Canadian Television 2020: Technological and Regulatory Impacts

Nordicity

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Preamble

This report was prepared by Nordicity and Peter Miller, P. Eng., LL.B. for ACTRA, Canadian Media Guild, Directors Guild of Canada, Friends of Canadian Broadcasting and Unifor. The analysis and conclusions expressed in this report are those of the Authors and not necessarily those of the commissioning parties.

ABOUT NORDICITY

Nordicity is a leading consulting firm specializing in policy, strategy, and economic analysis in the media, creative and information and communications technology sectors. Over the last three decades, Nordicity has become widely recognized as one of the leading international consultancies specializing in economic analysis and business planning within the television broadcasting sector.

ABOUT PETER MILLER

Peter is an engineer and communications lawyer with 25 years of creative and telecommunications industry experience, in both private practice and executive positions. Since 2005, he has acted as an advisor for select clients in both the public and private sectors, and has authored numerous reports on technological and policy trends and their impact on the media landscape.

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EXECUTIVE SUMMARY

i. This study provides a third party assessment of the economic challenges facing Canadian television in light of CRTC decisions made pursuant to the 2014 Let's Talk TV (LTTV) hearings.

ii. The study develops three potential scenarios for the 2015 to 2020 period, as follows:

- **Baseline** – The anticipated impact of technological and consumer behaviour changes, assuming that the pre-existing broadcasting regulatory regime remains – i.e. without the implementation of the LTTV decisions;
- **LTTV Impact** – The anticipated impact of the CRTC's LTTV decisions, including unbundling, and changes to 'predominance' of Canadian services received;
- **Unbundling Revisited** – With a modified implementation of the LTTV regulatory decisions, in particular, the maintenance of current predominance and access rules, and the implementation of unbundling through a more market based approach.

iii. The scenarios presented in this study are designed to provide the most plausible outlooks possible given available information. The authors welcome a vigorous dialogue about these assumptions and their conclusions, and indeed hope this study triggers a debate among decision makers and stakeholders about the future of Canadian TV from an economic and Canadian programming perspective.

Gradually then suddenly: The Impact of Technological change

iv. Digital technology helped spur the Canadian television system to its highest watermarks in terms of revenues and contributions to Canadian programming – more capacity, more channels, more Canadian content– all via a "closed" system of broadcast distribution undertakings (BDUs) to which over 85% of Canadians once subscribed.

v. This closed BDU system is now effectively under attack from newer IP based digital technologies, and their tendency to disintermediate, bypass and disrupt traditional distribution networks and business models.

vi. "Suddenly", Netflix goes from zero to over a third of Canadian households as subscribers. Suddenly, two Canadian over-the top-television (OTT) services launch with hundreds of thousands of subscribers, and morph from being complementary to BDU offerings to competing with them. Suddenly, the question is not just whether OTT is impacting traditional television, but whether it is destined to replace it.

vii. Technologically driven changes are dramatically affecting consumer behaviour, including viewing habits and service adoption, which in turn are affecting industry advertising and subscription revenues, and Canadian programming expenditures.

viii. The outlooks developed in this study examine these trends in detail and project outwards to 2020, based on a series of assumptions, carefully developed using current trends and reasonable assumptions about future consumer and industry behaviour.

ix. These outlooks do <u>not</u> contemplate the end of Canadian television as a pre-ordained or foreseeable outcome, despite what we agree will be an inexorable transformation from a predominantly linear/channel model to a predominantly IP based on-demand model. This view is held by most observers and commentators for a number of key reasons, including the fact that:

- the anchors of traditional TV – live sports, live events and news – remain a key "must have" competitive edge for most viewers[i];

- the business model of OTT is largely dependent on supply of library programming from traditional TV studios, is not as profitable as U.S. traditional TV, and is not ready to replace that of traditional TV; and

- the availability of "good enough TV" on OTT makes it adequate as a BDU replacement for lighter TV viewers only.

x. In our view, the most likely scenario over the short to mid-term is a material but not fatal erosion of traditional television. It is being driven primarily by Millennials, infrequent TV viewers and non-sports/TV news watchers. Such viewers are the most motivated to abandon or reduce reliance on BDU services, and adopt some combination of BDU, over-the-air (OTA), and OTT platforms, and in the case of OTT, likely more than one platform.

Declining Support for Canadian Jobs and Programming

xi. The closed BDU system was the perfect platform for content monetization and regulation, through such measures as Canadian content exhibition requirements, expenditure requirements, simultaneous substitution, access rules, foreign TV service entry rules, and genre protection. This closed system also delivered great value for Canadians. It provided access to 99% of the top U.S. content (and much other foreign content) that Canadians wanted, but in a way that ensured that the profits generated by this foreign content supported a robust Canadian production system that created jobs and delivered quality Canadian programming.

xii. Technology is, undeniably, making achieving the objective of support for Canadian programming more difficult in two key respects:

- The move to "on demand" from "linear" or "scheduled" TV renders shelf space requirements like Canadian content exhibition obligations less effective; and

- Opportunities for by-pass of Canadian television providers (through the internet) increase, thus inevitably putting pressure on Canadian content expenditure stipulations.

xiii. These types of technological challenges are not fundamentally new and, one might presume, should make the goal of support for Canadian programming more, not less, important.

xiv. A key measure of success for Canadian broadcasting policy going forward, and a litmus test for the CRTC's LTTV Decisions, should, therefore, be whether the system continues to maximize support for Canadian programming. While the *Broadcasting Act* does require that the system be "readily adaptable to scientific and technological change" and meet other such consumer-oriented goals, there is no reason why such consumer interests cannot be met *in addition to* furthering the cause of Canadian programming.

xv. CRTC figures cited in the LTTV decisions place the value of public and private support for Canadian programming at more than $4.1 billion in 2012-2013. Almost two thirds (65.6%), or $2.7 billion of this came directly from the expenditures of Canadian television programming services on Canadian programs. The remaining amounts came from federal and provincial tax credits (15.8%), the Canada Media Fund (CMF) (9%), tangible benefits (4.8%), the contributions of BDUs to community programming (3%) and various independent production funds (1.5%).

xvi. Put another way, of the $4.1 billion spent on Canadian programming annually, less than $1.3 billion comes from some form of direct government subsidy, while $2.8 billion comes from the broadcasting system that was enabled by Canadian ownership and enforced through regulation. In other words, *without broadcast regulation and Canadian ownership requirements, spending on Canadian programming, could be less than a third of what it is today*.

xvii. Erosion of the regulated BDU-broadcaster system – the part now at risk from new technology – will ultimately reduce spending on Canadian programming, an effect unfortunately exacerbated by the CRTC LTTV decisions. Our modeling of the next five years shows that specialty services lose subscribers and less popular specialty channels are closed down. This outcome will be the case, despite the fact that, for the most Canadians, OTT services will remain "add-ons" to whatever they choose from BDUs.

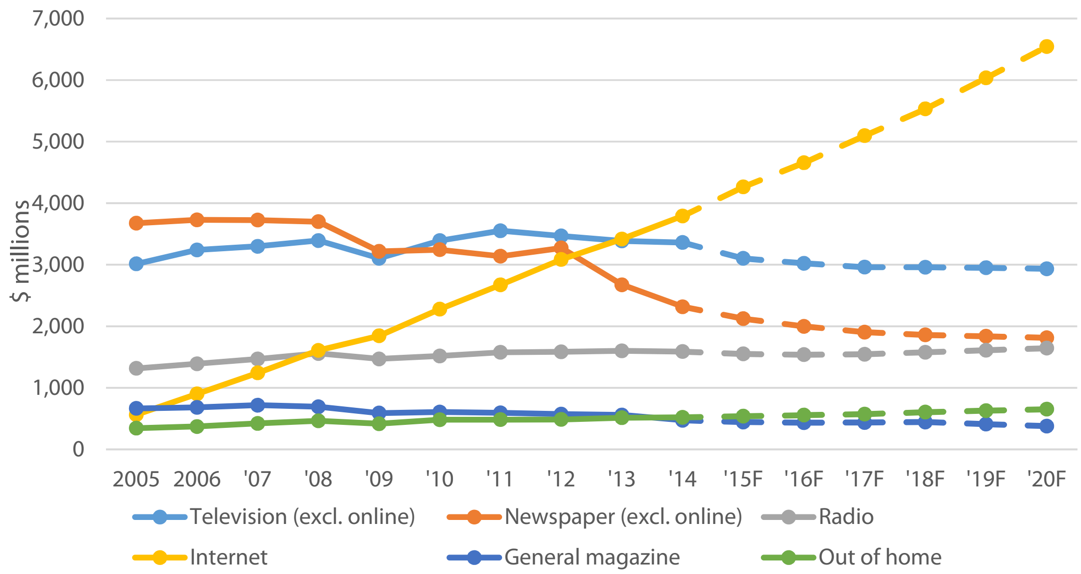
Impact of technology alone (the Baseline Scenario)

xviii. Our baseline scenario looks at the evolution of the Canadian TV system over the next five years assuming the regulatory environment remained as it is today, and LTTV decisions were not implemented, as scheduled, starting in 2016.

xix. Key consequences of this outlook include the following:

- While total BDU subscribers are forecast to decrease from 11.8 million in 2014 to 11.3 million in 2020, we project that BDUs will still be in a position to increase average revenue per subscriber (ARPU) offsetting subscriber declines and actually yield growing BDU revenues; and
- Overall advertising will continue to track GDP, but at increasingly lower shares, leading to declines in TV advertising as internet advertising continues to grow.

Figure 1 Ad spend by media ($M)



Source: Authors' estimates based on data from TVB, eMarketer, Zenith Optimedia and IAB Canada.

xx. The overall result, however, remains fairly positive. Despite challenges to the system, including declines in programming service revenue of 7.5% from their peak in 2014 to 2020, the resilience of BDU platforms means that the system's capacity to support Canadian programming declines by little more than 5% over the same period in this baseline scenario.

Moreover, Canadian programming expenditures in 2020 are comparable to the level achieved in 2012.

xxi. Contributions to programs of national interest (PNI), which include long-form documentaries and drama programming, exhibit a slightly higher drop of 8.5% from their peak in 2013, made up only in part through a slight increase in BDU contributions to the Canada Media Fund (CMF).

Impact of LTTV Decisions

xxii. At the LTTV hearing, virtually all parties expressed concerns about potential impacts of unbundling and other changes to the regulatory environment under consideration. In its Decisions, the Commission provided no specific indications of what it believed impacts would be, but did specifically dismiss evidence submitted that had sought to illustrate the potential magnitude of impact.

xxiii. Specifics provided in the suite of LTTV policy decisions allow the development of more precise impact analyses than was possible at the time of the actual proceeding. This analysis finds the following aspects of LTTV decisions to be material from a modeling perspective exercise:

- **Unbundling**, including the $25 small basic and *de facto* carve-out for U.S. services. In lowering costs for consumers, unbundling as envisaged by the Commission will not only reduce revenues and contributions to Canadian programming, it will (combined with other changes) shift leverage away from Canadian programming services and to BDUs and foreign programming services. The result will be greater than otherwise rationalizations of Canadian programming services;

- **Predominance on Canadian services offered**, (but not received or purchased by the subscriber). The principle of a preponderance of Canadian services in the Canadian broadcasting system is both a key one, and one that has been massively exceeded. Rules and practices that have preferred Canadian services over foreign equivalents have permitted the successful launch of over 200 Canadian English, French and Third-language services over the last few decades, vastly outnumbering the number of foreign services directly imported. Fully 86% of wholesale fees paid to specialty service go to Canadian specialty services. Changing predominance received to that offered, combined with the weaker bargaining power of Canadian services and the stronger bargaining power of U.S. services, can be expected to lead to a material erosion of the current 86:14 split between Canadian and non-Canadian on wholesale fees;

- **Elimination of access rules** for Canadian specialty services. This further compounds the shift in leverage away from Canadian programming services to BDUs and foreign programming services;

- **Introduction of new hybrid OTT exemption order.** Through various rulings on undue preference and the introduction of the new hybrid OTT exemption order, the CRTC has encouraged, if not required new Canadian OTT services to be made available to all Canadians. Originally conceived and launched as complementary services available to existing subscribers, Shomi and Crave TV will, under the LTTV framework, be transformed from "complementary" to "competitive" OTT offerings and are thereby expected to materially increase cord cutting and cord shaving and the take-up of OTT in Canada from the baseline outlook;

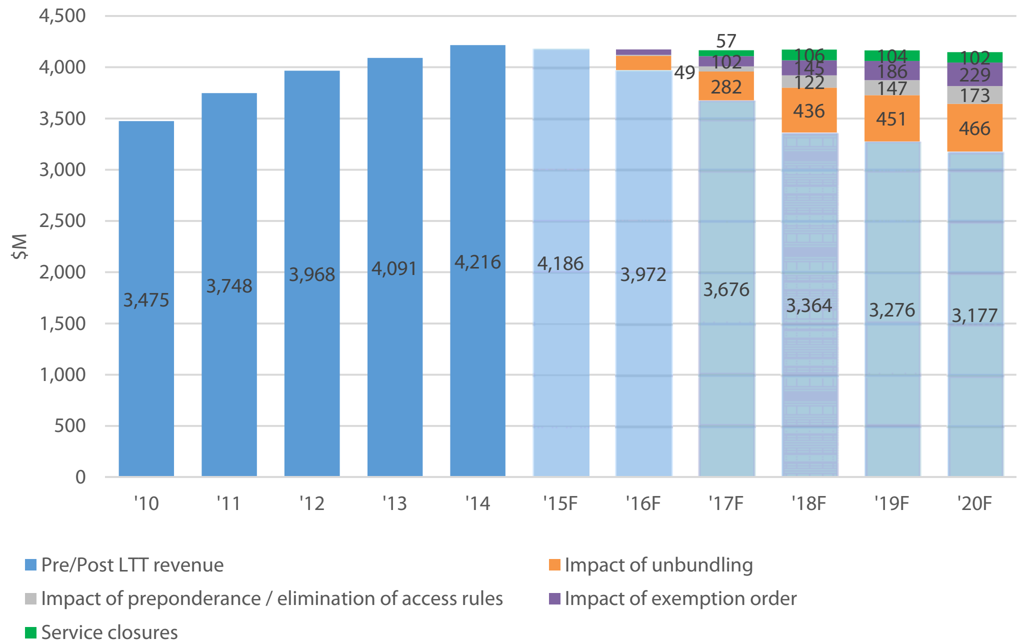
- **Elimination of simulcast** on the Super Bowl and other simulcast limitations. The impact of this measure, while limited, is not immaterial.

xxiv. Central to the current assessment is that while the economic impact of unbundling has been the most remarked upon aspect of the LTTV Decisions, it is by no means the only area of potential significant economic impact. Moreover, the interplay of many of the major LTTV proposals causes a greater impact than the sum of these same proposals taken separately.

xxv. The combined effect of the LTTV Decisions will be to increase cord cutting, cord shaving and OTT adoption, and decrease specialty service take-up and hence revenues for both services and BDUs. Some specialty services will simply be unable to make the transition, resulting in service closures.

xxvi. Based on our modeling, the LTTV Decisions can be expected to result in a $970 million decrease in revenues at Canadian specialty and pay services, or 23% of their forecast baseline revenue in 2020.

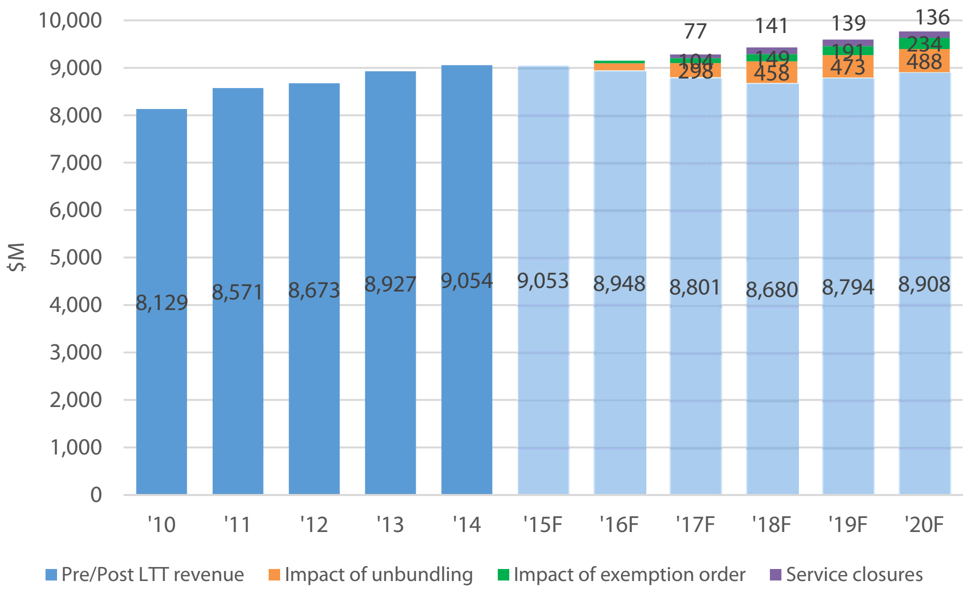
Figure 2 Impact of LTTV (incl. service closures) on specialty and pay revenues



Source: Authors' research

xxvii. LTTV policies would also result in a $858 million reduction in BDU retail revenue in 2020, or 9% of their total forecast baseline revenue in that year, as compared to a scenario of no such regulatory changes.

Figure 3 Impact of LTTV (incl. service closures) on BDU revenues



Source: Authors' research

xxviii. On an aggregate basis, the LTTV regime is expected to result in a $399 million reduction in CPE by 2020, or 18% of baseline CPE in that year. This total impact would include a $352 million reduction in CPE by Canadian programming services and a $47 million decrease in BDUs' contributions to the CMF, local expression and other production funds.

Unbundling Revisited

xxix. In the immediate aftermath of the Unbundling LTTV Decision, analysts posited a range of impacts on BDUs and the system from nominal to grave. One Bay Street analyst predicted subscriber revenue reductions of $5 - $10 monthly. Another predicted that BDU ARPU from TV services could decline by as much as $9-$21 for some customers. Others, however, noted that "Given that the price per channel is likely to be a lot higher with both pick-and-pay and small build-your-own-bundle options, we suspect that most consumers will stick with the old system for a long time, if not forever", and that "since there is no price regulation and BDUs can continue to sell their current packages, we believe BDUs will have the flexibility to maintain their existing economics."

xxx. These different perspectives reflect, in part, different views of BDU and consumer behaviour and leverage. If one believes that BDUs retain the market power to keep customers without offering 'attractive' unbundled options, then one can assume that the impact on BDU revenues, at least, will be minimal.

xxxi. If one believes that BDUs will lose market share to OTT without the creation of more consumer friendly packaging options, then we can assume the impact of unbundling to be real, but the impact of a decision not to unbundle to be worse for the BDU.

xxxii. In the former case, 'choice and flexibility' are illusory. Yes, consumers receive new smaller and self-picked packages, even à la carte, but the price is so high and the value so low, few take advantage of it.

xxxiii. In the latter case, the Commission's regulated solution is unnecessary, as the market was going to drive BDUs to those decisions in any case. BDUs need and want to provide greater choice to their customers, and prohibiting programming services from preventing BDUs from doing so is all that's required to make it happen.

xxxiv. In either case, the Commission's approach appears disproportionate to the intended public benefit. Not only did the Commission fail to conduct, or at least reveal, any impact analysis, it opted for fundamental change without evidence of need, and compromised fundamental objectives of broadcasting policy, such as support for Canadian programming, with little or no rationale.

xxxv. Finally, in introducing unbundling in the way it did, the Commission has chosen to 're-regulate' the system and specifically direct activity, rather than rely on market forces as much as possible. Presuming that the industry itself does not know its market, and needs 'prodding', CRTC has effectively substituted its view of the market for that of those who are in the marketplace.

xxxvi. The unbundling revisited scenario posits a less aggressive, more incremental, and less damaging approach to achieving greater consumer choice.

xxxvii. This would be achievable in the following manner:

- Encouraging greater BDU competition and requiring specialty services to allow unbundling, without the specific attendant regulatory requirements being imposed under the LTTV Decisions, would allow choice, but reduce consumer take-up, revenue losses, foreign service leverage, and incentives to increase BDU share of retail revenues

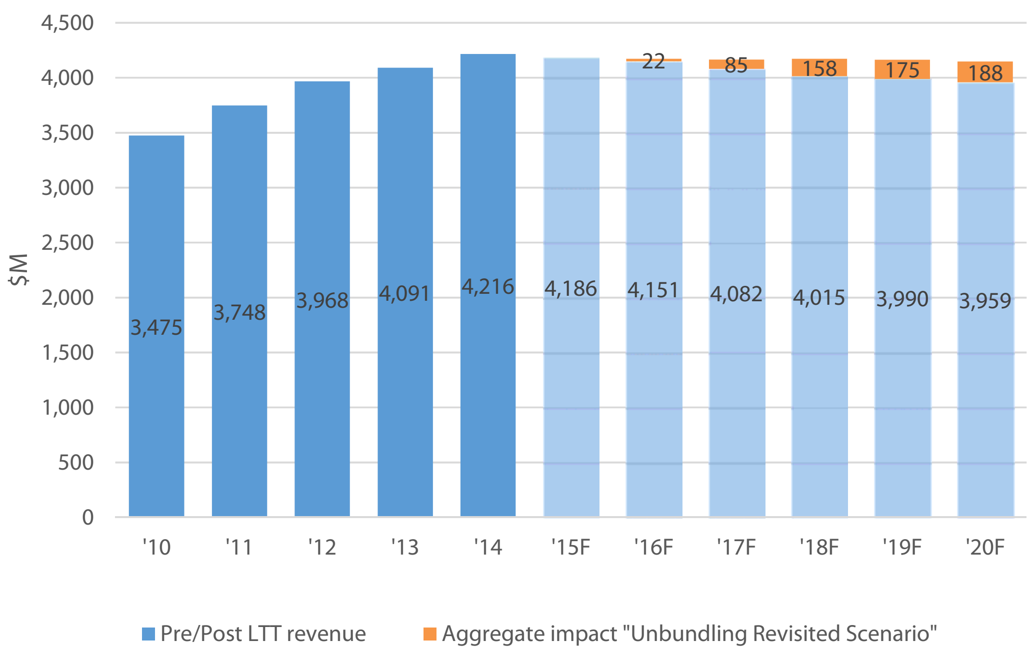
- Preserving preponderance received and access rules would materially shift leverage back to Canadian programming services, allowing them to retain closer-to-historic shares of both subscription revenues (vis-à-vis U.S. services) and retail revenue (vis-à-vis BDUs)

- Maintaining the ability of Canadian broadcaster-BDU OTT services to remain complementary rather than competitive to BDU services would reduce take-up of these unregulated options, and hence cord-cutting and cord-shaving

- All the above would reduce specialty service closures

xxxviii. Under this 'unbundling revisited' scenario, programming service revenue in 2020 would be only $188 million lower (i.e. 4.5% lower) than under the baseline scenario (Figure 4), rather than the $970 million decrease (23%) forecast for the LTTV scenario.

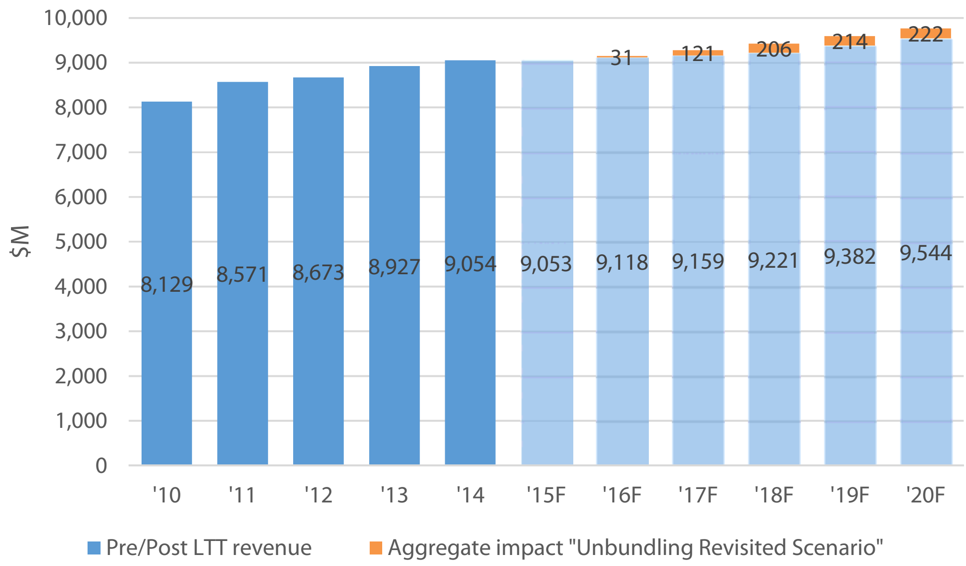
Figure 4 Impact of Unbundling Revisited Scenario on specialty and pay revenues



Source: Authors' research

xxxix. Similarly, BDU revenues in 2020 would be $222 million lower (2.2% lower) than in the baseline scenario (Figure 5), rather than the $858 million reduction (9%) projected for the LTTV scenario.

Figure 5 Impact of Unbundling Revisited Scenario on BDU revenues



Source: Authors' research

xl. Given such far lower revenue impacts, this 'unbundling revisited' scenario has far lower Canadian programming impacts.

xli. In particular, reductions in revenue experienced by BDUs and programing services would translate into a decrease of only $70 million in CPE in 2020. This decrease would include an $11 million reduction in BDUs contribution to CPE (including contributions to the CMF and local expression) and a $59 million reduction in programming services' CPE. Overall, CPE would decline by only 2.2% compared to baseline forecast of CPE in 2020

Summary of Economic Impacts

xlii. Our analysis demonstrates that the CRTC's LTTV decisions will materially exacerbate reductions in support for Canadian programming. From $4.1 billion in 2012, system expenditures on Canadian programming would have barely declined by 2020 without the LTTV Decisions. Our analysis estimates that with the LTTV decisions in place, expenditures on Canadian programming will have declined to $3.7 billion.

xliii. While it can be argued that a public policy body being ahead of the 'technological change' curve is a good thing, we believe that the more materially negative outlook created by the

LTTV Decisions is more likely to have a longer term negative consequence. Damaged too much now, Canadian services will not have the same resilience as they would have if support effectively tapered off more slowly over time. Moreover, as technological change can often be slower to take hold than expected, the value of the accumulated loss of regulatory support for Canadian programming could easily reach single digit billions of dollars over the next five years.

xliv. When the economic impacts experienced within the broadcasting and production sectors are combined, we arrive at an estimate of the total economic impact of the LTTV Decisions. Our conclusion: By 2020, LTTV policies are likely to result in a loss of 15,130 FTEs of employment in the Canadian economy, including 6,830 FTEs of employment directly within the broadcasting and production sectors (i.e. direct impact) and a further 8,300 FTEs of employment in other sectors of the economy (i.e. spin-off impact).

xlv. The LTTV Decisions would also likely result in the loss of just over $1.4 billion in GDP within the Canadian economy by 2020. This includes $803 million in direct GDP and $609 million in spin-off GDP.

Table 1 Summary of total economic impact of LTTV policies (broadcasting + production)

	2015	2016	2017	2018	2019	2020
Employment (FTEs)						
Direct	0	(1,480)	(3,640)	(5,820)	(6,320)	(6,830)
Spin-off*	0	(1,750)	(4,340)	(7,000)	(7,640)	(8,300)
Total	**0**	**(3,230)**	**(7,980)**	**(12,820)**	**(13,960)**	**(15,130)**
GDP ($M)						
Direct	0	(175.6)	(430.4)	(685.1)	(742.9)	(802.5)
Spin-off*	0	(129.0)	(320.5)	(514.9)	(561.0)	(608.6)
Total	**0**	**(304.5)**	**(750.9)**	**(1,200.0)**	**(1,303.9)**	**(1,411.1)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

xlvi. It does not have to be this way.

xlvii. Unbundling can be implemented without such material negative effects on the system and its support for Canadian programming and good Canadian jobs.

xlviii. Had, for example, the Commission merely required programming services to allow unbundling, while maintaining rules that benefit programmers – such as access rules and the requirement for predominance on Canadian services received – the goal of greater consumer choice would have been achieved, but at far less cost to the system.

xlix. In particular, our analysis suggests that such an approach to introducing unbundling could reduce negative effects of the LTTV Decisions described above by approximately 75%, per the table below.

Table 2 Summary of total economic impact of Unbundling Revisited Scenario (broadcasting + independent production)

	2015	2016	2017	2018	2019	2020
Employment (FTEs)						
Direct	0	(200)	(840)	(1,430)	(1,530)	(1,610)
Spin-off*	0	(220)	(950)	(1,630)	(1,740)	(1,860)
Total	**0**	**(420)**	**(1,790)**	**(3,060)**	**(3,270)**	**(3,470)**
GDP ($M)						
Direct	0	(23.7)	(99.3)	(169.5)	(180.4)	(190.1)
Spin-off*	0	(16.2)	(70.5)	(120.9)	(130.2)	(138.2)
Total	**0**	**(39.9)**	**(169.8)**	**(290.4)**	**(310.6)**	**(328.3)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

l. This would not, in our view, require 'turning back the clock' on all LTTV Decisions. It would merely require relatively minor 'tweaking' that recognizes Canadians as broadcasting policy has always recognized them – not merely as consumers, but as creators and citizens too.

PART A. ENVIRONMENTAL SCAN

1. Objective of Study

1. Nordicity and Peter Miller were retained by ACTRA, Canadian Media Guild, Directors Guild of Canada, Friends of Canadian Broadcasting, and Unifor to analyze the economic challenges facing Canadian television in light of the CRTC's regulatory policy decisions pursuant to the Let's Talk TV (LTTV) hearings.

2. The purpose of this study is to provide stakeholders with a third party assessment of the consequences of changes to broadcasting regulation based on the proposed LTTV decisions. The mandate was to assess the impact on Canadian programming, and the general economy. This study is intended to provide a context for the implementation of, and potential changes to, the CRTC's LTTV Decisions. For the most part, the implementation of the LTTV Decisions is not scheduled to be finalized or come into effect until changes to regulations and conditions of licence are made in 2016 and beyond.

3. Nordicity and Miller took as inputs to this study an Environmental Scan (ES1[1]) prepared by Miller for the LTTV proceeding, as well as any more recently available data and analysis on point. Although drawing from ES1, this study is based on standalone research and analysis, and represents a partnership of authors (Nordicity and Miller).

4. The study develops three potential scenarios for the 2015 to 2020 period, as follows:

    1. **Baseline** – The anticipated impact of technological and consumer behaviour changes assuming that the pre-existing broadcasting regulatory regime remains unchanged– i.e. without the implementation of LTTV decisions;

    2. **LTTV Impact** – The anticipated impact of the CRTC's LTTV decisions, including:

        i. unbundling of BDU programming services so that subscribers could pick one, or form their own package;

        ii. the institution of a $25 small basic package offered by BDUs;

        iii. predominance on Canadian services offered, but not subscribed to;

        iv. elimination of access rules for specialty services; and

[1] *Canadian Television – An Environmental Scan,* June 27, 2014

   v. introduction of a new hybrid VOD-OTT exemption order.

3. **Unbundling Revisited** – With a modified implementation of the LTTV regulatory decisions, in particular, the maintenance of current predominance and access rules, and the implementation of unbundling through a more market based approach.

5. The scenarios presented in this study are designed to provide the most plausible outlooks possible given available information. None of the models developed include elements of a scenario being either worst or best case. The authors welcome a vigorous dialogue about these assumptions and their conclusions, and indeed hope this study triggers a debate among decision makers and stakeholders about the future of Canadian TV from an economic and Canadian programming perspective.

2. Summary of Research and Analysis

2.1 Gradually then Suddenly: The Impact of Technological Change on Canadian Television

6. In its initial form, digital technology helped spur the Canadian television system to its highest watermarks in terms of revenues and contributions to Canadian programming – more capacity, more channels, more Canadian content– all via a "closed" system of broadcast distribution undertakings (BDUs) to which over 85% of Canadians once subscribed[2]. This closed BDU system is now effectively under attack from newer IP based digital technologies, and their tendency to disintermediate, bypass and disrupt traditional distribution networks and business models.

7. The closed BDU system was the perfect platform for content monetization and regulation – including Canadian content exhibition requirements, expenditure requirements, simultaneous substitution, access rules, foreign TV service entry rules, and genre protection. This closed system was also great for Canadians. It provided access to 99% of the top U.S. content (and much other foreign content) that Canadians wanted, but in a way that ensured that the profits generated by this foreign content supported a robust Canadian production system that created jobs and delivered quality Canadian programming[3].

8. Then, "suddenly", Netflix goes from zero to over a third of Canadian households as subscribers[4]. Suddenly, two Canadian over-the top-television (OTT[5]) services launch with hundreds of thousands of subscribers, and morph from being complementary to BDU offerings to competing with them. Suddenly, the question is not just whether OTT is impacting traditional television, but whether it is destined to replace it[6].

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[2] The percentage of households subscribing to BDUs appears to have peaked as 2012 at 85.6%. In 2013 the percentage was 84.9%. CRTC Communications Monitoring Report, 2014. Table 4.3.0. http://www.crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2014/cmr4.htm

[3] Most recently demonstrated by Bell at the LTTV proceeding in an itemization of top TV shows.

[4] Netflix launched in the fall of 2010, and reached a penetration level of 39% of Anglophone households by fall 2014 (MTM fall2014 survey), as reported in http://www.ctvnews.ca/sci-tech/nearly-40-per-cent-of-anglophone-canadians-use-netflix-poll-1.2317638

[5] Commonly used to refer to the delivery of TV programming over the Internet without a cable or DTH distributor being involved in the control or distribution of the content.

[6] Cord cutters are today's evangelists for the "end of the (TV) world". The biggest flaw with most of these arguments is the simplest – the logical choices for one individual do not necessarily represent the choices of others. More recent, considered, viewpoints argue that traditional television faces considerable challenge, but is not going away.

9. Moreover, suddenly, the CRTC itself goes from arguing that "internet platforms continue to be complementary to the traditional broadcasting system"[7] to "forcing the industry to finally face that the world is changing."[8]

10. Technologically driven changes are dramatically affecting consumer behaviour, including viewing habits and service adoption, which in turn are affecting industry advertising and subscription revenues, and Canadian programming expenditures.

11. The outlooks developed in this study examine these trends in detail and project outwards to 2020, based on current trends and reasonable assumptions about future consumer and industry behaviour. These assumptions are found in a detailed sub-report, as set out in Part B.

12. These outlooks do not contemplate the end of Canadian television as a pre-ordained or foreseeable outcome, despite what we agree will be an inexorable transformation from a predominantly linear/channel model to a predominantly IP based on-demand model. This view is held by most observers and commentators for a number of key reasons:

- **First, the anchors of traditional TV – live sports, live events and news – remain a key "must have" competitive edge for most viewers.** On the order of 50% to 70% of Canadians watch TV sports regularly[9]. While some sports programming is available via OTT, broadcasters and major leagues have developed a symbiotic relationship, driving up the cost of sports and acquiring exclusive rights to key franchises. Similarly, while print and video clip news are ubiquitous online,

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See for example, http://readwrite.com/2012/07/31/the-end-of-cable-tv-how-everyone-will-watch-television-in-the-future, http://www.wsj.com/articles/why-cable-tv-beats-the-internet-for-now-1427225376?curator=MediaREDEF

[7] In October, 2012, the Commission stated (Decision CRTC 2012-574, para 62, initial denial of BCE acquisition of Astral):
The Commission does not consider that there is compelling evidence on the record to demonstrate that foreign, unlicensed competitors are having a significant impact on negotiations for program rights by Canadian broadcasters. In addition, the Commission noted in its report Navigating Convergence II, published in August 2011, that based on available data, Internet platforms continue to be complementary to the traditional broadcasting system.

[8] http://www.theglobeandmail.com/report-on-business/crtc/article23541572/

[9] For example, a 2012 survey of NHL hockey fans found that two thirds of adult Canadians follow the game, with one quarter (24%) saying they love hockey and consider themselves to be "huge fans", and another four in ten (42%) who "watch occasionally." http://www.environicsinstitute.org/uploads/institute-projects/environics-institute-hockey-canada-2012-survey.pdf The latter could presumably "do without", if hockey became too expensive, but given interests in other sports would presumably be open to subscribing to TV.

watching major news events, as they happen, is still the purview of cable news – and newscasts continue to be favoured by large segments of the population[10];

- **Second, the business model of OTT is not ready to replace that of traditional TV**. Consumer costs for OTT are "artificially" low for two reasons[11]. First, 90% of OTT content is library content, acquired relatively cheaply, and originally financed by the very television system that OTT undermines[12]. Second, rather than being borne by the OTT provider, distribution costs are mostly pushed to subscribers in the form of ISP charges[13]. Studios have fed OTT to create greater competition; they have no interest in it leading to traditional TV's demise[14]; and

- **Third, the availability of "good enough TV" on OTT makes it adequate as a BDU replacement for lighter TV viewers only**. For entertainment content, particularly with many light viewers, on-demand OTT options can surpass what is available on TV. Convenience outweighs the fact that not all the best shows are available via OTT, and software interfaces guide viewers to choices that they might not otherwise consider worthwhile. Limited libraries and offerings mean however that OTT is not a TV replacement for heavier TV viewers.

13. In our view, the most likely scenario[15] over the short to mid-term is a material but not fatal erosion of traditional television. It is being driven primarily by Millennials, infrequent TV

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[10] Broadcasters also have an increasing degree of control in deciding what shows remain OTA versus on specialty channels. Canadians who cut the cord and expect to continue to find major sports on OTA channels, may find themselves disappointed in future.

[11] Costs are also lower because of an operating model of global scale, which means that costs can be recouped across larger subscriber bases.

[12] Studios are in the interesting position of wanting to support competition for their product on the one hand, but not unduly cannibalizing the existing broadcast business model, on the other. For new streaming services in the U.S., programmers like Walt Disney and Time Warner are reportedly placing "caps" on the number of people who can subscribe. http://adage.com/article/media/tv-programmers-put-subscriber-caps-skinny-bundles/297887/

[13] To be clear, OTT providers, like Netflix, do pay some costs for transport, particularly in the form of CDNs (content deliver networks) to get their content as close as possible to end users, which improves quality and reduces local ISP transit costs. Moreover, ISPs do benefit from the carriage of OTT video traffic, for example it drives broadband take-up. The point is simply that if Netflix had to pay for its entire point-to-point distribution, rather than have ISP subscribers merely "add it" to their ISP subscription, the costs would be material. As it stands, Netflix reports that, globally, it "delivers 99 percent of its traffic without payment to the terminating access network". http://arstechnica.com/information-technology/2014/08/netflix-sends-99-percent-of-its-traffic-over-free-connections-to-isps/. It is understood that Netfllix owns no infrastructure to serve Canada, but rather connects with all Canadian ISPs via a single interconnection point, on a peering (free) basis.

[14] Indeed, there are recent reports that studios may be pulling back from licensing library content to the likes of Netflix. http://www.businessinsider.com/cable-companies-still-have-one-big-weapon-against-netflix-and-they-are-starting-to-use-it-2015-9

[15] In the assumptions part of this paper, we have taken some pains to layer an analysis of the current trends and many different forecasts to construct five year forecasts for different regulatory assumptions.

viewers and non-sports/TV news watchers. Such viewers are the most motivated to abandon or reduce reliance on BDU services, and adopt some combination of BDU, OTA, and OTT platforms, and in the case of OTT, likely more than one platform.

14. As we will see, the CRTC's LTTV Decisions (particularly on unbundling, OTT and changes in regulations affecting the predominance of Canadian services) will accelerate this erosion. Our modeling of the next five years shows that specialty services lose subscribers and less popular specialty channels are closed down. This outcome will be the case, despite the fact that, for most Canadians, OTT services will remain "add-ons" to whatever they choose from BDUs.

15. The ultimate extent of erosion of Canadian TV in favour of OTT will depend on the health of the market as shaped by technology, competition and Canada's broadcast regulatory framework.

16. This study projects the financial impacts to 2020, a time period over which it is realistic to create reasonable outlooks. It is also a time period during which new or revised public policy decisions could be made in respect of the broadcast regulatory framework – which could have a material impact on the future of Canadian TV.

17. The changes and challenges facing Canadian TV longer term are profound, but not necessarily any more profound than other challenges that the Canadian TV system has faced since its inception.

18. Such challenges need not, however, necessitate abandoning fundamental objectives of broadcast policy, or many of the regulatory instruments the CRTC uses to further those objectives. They need not end Canadian TV as we know it, nor cause Canada to abandon regulation as a policy tool.

19. Based on our analysis, the proposed LTTV regulatory changes merit a rethink. In that light, the CRTC LTTV Decisions should not be considered the final word.

2.2 Canadian Programming Objectives of Broadcasting Policy in the Internet Age

20. Support for Canadian programming is the principal goal of Broadcasting Policy[16]. The regulatory system has been carefully constructed over decades to maximize support for

[16] The Canadian elements of the Canadian broadcasting system include the CBC, private networks and programming undertakings, and distribution undertakings. Under the *Broadcasting Act*, each element is required to "contribute in

Canadian programming in ways consistent with public taste, in terms of both exhibition and expenditures from public and private broadcasters and BDUs.

21. A key measure of success for Canadian broadcasting policy going forward, and a litmus test for the CRTC's LTTV Decisions, must be whether the system continues to maximize support for Canadian programming. While the *Broadcasting Act* does require that the system be "readily adaptable to scientific and technological change" and meet other such consumer-oriented goals[17], there is no reason why such consumer interests cannot be met *in addition to* furthering the cause of Canadian programming.

22. Technology is, undeniably, making achieving the objective of support for Canadian programming more difficult in two key respects:

    1. The move to "on demand" from "linear" or "scheduled" TV renders shelf space requirements like Canadian content exhibition obligations less effective; and

    2. Opportunities for by-pass of Canadian television providers (through the internet) increase, thus inevitably putting pressure on Canadian content expenditure stipulations.

23. These types of technological challenges are not fundamentally new[18] and, one might presume, should make the goal of support for Canadian programming more, not less, important.

24. CRTC figures cited in the LTTV decisions place the value of public and private support for Canadian programming at more than $4.1 billion in 2012-2013. Almost two thirds (65.6%), or $2.7 billion of this came directly from the expenditures of Canadian television programming services on Canadian programs. The remaining amounts came from federal and provincial tax credits (15.8%), the Canada Media Fund (CMF) (9%), tangible benefits

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an appropriate manner", "make maximum use, and in no case less than predominant use, of Canadian creative and other resources", "contribute significantly to" and/or "give priority to", Canadian programming. See subsections 3(1)(e), (f), (m), (s) & (t). The word "consumer" does not appear in the Act.

[17] See Act, Regulatory Policy Objects, subsection 5(2). It is also noteworthy that under subsection 5(3), the Commission is to "give primary consideration to the objectives of the broadcasting policy set out in subsection 3(1) if, in any particular matter before the Commission, a conflict arises between those objectives and the objectives of the regulatory policy set out in subsection (2)".

[18] The Canadian broadcasting system has been dealing with issues such as the impact of PVRs, VOD and "bypass" via US OTA and satellite services (DTH) since its inception. In each instance, the system has either sought to absorb the new technologies (e.g. counting of advertising when viewing PVRs), or minimize their competitive impact through the launch of Canadian equivalents (e.g. the launch of Canadian DTH) – always finding an "appropriate" contribution to Canadian programming.

(4.8%), the contributions of BDUs to community programming (3%) and various independent production funds (1.5%)[19].

25. Put another way, of the $4.1 billion spent on Canadian programming annually, less than $1.3 billion comes from some form of direct government subsidy[20], while $2.8 billion comes from the broadcasting system that was enabled by Canadian ownership and enforced through regulation. In other words, *without broadcast regulation and Canadian ownership requirements, spending on Canadian programming, could be less than a third of what it is today*[21].

26. Erosion of the regulated BDU-broadcaster system – the part now at risk from new technology – will ultimately reduce spending on Canadian programming, an effect unfortunately exacerbated by the CRTC LTTV decisions, as modeled below.

27. Direct spending on Canadian programming by Canadian broadcasters reflects, however, only one dimension of the entire system of regulations that have given priority to Canadian programming and Canadian services.

28. The television system is part of a broader film and TV ecosystem in Canada that, as at 2011, was estimated to support 260,000 full-time equivalent workers (FTEs). This broader ecosystem generated $13 billion in labour income for Canadians and $20 billion in GDP for the Canadian economy[22]. Effects on this broader ecosystem are also modeled in this study.

29. The benefits of Canadian television cannot be measured just in dollars. The value of local news in small, medium and large markets across Canada is one such pillar of Canadian

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[19] http://www.crtc.gc.ca/eng/archive/2015/2015-86.htm#fnb4, paragraph 28.

[20] Included in this amount are federal/provincial tax credits ($406 million), the government's contribution to the CMF ($134 million), and support for CBC TV programming expenditures from its parliamentary appropriation ($701 million of $783 million in funding), for a total of $1.24 billion.. Sources: CRTC 2014 Monitoring Report; CMF 2013-14 Annual Report.

[21] While arguably some form of Canadian programming would exist without the regulated Canadian owned and controlled broadcasting system, it is hard to envisage the incentive for a foreign owned unregulated broadcasting system to operate in Canada with much more than the minimal amount of such contributions. (Likely in the areas of sports, national news and some national events.)

[22] The Economic Contribution of the Film and Television Sector in Canada, Nordicity, July, 2013, commissioned by CMPA and MPA-C. The complete value chain of film and TV production through exhibition and distribution (including, for example, media manufacturing and DRM, online and physical sales) was included in this analysis. Approximately half of this economic value is accounted for through spin off benefits, including indirect economic impact (that associated with the sector's procurement from other sectors of the Canadian economy) and induced economic impact (the wider impact on the Canadian economy that arises from the re-spending of labour income earned at both the direct and indirect stages).

broadcasting, and one that is fundamental to Canadian democracy. This programming element is modeled in a separate companion analysis[23].

2.3 The Canadian Television System Circa 2020 - Impact of Technology Alone (the Baseline Scenario)

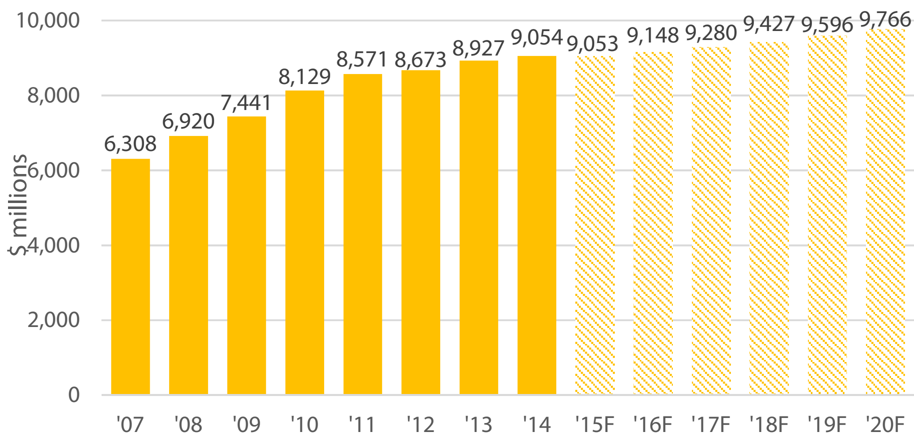
30. Assuming the regulatory environment stayed as it is today, and LTTV decisions were not implemented, what would the Canadian TV system look like in five years?

31. Answering this question forms our baseline scenario and the reference point for examining the impact of the LTTV Decisions.

2.3.1 Total Revenue

32. While total BDU subscribers are forecast to decrease from 11.8 million in 2014 to 11.3 million in 2020, we project that BDUs will still be in a position to increase average revenue per unit or subscriber (ARPU). Indeed, accretion in ARPU would offset subscriber declines and actually yield growing BDU revenues (Figure 6).

Figure 6 BDU revenue ($M)

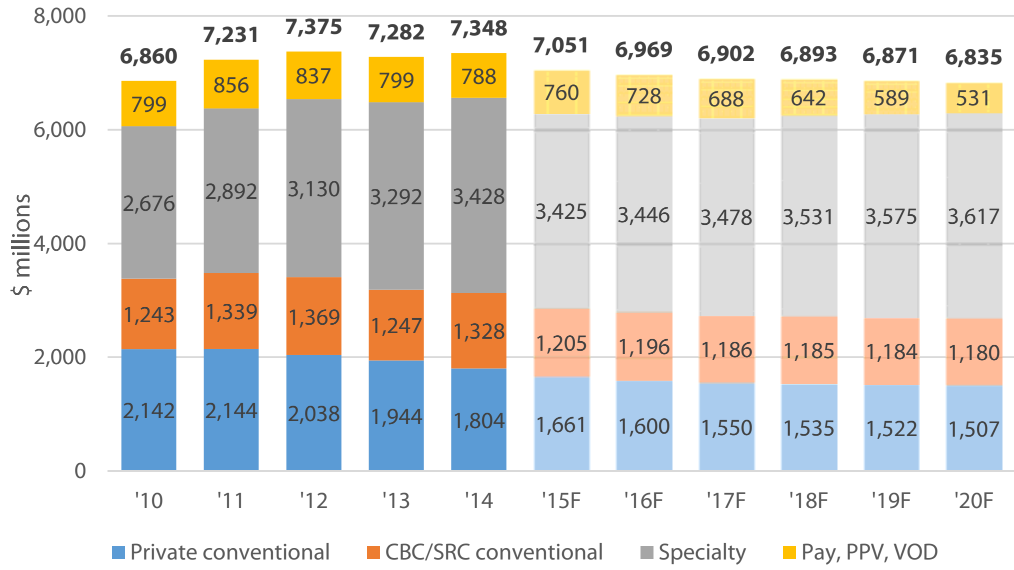


Source: Authors' estimates based on data from CRTC, Statistics Canada and Bank of Canada.

[23] *Near Term Prospects for Local TV in Canada,* Nordicity and Peter Miller, November 5, 2015.

33. With declining advertising and subscriber fee revenues due to such effects as cord cutting, cord shaving and the growth of internet advertising[24], total revenue in the TV programming sector in 2020 is, however, forecast to be some 7.5% lower than in 2014. In real terms, this represents a decrease of over 18% (Figure 7).

Figure 7 Total revenue for programming services, by platform



Source: Authors' projections based on data from CRTC, TVB, eMarketer, Zenith Optimedia IAB, Statistics Canada and Scotiabank.

2.3.2 Canadian Programming Expenditures

34. The CRTC requires programming services and BDUs to contribute a fixed percentage of their revenue to Canadian programming expenditures (CPE). BDUs are required to contribute 5% of their revenue to Canadian programming – mostly the community channel and contributions to the CMF. In general, the large broadcasting groups that operate most programming services in Canada must contribute 30% of their group revenues to CPE, however, the exact rates vary from group to group, and service to service.

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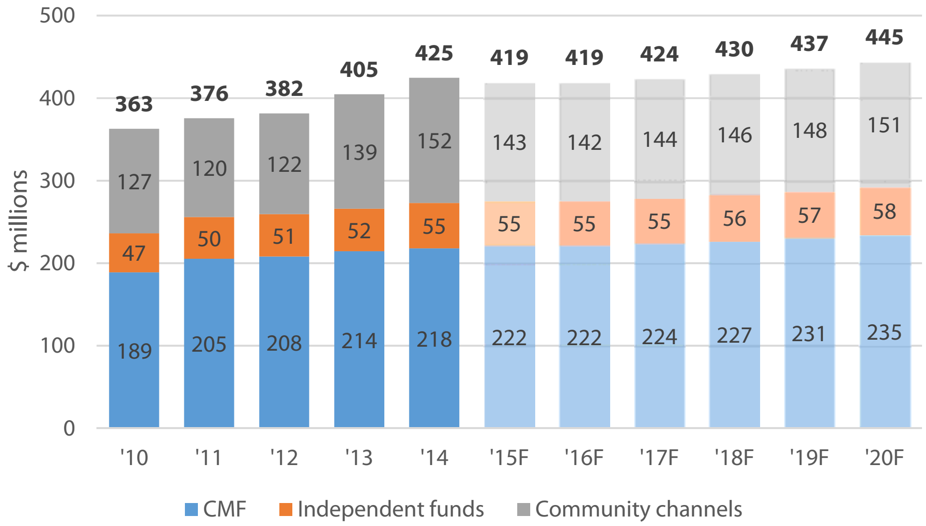
[24] Detailed assumptions are provided in Appendix A.

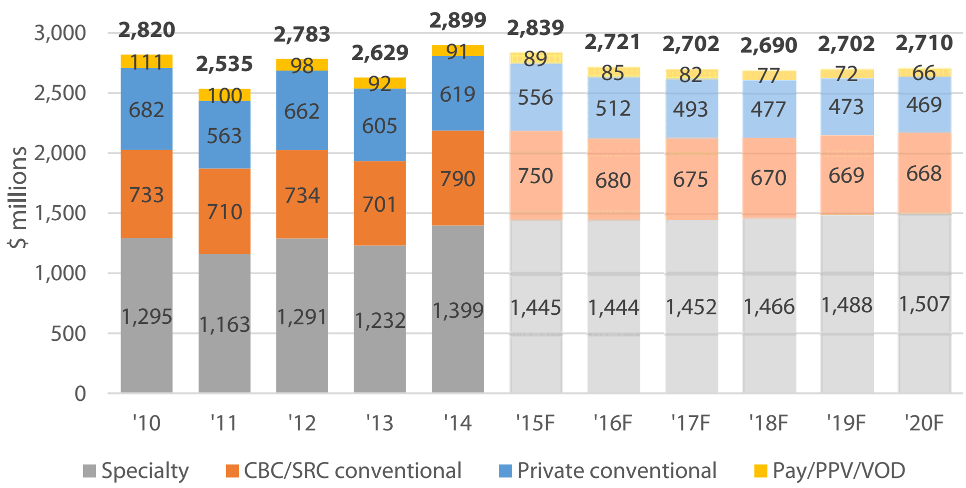
35. Forecasts for BDU and programming service CPE contributions were developed based on the revenue projections and historic contribution rates (Figure 8 and Figure 9).

Figure 8 BDU's CPE contributions



Source: Authors' projections based on data from CRTC.

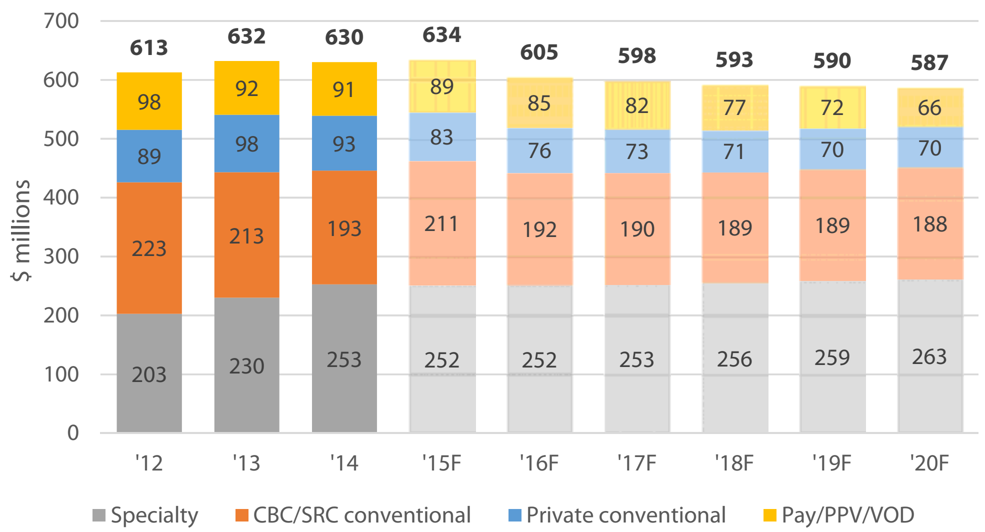
Figure 9 Programming services' CPE contributions



Source: Authors' projections based on data from CRTC.

36. As part of their CPE contribution requirements, programming services are also required to contribute 5% of their group revenues to the programs of national interest (PNI) category, which includes long-form documentaries, drama programming, variety programming (French-language market only) and certain awards shows (English-language market only). Projections were developed for this, below (Figure 10).

Figure 10 Programming services' PNI contributions



Source: Authors' projections based on data from CRTC

2.3.3 Overall Trend

37. These numbers tell a fairly positive story. Despite challenges to the system, including declines in programming service revenue of 7.5% from their peak in 2014 to 2020, the resilience of BDU platforms means that the system's capacity to support Canadian programming declines by little more than 5% over the same period in this baseline scenario. Moreover, CPE support in 2020 is comparable to the level achieved in 2012.

38. Contributions to PNI from programming services exhibit a slightly higher drop of 8.5% from their peak in 2013, made up only in part through a slight increase in BDU contributions to the CMF.

2.4 Assessment of the Impact of the LTTV Decisions

39. The LTTV scenario examines anticipated impacts of key LTTV decisions. Specifics provided in the suite of LTTV policy decisions allow the development of more precise impact analyses than was possible at the time of the actual proceeding. This is nevertheless something the CRTC itself has chosen not to do publicly; moreover, the Commission dismissed evidence submitted at the LTTV hearings that sought to illustrate the potential magnitude of the impact[25].

40. The current analysis considered 10 major LTTV decisions, finding the following five to be material, thus forming part of the modeling exercise:

    1. unbundling, including the $25 small basic;
    2. predominance on Canadian services offered, (but not received or purchased by the subscriber);
    3. elimination of access rules for specialty services;
    4. introduction of new hybrid OTT exemption order; and
    5. elimination of simulcast on the Super Bowl and other simulcast limitations.

2.4.1 Unbundling

41. The economic impact of unbundling has been the most remarked upon aspect of the LTTV Decisions, although it is by no means the only area of potential significant economic impact. Moreover, the interplay between certain of the major LTTV proposals could cause a greater impact than the sum of these same proposals taken separately.

42. Unbundling, as envisaged by the CRTC, will have three elements introduced in two stages:

    1. First, a $25 small basic, to be introduced by BDUs no later than March 2016;
    2. Second, pick a pack OR à la carte offerings, to be introduced by March 2016; and

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[25] As is noted below, various parties submitted evidence of potential negative impact. In one of its decisions, the Commission specifically rejected a "worst case" impact analysis of unbundling (provided in an undertaking response filed pursuant to ES1) of 10,674 losses in full-time employees and an annual $1 billion loss in gross domestic product for the Canadian economy in 2020.

3. Third, pick a pack AND à la carte , to be introduced by December 2016.

43. As directed by government[26], and confirmed by the CRTC in its Unbundling LTTV Decision, unbundling is intended to meet a "desire for more choice and flexibility expressed by many Canadians".

44. The fact that meeting this 'desire' will have potentially negative consequences has been acknowledged by the CRTC:

> The Commission has weighed the desire for more choice and flexibility expressed by many Canadians against parties' arguments that any changes to its approach must be implemented in a measured and gradual manner that reduces the potential for any undue negative outcomes. However, the Commission is ultimately of the view that it must take positive steps to bring about greater choice and flexibility in the Canadian television system[27].

45. Third party research filed during the hearings estimated that revenue losses due to unbundling (excluding other measures being contemplated by the CRTC) could cause revenue losses to the system of 5-10% or more. In particular, a study by Oliver Wyman filed by Shaw projected a take-up rate of 35% for BYOP/à la carte resulting in a loss to the TV ecosystem of $350 million per year.

46. Programmers and distributers alike warned of the potential negative effects of unbundling on the viability of programming services. After the LTTV unbundling decision was released, many analysts also warned of such negative effects.

2.4.2 Predominance on Canadian Services Offered, Not Received

47. In contrast to the unbundling decision, the Commission's decision to change the requirement that Canadians *receive* a predominance of Canadian services to one where Canadians are only *offered* a predominance of Canadian services has received little

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[26] We use the word 'direct' more in the practical than legal sense. A mandate letter issued by then-Minister Moore to Jean Pierre Blais on his appointment as Chair in June 2012 is understood to have stated, among other things, that "consumers should have access to more programming choices and affordable choices across all distribution platforms including radio, television, broadband networks and mobile devices". This was followed by a November, 2013, direction under section 15 of the *Broadcasting Act* requesting that the Commission examine (widely understood to mean 'implement') unbundling. http://www.pco-bcp.gc.ca/oic-ddc.asp?lang=eng&page=secretariats&dosearch=search+/+list&pg=98&viewattach=28427&blnDisplayFlg=1

[27] http://www.crtc.gc.ca/eng/archive/2015/2015-96.htm, para 25. The CRTC Chair has said, "there may indeed be services that don't survive and there will be job losses. That's always sad." http://www.simcoereformer.ca/2015/03/19/crtc-to-rule-on-how-canadians-pay-for-cable

attention. The lack of reaction is surprising given the absence of demonstrable need for such a decision and the significant risk inherent in it.

48. At the LTTV proceeding, most BDUs suggested that maintaining the historic predominance rule would not be a particular challenge in an unbundled environment.

49. Nevertheless, rather than taking a conservative or minimalist approach – and thus maintaining the preponderance regulation, the Commission chose to take a leap of faith, arguing:

> Requiring BDUs to offer a preponderance of Canadian services would be consistent with an environment of greater choice and flexibility. Further, considering the number of Canadian services that will be distributed even in the entry-level service offering, including 9(1)(h) services and two CBC services, the Commission is confident that the majority of English-language Canadians would continue to receive a preponderance of Canadian signals even without a specific requirement to this effect.

50. The authors believe the Commission's "confidence" can, and should, be debated. The CRTC's position does not recognize that currently most Canadians receive far more than a "preponderance" of Canadian channels. The CRTC's own statistics reveal that fully 86% of BDU wholesale fee payments go to Canadian services.[28]

51. Thus a reduction to a bare "majority" – something the Commission appears to suggest is acceptable – could constitute a 40% reduction in BDU payments to Canadian specialty services[29].

52. Unfortunately the dynamics of the interplay between the Commission's decisions could now drive many Canadians into choosing to receive even fewer Canadian services than 50%.

53. Today, an average BDU subscriber receives a basic package of perhaps 40 channels, of which 30 are likely to be Canadian. On top of this basic package, they might receive another 80 channels, of which at least 50 are likely to be Canadian, for a total of 120 channels, 80 of which (or 2/3rds) are Canadian.

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[28] CRTC (2015), Communications Monitoring Report 2015, pp. 144-145. This would not necessarily be identical to the number of services, but is a reasonable proxy.

[29] A 40% reduction is simply the mathematical effect of a reduction from 86% to 51% of BDU wholesale fee payments go to Canadian services. While such a dramatic result is not anticipated for all subscribers over the modeled timeframe, we see it as a reasonable assumption for those that choose unbundled options.

54. The Commission's model creates a new small basic of, perhaps, 25 channels, of which no more than five can be non-Canadian. Beyond this skinny basic, however, BDUs would apparently be free to offer, and Canadians able to receive, all foreign packages of services, be they selected in packages or BYOP.

55. Thus a Canadian who chooses to build a package of, say, an additional 35 services, might pick only a handful of Canadian – bringing the portion of Canadian services to perhaps 30 out of 60 – or 50%. Thus, not only does the CRTC's mandated unbundling encourage Canadians to subscribe to fewer services, it unnecessarily encourages them to reduce the relative as well as absolute number of Canadian services to which they subscribe.

56. Moreover, regular independent services can no longer be offered on basic and are only required to be offered on *one* pre-assembled or theme package put forward to market by BDUs – in addition to being offered on a stand-alone basis. Therefore, assuming Canadians will often choose non-Canadian channels, there will be less incentive to place unaffiliated Canadian services in popular packages. BDUs can deprive Canadian services of the opportunity to be bundled with popular predominantly US packages.

57. Conversely, the importance of popular U.S. programming and U.S. services to English Canadians means that BDUs will want to retain these services on their line-up, and discourage them from launching OTT versions in Canada. The outcome will be a natural inclination for popular U.S. services to demand the best possible packaging – including, potentially, a refusal to allow their services to be provided to Canadians on an à la carte basis[30].

58. When combined with loss of access rights, the accumulation of negatives toward Canadian services tips the balance away from a predominantly Canadian system.

2.4.3 Elimination of Access Rules

59. The LTTV Unbundling Decision eliminated access rights for so-called "Category A" specialty services. These services were originally licensed between the early 1980s and 2000s, are now mostly owned by vertically integrated entities, typically occupy the most popular TV niches, and carry higher regulatory obligations than more recently licensed Category B services (which have no such access rights).

[30] Under the Wholesale Code, applicability of unbundling to foreign services is a "guideline" only.

60. Having decided to eliminate genre protection, the Commission apparently felt it logical (although it wasn't necessary) to eliminate access rights for Category A specialty services[31].

61. Lost, it appears, in the Commission's calculus, is the broad "public interest" in Canadian programming – produced by Canadians, for Canadians (and, increasingly the world) and generating jobs for Canadians.

62. It is not support for vertically integrated companies that was the object of access rights, it was support for the services themselves and their Canadian programming.

63. No doubt the vertically integrated companies will find a way to ensure their most popular former Category A services survive in the Commission's new environment, but at what cost to Canadian programming and diversity?

64. As for independent services, the Commission has made it clear that the new 1:1 rule[32] is not intended to protect any individual service. The fact that at least three independent services have been before the Commission for dispute resolution since September 2015, alleging in part that certain BDUs have effectively "jumped the gun" on new LTTV flexibility, may be an unfortunate indicator of what is to come[33].

2.4.4 New Hybrid Exemption Order

65. Originally conceived and launched as complementary services available to existing subscribers, Shomi and Crave TV will, under the LTTV framework, be available to all

[31] This direction was further exposed by the CRTC's observations on service ownership:
Nearly 80% of all English-language Category A services are owned by one of the three vertically integrated entities (Bell, Rogers and Shaw/Corus) operating in the English-language market. Similarly, in the French-language market, two thirds of French-language discretionary services are owned by vertically integrated entities (Quebecor, Bell and Shaw/Corus)

[32] Under the new 1:1 rule, beginning 1 September 2018, vertically integrated BDUs will be required to offer one English- and French-language independent service for every English- and French-language service of their own that they offer (1:1 ratio). (The September 2018 date aligns with the time when the first independent services are set to be renewed.) While certainly useful, the trouble with the rule is two-fold. It applies to all independent services regardless of genre or language – and all independents are not equal. Some specialty niche ethnic services can survive on a pay TV model of high subscriber fee and as little as 20K subscribers. That will not work for former Category A independents that have more of a public interest niche and a need for more substantial revenues. The odds of the likes of OutTV and iChannel not surviving in this new environment are, hence, high indeed – though we made no individual channel assessment. And as some independents close shop, what is to say the CRTC would not be forced to relax the 1:1 rule – BDUs arguing that they cannot carry unaffiliated services that no longer exist.

[33] These include OutTV, iChannel and Avis de recherche.

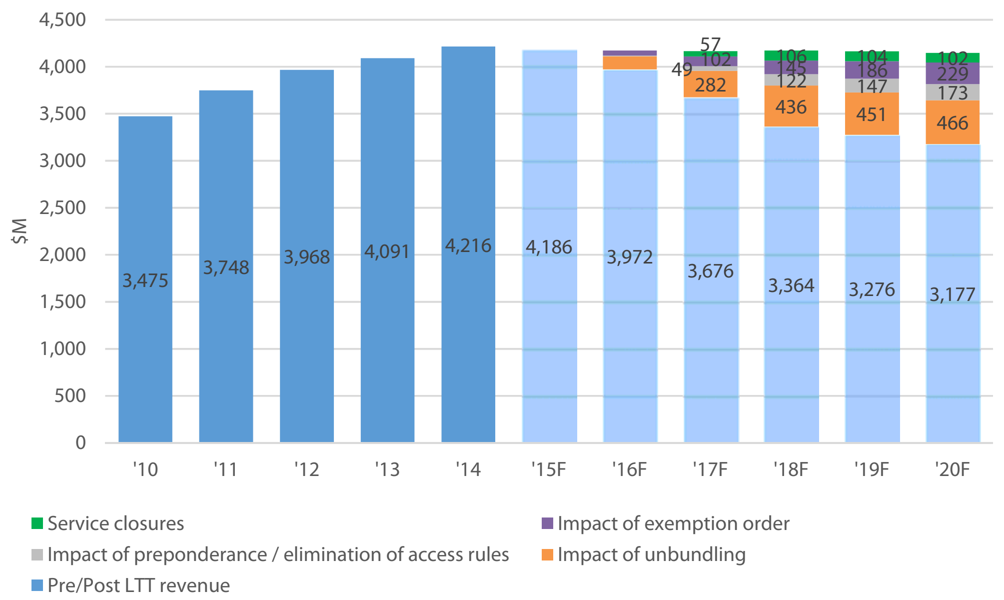
Canadians on a competitive basis[34]. This transformation from a "complementary" to "competitive" OTT approach is expected to materially increase cord cutting and cord shaving and the take-up of OTT in Canada from the baseline approach.

2.4.5 Combined Impact of LTTV Decisions

66. The combined effect of the LTTV Decisions will be to increase cord cutting, cord shaving and OTT adoption, and decrease specialty service take-up and hence revenues for both services and BDUs. Some services will simply be unable to make the transition, resulting in service closures.

67. Based on our modeling, the LTTV Decisions can be expected to result in a $970 million decrease in revenues at Canadian specialty and pay services, or 23% of their forecast baseline revenue in 2020.

Figure 11 Impact of LTTV (incl. service closures) on specialty and pay revenues

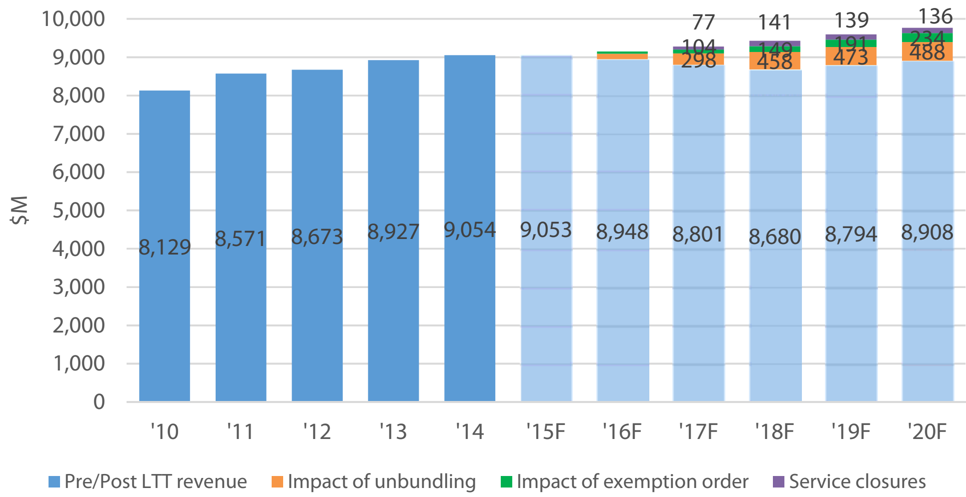


Source: Authors' research

[34] When originally launched in November 2014, Shomi was only available to TV and Internet customers of Rogers Communications and Shaw Communications. In summer 2015, Shomi was made available to all Canadians. CraveTV has announced it will follow suit effective January 2016. See http://www.theglobeandmail.com/report-on-business/crtc-to-force-broadcasters-to-offer-cravetv-shomi-to-all-canadians/article23420361/ http://www.huffingtonpost.ca/2015/07/13/bell-media-s-cravetv-to-become-available-to-all-canadians-on-jan-1_n_7788676.html

68. LTTV policies would also result in a $858 million reduction in BDU retail revenue in 2020, or 9% of their total forecast baseline revenue in that year, as compared to a scenario of no such regulatory changes.

Figure 12 Impact of LTTV (incl. service closures) on BDU revenues



Source: Authors' research

69. On an aggregate basis, the LTTV regime is expected to result in a $399 million reduction in CPE by 2020, or 18% of baseline CPE in that year. This total impact would include a $352 million reduction in CPE by Canadian programming services and a $47 million decrease in BDUs' contributions to the CMF, local expression and other production funds.

70. The consequences of these revenue and Canadian programming impacts translate directly into economic impacts, some of which are already being felt[35].

71. Loss of revenue within the Canadian broadcasting sector from the LTTV decisions is forecast to result in a loss of $984.9 million in GDP in the Canadian economy in 2020, including $628.3 million in direct GDP lost within the broadcasting sector and a further $356.6 million in spin-off GDP lost in other sectors of the Canadian economy. This reflects the projected loss of 7,950 FTEs of employment in the Canadian economy, including

[35] We note the recent Bell Media cuts that have, in part, been attributed to the CRTC LTTV Decisions. In a conference call discussing BCE's third-quarter 2015 results, president and chief executive officer George Cope told analysts the restructuring "is really the result of the CRTC rules, so we will be changing our cost structure to reflect that going into 2016." http://www.theglobeandmail.com/report-on-business/bell-media-to-cut-jobs-in-toronto-montreal/article27130545/

4,000 FTEs directly within the broadcasting sector (i.e. direct impact), and 3,950 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact).

72. The additional economic impact on Canadian production would constitute a $335 million decrease in production financing and lead to a loss of 7,180 FTEs of employment in the Canadian economy, including 2,830 FTEs of cast and crew employment (i.e. direct impact), and 4,350 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact).

73. Similarly, the loss in production financing and activity would also result in a loss of $426.3 million in GDP in the Canadian economy in 2020, including $174.2 million in direct GDP lost within the television production sector and a further $252.1 million in spin-off GDP lost in other sectors of the Canadian economy.

74. Combined, by 2020, the LTTV Decisions are likely to result in a loss of 15,130 FTEs of employment in the Canadian economy, including 6,830 FTEs of employment directly within the broadcasting and production sectors (i.e. direct impact) and a further 8,300 FTEs of employment in other sectors of the economy (i.e. spin-off impact). The likely resulting loss in overall GDP within the Canadian economy by 2020 is $1.4 billion. This includes $802.5 million in direct GDP and just $608.6 million in spin-off GDP[36].

Table 3 Summary of total economic impact of LTTV policies (broadcasting + production)

	2015	2016	2017	2018	2019	2020
Employment (FTEs)						
Direct	0	(1,480)	(3,640)	(5,820)	(6,320)	(6,830)
Spin-off*	0	(1,750)	(4,340)	(7,000)	(7,640)	(8,300)
Total	**0**	**(3,230)**	**(7,980)**	**(12,820)**	**(13,960)**	**(15,130)**
GDP ($M)						
Direct	0	(175.6)	(430.4)	(685.1)	(742.9)	(802.5)
Spin-off*	0	(129.0)	(320.5)	(514.9)	(561.0)	(608.6)
Total	**0**	**(304.5)**	**(750.9)**	**(1,200.0)**	**(1,303.9)**	**(1,411.1)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

[36] We acknowledge that this impact outlook is materially worse than a 'worst case' impact analysis provided during the LTTV process that was explicitly rejected by the Commission. (See http://www.crtc.gc.ca/eng/archive/2015/2015-96.htm, para 40-41) However, that 2014 'worst case' calculation was made for a regulatory scenario that assumed only unbundling was mandated. In fact, the impact of the Commission's decisions go well beyond merely the impact of unbundling, and our analysis demonstrates that the LTTV unbundling decision alone is only responsible for roughly 50% of total impacts. Our analysis does assume that, in aggregate, Canadian channels will lose subscribers and revenues, and that some channels will close, but that is far from unreasonable.

2.5 Unbundling Decision Revisited

75. In the immediate aftermath of the Unbundling LTTV Decision, analysts posited a range of impacts on BDUs and the system from nominal to grave. One Bay Street analyst predicted subscriber revenue reductions of $5 - $10 monthly[37]. Another predicted that BDU ARPU from TV services could decline by as much as $9-$21 for some customers[38]. Others, however, noted that "Given that the price per channel is likely to be a lot higher with both pick-and-pay and small build-your-own-bundle options, we suspect that most consumers will stick with the old system for a long time, if not forever", and that "since there is no price regulation and BDUs can continue to sell their current packages, we believe BDUs will have the flexibility to maintain their existing economics." [39]

76. These different perspectives reflect, in part, different views of BDU and consumer behaviour and leverage. If one believes that BDUs retain the market power to keep customers without offering 'attractive' unbundled options, then one can assume that the impact on BDU revenues, at least, will be minimal[40].

77. If one believes that BDUs will lose market share to OTT without the creation of more consumer friendly packaging options, then we can assume the impact of unbundling to be real, but the impact of a decision not to unbundle to be worse for the BDU.

78. In the former case, 'choice and flexibility' are illusory. Yes, consumers receive new smaller and self-picked packages, even à la carte, but the price is so high and the value so low, few take advantage of it.

79. In the latter case, the Commission's regulated solution is unnecessary,[41] as the market was going to drive BDUs to those decisions in any case. BDUs need and want to provide

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[37] Per Desjardins Capital Markets analyst Maher Yaghi, http://alphabeatic.com/pick-and-pay-tv/

[38] Per Canaccord Genuity analyst Dvai Ghose, http://www.hollywoodreporter.com/news/canada-moves-a-la-carte-783283

[39] Per TD Securities analyst, Vince Valentini and Scotia Capital analyst Jeff Fan, http://www.hollywoodreporter.com/news/canada-moves-a-la-carte-783283. Of course, they will have competition from OTT services so their price setting ability would not be unlimited.

[40] In such a scenario, BDUs might comply with the "letter of the law" in terms of making unbundling available, but in such a way that it is relatively unattractive from a price-value equation, so that very few Canadians opt for it. Any losses in BDU revenues could to some extent also be mitigated given greater BDU negotiating leverage over programming services.

[41] Although the Commission clearly doesn't see it this way, suggesting that it made its decision based on considering "the potential upsides of greater choice, including the retention of subscribers in the system, as well as the risks associated with maintaining the status quo in a context of increased demand for more choice", para 41, http://www.crtc.gc.ca/eng/archive/2015/2015-96.htm

greater choice to their customers, and prohibiting programming services from preventing BDUs from doing so is all that's required to make it happen.[42]

80. In either case, the Commission's approach appears disproportionate to the intended public benefit in at least three ways.

81. First, the Commission deliberately opted for fundamental rather than incremental regulatory change. As noted by the Chair in public comments around the release of the LTTV Decisions:

> "One of the key lessons we at the Commission learned is that all of us need to re-think the way we look at the communication industry. Ideas must be adapted, attitudes changed, new tools introduced."[43]
>
> "Some people will tell you, as they did at our public hearing last fall, that everything is fine and there is no need for sweeping change. I'm here today to tell you that this model will not work anymore … Today, we announced a number of significant changes to bring the CRTC's regulations and Canadian television forward into the Age of Abundance."[44]

82. This position appears to have been taken notwithstanding the absence of any direct or specific evidence to suggest that current regulatory approaches were becoming unworkable[45]. Yes, change is coming, and more services will be provided outside the regulated system, but mandated unbundling and its attendant regulations could hamper the ability of the system to adapt to this new world.

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[42] The Commission's rejection of this approach demonstrates a lack of faith in BDUs to find the right market solution. The Commission stated at paragraph 37: "In this regard, while some parties argued that it would be sufficient to prohibit programmers from preventing BDUs from offering programming services on a pick-and-pay or build-your-own-package basis, this approach does not take into account the fact that vertically integrated BDUs have every incentive to ensure that their related programming services are insulated from the financial pressures that come with greater choice and packaging flexibility. As such, BDUs, and vertically integrated BDUs in particular, may not be sufficiently incented to make the necessary changes to their current offerings or might make these changes at a much slower pace than that desired by Canadian subscribers."

[43] Jean-Pierre Blais to the London Chamber of Commerce on *Let's Talk TV and the future of television*, January 29, 2015.

[44] Jean-Pierre Blais to the Canadian Club of Ottawa on *Let's Talk TV and the future of content made by Canadians*, March 12, 2015.

[45] Many interveners argued for change, but none based these arguments on the notion that current regulations were now unworkable.

83. Second, fundamental objectives of broadcasting policy, such as support for Canadian programming, have been compromised through the elimination of longstanding regulatory measures[46] with little rationale and no analysis as to impact.

84. Third, in introducing unbundling, the Commission has chosen to 're-regulate' the system and specifically direct activity, rather than rely on market forces as much as possible. Presuming that the industry itself does not know its market, and needs 'prodding', it could be said that the CRTC is substituting its view of the market for that of those who are in the marketplace.

85. Had, for example, the Commission merely required specialty services to allow unbundling[47], while maintaining rules that benefit those services – such as access rules and the requirement for predominance on Canadian services received – the goal of greater consumer choice would have been achieved, but at far less cost to the system in terms of Canadian programming contribution and general economic benefit.

86. In particular, our analysis shows that such a less interventionist approach to introducing unbundling would reduce negative effects of the LTTV Decisions described in the outlook above by on the order of 75%.

87. This could be achievable in the following manner:

1. Preserving 'preponderance received' and access rules would materially shift leverage back to Canadian programming services, allowing them to retain closer-to-historic shares of both subscription revenues (vis-à-vis U.S. services) and retail revenue (vis-à-vis BDUs);

2. Greater BDU control over unbundling options would reduce consumer take-up, revenue losses, and incentives to increase BDU share of retail revenues;

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[46] These measures include:

- Measures to support a separate Canadian TV rights market, such as simultaneous substitution
- Measures that ensure Canadians receive a predominance of Canadian programming and services, in particular, exhibition requirements and preponderance requirements in discretionary service packages
- Measures that maximize the support for Canadian programming, such as expanding requirements to new broadcast platforms

[47] This option was in fact considered by the Commission, but rejected because of the Commission's desire to create more "consumer choice", and its conclusion that "the Commission considers that BDUs have not generally demonstrated that they would willingly move to more flexible packaging options on their own". http://www.crtc.gc.ca/eng/archive/2015/2015-96.htm, para 36-39

3. Ability to maintain Canadian broadcaster-BDU OTT services as complementary rather than competitive to BDU services, would reduce take-up of these unregulated options, and hence cord-cutting and cord-shaving;

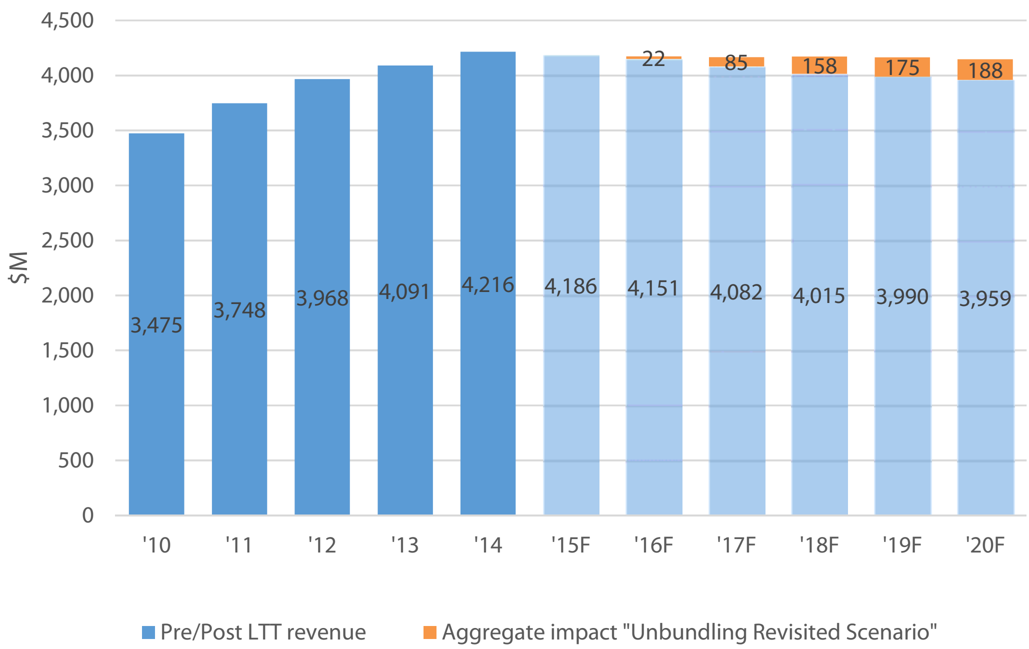
4. Maintenance of previous simulcast eligibility rules would re-establish the primacy of rights protection, and avoid revenue leakage; and

5. All the above would reduce specialty service closures.

88. This Report recognizes that the 'clock can not be turned back' on all LTTV Decisions. Our analysis suggests however that relatively minor 'tweaking' could materially reduce the negative impact on Canadian programming and the system from some of the unnecessary and perhaps unintended effects of certain aspects of these decisions.

89. For example, under this 'unbundling revisited' scenario programming service revenue in 2020 would be only $188 million lower (i.e. 4.5% lower) than under the baseline scenario (Figure 13), rather than the $970 million decrease (23%) forecast for the LTTV scenario.

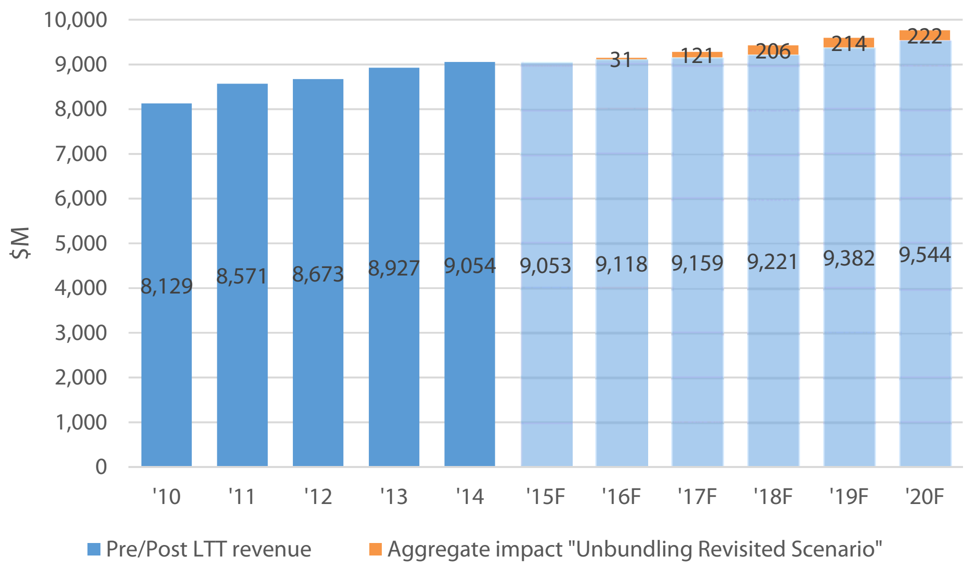
Figure 13 Impact of Unbundling Revisited Scenario on specialty and pay revenues



Source: Authors' research

90. Similarly, BDU revenues in 2020 would be $222 million lower (2.2% lower) than in the baseline scenario, rather than the $858 million reduction (9%) projected for the LTTV scenario.

Figure 14 Impact of Unbundling Revisited Scenario on BDU revenues



Source: Authors' research

91. Given such lower revenue impacts, this 'unbundling revisited' scenario has far lower Canadian programming, Canadian production and general economic impacts. In particular:

1. Reductions in revenue experienced by BDUs and programming services would translate into a decrease of $70 million in CPE in 2020, compared to $399 million for the LTTV scenario. This decrease would include an $11 million reduction in BDUs contribution to CPE (including contributions to the CMF and local expression) and a $59 million reduction in programming services' CPE. Overall, CPE would decline by 2.2% compared to baseline forecast of CPE in 2020

2. The resulting $72 million decrease in production financing would lead to a loss of 1,550 FTEs of employment in the Canadian economy, including 610 FTEs of cast and crew employment (i.e. direct impact), and 940 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact)

3. Losses in production financing and activity would also result in a loss of $91.9 million in GDP in the Canadian economy in 2020, including $37.6 million in direct GDP lost within the television production sector and a further $54.3 million in spin-off GDP lost in other sectors of the Canadian economy

92. Combined economic impacts experienced within the broadcasting and production, by 2020, are likely to result in a loss of 3,470 FTEs of employment in the Canadian economy, including 1,610 FTEs of employment directly within the broadcasting and production sectors (i.e. direct impact) and a further 1,860 FTEs of employment in other sectors of the economy (i.e. spin-off impact). This is considerable lower than the LTTV Decision projected losses of 15,130 FTEs of employment in the Canadian economy, including 6,830 FTEs of employment directly within the broadcasting and production sectors (i.e. direct impact) and a further 8,300 FTEs of employment in other sectors of the economy (i.e. spin-off impact).

93. This would also likely result in a net loss of $328.4 million in GDP within the Canadian economy by 2020 (as opposed to the LTTV projected net loss of $1.4 billion), including $190.1 million in direct GDP and just $138.2 million in spin-off GDP (as opposed to $802.5 million in direct GDP and just $608.6 million in spin-off GDP for the LTTV Scenario).

3. Conclusions

94. There is no doubt that the technological trends and resultant changes in consumer behaviour are having an impact on Canadian broadcasting, its audiences, revenues and ability to contribute to and to air Canadian programming.

95. The notion of Canadian television in the more distant future becoming predominantly internet-based, on demand and 'over-the-top' is not particularly far-fetched – although linear television will likely continue to have a significant presence for some time to come.

96. The bigger question is how to keep the "Canadian" in Canadian Television, however it is delivered.

97. Our analysis demonstrates that the CRTC's LTTV decisions will materially exacerbate reductions in support for Canadian programming. From $4.1 billion in 2012, system expenditures on Canadian programming would have barely declined by 2020 without the LTTV Decisions. Our analysis estimates that with the LTTV decisions in place, expenditures on Canadian programming will have declined to $3.7 billion[48].

98. While it can be argued that a public policy body being ahead of the 'technological change' curve is a good thing, we believe that the more materially negative outlook created by the LTTV Decisions is more likely to have a longer term negative consequence. Damaged too much now, Canadian services will not have the same resilience as they would have if support effectively tapered off more slowly over time. Moreover, as technological change can often be slower to take hold than expected, the value of the accumulated loss of regulatory support for Canadian programming could easily reach single digit billions of dollars over the next five years.

99. When the economic impacts experienced within the broadcasting and production sectors are combined, we arrive at an estimate of the total economic impact of the LTTV Decisions. Our conclusion: By 2020, LTTV policies are likely to result in a loss of 15,130 FTEs of employment in the Canadian economy, including 6,830 FTEs of employment

[48] This, using the CRTC's figures in the LTTV Decision on Canadian programming as cited in paragraphs 24 and 25 above. As also noted in the Authors' companion study on Local Television, dated November 5, 2015, in an announcement made on September 22, 2015, the Liberal party announced that a Liberal government would invest $150 million in new annual funding for CBC/Radio-Canada. Should this commitment be implemented, it would largely reverse revenue reductions and job losses otherwise projected for the Corporation, and accordingly narrow this $400 million gap, but would certainly not fill it. https://www.liberal.ca/liberals-to-invest-in-canadian-culture-and-middle-class-jobs/. (We note that the mandate letter to the Minister of Canadian Heritage asks the Minister to "Restore and increase funding for CBC/Radio-Canada, following consultation with the broadcaster and the Canadian cultural community.")

directly within the broadcasting and production sectors (i.e. direct impact) and a further 8,300 FTEs of employment in other sectors of the economy (i.e. spin-off impact).

100. The LTTV Decisions would also likely result in the loss of just over $1.4 billion in GDP within the Canadian economy by 2020. This includes $803 million in direct GDP and $609 million in spin-off GDP.

101. It does not have to be this way, however.

102. Unbundling can be implemented without such negative effects on the system and its support for Canadian programming and good Canadian jobs.

103. Had, for example, the Commission merely required programming services to allow unbundling, while maintaining rules that benefit programmers – such as access rules and the requirement for predominance on Canadian services received – the goal of greater consumer choice would have been achieved, but at far less cost to the system.

104. In particular, our analysis suggests that such an approach to introducing unbundling could reduce negative effects of the LTTV Decisions described above by approximately 75%.

105. This would not, in our view, require 'turning back the clock' on all LTTV Decisions. It would merely require relatively minor 'tweaking' that recognizes Canadians as broadcasting policy has always recognized them – not merely as consumers, but as creators and citizens too.

PART B. MODELLING AND ASSUMPTIONS

1. General

106. All figures are for the calendar year. Where calendar figures were not available, CRTC broadcast year figures have been used.

107. Given the methodology employed in the report, published forecasts generally used include overall economic growth, subscription revenue, overall advertising (and to a lesser extent, media advertising), TV (conventional, specialty and online) advertising, Internet advertising (mobile, online, and the video subsector in particular) and outdoor advertising.

108. Outlooks for the 2015 -2020 period include the following three scenarios:

    1. **Baseline** – impact of technological and consumer behaviour changes assuming pre-existing regulatory regime remains unchanged– i.e. without implementation of LTTV decisions

    2. **Current** – With anticipated impact of yet-to-be implemented CRTC LTTV decisions, including unbundling & $25 small basic, predominance on Canadian services offered, not received, and elimination of access rules for specialty services

    3. **Unbundling revisited** – With a modified, less damaging, implementation of the LTTV regulatory decisions. (For example, if unbundling was introduced with more leverage given to programmers and maintenance of predominance on Canadian services received.)

109. Models are conceivable and plausible, not best or worst case scenarios. In particular, none of the models developed include elements of a scenario being either worst or best case. For example, while it may be theoretically possible that the revenues of the Canadian broadcasting system could fall by 50% to 2020, this is not a scenario contemplated in any scenario.

110. We have modeled the impact of the LTTV decisions, and shown how they could impact Canadian programming expenditures, the broadcasting and production sectors, and the jobs in those sectors. Presumably, jobs could return if foreign customers were substituted for Canadian customers. However, there is certainly no guarantee that Canadian broadcasters and producers will be more successful in global markets. In fact, history suggests that weaker domestic demand will affect their ability to crack global markets.

111. The models could be made more robust by applying weighted probability analysis based on data sampling. However, there is no easy way to assign probabilities to the projections underlying future scenarios. Thus, the assumptions are based on what evidence and historical patterns are available.

2. Scenarios

2.1 Baseline Scenario

112. The baseline scenario examines trends and outlooks for major factors affecting the economics of Canadian television, including subscription to OTT services versus traditional television, particularly broadcast distribution undertaking (BDU) and TV service subscriptions and revenues, advertising, including the impact of internet advertising, and all consequentially, expenditures on Canadian programming.

113. In assuming the pre-LTTV, pre-existing regulatory regime remains unchanged, this scenario assumes that mandatory unbundling and a $25 small basic would not be implemented, and all current rules regarding access, entry of foreign services, predominance of Canadian services, Cancon exhibition etc. would be maintained.

114. The baseline scenario does, however, accept that one particular aspect of the LTTV Regime has already been implemented – that is the elimination of genre protection. We believe, however, that this decision is largely "a wash" from a broad economic impact perspective. It will impact diversity, favouring larger broadcast enterprises over small independents, and likely be another factor increasing competition for U.S. programming. But we do not see it as materially changing the overall economic outlook for the sector as a whole.

2.1.1 Over-The-Top TV Subscriptions

115. The growing adoption of over-the-top (OTT) television services by Canadian households is expected to represent one of the key technological and consumer behaviour changes affecting annual levels of revenue and Canadian programming expenditures (CPE) in the Canadian broadcasting system between 2015 and 2020. OTT offerings build on the increasing consumer penchant for on-demand viewing, coupled with the growing availability of bandwidth to deliver OTT services at reasonable prices. OTT represents a new way to package, price, and consume television programming and therefore offers both a substitute and supplement to BDU service. Its precise impact depends on the extent to which it grows the TV pie vs. cannibalizes traditional TV consumption.

116. Most recently available statistics suggest that Canadians are rapidly adopting online video generally and OTT in particular:

    1. Canadians watch 24.6 hours of video online monthly, up 36% (5 hrs more than in US);

2. 73% of online Canadians access online video;

3. 43% watch TV programs online;

4. 39% of English Canadians are Netflix subscribers;

5. 16% of Canadians don't pay for a traditional TV service, up from 12% three years ago;

6. 5% say they have cut the cord in the last three years; 17% say they are interested in doing so;

7. 9% of Canadians watch TV online only; and

8. 82% of Netflix subscribers watch Netflix weekly for an average of 6 hours[49]

117. In the year since ES1, OTT has continued its growth trajectory in Canada. Most significant, and not yet reflected in available statistics, Netflix has been joined by Shaw and Roger's Shomi and Bell-owned CraveTV, which, apparently as a result of LTTV decisions, are morphing from being primarily complementary to BDU offerings, to being competitive to them.

118. The options now available for compelling, quality, ad-free OTT are strong indeed. For less than $20 a month (with a satisfactory broadband data plan), Canadians can now choose to subscribe to Shomi and Netflix with no BDU service at all, and no requirement to pick a particular ISP. By January 1st, CraveTV will be able to be added for little more than a total of $20 monthly.

119. What percentage of Canadians will choose to opt for such OTT offerings, in lieu of BDU services, cannot be predicted with certainty. Certainly, there is evidence of greater cord cutting or cord nevers among Millennials and younger demographics, generally[50]. We

[49] Sources: ComScore 2014 & MTM Surveys Fall, 2014, Spring 2015. Note that survey data such as this often overstates adoption of new "cool" technology or intent to adopt. See, for example, http://www.cbc.ca/news/business/growing-number-of-canadians-cutting-traditional-television-cbc-research-shows-1.3139754
https://www.mtm-otm.ca/Download.ashx?file=Files/PressReleases/Who%20are%20Canadian%20Cord-Cutters%20Two%20new%20MTM%20reports%20provide%20insight%20into%20how%20Canadians%20are%20living%20without%20paid%20TV%20subscriptions.pdf

[50] For example, as at 2014, 12% of 55+ subscribe to Netflix and 35% of 18-34 do. Source MTM 2014

also find that quintile analysis of light to heavy TV viewers (among all demographics) to be useful.

120. BBM Data reveals that since 2010 (the year Netflix launched in Canada), the lowest quintile of English TV viewers have reduced their aggregate viewing to traditional TV from 5.9 hrs a week to approximately 3.9 hrs a week. We believe that this 33% reduction is just the start, and that this lowest quintile will continue to reduce their reliance on traditional TV, to the point of mostly abandoning BDU services altogether by 2020. Their relatively modest TV viewing needs will instead be met, at much less cost and greater convenience, by the myriad of OTT and online options, with perhaps a little bit of over-the-air television (OTA) for news and major sports[51]. This would bring subscriptions to BDU services from the current 84% of Canadian households to 80%, and represents, in our view, the minimum level of losses to BDU subscriptions that can be expected over the medium term (5-10 years; therefore not necessarily by 2020).

121. There remains however a core of viewers to traditional television – generally TV sports watchers and heavy consumers – who can be expected to remain loyal to BDU services for the foreseeable future. These tend to be older demographics but are not exclusive to them. In our view, this core segment represents a lower bound[52] to BDU subscription levels that is not expected to be further eroded for the foreseeable future. We believe this core represents 60% of Canadian households. Unless there is a fundamental shift in the business or regulatory model for TV in Canada and/or the U.S., we believe that BDU subscription levels will not fall below this 60% threshold over any medium term timeframe.

122. As a starting point, we therefore see an outside lower and upper bound of BDU subscriber levels in Canada of 80% and 60% over the medium term, representing a minimum of 5% losses to BDU subscriptions and a maximum of close to 30%. This also directly informed our OTT forecasts.

123. A bottom-up approach was used to forecast the annual number of OTT subscriptions in Canada. Under this approach, OTT subscribers can come from one of three categories: (i) cord-nevers, (ii) cord-cutters and (iii) cord-shavers/keepers. The overall results of this bottom-up approach in terms of annual household penetration rates were validated against forecasts for OTT penetration in the US.

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[51] BBM PPM Data 2+.

[52] In this context, "lower bound" refers the lower limit or lowest level for which an assumption or uncertain quantitative variable is unlikely to fall below.

Cord Nevers

124. This group is composed of newly formed Canadian households (single or multiple-person households) that never subscribe to a BDU service and instead opt to subscribe to only OTT services. Data from Statistics Canada's National Household Survey (NHS) and population projections were used to prepare a forecast of the annual number of new households in Canada between 2015 and 2020.

125. We then assumed that a certain percentage of these new households would opt to be cord nevers. This percentage was assumed to be 30% in 2015, increasing to 50% by 2018 (Table 4).

126. According to Statistics Canada data analyzed by Communications Management Inc., approximately 60% of Canadians under the age of 30 subscribed to either cablevision or satellite television in Canada in 2013; 40% did not subscribe to any BDU service.[53] This technologically-savvy under-30 age group is being seen to increase its propensity for disconnecting over time[54], but also provide a key measure for the profile and behaviour of new immigrants, the second element of new households. New immigrants to Canada are younger than the Canadian average[55], 2.6 times more likely to be low-income[56] and therefore inherently less interested in or able to pay for BDU services. There are also a large number of legal and illegal OTT options for ethnic services that are dramatically impacting the BDU ethnic channel business[57]. We therefore predict that the 30% level of new households in Canada that seek BDU subscriptions will level off at an upper bound of 50% by 2019 – opting for no legal television programming service or OTT.

[53] Communication Management Inc., (2015), *Canada's Digital Divides*, (August 2015), p. 18.

[54] The causes are not just technological. There is evidence that Millenials also watch less sports, for example. [Cite]

[55] The median age of immigrants is 31,7, meaning that just under 50% of immigrants are under the age of 30. *Immigration and Ethnocultural Diversity in Canada*, Stats Canada, 2011, http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-eng.cfm#wb-head

[56] *Immigration, Low Income and Income Inequality in Canada: What's New in the 2000s?,* Garnett Picot and Feng Hou, Social Analysis and Modeling Division, Statistics Canada, http://www.statcan.gc.ca/pub/11f0019m/11f0019m2014364-eng.htm

[57] See, for example, OTT A Major Challenge to Satellite, Ethnic Channels Group Says, On September 15, 2015, Copyright Enforcement Canada, http://copyrightenforcement.ca/ott-a-major-challenge-to-satellite-ethnic-channels-group-says/

Table 4 Assumptions for cord nevers

	2015	2016	2017	2018	2019	2020
Share of new Canadian households that are cord nevers	30%	35%	40%	45%	50%	50%

Source: Authors' research.

Cord Cutters

127. The cord cutters category includes BDU subscribers that cancel their BDU subscription in order to rely exclusively on OTT and/or over-the-air services (OTA) for the television programming services. To estimate the annual number of cord-cutters, we developed assumptions for the annual percentage of BDU subscribers that cancelled their BDU subscription in order to opt exclusively for OTT and/or OTT. In that regard, the forecast of cord cutters was also a function of our forecast for BDU subscribers (see below).

128. According to research conducted by CBC, the share of Canadians that did not "pay for a traditional TV service" increased from 12% in 2012 to 16% in 2015.[58] This would suggest that cord cutting in Canada has been running at an annual average rate of 1.33% of all households in recent years ([16% – 12%] ÷ 3 = 1.33%). Since BDU subscribers accounted for approximately 85% of total households in 2013 (the latest year for data published by the CRTC)[59], the annual magnitude of cord-cutters in Canada would be equivalent to approximately 1.5% (1.33% ÷ 85% ≈ 1.5%).

129. For our forecast of cord-cutters, therefore, we assumed that 1.6% of BDU subscribers would cord-cut (and opt for OTT and/or OTT) in 2015. This rate is conservatively assumed to drop to be 1.5% for the 2016-2020 period (Table 5).

Table 5 Cord cutting assumptions

	2015	2016	2017	2018	2019	2020
Share of BDU subscribers that cord cut	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%

Source: Authors' research.

[58] The Canadian Press (2015), *Growing number of Canadians cutting traditional television, CBC research shows,* CBC.ca, July 6, 2015. CBC's research also indicated that 20% of BDU households were interested in cord cutting, as of May 2015.

[59] CRTC (2014), *Communications Monitoring Report 2014*, p. 119.

Card Shavers/Keepers

130. Cord shaving/keeping refers to those BDU subscribers that opt for an OTT service but keep their cable or satellite TV service, although with a diminished package (in some cases). In our model, cord-shavers/keepers increase the number of OTT subscribers in Canada, but do not affect the number of BDU subscribers.

131. Limited empirical research of cord shaving in Canada (or the US) is available; however, we used the cord shaving/keeping category to calibrate the difference between the sum of cord nevers and cord cutters, and the overall number of OTT subscribers as indicated by projected growth in the US. We also took note of CBC MTM research to the effect that 8% of Canadians say they have cut the cord; 12% say they will.

132. That approach suggested that 5% of BDU subscribers would cord shave/keep in 2015, declining to 1% in 2020 (Table 6).

133. This rate of cord shaving is not cumulative. In other words, it represents the share of BDU subscribers on an annual basis that would switch from exclusively using a BDU service to using a combination of BDU and OTT services. Because the rate is not cumulative, it is reasonable for it to decline during the forecast period. The underlying assumption is that the majority of BDU households that wish to cord shave will most likely do in the near term, so that by 2017, this shaving phase would will start to wind down. By 2020, therefore, at least 22% of BDU subscribers would have cord-shaved/kept during the five year period.[60]

Table 6 Cord shaving/keeping assumptions

	2015	2016	2017	2018	2019	2020
Share of BDU subscribers that cord shave (not cumulative)	5%	4%	3%	2%	1%	1%
Cumulative share of BDU subscribers that cord shave	5%	9%	12%	14%	15%	16%

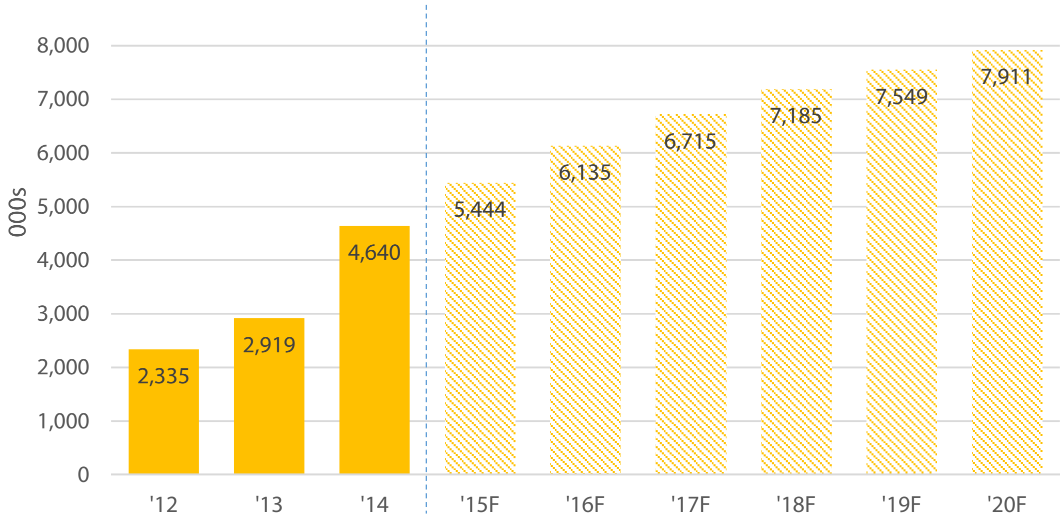
Source: Authors' research.

134. Summing the annual number of cord-nevers, cord-cutters and cord-shavers/keepers yielded the forecast of total OTT subscribers (as opposed to OTT subscriptions) in Canada found in Figure 15.[61]

[60] This does not include BDU subscribers who cord shaved/kept prior to 2015.

[61] The number of OTT subscriptions would be higher than the number of OTT subscribers, since some households will subscribe to more than one OTT service. As noted, our modelling estimated the number of households that subscribed to at least one OTT service.

Figure 15 OTT subscribers in Canada



Source: Authors' estimates based on data from Statistics Canada, Media Technology Monitor, Trefis and Digital TV Research.

135. As noted above, our bottom-up approach to forecasting OTT subscribers was validated and calibrated against forecasts of OTT penetration in the US. Digital TV Research forecasts that the number of subscription VOD (SVOD) subscribers in the US will increase from 46.9 million in 2014 to 53.4 million in 2015 and 69.6 million in 2020.[62] This projected growth implies that the number of SVOD subscribers as a percentage of total US households would increase from 38% in 2014 to 54% in 2020.

136. A separate year-by-year forecast of Netflix subscribers in the US posted on the web by Trefis was used to establish a year-by-year trajectory for OTT penetration rates in the US.[63]

[62] Digital TV Research (2015), "North American SVOD far from mature," press release June 25, 2015. This press release also included a forecast for SVOD in Canada, however, we chose not to use it since the projected number of SVOD subscribers for 2015 appeared to significantly understate where we understand the market to be.
[63] Trefis (2015), "Why We Are Revising Our Price Estimate For Netflix," May 1, 2015. http://www.trefis.com/stock/nflx/articles/291905/why-we-are-revising-our-price-estimate-for-netflix-2/2015-05-01.

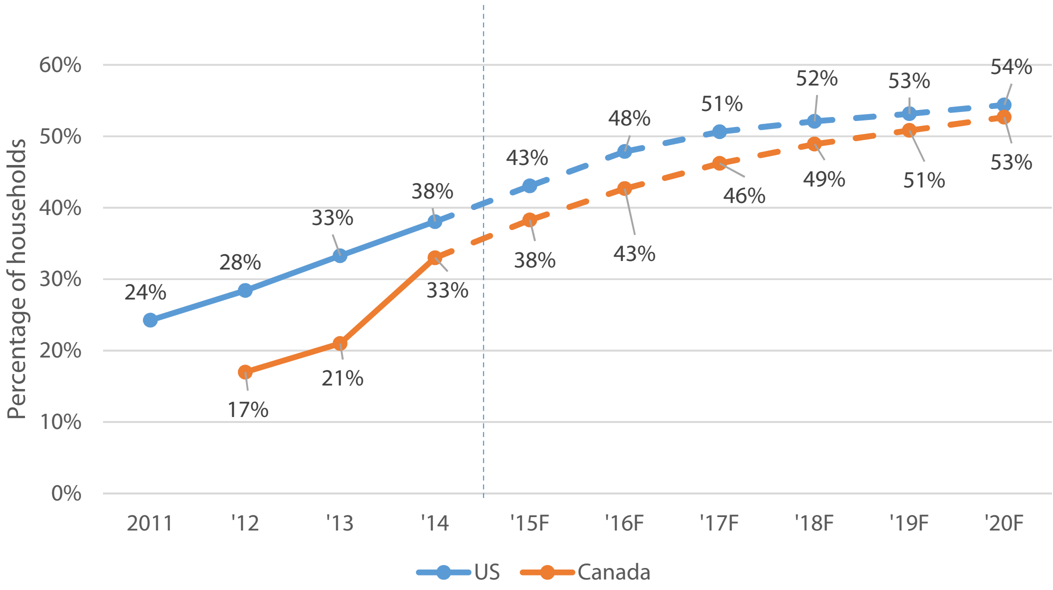
Table 7 Forecast of OTT penetration in US

	2015	2016	2017	2018	2019	2020
US Netflix subscribers (Source: Trefis) (M)	45.5	51.0	54.8	57.0	58.7	60.1
Annual growth	--	12.1%	7.5%	4.0%	3.0%	1.0%
US SVOD subscribers (Source: Digital TV Research) (M)	53.4	--	--	--	--	69.6
Composite forecast of US OTT subscribers (M)†	53.4	59.9	64.3	66.9	68.9	69.6
US households (M) ††	124.0	124.8	125.6	126.4	127.2	128.0
Penetration rate	43%	48%	51%	52%	53%	54%

Source: Trefis, Digital TV Research, Authors' research.
† The number of subscribers for 2015 and 2020 were sourced directly from Digital TV Research (2015). The figures for the interim years (2016-2019) were estimated by applying the annual growth rates implied by Trefis.com's forecast of Netflix subscribers.
†† The forecast for US households was prepared by the authors, by assuming that annual growth of US households observed in 2014 (0.63%) continued to apply for the 2015-2020 period.

137. To validate our forecast of OTT subscribers in Canada, we compared the implied annual penetration rates to those forecast for the US. As noted in Figure 16, the OTT penetration rate in Canada lags that in the US by approximately one to two years until 2020 when they virtually converge at close to 54% of households. We assume a slight lag for Canada based on the slightly less competitive OTT market and the lack of major OTT inroads into the French-language Canadian market. By 2020, therefore, our model assumes that OTT penetration in Canada will be 53%, compared to a forecast of 54% for the US. The slightly lower penetration rate in Canada, in part, reflects the fact that the adoption of OTT services has been much slower in Canada's French-language market compared to its English-language.

Figure 16 OTT penetration rates, Canada vs. US



Source: Authors' estimates based on data from Media Technology Monitor, Trefis and Digital TV Research.

2.1.2 BDU Subscriptions

138. To forecast the total annual number of subscribers to BDU services (cable, DTH/MDS and IPTV), we modelled the annual number of new households that would opt to subscribe to BDU services (i.e. new subscribers) and deducted the number of BDU subscribers who are cord cutters.

New Subscribers

139. To forecast new subscribers, we assumed that 10% of the new households formed each year would not adopt to any type of subscription television services (traditional or OTT) – they would either have no television service or rely exclusively on over-the-air (OTA) reception. Statistics Canada data indicate that 16.5% of Canadian households did not subscribe to cable or DTH in 2013.[64] Considering that a portion of these households

[64] Communications Management Inc. (2015), p. 16. Approximately 6% of Canadians are understood to watch TV over the air (OTA)

would have been using the Internet or OTT to obtain television programming, the 10% assumption is reasonable.

140. From the 90% of new households that were assumed to subscribe to some type of TV service, we subtracted the percentage that were assumed to be cord-nevers and thereby opted for OTT service. For example, for 2015, we assumed that cord-nevers accounted for 30% of new households; this implied that BDU subscribers would have accounted for 60% of new households (90%–30%=60%).

141. New subscribers were allocated across the three primary BDU platforms – cable, DTH and IPTV – based on the following assumptions (Table 8). These assumptions reflected Canadian households' increased interest in IPTV and diminishing interest in DTH in recent years.

Table 8 Allocation of new BDU subscribers

	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Cable	30%	30%	30%	30%	30%	30%
IPTV	65%	65%	65%	65%	65%	65%
DTH	5%	5%	5%	5%	5%	5%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Authors' research.

Cord Cutters

142. As noted in Table 9 cord cutters were assumed to represent 1.6% of total BDU subscribers in 2015, and 1.5% in each year thereafter. We assumed that 67% of cord cutters come from cable and 33% from DTH. Since IPTV is a relatively new BDU platform, we assume that it will not lose subscribers to cord cutting during the 2015-2020 period.

Table 9 Share of cord cutters

	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Cable	67%	67%	67%	67%	67%	67%
IPTV	0%	0%	0%	0%	0%	0%
DTH	33%	33%	33%	33%	33%	33%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Authors' research.

Intra-BDU Migration

143. We also forecast the migration of subscribers between various BDU platforms. Specifically, we forecast the degree to which IPTV would gain subscribers from the cable and DTH platforms. For 2015, we assumed that 3.5% of cable subscribers and 1.5% of DTH

subscribers would churn[65] to IPTV. These rates were assumed to decline to 0.5% and 1.0%, respectively, by 2020, as the number of existing BDU subscribers interested in IPTV complete their transition to the new platform, and cable adopts IP technology.

Table 10 Share of BDU subscribers migrating to IPTV

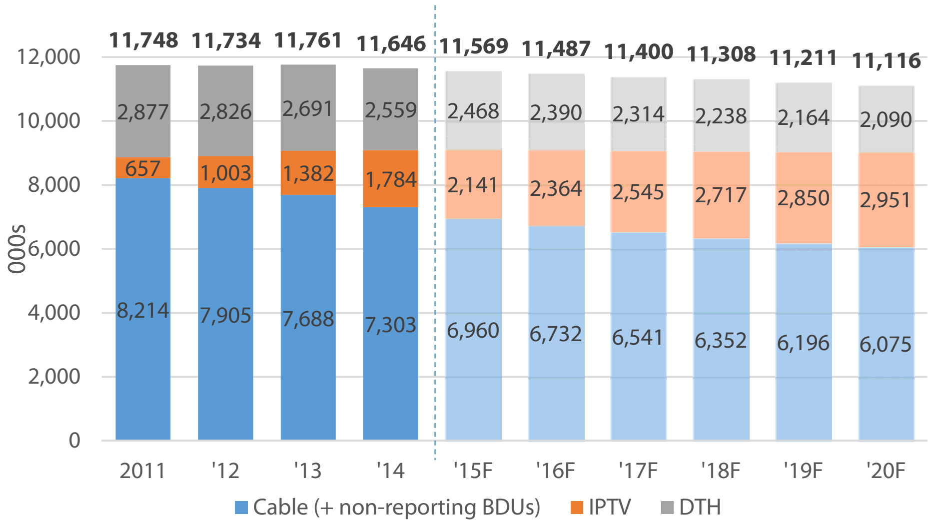
	2015	2016	2017	2018	2019	2020
Cable	3.5%	2.0%	1.5%	1.5%	1.0%	0.5%
IPTV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DTH	1.5%	1.0%	1.0%	1.0%	1.0%	1.0%
Total	**5.0%**	**3.0%**	**2.5%**	**2.5%**	**2.0%**	**1.5%**

Source: Authors' research.

Total BDU Subscribers

144. These assumptions yielded the forecast of BDU subscribers summarized in Figure 17. Total BDU subscribers are forecast to decrease from 11.6 million in 2014 to 11.1 million in 2020. This forecast is consistent with a recent IDC report, which also forecast that the total number of BDU subscribers in Canada would drop to 11.3 million by 2019.[66]

Figure 17 BDU subscribers (000s)



Source: Authors' estimates based on data from Media Technology Monitor, Trefis and Digital TV Research.

[65] "Churn" is a term commonly used in the communications sector to refer to the portion of subscribers that cancel their service in a given time period.
[66] Sophia Harris (2015), "Cordcutting grows as more people flee traditional TV, report says," CBC News, July 28, 2015.

145. The subscriber forecasts for 2015 were validated against subscriber statistics in the interim financial statements released by Canadian media companies. Our forecast indicates that the number of cable subscribers will decrease by 4.8% in 2015. This is consistent with the 5.9% year-over-year decrease in cable subscribers reported by Rogers Communications Inc. (RCI) in the second quarter (Q2) of 2015.[67] It is also consistent with the 3.9% decrease in cable TV subscribers experienced by Shaw Communications Inc. ("Shaw") in the first nine months of the 2015 broadcasting year (i.e. September 1, 2014-May 31, 2015).[68]

146. Similarly, the 3.8% decrease in total DTH subscribers implied by our forecast was comparable to the 3.3% in satellite TV subscribers experienced by Shaw during the first nine months of the 2015 broadcasting year.[69]

2.1.3 BDU Subscription Revenue

147. To forecast the overall subscription revenue earned by BDUs we combined the forecast of subscribers with a separate forecast of BDUs' monthly average revenue per unit (ARPU).

148. Predicting BDU retail pricing of packages in an environment of increasing OTT competition cannot be done on a straight trend line basis. As a CRTC analysis has demonstrated – unlike wireless, for example – over a number of years, cable subscription fees have increased faster than the Consumer Price Index (CPI). As recently as 2012, when the average amount spent on cable and satellite TV services increased by 5%, inflation rose by only 1.5%[70]. That over-indexing to CPI appears, however, now to be on the wane.

149. Going forward, the price sensitivity of cable consumers can only be expected to increase because of the competition from OTT. Even absent the new CRTC regulatory regime following on the LTTV decisions, BDUs can be expected to recognize that the days of automatic annual $1 and $2 monthly increases, with no increase in value, are almost over.

150. As noted above and in Figure 18, prior to the introduction of Netflix in Canada, BDUs were able to pass through annual price increases such that their annual increase in ARPU (between 2007 and 2010) was in excess of 5% and well above CPI inflation rates of around 2%. In 2011, ARPU increased at the same rate of CPI inflation (2.9%) and in 2012, it actually increased by only 0.2% – well below the inflation rate of 1.5%. In 2013 BDUs'

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[67] Rogers Communications Inc. (2015), "Supplemental Financial Information: Second Quarter 2015," p. 8.

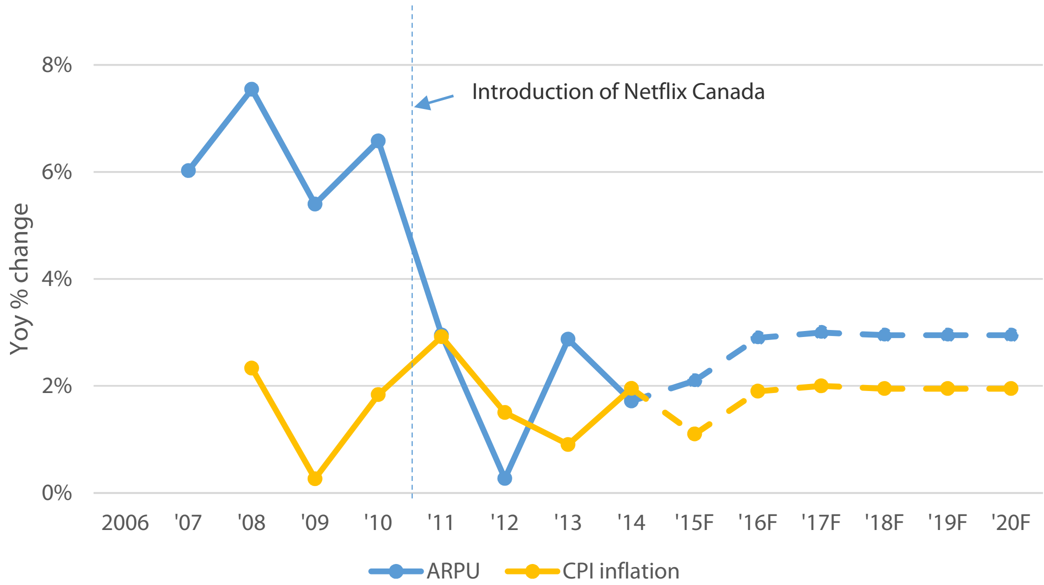
[68] Shaw Communications Inc. (2015), "Shaw announces third quarter financial and operating results," June 25, 2015, p.4.

[69] Shaw Communications Inc. (2015), p.4.

[70] Similar to above CPI increases have occurred in the US. *Report on Cable Industry Prices*, FCC Docket NO 92-266, May 16, 2014.

ARPU increased at a faster rate than CPI; however, in 2014 it increased at virtually the same rate as CPI.

Figure 18 Annual change in BDU ARPU and CPI inflation, historical and forecast



Source: Authors' estimates based on data from CRTC, Statistics Canada and Bank of Canada.

151. To forecast ARPU, we obtained the Bank of Canada's forecast of CPI price inflation for 2015 through 2020. To this inflation forecast, we added an ARPU premium of one percent (Table 11). We elected to use a positive premium (i.e. greater than zero percent) to reflect the fact that as BDU subscribers cut the cord, those that are left may, in fact, be less sensitive to BDU rate increases, thereby permitting BDUs to restore some – but by no means all – of the pricing power they once enjoyed.

Table 11 ARPU trend assumptions

	2015	2016	2017	2018	2019	2020
CPI inflation	1.1%	1.9%	2.0%	2.0%	2.0%	2.0%
ARPU premium	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Overall ARPU increase	**2.1%**	**2.9%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**

Source: Authors' research and Bank of Canada.

152. Before finalizing our forecast of ARPU, we also applied an adjustment to account for the effects of cord shavers/keepers. Cord shavers/keepers were assumed to reduce their BDU subscription bill by an average of 25% (Table 11). BDU subscribers that adopted CraveTV

or shomi (or both) were also assumed to have reduced their BDU subscription bill. The effects of cord shaving/keeping incorporated into our forecast of ARPU to arrive at a weighted average ARPU for all BDU subscribers.

Table 12 Assumptions for cord shavers' average reduction in BDU ARPU

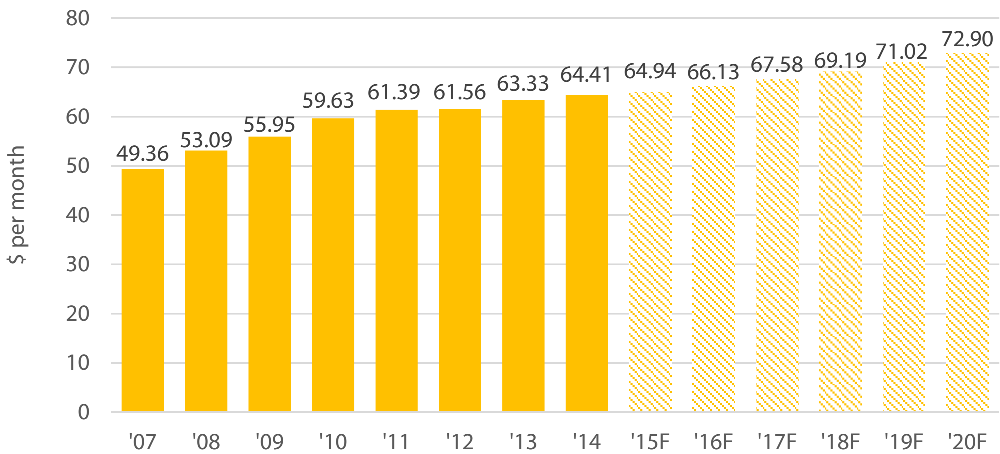
	2015	2016	2017	2018	2019	2020
Average reduction in BDU ARPU among cord shavers	25%	25%	25%	25%	25%	25%

Source: Authors' research.

153. This forecast of positive but decreasing ARPU premium reflects the fact that BDUs will continue to experience increased competition from OTT, but will still maintain some pricing power beyond CPI inflation because the industry still displays a relatively concentrated industry structure with some protection from international competition. Furthermore, an argument could be made that once price-sensitive subscribers have either cord-cut or cord-shaved, the remaining BDU subscribers would either be those that are not as price sensitive or put a higher value of BDU services, and thereby, would be willing to absorb price increase above CPI inflation.

154. The resulting forecast of monthly BDU ARPU is detailed in Figure 19. As discussed above, the increasing ARPU is not inconsistent with the environment of increased competition from OTT.

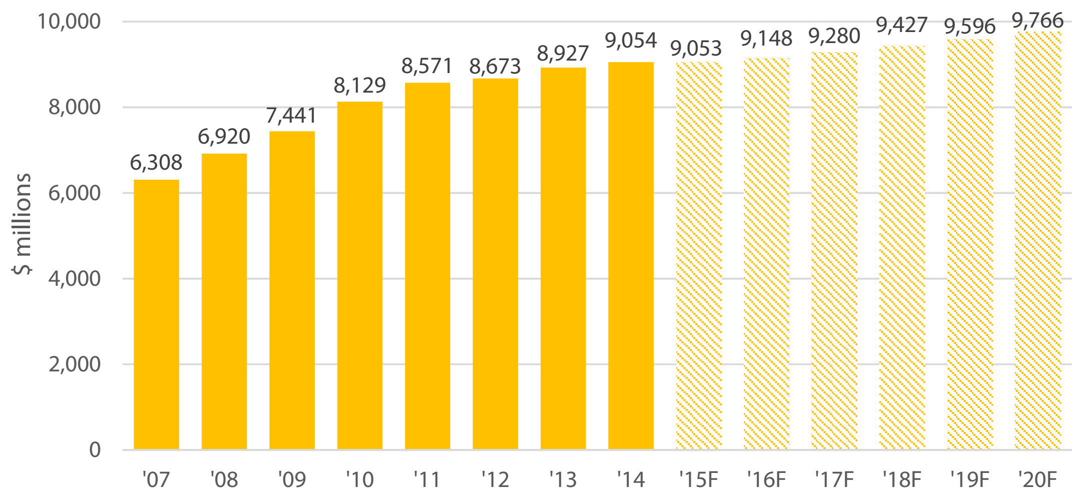
Figure 19 BDU's monthly ARPU



Source: Authors' estimates based on data from CRTC, Statistics Canada and Bank of Canada.

155. When the forecasts of the number of BDU subscribers and the APRU are combined, we arrive at the total BDU revenue forecast summarized in Figure 20. Although BDUs are forecast to experience decreasing subscriber numbers between 2015 and 2020, the accretion in ARPU would offset these declines, and actually yield growing BDU revenues.

Figure 20 BDU revenue ($M)



Source: Authors' estimates based on data from CRTC, Statistics Canada and Bank of Canada.

2.1.4 Advertising

156. A two-stage approach was used to forecast advertising revenue in the television industry. The first stage involved the preparation of a forecast of total advertising spending in Canada. The second stage involved the apportioning of this total ad spend to various media, based on separate forecasts of the relative expansion or contraction of ad market shares by medium.

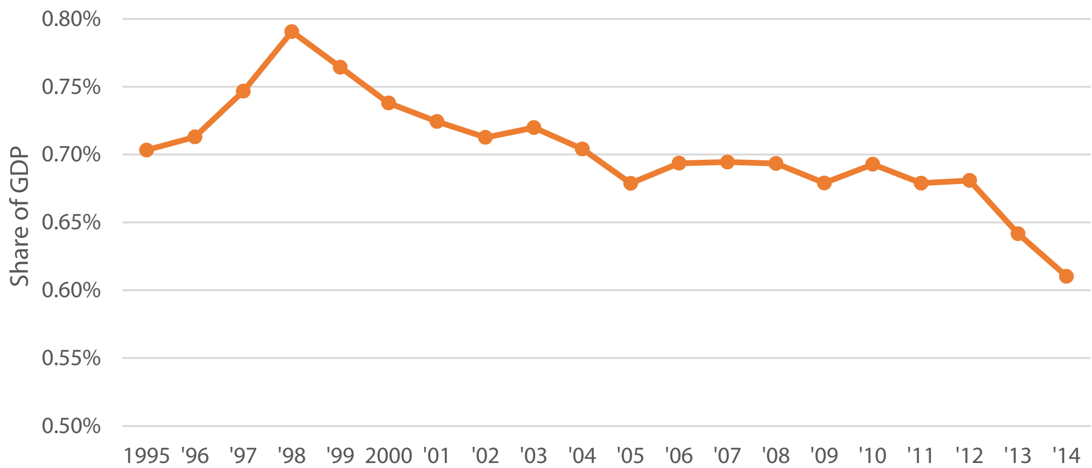
Total Advertising Spending

157. Historical advertising spend data for Canada (2006-2014) was obtained from TVB. These data indicated that advertising spend in Canada peaked at $12.5 billion in 2012, before declining to $12.2 billion in 2013 and just over $12 billion in 2014.

158. To forecast the overall ad spend market, we examined the historical relationship between ad spend and nominal GDP (i.e. GDP in current dollars) in Canada. This approach reflects the fact that over the long-term, total ad spend has tended to track closely with GDP growth in North American economies.[71]

159. As a share of nominal GDP, total media advertising spend in Canada has remained relatively consistent up until recent years. With the exception of the dot-com years (1998-2000), media advertising spend's share of nominal GDP has hovered around 0.70% since 1995 (Figure 21). It was only beginning in 2013 that the share fell below 0.65%; by 2014, it was down to 0.61%. This sudden and pronounced drop in share may be more structural than cyclical, since more and more of consumers' time spent with media is being transferred to lower-CPM[72] platforms such as online and mobile.

Figure 21 Media ad spend in Canada as a share of nominal GDP (historical)



Source: Authors' estimates based on data from TVB and Statistics Canada.

160. **2015:** After two consecutive years of contraction, ZenithOptimedia is forecasting an overall increase of 0.6% in Canadian advertising spend in 2015.[73] This forecast is as of

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[71] On a year-to-year basis the relationship between ad spend and GDP can fluctuate significantly. There are many reasons for year-to-year variation, including election campaigns, Olympic years, lags and the sectors contributing to GDP growth.

[72] CPM refers to "cost per thousand" and is the unit commonly used in the media advertising sector to compare the prices charged for the placement of ads or impressions.

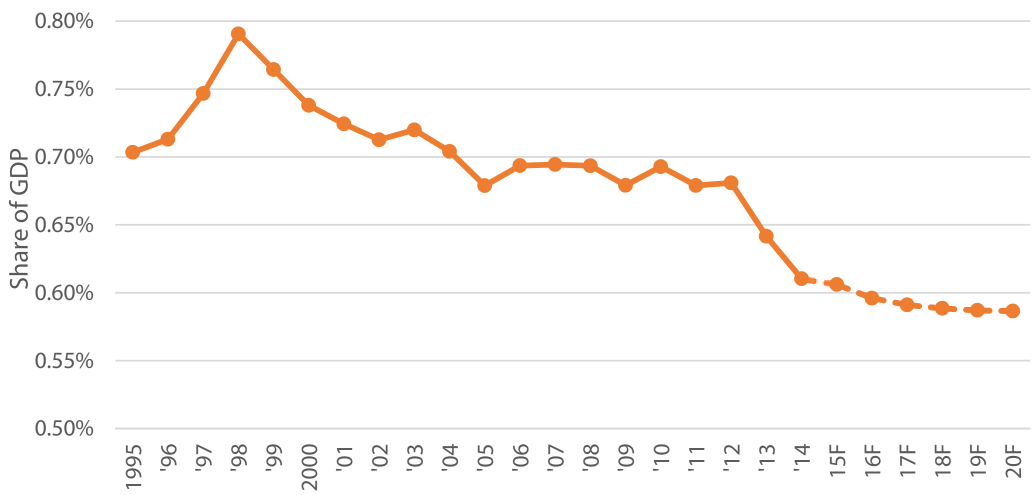
[73] Chris Powell (2015), "Zenith Optimedia revises global ad spend forecast downward," *Marketing Magazine*, June 23, 2015, http://www.marketingmag.ca/media/zenithoptimedia-revises-global-ad-spend-forecast-downward-2-150276.

summer 2015 and already takes into account any bump from the Pan Am Games or the federal election.

161. Zenith's forecast reflects a 5.5% decrease in television advertising revenue (conventional and specialty) during the 2014/15 broadcast year (ending August 31). However, our consultations with the TV industry suggest that overall decrease in TV ad revenue will be somewhat higher during 2015 – i.e. closer to 7% or 8%. When this steeper decline in television advertising is taken into account, the implication is that overall ad spend in Canada will actually be unchanged in 2015 (assuming that television's additional declines do not simply migrate to Internet and mobile). This scenario of flat growth in overall media ad spend implies that its share of nominal GDP will finish 2015 in the range of 0.60% to 0.61%.[74]

162. We assume that media ad spend's share of the GDP levels off at approximately 0.58% of nominal GDP.

Figure 22 Media ad spend in Canada as a share of nominal GDP (historical and forecast)



Source: Authors' estimates based on data from TVB, Zenith Optimedia and Statistics Canada.

163. These assumptions imply the following forecast for growth in the overall ad market in Canada. So, while overall ad spend will be relatively flat in Canada in 2015 (and 2016 to a

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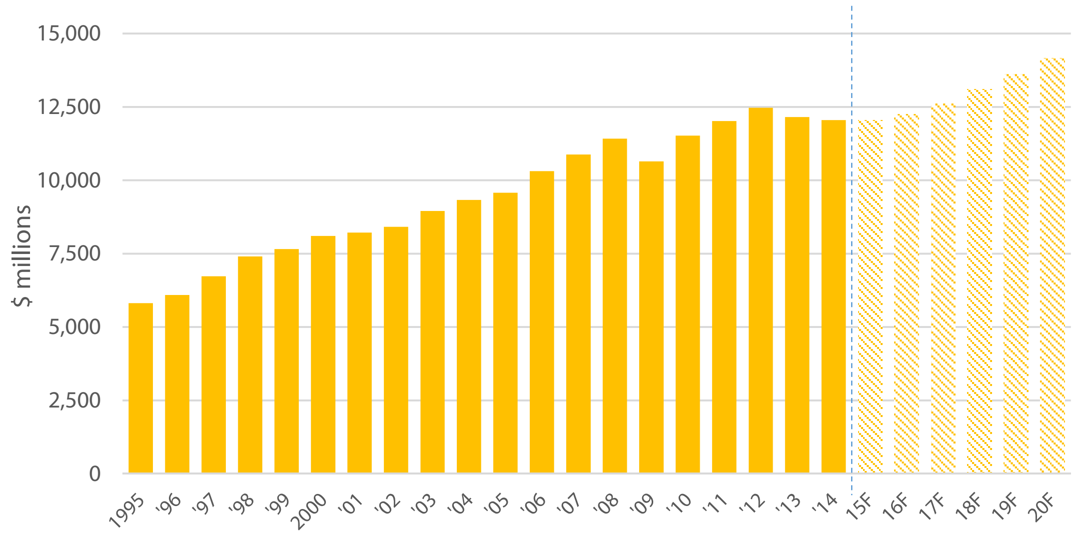
[74] Our forecast of nominal GDP is based on the forecast of 2015 nominal GDP growth of 0.7% published in Scotiabank, "Global Forecast Update," September 1, 2015 p. 5. Other Canadian chartered banks did publish forecasts in June 2015, however, the Scotiabank report was the only publicly available forecast available at the time of writing that reflected the continued weakness in the global economy observed in August 2015.

lesser extent), it will resume its long-term growth – in accordance with nominal GDP growth in the Canadian economy – from 2017 onwards.

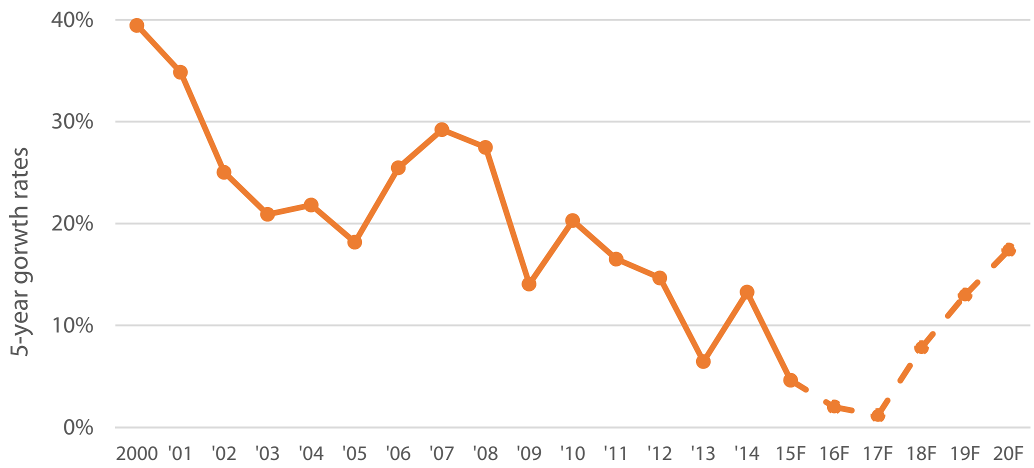
Figure 23 Total media ad spend in Canada



Source: Authors' estimates based on data from TVB, Zenith Optimedia, Statistics Canada and Scotiabank.

164. Although this forecast suggests that overall media ad spend in Canada will expand by $2 billion between 2015 and 2020, on a percentage basis, the five-year growth is in the middle of the range of the rates experienced since 2000 (Figure 24).

Figure 24 Rolling five-year growth rates in total media ad spend in Canada



Source: Authors' estimates based on data from TVB, Zenith Optimedia, Statistics Canada and Scotiabank.

Advertising Spending by Medium

165. eMarketer's forecast of shares of Canadian ad spend by media was used as the "basis" to derive a forecast of the distribution of overall ad spend during the forecast period. eMarketer's forecast was adjusted to take into account recent reports on the shorter-term outlook for Canadian media ad spend, including:

166. Zenith Optimedia's forecast TV ad spending in Canada dropping by 5.5% in 2015.[75]

167. Independent industry consultations that suggested that television ad revenue was on pace to fall by 7% to 8% in 2015.

168. Interactive Advertising Bureau (IAB) forecasts Internet ad revenue increasing by 11% in 2015.[76]

169. The forecast (Figure 25) reflects a scenario under which the Internet's share continues to increase, as TV (excluding online TV) experiences a steady decline in share.

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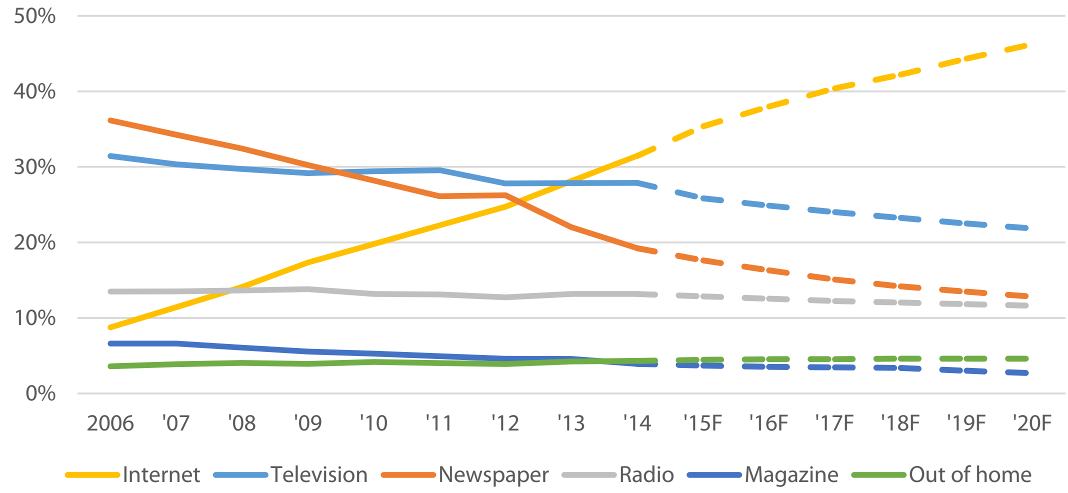
[75] Chris Powell (2015).

[76] Interactive Advertising Bureau Canada (2015), *2014 Actual + 2015 Estimated Canadian Internet Advertising Revenue Survey: Detailed Report*, June 29, 2015, p. 3.

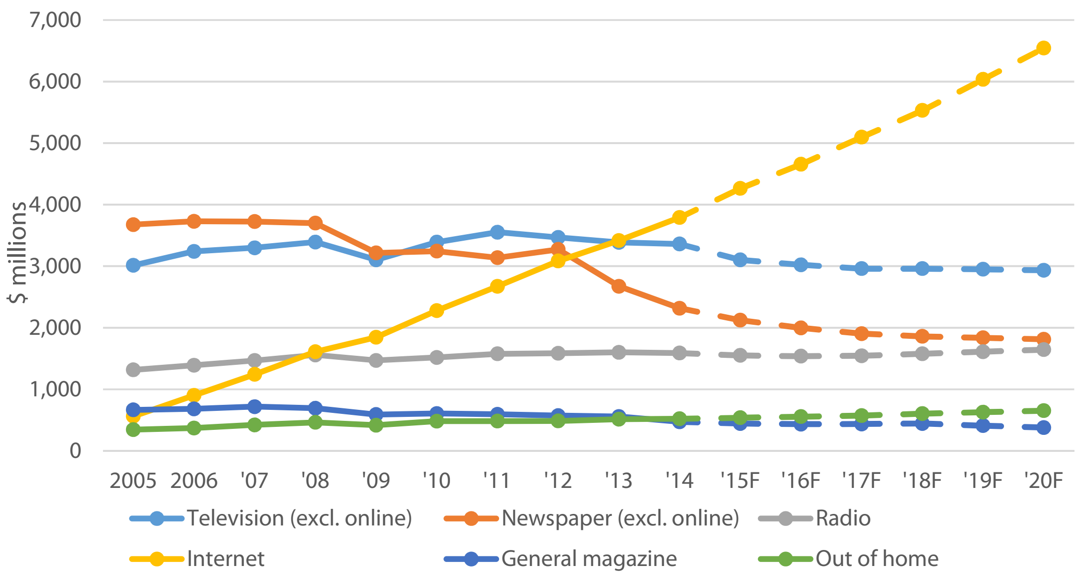
Figure 25 Ad spend shares by media



Source: Authors' estimates based on data from TVB, eMarketer, Zenith Optimedia and IAB Canada.

170. This forecast of the shares combined with the forecast of overall ad spend in Canada yields the forecast of ad spend by media in Figure 26. Internet keeps growing at a relatively linear pace; meanwhile, TV advertising levels off, since it has a declining share of a growing market.

Figure 26 Ad spend by media ($M)



Source: Authors' estimates based on data from TVB, eMarketer, Zenith Optimedia and IAB Canada.

2.1.5 Television Advertising

Programming Services

171. The forecast of revenue for programming services was based on a forecast of ad spend captured by the television media and assumptions regarding trends in average carriage fees per subscriber for specialty and pay services. Other components of programming services' revenues, such as syndication or parliamentary appropriations were assumed to be fixed at the 2014 level or fixed at the five-year average for 2010 to 2014.

Advertising Revenue

172. The total television ad spend is distributed across three television platforms: (i) private conventional, (ii) CBC/SRC conventional or (iii) specialty.[77] Between 2010 and 2014, private conventional TV's share of ad revenue dropped from 57% to 49% – an average of two percentage points per year. Most of this was lost to the specialty television segment;

[77] This forecast does not consider some portion of TV ad revenue flowing to OTT.

although CBC/SRC did increase its share of television ad spend in 2014 largely because it televised the Winter Olympics, FIFA World Cup and Commonwealth Games.

173. We assume that private conventional TV continues to lose share of ad spend each year until 2020.

174. CBC takes a big hit in 2015 (the first year that it was rebroadcasting HNIC), with its loss in share transferred to specialty TV. Thereafter, it is assumed to lose share at approximately the same pace as private conventional TV (Note: this includes SRC).

Table 13 Share of TV ad revenue by platform, historical and forecast (in italics)

	2010	'11	'12	'13	'14	'15F	'16F	'17F	'18F	'19F	'20F
Private conventional	57%	55%	53%	52%	49%	*48.5%*	*47.75%*	*47.00%*	*46.5%*	*46.25%*	*46.0%*
CBC/SRC conventional	10%	10%	11%	10%	14%	*11.5%*	*11.25%*	*10.75%*	*10.0%*	*9.75%*	*9.5%*
Specialty	33%	35%	36%	38%	37%	*40.0%*	*41.00%*	*42.25%*	*43.50%*	*44.0%*	*44.5%*
Total	100%	100%	100%	100%	100%	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

Source: Authors' estimates based on data from CRTC.

175. These assumptions for the ad revenue shares yield the following forecast of ad revenue by TV platform.

176. We forecast that total spending on TV advertising in Canada will drop by 7.6% in 2015, as the overall ad market experiences no growth. As the overall ad market in Canada recovers in 2017, total TV ad revenue continues to slide as it loses share of total media ad spend to Internet/mobile.

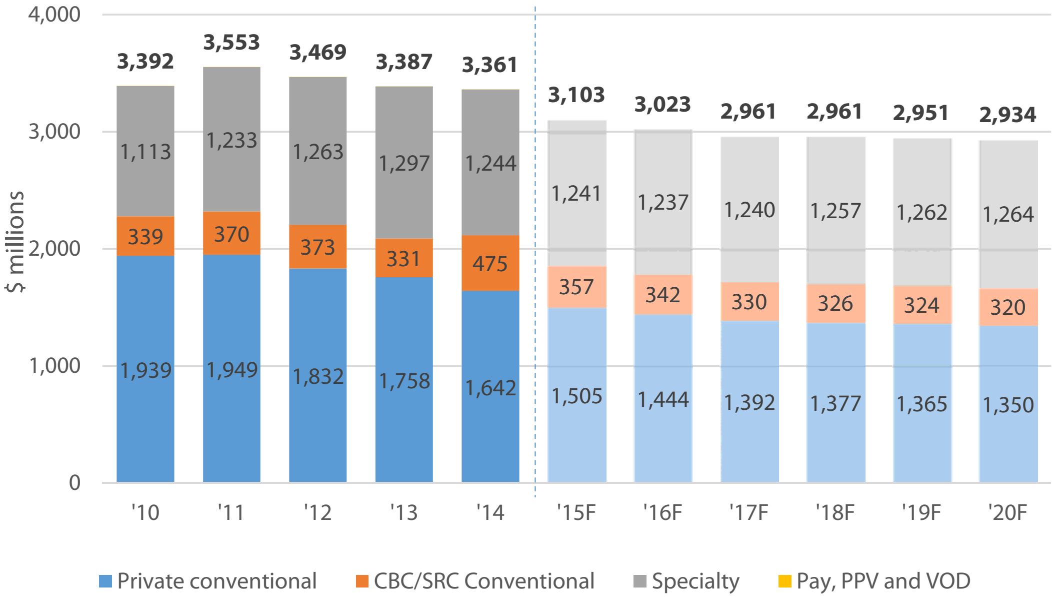
177. Private conventional ad revenues experience a steady decline between 2015 and 2020. However, these are nominal dollars, so the real-dollar decline would be even sharper.

178. CBC conventional takes a hit in 2015 (the first of rebroadcasting HNIC) and then also experiences a steady decline to 2020.

179. Specialty TV ad revenue declines by about 1% in 2015. Thereafter (under this baseline scenario) it recovers slowly in nominal terms. However, the rate of growth falls short of inflation, thereby, implying a real-dollar decrease in ad revenue.[78]

[78] Under the LTTV and LTTV-lite scenarios, we can moderate the levels of ad revenue in the specialty segment.

Figure 27 Television ad revenue, by platform



Source: Authors' estimates based on data from TVB, eMarketer, Zenith Optimedia IAB, Statistics Canada and Scotiabank.

2.1.6 Carriage Fees

180. To forecast subscriber fees for programming services, we first calculated the average monthly carriage fees per subscriber for both specialty and pay/PPV/VOD services. In 2014, specialty programming services earned an average of $15.05 per month per subscriber; pay/PPV/VOD services earned an average of $5.49 per month per subscriber.

181. Under this baseline scenario (assuming that the Let's Talk TV Policy is not implemented) carriage fees for specialty services were assumed to grow at the same annual percentage rate as BDU ARPU.[79]

182. Since the introduction of Netflix, the average monthly carriage fee per subscriber for pay/PPV/VOD services dropped by 20 cents – or approximately 10%. In 2015, the average monthly subscriber fee dropped by 10 cents. With increasing competition from OTT services, we assumed that the annual declines in average monthly subscriber fees would

[79] This approach approximates a scenario under which BDUs maintain their mark-up rate on specialty carriage fees.

accelerate at a rate of 5 cents per year, so that by 2020 it will be $3.84, or 40% lower than in 2014.

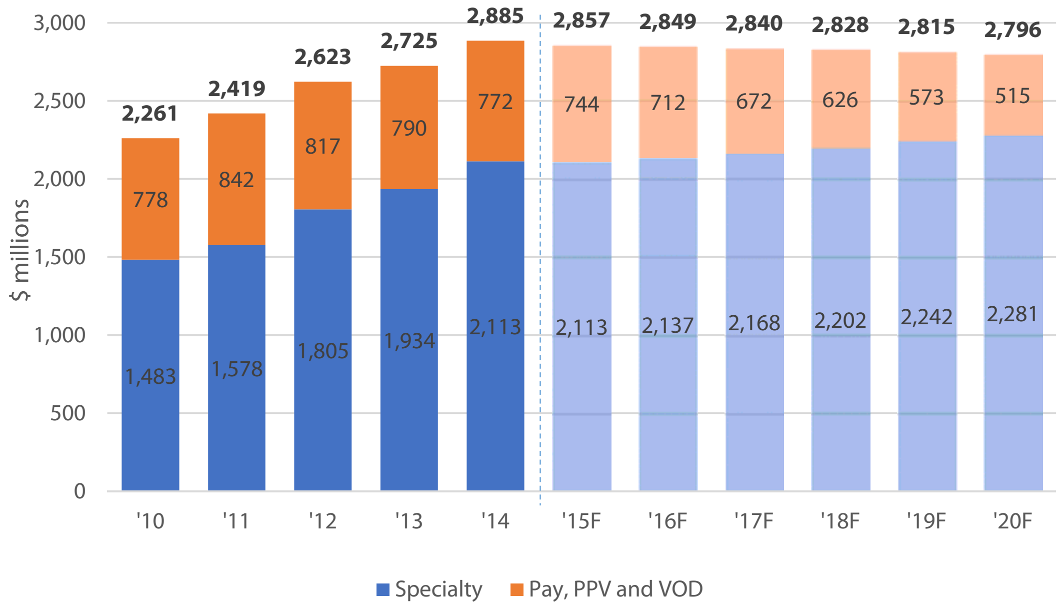
Table 14 Assumptions for average monthly carriage fees per subscriber (Canadian services only) ($)

	2015	2016	2017	2018	2019	2020
Specialty services	15.17	15.45	15.79	16.16	16.59	17.03
Pay/PPV/VOD services	5.34	5.14	4.89	4.59	4.24	3.84

Source: Authors' estimates based on data from CRTC.

183. This approach yields the following forecast of subscriber fees by platform (Figure 28).

Figure 28 Forecast of subscriber fees by platform

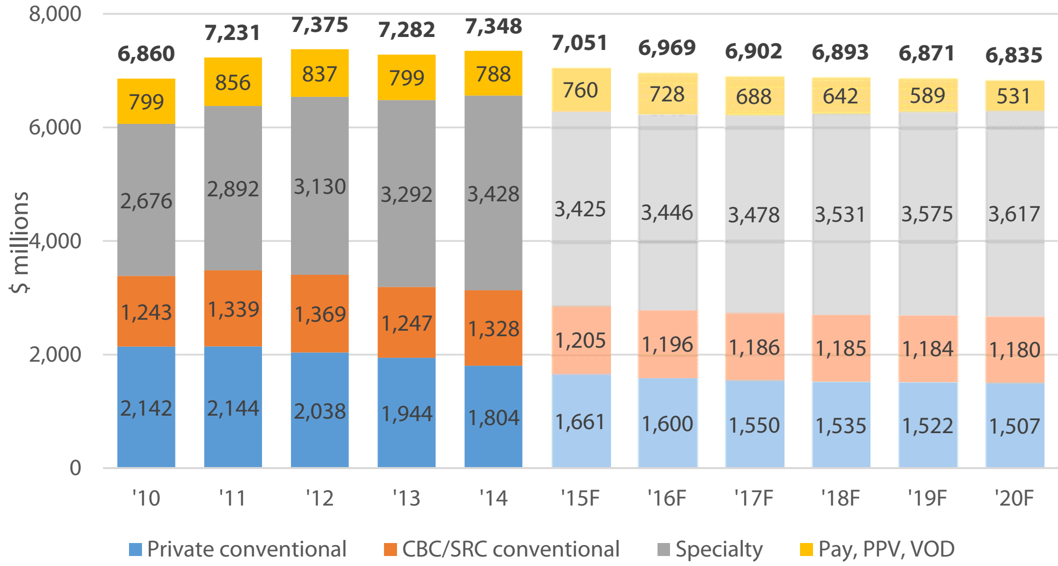


Source: Authors' projections based on data from CRTC, TVB, eMarketer, Zenith Optimedia IAB, Statistics Canada and Scotiabank.

2.1.7 Total Revenue

184. The combination of forecasts for programming services' advertising revenue and subscriber revenue yielded the following forecast total revenue. With declining ad revenues and subscriber fee revenues, total revenue in the TV sector in 2020 is forecast to be some 7% lower than in 2014. In real terms (i.e. after removing the effects of inflation), this represents a decrease of approximately 18%.

Figure 29 Total revenue for programming services, by platform



Source: Authors' projections based on data from CRTC, TVB, eMarketer, Zenith Optimedia IAB, Statistics Canada and Scotiabank.

2.1.8 Canadian Programming Expenditures

185. The CRTC requires programming services and BDUs to contribute a fixed percentage of their revenue to CPE. BDUs are required to contribute 5% of their revenue to Canadian programming – mostly through their community channel expenditures and contributions to the CMF. In general, the large broadcasting groups that operate most programming services in Canada must contribute 30% of their group revenues to CPE, however, the exact rates vary from group to group, and service to service. In light of these variations in contribution rates, our forecast of CPE was based on the effective "going in" rates calculated on the basis of published CRTC data. These going-in rates were based on the three-year average for 2012 to 2014.

BDUs' CPE

186. BDUs with more than 2,000 subscribers are required to contribute 5% of their gross revenues from regulated broadcasting-related activities to CPE. For DTH, at least 80% of this total contribution (or 4% of gross revenue) must be assigned to the CMF; the balance must be assigned to one or more of the independent production funds certified by the CRTC. The regulations also permit BDUs that operate community channels (cable and IPTV) to direct up to 2% of their 5% contribution to the operation of those channels.

187. In addition to this 5% contribution, BDUs were historically required to contribute 1.5% of their gross broadcasting revenue to the Local Program Improvement Fund (LPIF). However, in 2012, the CRTC decided to phase out this initiative, such that contributions would drop to 1% during the 2013 broadcast year (September 1, 2012-August 31, 2013), 0.5% during the 2014 broadcast year, and 0% thereafter. Because the LPIF has been phased out by the CRTC, we have excluded it from our analysis, as it has no bearing on BDUs' expenditures during the forecast period.

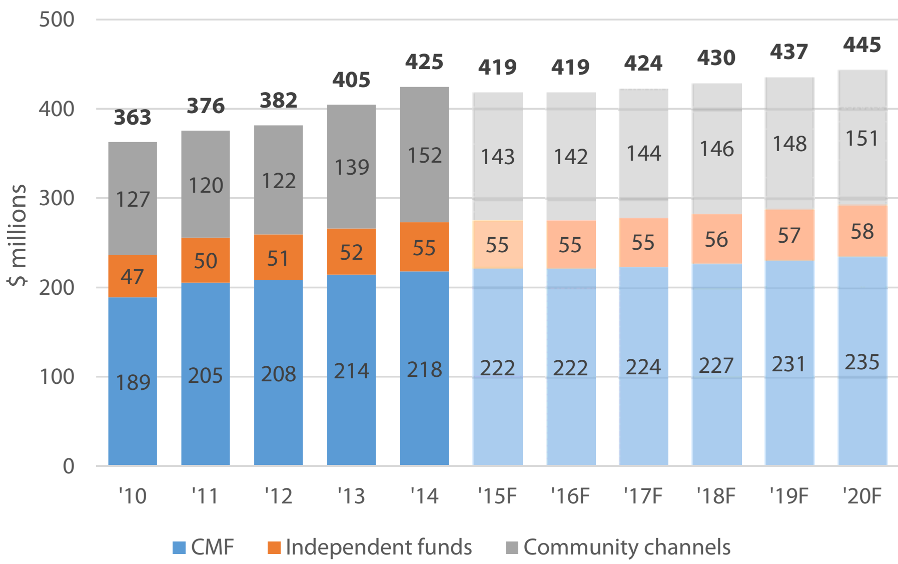
Table 15 BDU CPE contribution rates

	2010	2011	2012	2013	2014
CMF	2.5%	2.5%	2.4%	2.5%	2.4%
Independent funds	0.6%	0.6%	0.6%	0.6%	0.6%
Total funds	3.2%	3.1%	3.0%	3.0%	3.0%
Community channels (local expression)	1.7%	1.5%	1.4%	1.6%	1.7%
Total contributions	**4.9%**	**4.6%**	**4.4%**	**4.6%**	**4.7%**

Source: Authors' calculations based on data from CRTC.

188. Due to differences in the reporting of financial statistics, the effective contribution rates based on published financial data varied slightly from the statutory contribution rates. The effective rates are summarized in Table 15.

Figure 30 BDU's CPE contributions



Source: Authors' projections based on data from CRTC,

189. Given the forecast for BDU revenue, the application of the going-in contribution rates yielded the following forecast of BDU CPE.

Table 16 Programming services' CPE contribution rates†

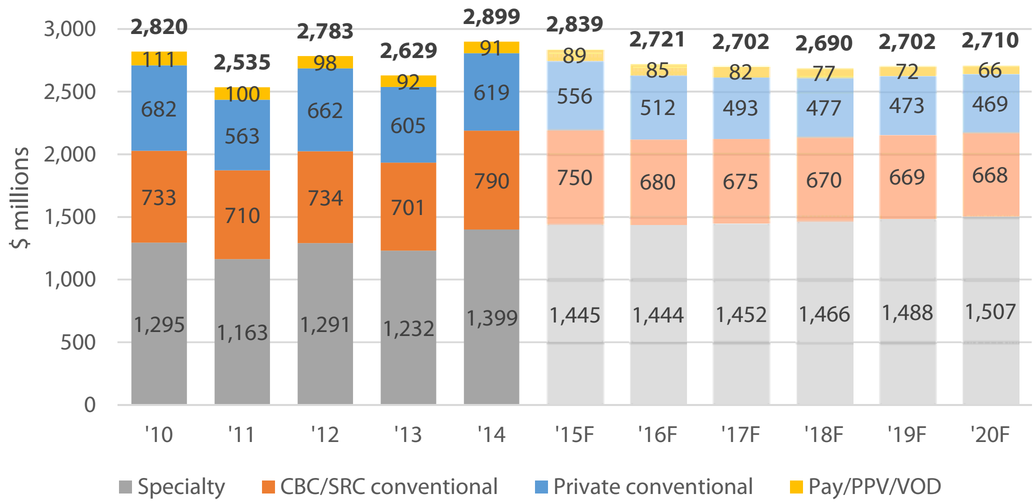
	2011	2012	2013	2014
Private conventional	26.3%	30.9%	29.7%	31.9%
CBC/SRC conventional	57.1%	54.8%	51.2%	63.3%
Specialty	43.4%	44.6%	39.3%	42.5%
Pay/PPV/VOD	12.5%	11.4%	10.9%	11.4%
Total contributions (as a % of total revenues)	**37.0%**	**38.5%**	**35.7%**	**39.8%**

Source: Authors' calculations based on data from CRTC.
† Calculated on the basis of previous year's revenue.

Programming Services' CPE and PNI

190. The going-in CPE contribution rates for each type of programming service were also used to forecast their CPE for 2015 to 2020. The historical rates are summarized in Table 16 and resulted in the following going-in rates (which were based on an average over 2011-2014: private conventional (30.8%), CBC/SRC conventional (56.4%), specialty (42.2%), pay/PPV/VOD (11.2%).

Figure 31 Programming services' CPE contributions



Source: Authors' projections based on data from CRTC,

191. When combined with the forecast of revenue for each segment of the broadcasting industry, those going-in rates yielded the following forecast of CPE.

192. As part of their CPE contribution requirements, programming services are also required to contribute 5% of their group revenues to the programs of national interest (PNI) category, which includes long-form documentaries, drama programing, variety programming (French-language market only) and certain awards shows (English-language market only).

Table 17 Programming services' PNI contribution rates†

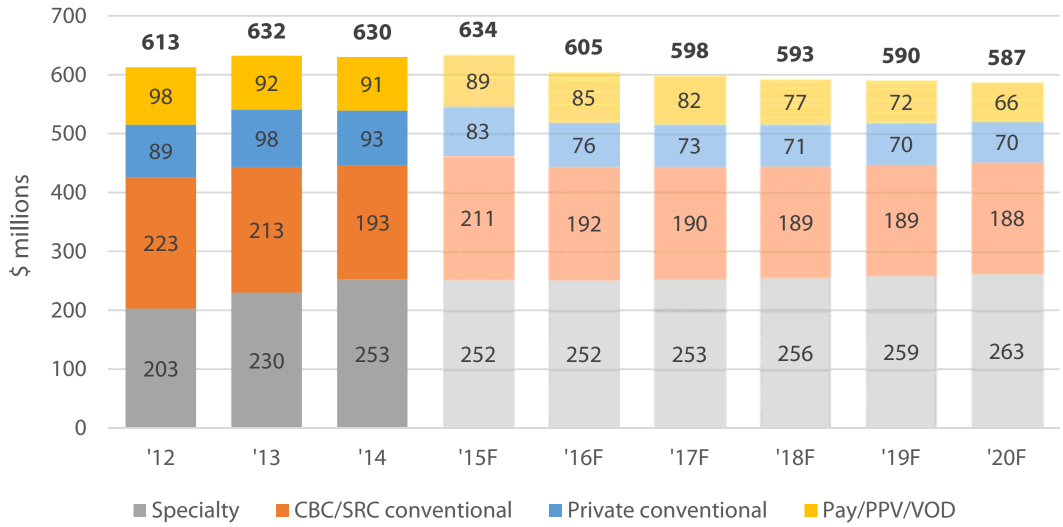
	2012	2013	2014
Private conventional	4.2%	4.8%	4.8%
CBC/SRC conventional	16.7%	15.6%	15.5%
Specialty	7.0%	7.4%	7.7%
Pay/PPV/VOD	11.4%	10.9%	11.4%
Total contributions	**8.5%**	**8.6%**	**8.7%**
Total private television††	**5.7%**	**6.4%**	**6.8%**

Source: Authors' calculations based on data from CRTC.
† Calculated on the basis of previous year's revenue.
†† Includes private conventional, specialty (including CBC/SRC-owned services) and pay/PPV/VOD.

193. To forecast PNI, we used an approach similar to that used for CPE, whereby we determined the going-in rates for each segment of the broadcasting industry (based on the three-year average for 2012-2014).

194. When combined with the forecast of revenue for each segment of the broadcasting industry, those going-in rates yielded the following forecast of PNI

Figure 32 Programming services' PNI contributions



Source: Authors' projections based on data from CRTC,

2.2 LTTV Scenario

195. The LTTV scenario takes the baseline outlook and overlays anticipated impacts of key LTTV decisions, including unbundling and a $25 small basic, predominance on Canadian services offered, (but not received or purchased by the subscriber); and elimination of access rules for specialty services. (Most of the key LTTV Decisions being modelled here have yet-to-be implemented by the CRTC[80].)

196. Given the suite of specific directional LTTV policy decisions, it is now possible to more precisely assess impacts – something the CRTC itself has not done. The CRTC in fact rejected evidence put forward in the LTTV proceeding that was based on such an economic impact analysis, again making assumptions about what the decisions would be. The actual decisions clarify the environment to be modelled, so the analysis, though

[80] Two Decisions that have been implemented are maintained in the modelling – the elimination of genre protection and the implementation of the new wholesale code of conduct, which governs the commercial relationship between BDUs and programmers. Decisions regarding OTT services, including the new hybrid exemption order, are however assumed to be not maintained in the economic model.

challenging, can now proceed on additional information with regards to the regulatory framework and its potential impacts.

197. In the current scenario, the CRTC would proceed with implementing the regulatory proposals set out in the LTTV Decisions[81], including:

1. Unbundling and a $25 basic package (March 2016)

    i. Pick a pack OR à la carte , by March 2016

    ii. Pick a pack AND à la carte , by December 2016

2. Predominance on Canadian services offered, but not received or taken up (March 2016)

3. Eliminated access rules; classes of specialty; introduced Wholesale Code[82]; stipulated a 1:1 ratio of independent-to affiliated programming services (to be introduced in September 2018)

4. Introduction of new hybrid OTT exemption order and no requirement for the foreign OTT services operating in Canada to contribute to Canadian programming[83]

5. Eliminated simulcast on Super Bowl (commencing in 2017)

6. Maintained current CPE levels

7. Eliminated daytime exhibition requirements for OTA services (35% level established for specialty) (Licence renewals commencing 2017 +)

8. Eliminated terms of trade (April 2016)

9. “Redefining” of Canadian programming through the introduction of two pilot projects: i.e. drama/comedy exceptions to point system a) Canadian novel & b) > $2 million/hr

[81] There are other proposals and initiatives in the LTTV Decisions, including a “Discoverability Summit”, but we do not see these as having any material economic or other consequence.
[82] Announced in final form on September 24, 2015, and coming into effect January 22, 2016. http://www.crtc.gc.ca/eng/archive/2015/2015-438.htm
[83] The other component to this is the Commission’s apparent determination that a BDU affiliated OTT service available exclusively to that BDU’s customers would constitute an undue preference. http://www.crtc.gc.ca/eng/archive/2015/2015-86.htm, paras 79-106

10. No new measures to support local TV[84]

198. Of these ten significant measures, the first five have a sufficient future economic impact to merit being modeled as an input into this scenario. They are further discussed below.

199. The second five, while important, represent either a *status quo* decision, are not believed to have a material economic impact, or have unclear effects. Of these, only the status quo lack of measures to support local TV has been specifically reflected.

200. In respect of the others, we note:

1. The **elimination of daytime or reduction in exhibition requirements** is unlikely to have a material impact on the overall economics of television services. Daytime is not a high viewing or high revenue generating time period for most television services, and as a consequence repeat or low cost shelf Canadian content typically occupies this part of the schedule[85]. Allowing services to air more foreign programming would therefore not generally cut costs. If anything, it might increase U.S. programming costs, offset by higher revenues for services in question, but not increasing the pie overall (given likely losses elsewhere, for example, with independent services).[86]

2. There is much speculation about the consequences of the **elimination of terms of trade.** Some would argue that the elimination of daytime programming requirements, the possible disappearance of some specialty-TV services, and the future focus of Canadian programming toward being more marketable internationally – all will lead to a consolidation of the production industry. In fact, there is some evidence that consolidation is happening anyway. As a consequence, broadcasters will be working with fewer but stronger production companies – and

[84] A CRTC hearing looking into community and local TV is scheduled to commence January 25, 2015. A companion study by the Authors, *Near Term Prospects for Local TV in* Canada, dated November 5, 2015, was submitted in that process.

[85] Such a move will however change the "face" of broadcasting. For example, it might provide an impetus to eliminate daytime newscasts on certain cash-starved local TV stations. Moreover it will have a material impact on the economics of certain types of shows – such as breakfast news and information shows. In aggregate, however, we do not anticipate a material impact on revenues or Canadian programming expenditures etc.

[86] There is an argument that the elimination of daytime Cancon requirements will cause a shift away from broadcaster produced local shows to higher cost independently produced national Cancon, meaning fewer jobs for the same CPE. While potentially the case, it is as likely that, as a first calculus, local TV stations will keep local programming to the extent that it earns incremental local advertising. If it doesn't, whether they switch to shelf Cancon or acquired U.S. programming would be a subsequent call not driven by exhibition requirements. The Author's companion study *Near Term Prospects for Local TV in* Canada, dated November 5, 2015, expands on the impacts of reductions in conventional TV revenues.

they would need less protection, as the argument goes. However, others would contend that the key struggle between broadcasters and their suppliers will be over access to back end distribution revenues – garnered from sale of rights at present and mainly accruing to the production company. The proposed elimination of terms of trade could, in this scenario, lead broadcasters to put forward substantial claims to a part of these distribution revenues normally marketed by producers. No modeling of impact was conducted for either scenario.[87]

3. The pilot projects proposed, and comments made by the Commission on the **definition of Canadian programming** suggest a propensity to "redefine" or "recalibrate" Canadian programming away from its traditional "programming made by Canadians for Canadians" base. Such a recalibration of the cultural and economic policy objectives of Canadian programming may well warrant debate[88], but, for the purposes of this study, we assume that the definition of Canadian programming does not materially change.

2.2.1 Unbundling

Modelling and Assumptions

201. To model the impacts of unbundling and the new access rules, we developed assumptions for the share of BDU subscribers that opted for skinny basic and unbundled discretionary services.

   1. Research conducted by Oliver Wyman indicated that as many as 35% of subscribers would be willing to switch to a skinny-basic/BYOP option.
   2. Corus suggested that 10-20% of subscribers could adopt unbundled solutions.
   3. Rogers' research suggested that 15% of subscribers would opt for unbundling (even when they were told they would be charged higher per-service prices than the value of services they now pay in the current system).

202. On the basis of this research, we assume that **15%** of subscribers would opt for unbundled Build Your Own Package (BYOP) options by 2020.

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[87] If broadcasters make an incursion into back end revenues of producers, the impact economically could arguably be a wash. Producers make less, broadcasters make more, but the projects would get done – using the same talent and technical labour. This would not be the case if Canadian producers are weakened and therefore lose global market share, or if they are forced to get more into the international marketplace and gain market share internationally in the coming five years.

[88] It was even suggested by former CMPA President, Michael Hennessy, in a blog ??? [find, cite]

203. In addition to $25 per month for the skinny basic tier, we assume that BYOP subscribers would spend an average of $20 per month on discretionary services. Both the skinny basic and discretionary services rates were assumed to increase with CPI inflation.

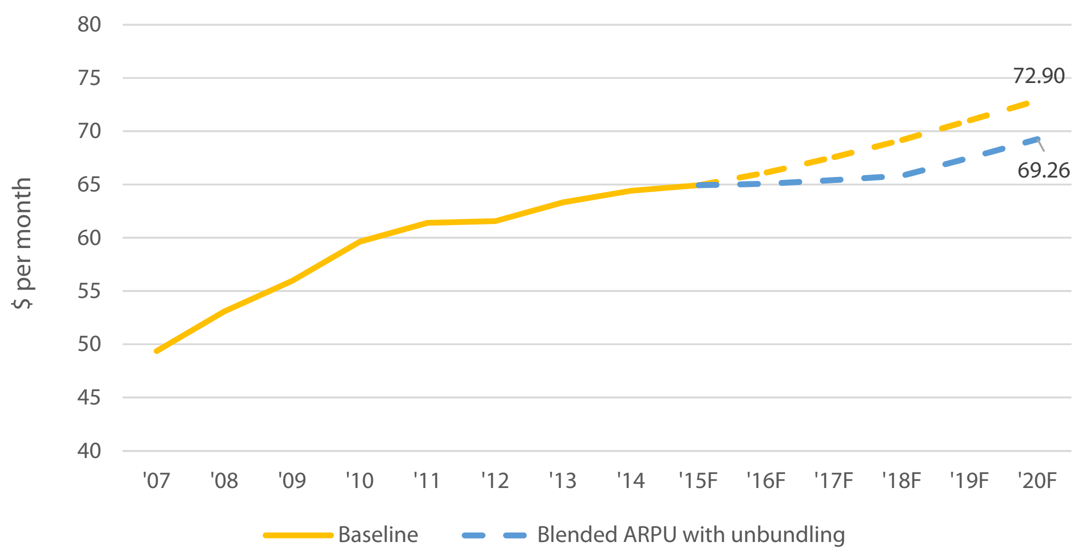
Table 18 Summary of assumptions for BYOP subscribers

	2015	2016	2017	2018	2019	2020
BYOP subscribers as a share of total subscribers	0%	5%	10%	15%	15%	15%
Skinny basic (monthly rate, $)	0.0	25.00	25.50	26.00	26.50	27.02
Average monthly spend on discretionary services ($)	0.0	20.00	20.40	20.80	21.20	21.62
Total monthly spend ($)	0.00	45.00	45.90	46.80	47.70	48.64

Sources: Authors' research.

204. When the ARPU for BYOP subscribers is combined with status quo subscribers, the resulting blended ARPU for all BDU subscribers falls by $3.64 per month in 2020 vis-à-vis the baseline forecast.

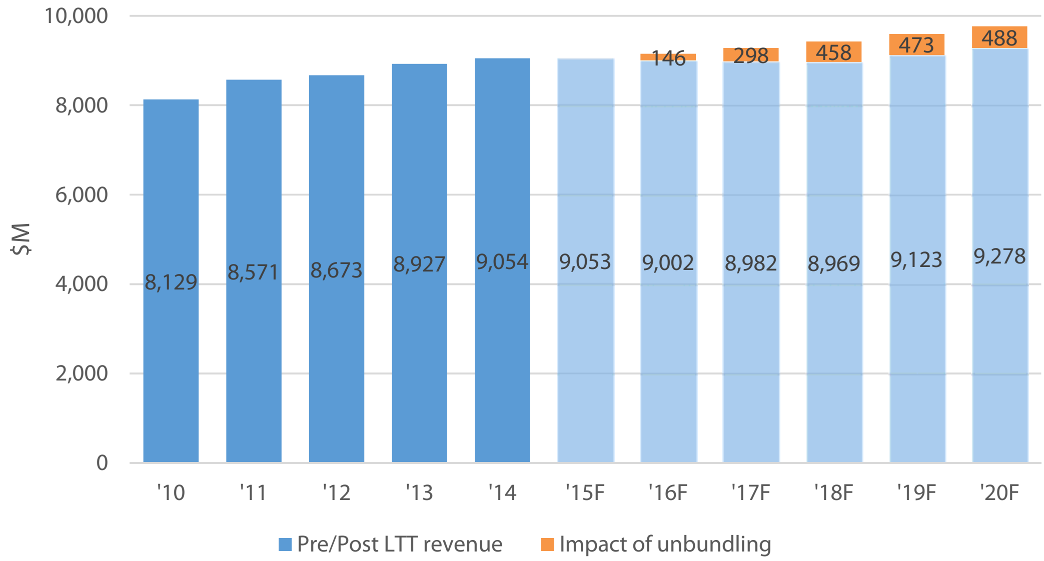
Figure 33 Impact of Unbundling on ARPU



Source: Authors' research

205. This drop in ARPU implies that BDUs will experience a revenue shortfall of $488 million by 2020 in comparison to the baseline forecast.

Figure 34 Forecast of impact of unbundling on BDU revenue



Source: Authors' research

206. To estimate the impact of unbundling on Canadian programming services, we assume that 86% of the retail revenue lost by BDUs was associated with Canadian programming services. This share is based on the fact that Canadian specialty services' wholesale fees accounted for 86% of BDUs' total wholesale fee payments in 2014.[89]

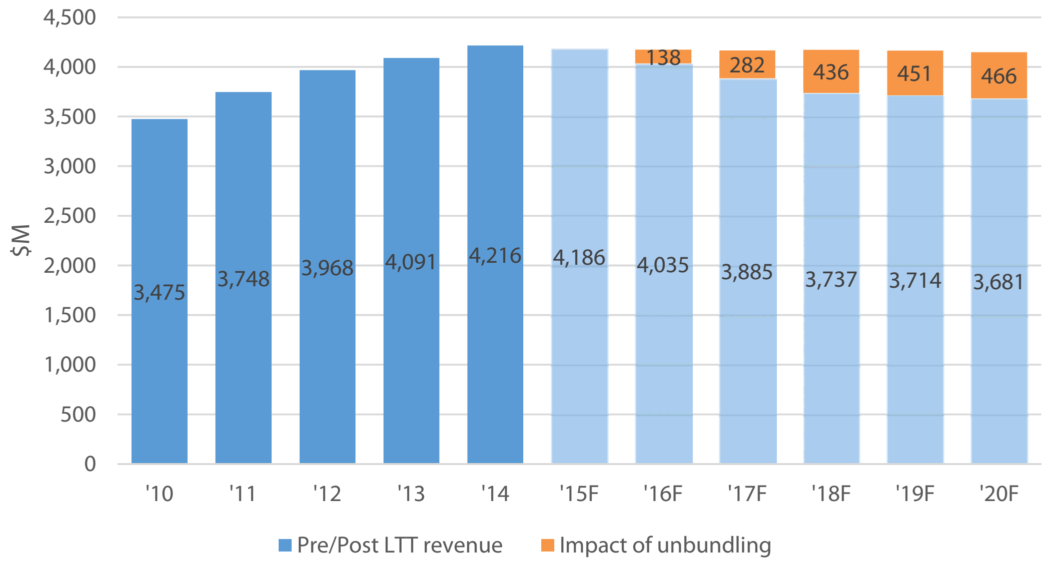
207. We also assume that BDUs "passed through" 75% of their retail revenue loss to Canadian programming services. In other words for every dollar reduction in retail-level ARPU associated with Canadian services, BDUs reduced Canadian programming services' wholesale fees by 75 cents, with the other 25 cents coming out of BDUs' gross margin on those wholesale fees.

208. We assume that specialty services' advertising revenue drops in proportion to their reduction in wholesale fees; since the latter is driven by fewer subscribers rather than rate-card changes.

[89] CRTC (2015), Communications Monitoring Report 2015, pp. 144-145.

209. Based on this approach, by 2020, Canadian specialty and pay services stand to lose $466 million in revenue from unbundling. This includes losses in both wholesale fees and advertising revenue.

Figure 35 Impact of LTTV unbundling and access rules on specialty/pay television revenue in Canada



Source: Authors' research

2.2.2 Preponderance of Canadian Services and Elimination of Access Rules

Modelling and Assumptions

210. Under the LTTV regime, BDUs will no longer have to ensure a preponderance of Canadian services within the overall package of programming services received by Canadians. Instead, they will simply have to ensure that Canadian services account for a preponderance of those programming services offered to subscribers. What's more, under the LTTV regime, Canadian Category A services no longer enjoy access privileges – i.e. mandatory carriage by BDUs.

211. Together, the elimination of these two categories of carriage regulation are likely to mean that Canadian programming services will experience decreased carriage by BDUs and, thereby, take-up by subscribers. We, therefore, model the impact of these two regulatory

changes by simulating a reduction in Canadian specialty services' share of wholesale fees, which stood at 86% in 2014.

212. As noted above, in terms of wholesale fees paid by Canadian BDUs, the current split between Canadian and non-Canadian services is 86:14. To model the impact of preponderance, we assume that the 86% share of wholesale fees held by Canadian services represents a proxy of Canadian services' preponderance in the discretionary tier. We then modelled how a decrease in this share – from 86% to 50% in 2020 – among BYOP subscribers would affect broadcasting revenues. As in the case of unbundling, we assumed a 75% pass-through rate for any reduction in BDU retail revenue.

213. It is important to note that the reduced rate for preponderance of Canadian services is only displayed by BYOP subscribers, who make up only 15% of total BDU subscribers in 2020. [90]

Table 19 Summary of preponderance assumptions for pick-a-pack subscribers

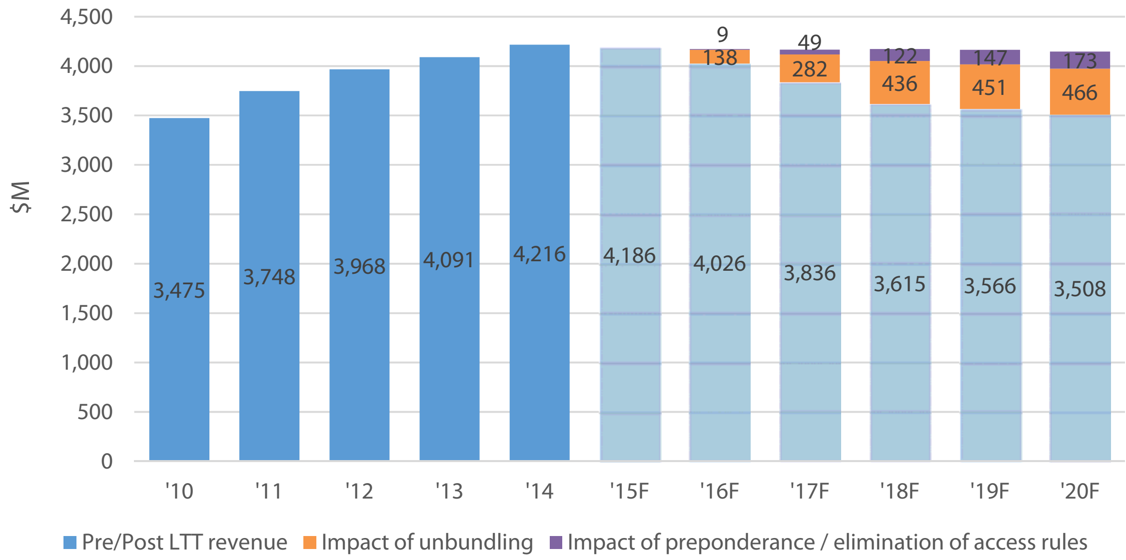
	2015	2016	2017	2018	2019	2020
Preponderance of Canadian services among pick-a-pack subscribers (based on share of wholesale fees)	86%	80%	70%	60%	55%	50%

Sources: Authors' research.

214. Based on this approach, the subscriber fees and advertising revenue lost by Canadian specialty services on account of the reduced Canadian preponderance is forecast to total $173 million by 2020. Altogether, unbundling ($466 million) and predominance would reduce programming services' 2020 revenue by $639 million.

[90] While the elimination of the 'preponderance received' rule applies across the whole system, our assumption is that BDUs will maintain their current packaging structures to the greatest extent possible, both for the stability of subscribers who are not requesting service changes and because those packages also include many vertically integrated Canadian specialty services. Therefore, for modelling purposes, only BYOP subscribers experience effective reductions in the preponderance of Canadian services. In reality, however, as packages will change over time, "high value" packs with more, even all, U.S. services, could be created given new preponderance rules, and the increased leverage U.S. services have to demand the best possible placement. We therefore view our assumptions on the overall impact of changes to preponderance as conservative. Moreover, we believe the full impact of this change is unlikely to be felt for a decade or more.

Figure 36 Impact of LTTV preponderance and elimination of access rules on specialty/pay television revenue in Canada



Source: Authors' research

2.2.3 Hybrid OTT Exemption Order

Subscriber Forecast

215. With the OTT exemption order, Canada goes from having one national and two quasi-regional OTT services to three national competitors. In effect, overnight, Canada's OTT market becomes even more competitive – both within the category of OTT services and vis-à-vis the BDUs. The increased choice of services for consumers is likely to drive adoption even faster. In addition, BDUs may have more incentive to migrate subscribers to OTT services that they own, since those services would not be subject to the same regulatory obligations as specialty or pay services.

216. With that in mind, we develop forecasts of cord cutting and cord shaving that are at higher rates than under the baseline forecasts. The table below summarizes the factors used to accelerate cord cutting and shaving. In effect, from in 2016 onwards, we assume that the rates of cord cutting and shaving would be 125% of the rates under the baseline scenario (i.e. 25% faster adoption than under the baseline scenario.

Table 20 Acceleration factors for OTT adoption

	2015	2016	2017	2018	2019	2020
OTT adoption factor	100%	125%	125%	125%	125%	125%

Sources: Authors' research.

217. These acceleration factors yield the following rates of BDU subscriber behaviour and OTT adoption.

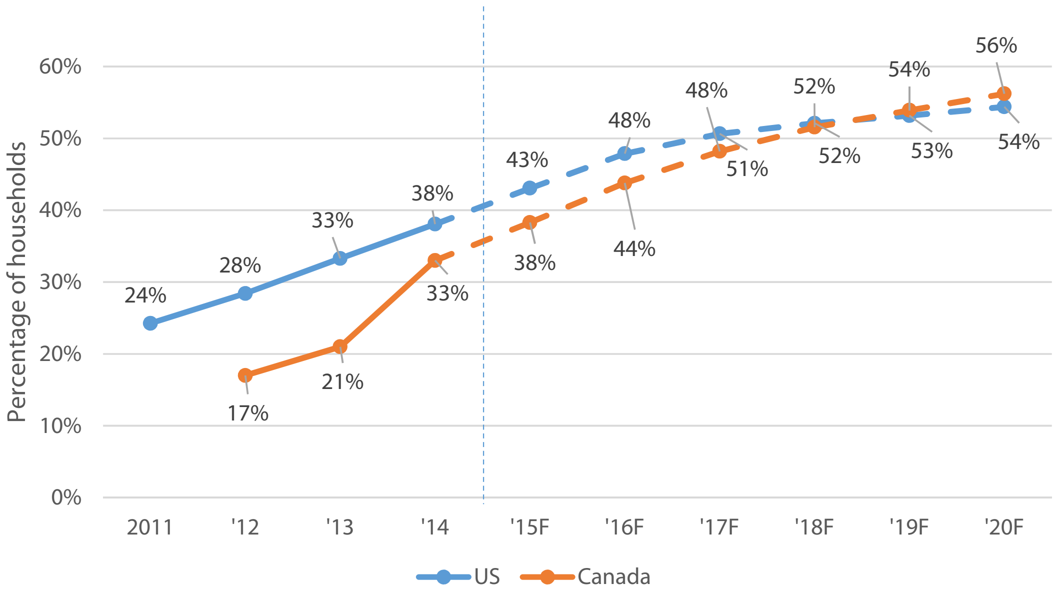
Table 21 Summary of assumptions for pick-a-pack subscribers

	2015	2016	2017	2018	2019	2020
Cord cutting (% of BDU subscribers)	1.5%	1.9%	1.9%	1.9%	1.9%	1.9%
Cord shaving (% of BDU subscribers)	5.0%	5.0%	3.8%	2.5%	1.3%	1.3%

Sources: Authors' research.

218. These assumptions, in turn, yield the following forecast of OTT adoption in Canada. Whereas under the baseline forecast, the penetration of OTT services in Canada in 2020 is just below that forecast for the US; under the LTTV regime (and OTT exemption order), the penetration rate in Canada (56%) will exceed the US rate in 2020.

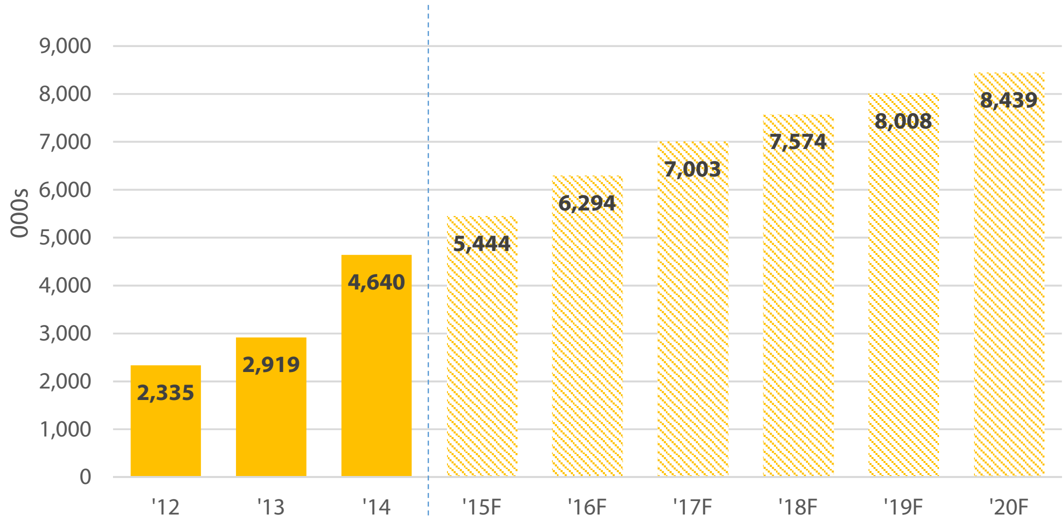
Figure 37 Penetration of OTT services, Canada vs. US



Source: Authors' estimates.

219. Based on this forecast of OTT penetration, the total number of OTT subscribers (as opposed to subscriptions) would reach 8.4 million by 2020.

Figure 38 Number of OTT subscribers



Source: Authors' estimates.

Financial Impact of Cord Cutting and Shaving

220. To estimate the impact of cord cutting on BDU revenues, the cumulative number of incremental cord cutters (due to the exemption order) is multiplied by the ARPU forecast. In order to avoid the double-counting of LTTV impacts, the blended ARPU that included pick-a-pack subscribers was used, rather than the baseline forecast.

221. To estimate the impact of cord shaving on BDU revenues, we assume that the cumulative number of incremental cord shavers (due to the exemption order) reduce their monthly BDU bill by **$15**.

222. The following steps are used to convert the estimates of losses in BDU customer revenue into estimates of the losses in revenue at Canadian specialty/pay services.

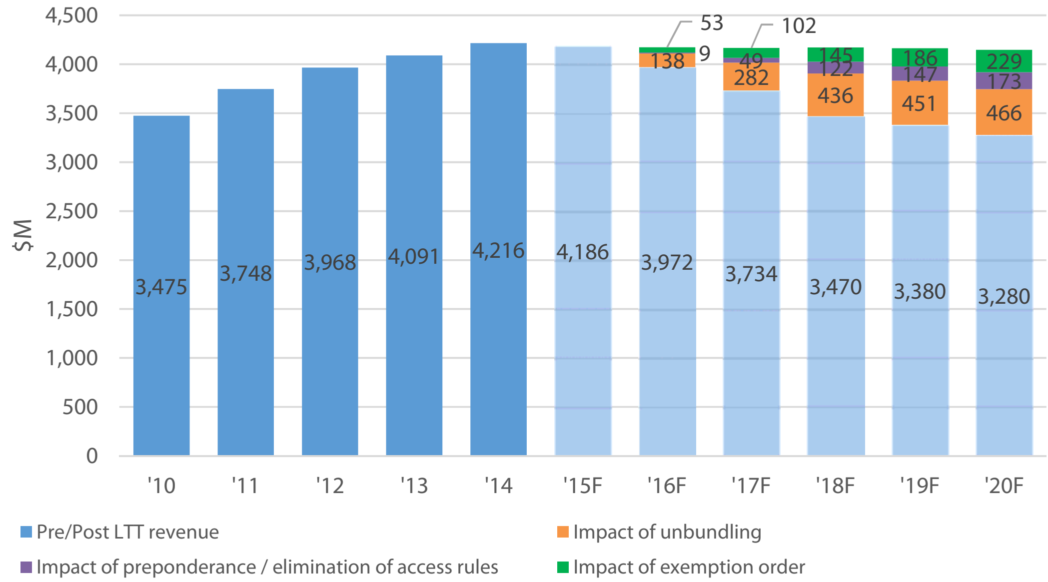
223. We assume that Canadian services account for 86% of the retail revenue loss (i.e. Canadian services' share of wholesale fees).

224. Once again, we assume that BDUs pass through 75% of any loss in retail revenue in the form of reductions in Canadian specialty/pay services' wholesale fees. This assumption allowed us to estimate the loss in subscriber fees that Canadian specialty/pay services will experience.

225. Specialty/pay services ad revenue was assumed to drop in proportion to the loss in subscriber fees. So, if specialty/pay subscriber fees decreased by 5%, ad revenue was assumed to also drop by 5%.

226. Based on this approach, the OTT exemption order is forecast to result in a revenue shortfall of $229 million for Canadian specialty/pay services in 2020, bringing the total impact of LTTV to $868 million, or 21% of baseline specialty/pay revenue.

Figure 39 Impact of OTT exemption order on Canadian specialty/pay services revenue

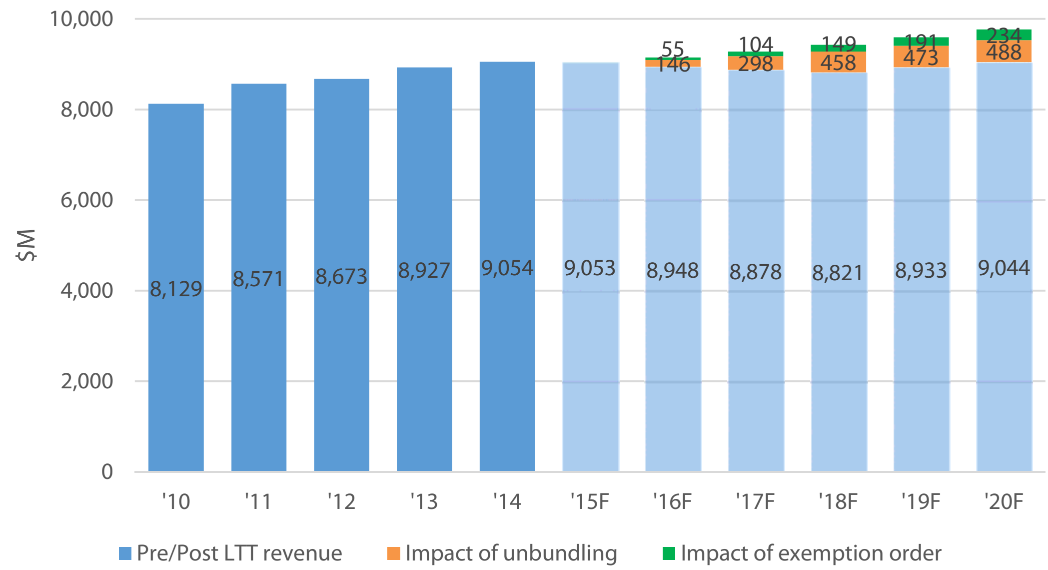


Source: Authors' estimates.

227. For the vertically integrated media companies controlling the BDUs, the revenue impact would be much less and would be offset by revenue gains experienced by their OTT services and, for some BDUs, their broadband Internet access operations. Nevertheless, the transfer of revenue from regulated BDU services to unregulated OTT services will affect CPE via BDUs' contributions to the CMF, local expression and other production funds.

228. We forecast that by 2020, the OTT exemption order will reduce BDUs' regulated revenue by $234 million. Combined with the impact of unbundling, BDUs would experience a revenue impact of $772 million in 2020.

Figure 40 Impact of OTT exemption order on BDU revenue



Source: Authors' estimates.

2.2.4 Closures of Specialty and Pay Services

Background

229. Thus far we have considered how unbundling, new access rules, preponderance and the OTT exemption order would affect the levels of subscribers (and viewers) to Canadian specialty and pay services. For many services, however, these reduced subscriber and viewer levels will result in the closure of services.

230. At the LTTV hearing, several media companies put on the record their own research and views as to the impact that unbundling, on its own, could have on the financial health of their programming services:

1. Bell suggested that about 25% of its services could be shuttered. It further suggested that 20% to 70% of the top 100 specialty services could be shuttered.

2. Oliver Wyman's testimony suggests that 26% of services would become unviable (see Corus filing, p.5).

3. Corus suggested that a mere 5% loss in audience would threaten the viability of less popular services; a 10% loss in audience would threaten the viability of more popular services.

231. The impact on independent specialty services is expected to be even more pronounced. For example, Blue Ant Media testified that seven of its eight services (88%) would be at risk of shutting down under a regime of unbundling.

Modelling and Assumptions

232. Given the research and views of media companies at the LTTV hearing, we developed the following assumptions:

1. 10% of Category A and B services owned by vertically integrated companies will be shuttered by 2020.

2. No Category C news and sports services would be shuttered.

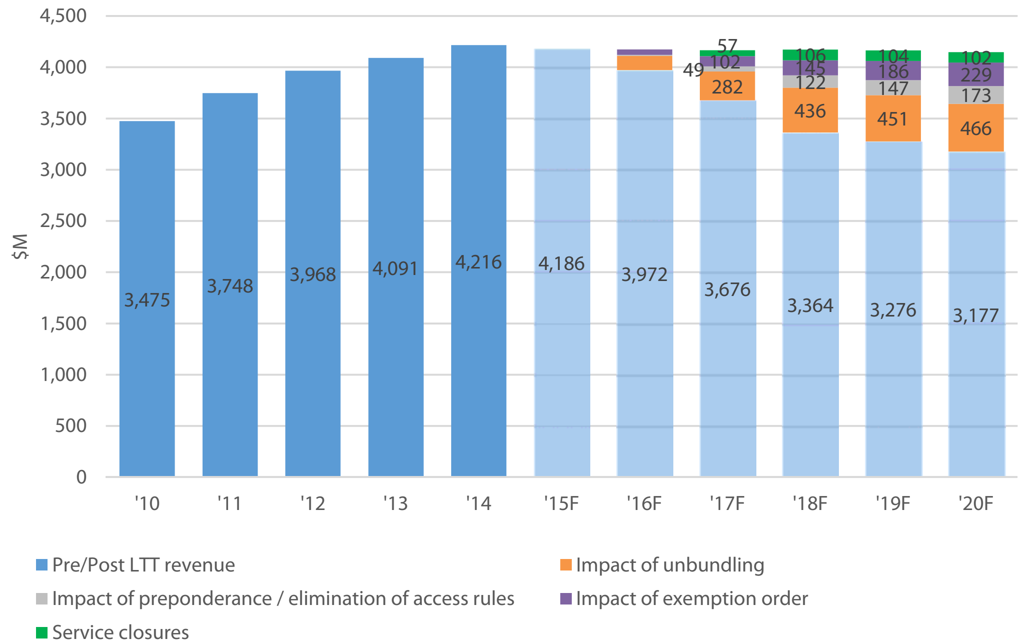
3. One pay/PPV/VOD service would be shut down by 2020.

233. 25% of independent services in Categories A and B would shuttered by 2020.

234. To avoid double counting with other impacts, the revenue losses associated with service closures are based on the average size of specialty (or pay) services in each category after taking into account the effects on revenues from unbundling and new access rules, preponderance and the OTT exemption order. In the case of the Category A and B services owned by vertically integrated companies, we also reduced the impacts on subscriber and advertising revenue to (i) reflect the fact that closures would likely be more common among services in the bottom-quartile of revenues and (ii) to take into account that some portion of the revenue lost through station closures would be recaptured by the remaining services.

235. The closure of specialty and pay services on account of LTTV would increase the revenue shortfall experienced by the Canadian specialty and pay industry by $102 million in 2020. In total, therefore, LTTV is expected to result in a $970 million decrease in revenues at Canadian specialty and pay services, or 23% of their forecast baseline revenue in 2020.

Figure 41 Impact of LTTV (incl. service closures) on specialty and pay revenues

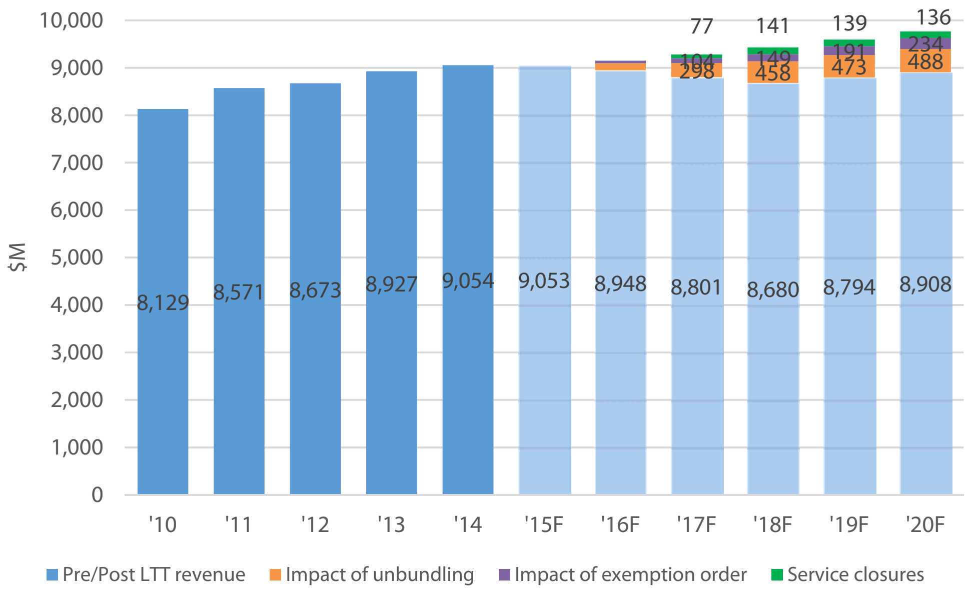


Source: Authors' research

236. Once again, we apply a 75% pass through rate, so that BDUs loss in retail revenue would be 1.33 times any reduction in wholesale fees they experience. The implication is that BDUs still keep 75% of any gross margin they were earning on the lost wholesale fees. However, in this case, we assume that BDUs will only lose retail revenue as a result of closures of vertically integrated specialty and pay services. In effect, we assume that the closure of independent specialty services would not affect package prices and BDUs' retail revenue.

237. As a result of service closures – specifically the closure of vertically integrated specialty and pay services – BDUs will see their retail revenue drop by $136 million in 2020. In total, therefore, LTTV policies result in a $858 million reduction in BDUs' retail revenue in 2020, or 9% of their total forecast baseline revenue in that year.

Figure 42 Impact of LTTV (incl. service closures) on BDU revenues



Source: Authors' research

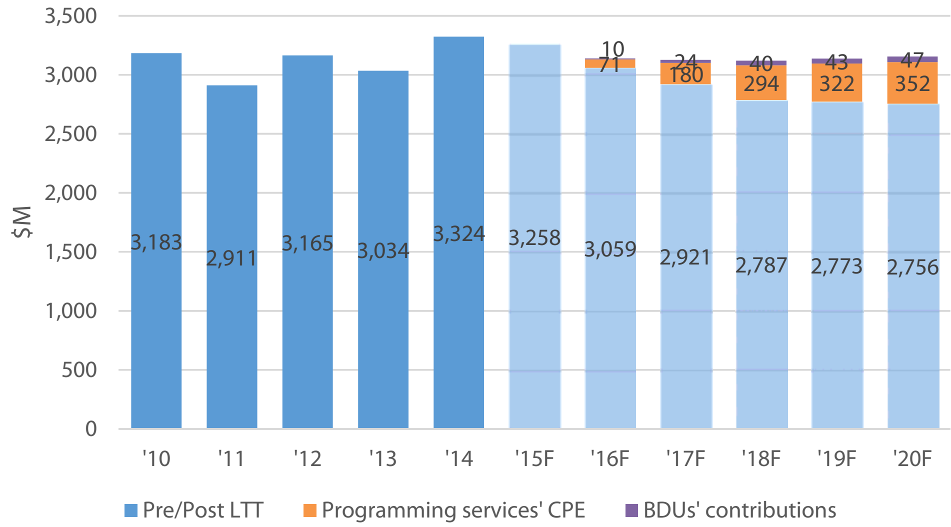
2.2.5 Simultaneous Substitution

238. Changes to the simultaneous substitution regulations ("simsub"), particularly the elimination of simultaneous substitution during the Super Bowl (beginning in 2017) is expected to reduce Canadian broadcasters' revenue by $20 million on an annual basis (increasing with CPI from 2017). Among other things, this revenue reduction will also result in a $6 million reduction in CPE (i.e. 30% of revenue).

2.2.6 Canadian Programming Expenditures

239. On an aggregate basis, the LTTV regime (including changes to simsub regulations) is expected to result in a $399 million reduction in CPE by 2020, or 18% of baseline CPE in that year. This total impact would include a $352 million reduction in CPE by Canadian programming services and a $47 million decrease in BDUs' contributions to the CMF, local expression and other production funds.

Figure 43 Impact of LTTV on CPE



Source: Authors' research

2.2.7 Independent Production

240. The decreases in CPE (including BDUs' contributions to production funds) will ultimately reduce the financing available to independent television production in Canada. The overall impact on independent production, however, is amplified by the fact that when the private financing of independent production falls, the amount of tax credit financing for production also drops.

241. CRTC statistics indicate that specialty services (excluding Category C services) allocated 60 cents of every dollar of CPE in 2014 to the commissioning or acquisition of programming made by independent and affiliated production[91] companies. And while this 60 cents includes expenditures on both original and library content, we assume that the reductions in expenditures on independent production were entirely for original programming.

242. To model the impact of the reduction in CPE on independent film and TV production, we utilize data on the average financing structure for Canadian television production in

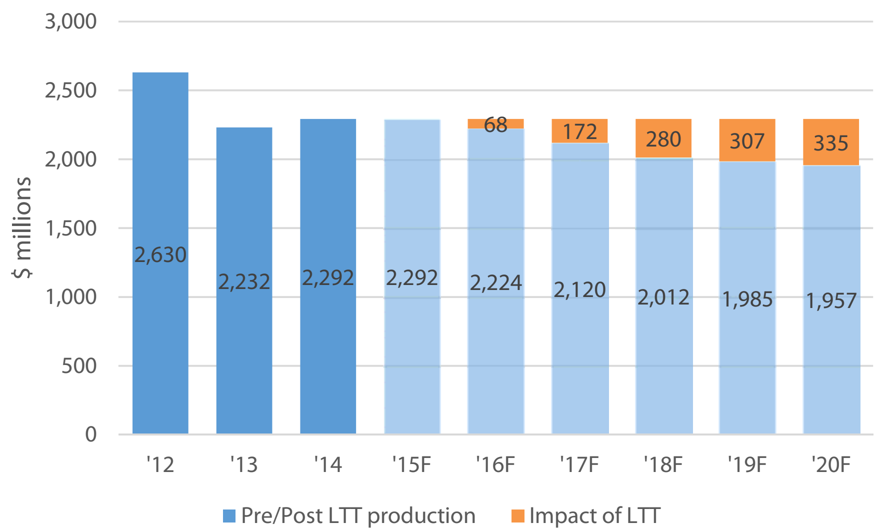
[91] In this section, we use the term "independent production" to refer to the combination of production produced outside the licensed broadcaster's facilities – i.e. both independent production and affiliated production.

2014/15 (source: Profile 2014). In 2014/15, the total volume of Canadian television production was just under $2.3 billion. For our baseline scenario, we assume that the overall level of independent production would not vary during the forecast period. We also assume that there will be no change in production financing sources other than broadcasters' licence fees and funding available from the CMF or other production funds.

243. The effective tax credit subsidy rates observed in 2014/15 were used to estimate how tax credit financing would change (i.e. decrease) in response to any decreases in private financing available from broadcasters or via the CMF or independent production funds.

244. Based on this approach, we estimate that a shortfall of $352 million in programming services' CPE in 2020, plus a shortfall of $47 million BDUs' contributions to production in 2020 would translate into an overall reduction of $335 million in independent production activity.[92] In other words, by 2020, independent television production activity in Canada will be approximately 15% below current levels.

Figure 44 Impact of LTTV on independent production



Source: Authors' research

[92] Note that the decrease in the total volume of independent production in 2020 ($478 million) is actually less than the decrease in total CPE ($535 million) because only 60% of Canadian specialty services' CPE (excluding Category C news and sports services) is actually devoted to independent and affiliated programing; 40% of CPE is devoted to in-house production and other qualifying expenditures.

2.2.8 Economic Impact

245. The following section provides a summary analysis of the economic impact of the LTTV policies. These estimates of the economic impact in terms of employment (full-time equivalents [FTEs]) and gross domestic product (GDP) are linked to "deltas" or reductions in revenue experienced by BDUs and programming services, and any reductions in financing for Canadian film and TV production. These deltas were detailed in the charts in Sections 2.2.1 through 2.2.7.

246. Table 22 summarizes the economic impact of LTTV associated with the broadcasting sector – including the impacts experienced by BDUs and programming services. In total, by 2020, the LTTV policies are forecast to result in the loss of 7,950 FTEs of employment in the Canadian economy, including 4,000 FTEs directly within the broadcasting sector (i.e. direct impact), and 3,950 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact).

247. Similarly, the loss of revenue within the Canadian broadcasting sector is forecast to result in a loss of $984.9million in GDP in the Canadian economy in 2020, including $628.3 million in direct GDP lost within the broadcasting sector and a further $356.6 million in spin-off GDP lost in other sectors of the Canadian economy.

Table 22 Economic impact of LTTV policies, broadcasting sector

	2015	2016	2017	2018	2019	2020
BDUs						
Employment (FTEs)						
Direct	0	(730)	(1,730)	(2,710)	(2,910)	(3,110)
Spin-off*	0	(450)	(1,060)	(1,660)	(1,780)	(1,900)
Total	**0**	**(1,180)**	**(2,790)**	**(4,370)**	**(4,690)**	**(5,010)**
GDP ($M)						
Direct	0	(96.4)	(229.7)	(358.7)	(385.0)	(412.0)
Spin-off*	0	(41.6)	(99.1)	(154.8)	(166.2)	(177.8)
Total	**0**	**(138.1)**	**(328.8)**	**(513.5)**	**(551.1)**	**(589.8)**
Specialty and pay TV services						
Employment (FTEs)						
Direct	0	(180)	(440)	(730)	(800)	(870)
Spin-off*	0	(420)	(1,010)	(1,670)	(1,840)	(2,010)
Total	**0**	**(600)**	**(1,450)**	**(2,400)**	**(2,640)**	**(2,880)**
GDP ($M)						
Direct	0	(43.8)	(106.9)	(176.3)	(193.8)	(211.7)
Spin-off*	0	(36.2)	(88.3)	(145.7)	(160.1)	(174.9)
Total	**0**	**(80.0)**	**(195.2)**	**(322.1)**	**(353.9)**	**(386.6)**
Private conventional TV						
Employment (FTEs)						
Direct	0	0	(20)	(20)	(20)	(20)
Spin-off*	0	0	(50)	(50)	(50)	(50)
Total	**0**	**0**	**(70)**	**(70)**	**(70)**	**(70)**
GDP ($M)						
Direct	0	0.0	0.0	(5.5)	(5.6)	(5.7)
Spin-off*	0	0.0	0.0	(4.5)	(4.6)	(4.7)
Total	**0**	**0.0**	**0.0**	**(10.0)**	**(10.2)**	**(10.4)**
Total broadcasting sector						
Employment (FTEs)						
Direct	0	(910)	(2,190)	(3,460)	(3,730)	(4,000)
Spin-off*	0	(870)	(2,110)	(3,370)	(3,660)	(3,950)
Total	**0**	**(1,780)**	**(4,300)**	**(6,830)**	**(7,390)**	**(7,950)**
GDP ($M)						
Direct	0	(140.2)	(340.9)	(539.5)	(583.2)	(628.3)
Spin-off*	0	(77.8)	(191.1)	(304.2)	(330.0)	(356.6)
Total	**0**	**(218.0)**	**(532.0)**	**(843.7)**	**(913.3)**	**(984.9)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

248. By 2020, a $335 million decrease in production financing would lead to a loss of 7,180 FTEs of employment in the Canadian economy, including 2,830 FTEs of cast and crew employment (i.e. direct impact), and 4,350 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact).

249. Similarly, the loss in production financing and activity would also result in a loss of $426.3 million in GDP in the Canadian economy in 2020, including $174.2 million in direct GDP lost within the television production sector and a further $252.1 million in spin-off GDP lost in other sectors of the Canadian economy.

Table 23 Economic impact of LTTV policies on independent Canadian television production

	2015	2016	2017	2018	2019	2020
Total production financing ($M)	**0**	**(68.0)**	**(172.0)**	**(280.0)**	**(307.0)**	**(335.0)**
Employment (FTEs)						
Direct	0	(570)	(1,450)	(2,360)	(2,590)	(2,830)
Spin-off*	0	(880)	(2,230)	(3,630)	(3,980)	(4,350)
Total	**0**	**(1,450)**	**(3,680)**	**(5,990)**	**(6,570)**	**(7,180)**
GDP ($M)						
Direct	0	(35.4)	(89.4)	(145.6)	(159.6)	(174.2)
Spin-off*	0	(51.2)	(129.4)	(210.7)	(231.0)	(252.1)
Total	**0**	**(86.5)**	**(218.9)**	**(356.3)**	**(390.6)**	**(426.3)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

250. When the economic impacts experienced within the broadcasting and production sectors are combined, we arrive at an estimate of the total economic impact of the Commission's LTTV Decisions. By 2020, LTTV is likely to result in a loss of 15,130 FTEs of employment in the Canadian economy, including 6,830 FTEs of employment directly within the broadcasting and production sectors (i.e. direct impact) and a further 8,300 FTEs of employment in other sectors of the economy (i.e. spin-off impact).

251. The LTTV Decisions would also likely result in the loss of over $1.4 billion in GDP within the Canadian economy by 2020. This includes $802.5 million in direct GDP and just $608.6 million in spin-off GDP.

Table 24 Summary of total economic impact of LTTV policies (broadcasting + production)

	2015	2016	2017	2018	2019	2020
Employment (FTEs)						
Direct	0	(1,480)	(3,640)	(5,820)	(6,320)	(6,830)
Spin-off*	0	(1,750)	(4,340)	(7,000)	(7,640)	(8,300)
Total	**0**	**(3,230)**	**(7,980)**	**(12,820)**	**(13,960)**	**(15,130)**
GDP ($M)						
Direct	0	(175.6)	(430.4)	(685.1)	(742.9)	(802.5)
Spin-off*	0	(129.0)	(320.5)	(514.9)	(561.0)	(608.6)
Total	**0**	**(304.5)**	**(750.9)**	**(1,200.0)**	**(1,303.9)**	**(1,411.1)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

2.3 Unbundling Revisited

252. The following section summarizes the modelling and assumptions used to estimate the incremental financial and economic impact of the Unbundling Revisited Scenario.

2.3.1 Assumptions

253. To model the impact of the Unbundling Revisited Scenario, adjustments were made to specific assumptions as set in the LTTV Scenario.

254. Under the Unbundling Revisited Scenario, the effect of introducing a more market driven approach to unbundling, while maintaining most other regulatory protections, is to:

1. reduce consumer take-up of unbundling options from 15% to 10% and hence reduce commensurate revenue losses;

2. increase the take-up of Canadian services in BYOP packages to 75% from 50% and the average price of BYOP packages by 50%;

3. reduce the incentive and ability of BDUs to increase their share of retail revenues to only slightly higher than current 50:50 splits; and

4. eliminate anticipated increased take-up of unregulated OTT options, and hence cord-cutting and cord-shaving.

255. These resulting assumptions for this Unbundling Revisited Scenario, as compared to the LTTV Scenario, are summarized in Table 25.

Table 25 Unbundling Revisited Scenario, summary of adjustments to assumptions

	Let's Talk TV Scenario	Unbundling Revisited Scenario
General	▪ BDUs pass through **75%** of loss in retail revenue to specialty services in the form of reductions in wholesale fees; that is, specialty services' wholesale fees drop by 75 cents for every one dollar decrease in BDU retail revenue	▪ BDUs pass through **55%** of loss in retail revenue to specialty services in the form of reductions in wholesale fees; that is, specialty services' wholesale fees drop by 55 cents for every one dollar decrease in BDU retail revenue
Unbundling	▪ **15%** of BDU subscribers opt for BYOP by 2020. ▪ BYOP subscribers spend, on average, **$20** per month (increasing by CPI) on their discretionary tier services	▪ **10%** of BDU subscribers opt for BYOP by 2020. ▪ BYOP subscribers spend, on average, **$30** per month (increasing with CPI) on discretionary services
Preponderance / Elimination of access rules	▪ Canadian services share of wholesale fees (among BYOP subscribers) drops from **86% to 50%**	▪ Canadian services share of wholesale fees (among BYOP subscribers) drops from **86% to 75%**
OTT exemption order	▪ Rates of cord cutting and shaving occur at a **25%** faster rate than under the baseline scenario (i.e. without LTTV)	▪ Rates of cord cutting and shaving occur at the **same rates** as under the baseline scenario
Closures of specialty services	▪ **10%** of Category A and B services owned by vertically integrated companies close by 2020 ▪ **25%** of independent services in Categories A and B would shuttered by 2020 ▪ **One** pay/PPV/VOD service would be shut down by 2020	▪ **No** closures of Category A and B services owned by vertically integrated companies ▪ **10%** of independent services in Categories A and B would shuttered by 2020

Source: Authors' research

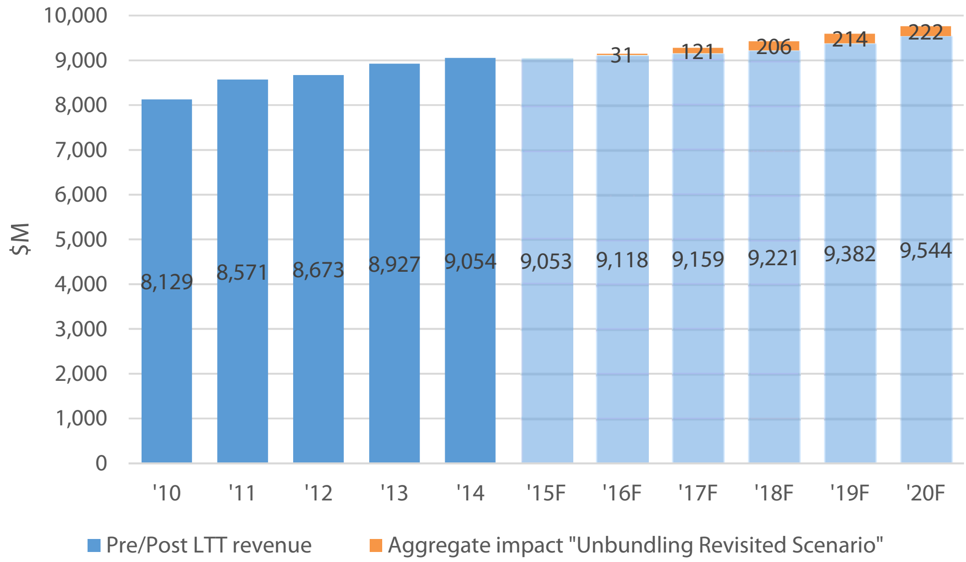
2.3.2 Financial Impact

256. In this section, we summarize the results of modelling with respect to the impact that the Unbundling Revisited Scenario is expected to have on the revenues of BDU and programing services, as well as CPE and independent production.

BDU Revenue

257. Under the Unbundling Revisited Scenario BDUs' revenues in 2020 will be $222 million lower (i.e. 2.2% lower) than under the baseline scenario (Figure 45).

Figure 45 Impact of Unbundling Revisited Scenario on BDU revenues

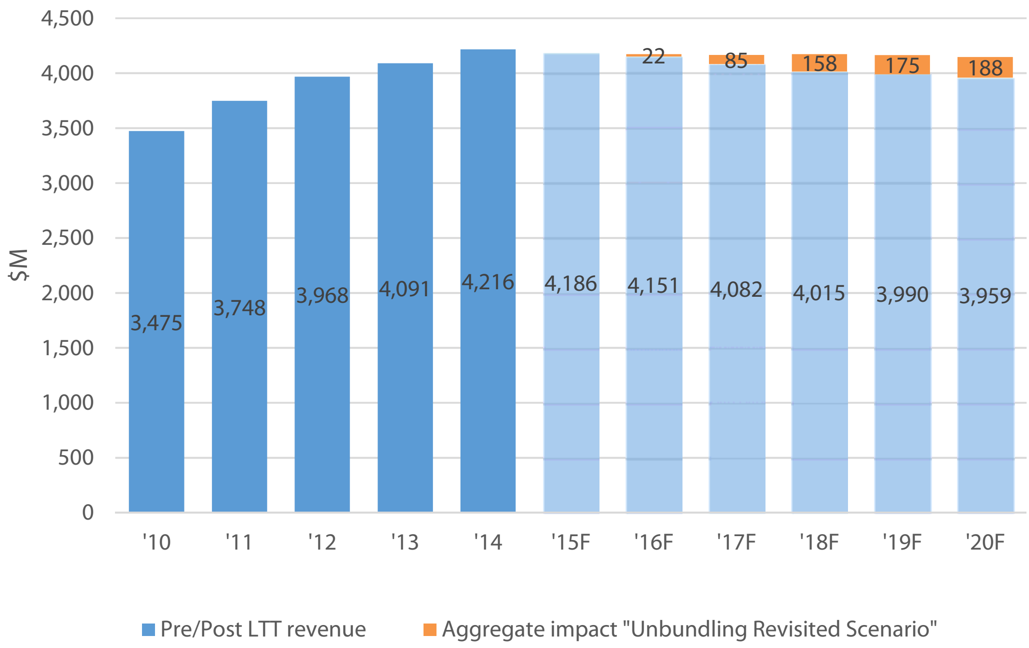


Source: Authors' research

Programming Services

258. Under the Unbundling Revisited Scenario programming services' revenues in 2020 will be $188 million lower (i.e. 4.5% lower) than under the baseline scenario (Figure 46).

Figure 46 Impact of Unbundling Revisited Scenario on specialty and pay revenues



Source: Authors' research

Canadian Programming Expenditures

259. The reductions in revenue experienced by BDUs and programing services would translate into a decrease of $70 million in CPE in 2020 (Table 26). This decrease would include an $11 million reduction in BDUs contribution to CPE (including contributions to the CMF and local expression) and a $59 million reduction in programming services' CPE. Overall, CPE would decline by 2.2% compared to baseline forecast of CPE in 2020.

Table 26 Impact of Unbundling Revisited Scenario on Canadian Programming Expenditures ($M)

	2014	2015F	2016F	2017F	2018F	2019F	2020F
Baseline level of CPE	3,324	3,258	3,140	3,126	3,120	3,139	3,155
Change in BDU contributions to CPE	0	0	(1)	(4)	(9)	(10)	(11)
Change in programming services' CPE	0	0	(8)	(22)	(48)	(54)	(59)
Total change in CPE	0	0	(9)	(26)	(58)	(64)	(70)
Post-policy level of CPE	3,324	3,258	3,131	3,100	3,064	3,075	3,086

Source: Authors' research

Independent Production

260. After taking into account the share of CPE that flows into independent production and other sources of financing for that production, our model estimates that the total volume of independent production in Canada would be $72 million lower in 2020 (Table 27). This decline represents a 3.1% decrease compared to the total volume of Canadian television production of $2.3 billion in 2013/14.

Table 27 Impact of Unbundling Revisited Scenario on independent production ($M)

	2014	2015F	2016F	2017F	2018F	2019F	2020F
Baseline level of independent production	2,292	2,292	2,292	2,292	2,292	2,292	2,292
Change in independent production	0	0	(8)	(35)	(61)	(67)	(72)
Post-policy level of independent	2,292	2,292	2,284	2,257	2,231	2,225	2,220

Source: Authors' research

2.3.3 Economic Impact

261. Table 28 summarizes the economic impact of the Unbundling Revisited Scenario within the broadcasting sector – including the impacts experienced by BDUs and programming services. In total, by 2020, the Unbundling Revisited Scenario is forecast to result in the loss of 1,920 FTEs of employment in the Canadian economy, including 1,000 FTEs directly within the broadcasting sector (i.e. direct impact), and 920 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact).

262. Similarly, the loss of revenue within the Canadian broadcasting sector is forecast to result in a loss of $236.4 million in GDP in the Canadian economy in 2020, including $152.5 million in direct GDP lost within the broadcasting sector and a further $83.9 million in spin-off GDP lost in other sectors of the Canadian economy.

Table 28 Economic impact of Unbundling Revisited Scenario, broadcasting sector

	2015	2016	2017	2018	2019	2020
BDUs						
Employment (FTEs)						
Direct	0	(110)	(440)	(750)	(780)	(810)
Spin-off*	0	(70)	(270)	(460)	(470)	(490)
Total	**0**	**(180)**	**(710)**	**(1,210)**	**(1,250)**	**(1,300)**
GDP ($M)						
Direct	0	(14.8)	(58.1)	(98.7)	(102.7)	(106.8)
Spin-off*	0	(6.4)	(25.1)	(42.6)	(44.3)	(46.1)
Total	**0**	**(21.2)**	**(83.1)**	**(141.3)**	**(147.0)**	**(152.9)**
Specialty and pay TV services						
Employment (FTEs)						
Direct	0	(20)	(80)	(140)	(160)	(170)
Spin-off*	0	(50)	(180)	(330)	(360)	(390)
Total	**0**	**(70)**	**(260)**	**(470)**	**(520)**	**(560)**
GDP ($M)						
Direct	0	(4.8)	(18.5)	(34.4)	(38.1)	(41.1)
Spin-off*	0	(4.0)	(15.3)	(28.5)	(31.5)	(34.0)
Total	**0**	**(8.8)**	**(33.7)**	**(62.9)**	**(69.6)**	**(75.1)**
Private conventional TV						
Employment (FTEs)						
Direct	0	0	(20)	(20)	(20)	(20)
Spin-off*	0	0	(50)	(50)	(50)	(50)
Total	**0**	**0**	**(70)**	**(70)**	**(70)**	**(70)**
GDP ($M)						
Direct	0	0.0	0.0	(5.5)	(5.6)	(5.7)
Spin-off*	0	0.0	0.0	(4.5)	(4.6)	(4.7)
Total	**0**	**0.0**	**0.0**	**(10.0)**	**(10.2)**	**(10.4)**
Total broadcasting sector						
Employment (FTEs)						
Direct	0	(130)	(540)	(910)	(960)	(1,000)
Spin-off*	0	(120)	(490)	(830)	(870)	(920)

Total	**0**	**(250)**	**(1,030)**	**(1,740)**	**(1,830)**	**(1,920)**
GDP ($M)						
Direct	0	(19.6)	(80.9)	(137.6)	(145.4)	(152.5)
Spin-off*	0	(10.4)	(43.9)	(74.7)	(79.6)	(83.9)
Total	**0**	**(29.9)**	**(124.8)**	**(212.3)**	**(224.9)**	**(236.4)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

263. As summarized in Table 29, by 2020, a $72 million decrease in production financing would lead to a loss of 1,550 FTEs of employment in the Canadian economy, including 610 FTEs of cast and crew employment (i.e. direct impact), and 940 FTEs of employment in other sectors of the Canadian economy (i.e. spin-off impact).

264. Similarly, the loss in production financing and activity would also result in a loss of $91.9 million in GDP in the Canadian economy in 2020, including $37.6 million in direct GDP lost within the television production sector and a further $54.3 million in spin-off GDP lost in other sectors of the Canadian economy.

Table 29 Economic impact of Unbundling Revisited on independent Canadian television production

	2015	2016	2017	2018	2019	2020
Total production financing ($M)	**0.0**	**(7.8)**	**(35.4)**	**(61.3)**	**(67.3)**	**(72.2)**
Employment (FTEs)						
Direct	0	(70)	(300)	(520)	(570)	(610)
Spin-off*	0	(100)	(460)	(800)	(870)	(940)
Total	**0**	**(170)**	**(760)**	**(1,320)**	**(1,440)**	**(1,550)**
GDP ($M)						
Direct	0.0	(4.1)	(18.4)	(31.9)	(35.0)	(37.6)
Spin-off*	0.0	(5.9)	(26.6)	(46.2)	(50.7)	(54.3)
Total	**0.0**	**(9.9)**	**(45.0)**	**(78.1)**	**(85.7)**	**(91.9)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts

265. When the economic impacts experienced within the broadcasting and production sectors are combined, we arrive at an estimate of the total economic impact of the Unbundling Revisited Scenario (Table 30). By 2020, this scenario is likely to result in a loss of 3,470 FTEs of employment in the Canadian economy, including 1,610 FTEs of employment directly within the broadcasting and production sectors (i.e. direct impact) and a further 1,860 FTEs of employment in other sectors of the economy (i.e. spin-off impact).

266. The Unbundling Revisited Scenario would also likely result in the loss of $328.4 million in GDP within the Canadian economy by 2020. This includes $190.1 million in direct GDP and just $138.2 million in spin-off GDP.

Table 30 Summary of total economic impact of Unbundling Revisited Scenario (broadcasting + independent production)

	2015	2016	2017	2018	2019	2020
Employment (FTEs)						
Direct	0	(200)	(840)	(1,430)	(1,530)	(1,610)
Spin-off*	0	(220)	(950)	(1,630)	(1,740)	(1,860)
Total	**0**	**(420)**	**(1,790)**	**(3,060)**	**(3,270)**	**(3,470)**
GDP ($M)						
Direct	0	(23.7)	(99.3)	(169.5)	(180.4)	(190.1)
Spin-off*	0	(16.2)	(70.5)	(120.9)	(130.2)	(138.2)
Total	**0**	**(39.9)**	**(169.8)**	**(290.4)**	**(310.6)**	**(328.3)**

Source: Author's estimates based on data from CRTC, MPA-C/CMPA (2013) and CMPA (2014).
* Includes indirect and induced impacts