

The Use of Vertical Market Prices in Setting Copyright Tariffs

Gerry Wall and Bernie Lefebvre
Wall Communications Inc.
Ottawa, Canada

*Paper Presented to the SERCI Annual Congress 2016
At Loyola University Chicago School of Law
July 8th, 2016*

The Use of Vertical Market Prices in Setting Copyright Tariffs

Authors: Gerry Wall and Bernie Lefebvre, Wall Communications Inc.¹

Abstract

The lack of a workably competitive market for transacting intellectual-property rights between rights-holders to commercial entities (i.e. users of copyright works) has led to copyright royalty or rate setting by regulatory agencies (such as the Copyright Board of Canada and the Copyright Royalty Board in the United States). Consequently, with no functioning “direct” markets to examine, these agencies typically adopt a “proxy” market as a key part of their rate-setting process.

While private markets for the sale of rights to users do not typically exist (at least at the wholesale market level), vertical markets do in some cases exist for the retail sale of services that use those rights. One such example is the retransmission of distant TV signals by multi-channel video program distributors (MVPDs), such as cable TV, DTH or IPTV providers. In such cases, the reliance on a proxy market to set copyright rates can be avoided.

In this paper, we utilize a “downstream” market to estimate the value of rights use to the commercial user (i.e. value in the “upstream” market) using Canadian data on the retail sale of distant television signals in conjunction with data on the workably competitive market for specialty channels (i.e. channels that are very similar to distant TV signals). Using this data, we derive estimates of the wholesale market value or price of distant TV signals. Based on our analysis, we find that the current per signal payment to DS rights-holders certified by the Copyright Board of Canada is significantly less than the actual market value of a distant TV signal to MVPDs.

¹ Wall Communications Inc. is an economics consulting firm based on Ottawa, Canada specializing in telecommunications, broadcasting, copyright and intellectual property, film and television production, and new media.

Introduction

The lack of a workably competitive market for transacting intellectual-property rights between rights-holders (e.g. for authors, composers and producers) to commercial entities (e.g. users of copyright works such as commercial radio and television stations) has led to copyright royalty or rate setting by regulatory agencies (such as the Copyright Board of Canada and the Copyright Royalty Board in the United States). Consequently, with no functioning “direct” markets to examine, these agencies typically adopt a “proxy” market as a key part of their rate-setting process.

While private markets for the sale of rights to users do not typically exist (at least at the wholesale market level), vertical markets do in some cases exist for the retail sale of services that use those rights. One such example is the retransmission of distant TV signals (or channels, hereafter also referred to as DS) by multi-channel video program distributors (MVPDs), such as cable TV, DTH or IPTV providers. In such cases, the complete reliance on a proxy market to set copyright rates can be avoided.

Retransmission royalties or tariffs are set by copyright authorities for MVPD “wholesale” use of DS, but the distant TV signals are also sold at “retail” by MVPDs. Distant TV signals can be sold to consumers by MVPDs as part of larger packages or in discrete “theme” packages that contain only DS. These “downstream” retail markets can provide market-based pricing information that is useful for input valuation in the “upstream” market. This is particularly true if a discrete set of distant TV signals is sold at retail with only a minimal addition of other production factors.

As in the case of DS, individual specialty or pay channels are commonly sold by programmers and purchased by MVPDs in a wholesale market (e.g. ESPN, TSN, A&E, Teletoon). Specifically, these channels are bought and sold in a market where a willing seller and a willing buyer agree on a price. These pay and specialty channels are also packaged and sold in a fashion that is virtually the same as the packaging and sale of distant TV signals.

Thus, we can observe an actual retail market for distant signals (but not the wholesale market) and we can also observe actual “workably competitive” wholesale and retail markets for specialty TV channels – specialty channels whose content is highly similar to distant TV signals.

In this paper, we utilize a “downstream” market to estimate the value of rights use to the commercial user (i.e. value in the “upstream” market). An application of the theory is examined using Canadian data on the retail sale of distant television signals in conjunction with data on the workably competitive market for specialty channels (i.e. channels that are highly similar to distant TV signals). Using this data, we derive estimates of the wholesale market value or price of distant TV signals.

The key advantage of this methodology versus the typical proxy approach is that market prices for the actual product (i.e. distant signals) are used in the estimation process, not prices of proxy products. The distant signal prices used are however not first-market prices – since those do not exist – but rather “downstream” (or vertical) market prices.

Background on the Canadian Retransmission Market

In Canada, the Copyright Board of Canada (the "Board") is responsible for setting either mandatorily or at the request of an interested party the royalty or tariff rates to be paid for the use of copyrighted works when the administration of such copyright is entrusted to a collective administration society.² This includes setting or certifying retransmission tariff rates to be paid by Canadian MVPDs.

The Board established inaugural tariff rates for the retransmission of distant radio and television signals in Canada in 1990. The establishment of this tariff was largely as a consequence of the 1988 Canada-US Free Trade Agreement, which included provisions requiring the establishment of a licensing regime for retransmission rights. Changes to the *Copyright Act* (the *Act*) were subsequently made and, as a result, the Board was required to implement a retransmission tariff regime and certify royalties to be paid for the retransmission of distant signals.

In its 1990, the Board set the initial tariff for the retransmission of distant radio and television signals for a two year period (1990-91).³ In determining the tariff rates, it adopted a "comparative services" or "proxy" valuation approach. This approach involved two steps.

The first step involved the selection of an acceptable "proxy" programming service that would be roughly similar in quality and value to subscribers relative to a distant TV signal. For this purpose, the Board selected the Arts & Entertainment (A&E) specialty service as its proxy. The wholesale rate paid by MVPDs for A&E at the time was \$0.25 per subscriber per month. This wholesale rate was used as the starting point for the valuation of distant TV signals. The Board made several adjustments to the A&E proxy wholesale rate to reflect differences between A&E and a typical distant television signals – to reflect in simultaneous programming substitution, cost recovery requirements, penetration levels and service packaging.⁴ In total, the Board decided to reduce the proxy rate by 40%, resulting in a proxy wholesale rate of \$0.15 per distant signal per subscriber per month.

² See: <http://www.cb-cda.gc.ca/>.

³ Copyright Board of Canada Decision, *Retransmission of Distant Radio and Television Signals*, October 2, 1990 (the "1990 Decision").

⁴ The Board's 1990 Retransmission Tariff Decision, page 32.

The second step involved the determination of the average number of distant television signals received by BDU subscribers in Canada. In this respect, the Board found that an average subscriber received 4.56 distant television signals at the time. The Board consequently set a royalty rate of \$0.70 per subscriber per month⁵. This calculation was based upon multiplying the \$0.15 per distant signal rate (i.e. price) by 4.56 distant signals (i.e. quantity).

While the retransmission tariff rates set by the Board are based on the average number of distant signals received by BDU subscribers, the tariff is triggered when a BDU carries one or more distant signals. In the 1990 Decision, the Board noted that some retransmitters carried as few as one distant signal, while it also gave an example of a retransmitter carrying 14 distant signals. The Board indicated, however, that rather than setting a tariff based on the specific number of distant signals carried by a retransmitter, it preferred a single tariff rate consistent with a "blanket" licensing approach.⁶

Since the rate was first set in 1990, several other Royalty Hearings have been held with the last completed Hearing occurring in 2008. Parties agreed to a tariff for the period of 2009 to 2013, with the Board certifying that tariff (no Hearing was held). Finally, a Hearing was held in late 2015 and early 2016 with the Board currently deliberating on a rate.

The large-system rate for the last year of the existing agreement between the retransmission rights collectives and the MVPDs was set at \$0.98 per subscriber per month as of 2013. Since the Board's 1990 Decision, the average number of DS received by MVPD subscribers has risen dramatically. It currently stands at 54 distant signals.⁷ Therefore, while the Board valued a DS at \$0.15 in 1990, the effective valuation of a distant signal under the 2013 tariff rate declined to \$0.018 per subscriber per month (i.e. $\$0.98 / 54$) – a decline of close to 90%.

Methodology

IP rights (such as the right to rebroadcast TV signals in distant markets) are one production factor in creating a cable TV or DTH service (denoted as a multi-channel video program distributor or MVPD service). Like all production inputs, TV signal rights are a derived demand. That is, the value of the signal to the MVPD is derived from the value that the rights provide in generating value in the downstream market (i.e. the retail sale of video channels).

Distant signals are sold in a variety of packages provided by the MVPD. In Canada, distant TV signals are included as part of basic and extended basic

⁵ The \$0.70 per subscriber per month tariff was for the largest MVPDs (i.e. those with more than 6,000 subscribers). Smaller systems paid lower graduated tariffs.

⁶ Ibid. pages 35-36. Note that the Board approved a tariff discount for retransmitters carrying just one distant signal if it is a duplicate network signal.

⁷ Mediastats, *Retransmission Report*, January 2004 to 2014, Revised Report, dated February 2015.

MVPD packages, but are also sold in “theme” or other packages of aggregated services. Most importantly for our purposes, MVPD’s also sell channel packages comprised solely of distant TV signals.

We propose to measure the value of distant signals (as inputs into an MVPD service) in a multi-step process:

- first, we identify and chart out the packages of distant signals that are sold at retail by MVPDs;
- second, we identify comparable programming channels that are sold by MVPDs at retail but are also bought and sold in a workably competitive “wholesale” market;
- third, we use the competitive wholesale market program channel data to calculate the typical or average mark up for a program channel (i.e. what is the average mark up charged by an MVPD on top of the wholesale price that is paid for a pay program channel?); and
- fourth, we use the average mark up to calculate the “wholesale” value of a distant signal.

We assume that MVPDs will maximize profits (π). Total MVPD revenues are the sum of number of subscribers (Q_{sub}) times average per subscriber payment (P_A). Costs are defined as either fixed (C_f) or programming related costs, where the average wholesale cost per channel (C_{ptv}) is multiplied by the number of pay channels purchased by the MVPD (Q_{ptv}).

$$\pi = (P_A \times Q_{sub}) - [(C_{ptv} \times Q_{ptv}) + C_f]$$

In equilibrium, the value of a specialty or pay TV channel to an MVPD is equal to the marginal product that it generates. Wholesale prices for specialty/pay TV channels are in fact negotiated prices set by market bargaining between MVPDs and program channel owners (or rights-holders). For our purposes, we will assume that the prices for specialty/pay TV channels on average accurately reflect the market value of those channels.

Moreover, we will assume that the ratio of wholesale payments to program channels relative to associated MVPD revenues is the same ratio as the market value of distant signals to the revenue associated with the retail sale of the distant signals. We are therefore making the argument that specialty/pay TV channels and distant signal channels are priced in the same manner by MVPDs and that DS and specialty/pay TV channels are the same product as far as consumers are concerned. We believe this to be true for the following reasons.

MVPDs usually offer programming channels (other than those which are part of their Basic service) in discrete “theme” or “variety” packages – that is, groups of

channels or services that are purchased by consumers in addition to their basic (or extended basic) service. These “theme” packages (whether solely comprised of specialty/pay TV channels or distant signals or a mix of both) are marketed and sold by the MVPDs in exactly the same manner. The MVPDs' web pages offering these packages do not differentiate between specialty/pay TV channels and distant signals. In some cases, a single price is charged for any given package that the consumer chooses, irrespective of whether it is a sports package, an action channel package or a distant signal package.⁸

MVPDs offer distant signals and specialty/pay TV channels as the same type of product. They are packaged in similar fashion and they are priced in similar fashion. Finally, consumer surveys demonstrate that consumers place similar (or greater) value on distant signals versus specialty/pay TV channels.⁹

In order to therefore approximate the market value of a distant signal, we use the ratio of specialty/pay TV wholesale cost to retail price, and apply that ratio to the retail price of distant signal packages.

Distant Signal Market Valuation Estimation

We require three data elements to calculate the market value of distant signals:

- 1) the retail prices (i.e. actual market-determined prices) of DS theme packages with individual knowledge of the number of channels contained in each package;
- 2) the wholesale payments for specialty/pay TV channels; and
- 3) the retail revenues earned by those specialty/pay TV channels.

We are therefore solving for a single unknown parameter (DS_C = the market value of an average DS) in the following equation:

$$DS_P/DS_C = Pay_P/Pay_C$$

⁸ TELUS offered 14 different theme packages in 2013 with each package priced at \$9.00 per month. Content in the packages ranged from general entertainment, to news, to sports and also included a “Timeshift” package comprised solely of distant signals. All other major MVPDs in Canada also offer a package that contains only distant signals and those packages are marketed in exactly the same way as other pay TV channel packages.

⁹ This includes consumer survey evidence filed by Shaw Media during the Canadian Radio-television and Telecommunications' *Let's Talk TV* proceeding in 2014. In its *Viewers Lounge Survey* (June 19th, 2014) reported that the major conventional Canadian networks are the most frequently watched as are the US conventional stations of ABC, CBS, NBC and Fox. In addition, in its Opening Oral Remarks at the *Let's Talk TV* Hearings (September 11, 2014), Rogers Communications stressed the importance of US conventional stations to the “vast majority” of Rogers cable TV service subscribers.

$$\text{or } DS_C = (DS_P \times Pay_C) / Pay_P$$

where DS_P = the average retail price of a distant signal

DS_C = the average wholesale cost (or market value) of a distant signal

Pay_P = the average retail price of a specialty/pay TV channel

Pay_C = the average wholesale cost (or market value) of a specialty/pay TV channel

Note that the three known parameters (DS_P , Pay_P and Pay_C) are all determined in actual functioning markets. The DS retail market (where DS_P is determined) is the “downstream” market for distant signals where the end consumer purchases video services from the MVPD.

Data on the distant TV signals offered for sale by MVPDs, including pricing, is available from cable TV, DTH and IPTV service provider websites. There are three primary types of data available on the retail sale of DS: (i) theme packages containing only distant signals, (ii) basic packages (containing both distant and other signals) and (iii) extended basic and/or other add-on packages (containing both distant signal and other channel data).

Distant Signal Pricing in Timeshift Packages

Data on packages comprised of just DS (often called "timeshift" packages) provides the most clean and direct information on retail pricing of distant signals. Since these packages include only DS, it is straight-forward to calculate an average retail price per distant signal. We will focus on this data, although interpretation of the “mixed” retail data (i.e. packages containing both distant and other signals) can also provide further insight into the value of DS.

Table 1 below provides a listing of DS or timeshift packages offered in 2013 by the major Canadian MVPDs.¹⁰ These packages include anywhere from 4 to over 100 timeshifted Canadian and/or US distant signals. In one case (i.e. Rogers Premium Timeshift), there is a mix of timeshifted specialty services and distant signals included in the package. It should also be noted that consistent with the BDUs' marketing practices for these theme packages (as well as other basic and extended basic packages), standard definition ("SD") and high definition ("HD") versions of the same distant signal are counted separately (i.e., as two signals rather than one).¹¹

¹⁰ These include DTH and IPTV service provider Bell Canada (Bell), IPTV service provider TELUS, DTH and cable service provider Shaw and cable companies Rogers, Videotron, Cogeco and Eastlink.

¹¹ It is important to note that the alternative approach of treating SD and HD versions of the same signal as one rather than two signals does not affect our findings and conclusions reached regarding distant signal valuation. It simply has the effect of increasing the

The MVPDs' timeshift packages range in price from roughly \$3.00 to \$10.00 per month. The average retail price per distant signal ranges from \$0.04 to \$0.75. The overall weighted average implicit price per distant signal is \$0.30.

Table 1: Distant Signal Service Packages and Prices Offered by Major Canadian MVPDs in 2013

MVPD	Package Name	Number of Signals *	Package Retail Price	Per Signal Retail Price
Bell (DTH ON)	Timeshifting Pack	48	\$5.05	\$0.11
Bell (Fibe ON)	Timeshifting Pack	34	\$5.05	\$0.15
Bell (Fibe QC)	Timeshifting Pack	57	\$3.03	\$0.05
Cogeco	Timeshifted	19	\$10.10	\$0.53
Eastlink	Timezone	21	\$5.00	\$0.24
Rogers	Premium Timeshift **	12	\$2.99	\$0.25
Rogers	US Superstation Pack	7	\$3.00	\$0.43
Shaw Cable	Timeshift Pack	21	\$5.00	\$0.24
Shaw Direct (DTH)	Timeshift Pack	125 ***	\$5.04	\$0.04
TELUS	Time Choice	32	\$9.00	\$0.28
Videotron	Canadian Timeshift	6	\$3.00	\$0.50
Videotron	US Timeshift	4	\$3.00	\$0.75
Weighted Average ****				\$0.30

Notes: Data from various MVPD websites.

* The reported number of signals for each package counts SD and HD signals as separate services.

** Also includes several timeshifted specialty services.

*** The number of included signals is an estimate given that the actual number varies by location.

**** Weights based on 2013 CRTC-reported MVPD subscriber counts (see <http://www.crtc.gc.ca/eng/stats6.htm>)

Next, we need to estimate the markup used by MVPDs when selling signals (or video channels) to their customers. In order to calculate average markups on specialty/pay TV channels, we need to know the actual per subscriber cost (or affiliate fee) paid by an MVPD for each of the pay channels that it purchases and offers. The total of all wholesale payments for a package of pay channels (e.g. for a sports channel package) can then be divided by the number of specialty/pay TV channels in the package to determine the average “wholesale cost” per pay channel.

Given that data on affiliate payments to pay channels is typically confidential, we will use an illustrative markup for purposes of this paper. It is commonly held that the benchmark markup over cost in retail industries is two times wholesale cost –

average implicit price and cost per distant signal, given that for a specific service package the number of distant signals would be lower (i.e., by eliminating duplicate SD and HD signals) while the package price and underlying package wholesale cost remain the same.

but can be much higher for items such as restaurant wine, jewelry and clothing.¹² Specifically looking at the specialty/pay TV wholesale and retail markets, the ratio of affiliate fees to total associated revenues provides an indication of markup. For example, DirecTV (a US DTH provider) reportedly has an affiliate fee to total revenue ratio of 0.43, while Comcast (a US cable TV operator) has a ratio of 0.37.¹³

Regarding the Canadian industry, total 2014 affiliation payments made by Canadian MVPDs were \$3,300 million compared to total revenues of \$9,054 million.¹⁴ The ratio of total affiliate payments (i.e. payments to specialty/pay TV and related program suppliers) to total revenues is 0.36.

For purposes of our analysis we will use the affiliation payment to MVPD total revenue ratio of 0.36 as the ratio between the wholesale cost and the retail price of an average specialty/pay TV channel.

Using this ratio, we can estimate implicit average wholesale price or market value of a DS as follows:

$$DS_C = \$0.30 \times 0.36 = \$0.11.$$

On this basis, therefore, the estimated average wholesale value or price of a DS is \$0.11.

Distant Signal Pricing in Basic and Extended Basic Packages

Distant signals are also offered in basic and extended basic packages, which typically include a mix of specialty/pay TV services along with over-the-air (OTA) signals (both local and distant signals). Considering these broader specialty/pay TV service packages provides a further means to test the reasonableness of the per DS wholesale valuation estimate derived from the MVPDs' DS or timeshift packages

While it is possible to derive an estimate of DS wholesale value from basic and extended basic packages, the estimate is less precise in that it represents a blend of both local and distant signal values. While Canadian MVPDs pay a retransmission (copyright) fee for the use of distant signals (and they pay a market wholesale price for specialty channels), they do not pay for the use of local OTA signals.

¹² See <http://www.theglobeandmail.com/life/food-and-wine/wine/why-you-pay-52-for-a-15-wine-in-a-restaurant/article11919459>, <http://www.forbes.com/sites/matthewcarroll/2012/02/22/how-fashion-brands-set-prices/#116aa59d214a> and <http://smallbusiness.chron.com/markup-percentage-retail-clothing-80777.html>.

¹³ See <http://abovethecrowd.com/2010/04/28/affiliate-fees-make-the-world-go-round>.

¹⁴ See CRTC Communications Monitoring Report 2015 at <http://www.crtc.gc.ca/eng/publications/reports/policymonitoring/2015/cmr4.htm#a43j>.

As a starting point, we consider the average implicit retail price of channels included in a selected number of major Canadian MVPDs' basic or extended basic packages. These are summarized in Table 2 below.

Table 2: Basic and Extended Basic Packages and Prices Offered by Major Canadian MVPDs in 2013

Package	Retail Price	Number of included Specialty Services *	Number of included OTA Signals *	Total Specialty Services and OTA Signals	Implicit Retail Price per Service/Signal
Basic					
Bell TV Good	\$37.95	36	43	79	\$0.48
Rogers Digital Basic	\$38.48	52	68	120	\$0.32
Shaw Personal TV	\$43.00	32	29	61	\$0.70
TELUS Essentials	\$34.00	26	31	57	\$0.60
Weighted Average **	\$39.31	39	46	85	\$0.51
Extended Basic					
Bell TV Better	\$68.95	120	51	171	\$0.40
Rogers Digital VIP	\$69.99	169	68	237	\$0.30
Shaw Premier TV	\$89.90	111	43	154	\$0.58
Weighted Average **	\$76.46	135	54	190	\$0.43

Notes: Data drawn from various MVPD websites.

* The reported number of services for each package counts SD and HD signals as separate services.

** Weights based on 2013 CRTC-reported MVPD subscriber counts.

The average implicit retail price of a channel provided in a basic package is \$0.51, while for an extended basic service it is \$0.43. This compares to the average retail price of a DS in an exclusive DS-package of \$0.30. We do not have sufficient data to conclude that the distant signals in basic or extended basic packages are more valuable to consumers (i.e. that they would be priced higher at retail on average) since we cannot separate out the value of specialty channels or local OTA signals in those packages. However, the higher blended retail price is one indicator of the reasonableness of our estimate for DS wholesale value.

If the overall ratio of wholesale cost to retail price for services used is (0.36) then the implied wholesale value of an average channel in a Basic package would be:

$$0.36 \times \$0.51 = \$0.18$$

The implied wholesale value of a channel in Extended Basic would be:

$$0.36 \times \$0.43 = \$0.15$$

In both cases, these derived average signal wholesale estimates are higher than our calculation for DS wholesale signal value.

Conclusions and Implications

Based upon actual retail price data for DS and using the wholesale to retail markup used by MVPDs for specialty/pay TV channels, we estimate that the implied wholesale cost or market value of an average DS is \$0.11.

The wholesale rate paid by MVPDs for an average DS can be calculated by dividing the monthly per subscriber DS rate (set by the Copyright Board at \$0.98 for large MVPDs) by the average number of DS supplied by MVPDs to their customers. The number of DS sold by an MVPD to an average customer in 2013 has been measured at 54 distant signals.¹⁵ Therefore the current certified average monthly per subscriber wholesale payment made by MVPDs to DS rights-holders for a DS is:

$$\$0.98 / 54 = \$0.018$$

As a crosscheck on the reasonableness of this estimate, we considered the average retail price of a channel (i.e. a blend of specialty, distant and local signals) in basic and extended basic packages, finding it to be slightly higher than the average retail price of a distant signal. Further, the average implied wholesale value of a channel in a basic or extended basic package is also slightly higher than our estimate of the wholesale value of a DS from our primary analysis (\$0.18 and \$0.15 respectively). We find this supportive of our estimate that a DS has an average wholesale value of \$0.11.

We conclude that the current per signal payment to DS rights-holders is significantly less than the actual market value of a signal to MVPDs.

¹⁵ Mediastats, *Retransmission Report*, January 2004 to 2014, Revised Report, dated February 2015.