such subsidies will only preserve that which is destined to die, or worse, that state funds will be funneled into both commercial enterprises and the CBC that these new upstarts must compete against as they strive to carve out a place for themselves in the emergent network media ecology. One hears such views whenever discussions turn to the emergent journalistic ventures such as iPolitics, the National Observer, the Tyee, Blacklocks, All-Novscotia and Canadaland, to take just the most prominent. Maybe crowd-funding, subscriptions and/or some other type of direct payments will do the trick, is the reply that tends to flow from those who are pouring the energies into these efforts at remaking the news for the 21st Century.



Yet, the idea that paywalls, crowdfunding, backing by wealthy benefactors, or some combination thereof might carry the day brings us right back to square one: people have never paid the full-freight for journalism. Historically, other than advertising, the other two main sources of subsidies to support journalism and other cultural goods have been "the state" through public service broadcasting and various other ways and means, or wealthy patrons who have funded the high arts and kept more than a few influential newspapers going for their own reasons, some of which have been altruistic, others tied to personal political projects and specific agendas to promote. The question, thus, becomes what kind of support do we want to give – as a society – to functions that we think are essential to personal and social well-being?

Avoiding, or simply opposing subsidies on the grounds that they are antithetical to "market values" avoids the reality that paywalls, and the entire intellectual property edifice is a specially devised creature of "the state" designed to deal with the public good characteristics of news, knowledge and culture. Indeed, the institutional set-up of copyright is based on a basic predicate: these goods are not normal goods traded in normal markets. That is why distinct "intellectual property laws" have been created for them, unlike most other kinds of "property" where the normal laws of property and the market hold sway.

In a bid to encourage the production and consumption of news, copyright was extended to news around the turn-of-the-20th Century. Indeed, news wasn't even copyrightable – i.e. treated as property and a commodity in the eyes of the law – in the UK until this time. Similar events took place in the US in 1918. As a matter of fact, subsidies and legal protections like copyright have been the twin pillars of journalism since the creation of the US itself, and far from ever being seen as offside from the point of view of the First Amendment, such measures have been crucial to furthering the free press and free speech values that it embodies and democracy needs to flourish (see John on how the US post service subsidized the development of the "free press" to the tune of tens of billions of dollars per annum in the late-18th and 19th centuries).

Once again, it's worth noting that people have never paid the full freight for a wide variety of media and cultural productions. These go beyond audiovisual media to include libraries, education, basic research, archives, the arts, orchestras, statistical agencies, universities, etc., in sum, the media, culture and knowledge infrastructures of modern capitalist societies. As a general rule, the more of these things there are, and the better they are cared for in the public interests, the healthier, happier and more democratic a society is—a sweeping statement to be sure, but in the round, basically on point. Information/culture/media goods are not public goods just because I say they are but because society does through the political process, and because they fit the criteria for public goods set out in mainstream and heterodox economic theory, historical experience, as well as normative ideas that directly link them to human development, citizenship and democracy. The economic ways and means used to produce such things through a combination of market and non-market forces are integral parts of the overall structure of the media economy not just in Canada but around the world –at least developed and democratic ones. The settlement struck during the 'industrial media era' that recognized these basic facts is becoming undone, but without clear alternatives in sight.

Turning away from such realities for reasons of self-interest is understandable, but avoids the nub of the issues before us. How to settle the problems raised by these issues is an open question. However, there are lots of good ideas and accumulated expertise available to draw upon and it is incumbent upon us—and policy-makers—to draw on those resources to address the many big questions whose resolution will shape internet- and mobile wireless-centric media ecology now taking shape in front of our very eyes and which may be locked into place for a century or more, if the lessons from the past 150 years of the "industrial media age" are any guide (for an example of how changes to income tax law in Canada, for example, might better sustain non-profit journalism, see the report by the Reuters Institute on the topic). ■

Some Concluding Comments & Observations

This report has examined the development of the network media ecology over the past three decades. It has done so out of the conviction that too often discussion of "the media" in Canada proceeds without a solid base of evidence, and too often is driven by stakeholders whose interests are understandable but not necessarily in line with public interests.

The network media economy has grown immensely over time, quadrupling in size based on revenue between 1984 and 2017. Within the emergent network media economy, "content media" are being displaced by the "network media" (mobile wireless and broadband internet access services). Bandwidth is king, not content, in this context. There is also a decisive shift from advertising-supported content media to "platform" and "pay-per" media, with the common denominator between the latter being that they are based on subscriber fees and direct payments versus advertising revenue.

While advertising revenue has held steady in absolute terms, it is in decline relative to the size of the media economy, in real, inflation-adjust terms and on a per capita basis. TV advertising revenue has stayed basically flat in absolute terms but fell from

$110 per Canadian in 2008 to $90 last year. The growth of the "pay-per" aspect of TV (as well as music), however, means that television is still central figure on the broadband- and mobile wireless-centric media landscape. Indeed, it is a key driver of their growth, and we can even speak of the 'prime-time internet' to capture the sense to which both TV and the internet overlap.

While advertising is receding as a defining feature of the network media economy, it is still important to note that internet advertising has soared. It has, however, become more concentrated over time, with the top ten internet companies' share of revenue growing from 77% of all internet and mobile advertising revenue in 2009 to 86% last year. Google and Facebook dominate internet advertising and their dominance is, in fact, growing. Combined, the two internet hypergiants now account for almost three-quarters of online advertising revenue. The increased role of the mobile internet has only consolidated their grip on the market.

Other relative newcomers like Netflix have also become significant players in the media economy. They are having a significant impact on "the broadcasting system", although that nomenclature is circumspect in the context of the emergent network-centric media ecology. Moreover, while Google, Facebook and Netflix were the 6th, 8th and 12th biggest media companies in the country last year, their impact across the media is more modest than alleged by those who try to lay all of the blame at their feet for whatever woes do affect some segments of the media. All-in-all, the narrative of crisis and catastrophe is overwrought, although this does not mean that nothing should be done about Google and Facebook's dominance of the internet advertising market and the propensity to work the outer edges of the law to their own benefit. In terms of the market dominance, privacy, the take-it-or-leave it stance they impose on others, their potential impact on elections and reluctance to open up their "black box algorithms" to regulators, and so forth, are all indicators of their clout, and a need to limit the potential harms that could flow from their unchecked power.

Bell, Shaw (Corus), Rogers, Telus and Quebecor (Videotron) are still the biggest players across the network media economy in Canada, with revenues generally many times higher than those of the US-based internet hypergiants' Canadian revenues. This is not likely to change anytime soon either, mainly because, other than Netflix, the US-based internet companies depend almost entirely on advertising revenue. In the network media economy, however, this report has emphasized the extent to which it is bandwidth and subscription fees that are king. The dominant Canadian telecoms-TV operators have secured their position across all aspects of the "pay-per" media, and it is their clout that presses most on the development and use of the network media economy in this country.

The fact that all the major commercial TV operators in Canada are owned by telecoms companies sets it apart from the vast majority of other countries in the world. The CRTC, backstopped in recent years by the Competition Bureau, has begun to address this condition, one that just a few years earlier it had given its full blessing to. That about face, however, has provoked a ferocious backlash from the "cultural industries communities" and the incumbent telecoms-TV operators.

These two groups are uneasy bedfellows but for now they share an interest in rolling back the regulatory tide. They generally want to keep things the way they have been for the last half-century. The BDU-centric model of TV suits them just fine, and to the extent that the internet and mobile phones are given any thought at all, they are just a new revenue stream, and a means by which income can be diverted to support Canadian content. As I have said in another report, we need to think of the network media ecology in terms of Lego building blocks, in which competitors, newcomers and people can pick, choose and snap together various elements of the whole as they see fit, versus the "systems" view and its long legacy of "end-to-end", and top-down control (see here).

What could be easier, for instance, the "cultural industries communities" say, than to apply a "small tax" on smart phones and people's internet service to replenish the assortment of cultural production funds that now exist across an equally wide variety of media, from TV, to music, to videogames, film, and so on? And why not "zero-rate" CanCon while applying data caps to foreign content and everything else people do with their mobile phones and internet connections, if that tilts the field in Canadian producers' favour? Thankfully, both options have been spurned so far.

From this view, that the telcos own all of the biggest commercial TV services in the country passes by without comment. Data caps are not seen as artificial constraints on people's ability to communicate and do as they please with the connectivity (the bandwidth) at their disposal, but rather something to be skewed in ways that support the "cultural production community"—much like cable networks went from being the foundation of "wired cities" in the 1960s and 1970s to become the nucleus of a BDU-centric "TV System", and its spin-off effects on arts and cultural communities across the country. The culture and arts part, and even the TV part, are all just fine, in my view, but the means to get there being promoted by dominant interests are twisted, and the idea that we should think about things in terms of "a system" closes off more possibilities before the discussion even begins.

The "Big 5" -- Bell, Rogers, TELUS, Shaw and Quebecor – and their supporters amongst consultants, hired experts, think tanks and many journalists are probably the most influential participants in this ongoing battle over the network media ecology. To their way of thinking, who cares that Canada stands in a league unto its own in the extent to which telephone and internet companies own all the major TV services in the country when even the biggest Canadian companies are little more than lightweights thrown into battle with massively capitalized and unregulated global internet behemoths (Apple, Google, Facebook and Netflix)—a digital free for all of global proportions that is now playing out in Canada's own backyard. It is not the broadcasting system we need to worry about, they and their hired guns assert, but the digital ecosystem. The best thing to do in the face of these daunting realities is to let the market rip, they assert.

That the current battle is as intense as it is, highlights the scale of the interests at stake. Sorting through these competing interests without losing sight of the myriad of public voices who have something to say is vital. So, too, is having a long-term, systematic body of evidence, set against a background of history, experience and scholarly independence, critical. That is what this report, and the CMCR Project, aims to achieve. We hope that you find it helpful. ■

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