

**An Examination of Alternative Approaches for  
Conducting Prices Comparisons of  
Wireline, Wireless and Internet Services in  
Canada and with Foreign Jurisdictions**

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## 1.0 INTRODUCTION

The Canadian Radio-television and Telecommunications Commission (the CRTC or Commission) and Industry Canada asked Wall Communications to conduct an examination of alternative price comparison methodologies in order to determine the most appropriate and practical methodology for comparing residential or consumer wireline, wireless and Internet access service prices within Canada as well as between Canada and selected foreign jurisdictions. The CRTC and Industry Canada also requested that the methodology recommended by Wall Communications include a means to track and assess standalone as well as bundled service prices over time. Further, it was also requested that the recommended methodology be designed so it could be employed on an ongoing basis and, in this respect, allow for periodic updating as market conditions evolve.

In considering alternative methodologies for comparing telecommunications service prices in this report, we have taken into account approaches used to date by other agencies and analysts. In particular, we consider the price comparison approach used by the Organization for Economic Co-operation and Development (OECD), Ofcom in the U.K. as well as industry analysts such as the SeaBoard Group (SeaBoard) and Merrill Lynch.

Ultimately, the purpose of the price comparison data assembled based on the methodology proposed in this report, would be to provide a means to help assess whether policy measures introduced by the Commission, such as local forbearance, have generated benefits such as lower prices or savings for consumers. In addition, the price comparison exercise would also provide a means to identify which consumers are benefiting from those savings – i.e., those with bundles, with standalone services, both, or neither.

This report is organized as follows. Section 2 discusses a number of general considerations that should be taken into account when developing a price comparison methodology for telecommunications services. Sections 3, 4 and 5 address issues relating to developing a price comparison methodology for wireline, wireless and broadband Internet access services, respectively. A proposed approach is provided in each case. Section 6 addresses price comparison methodological issues relating to bundled telecommunications services, including wireline, wireless, broadband as well as television services, and provides a proposed approach for comparing bundled service prices. Lastly, Section 7 addresses data collection issues, including selection of geographic locations and telecommunications service providers for the purpose of comparing telecommunications prices in Canada and between Canada and selected foreign jurisdictions.

An Addendum is also attached which addresses several additional points relating to the proposed price comparison methodology along with other non-price factors that should be considered when assessing the potential affects of forbearance on market competitiveness.

## **2.0 PRELIMINARY CONSIDERATIONS**

Wireline and wireless telecommunications services consist of many service elements and optional features that may vary by service provider and, to a greater extent, across countries. Usage levels may also play a significant role in the price a consumer pays for these services. Consequently, comparing service prices – whether between service providers, cities/regions or countries – is inherently a complex exercise.

The most widely accepted approach, in this respect, has been to start by constructing one or more “baskets” of service elements designed to reflect the consumption pattern of a typical consumer. Where service costs are sensitive to usage levels, separate baskets are used to reflect prices paid by “low”, “medium” or “average” and “high” volume usage consumers.

Using separate “usage-specific” sets of baskets for wireline, wireless and Internet services will result in numerous permutations and combinations of service basket prices, particularly when they are considered on a joint or bundled basis. Furthermore, wireline, wireless and Internet services can also be bundled with television programming services which adds a fourth dimension to the price comparison analysis.

The first objective of this methodological examination is to develop a recommended approach for comparing telecommunications service prices in Canada. Such comparisons can be conducted for specific geographic locations – e.g. cities, provinces or regions which will also be partially reflective of different service providers. Ultimately, the goal is to produce an aggregate price index. The effect of prices in smaller locations will have a limited effect on an aggregate price since the relative weight (e.g., population) of such prices is commensurately smaller.

For each selected city, all major telecommunications service providers (TSPs) should be identified and included in the price data collection exercise. This, of course, would include the incumbent wireline and wireless service providers in each case. In the case of wireline and Internet services, this could also include the local cable company as may be applicable. Smaller TSPs can also be considered, however, once again, the effect on aggregate price estimates of including smaller TSPs is likely to be minimal once relative weighting (such as number of customers) is taken into account.

The second objective of this examination is to develop a recommended approach for comparing telecommunications service prices in Canada with selected foreign jurisdictions. International price comparisons raise a number of additional complications. Price structures for wireline, wireless and Internet services in the U.S. tend to be similar to those in Canada whereas the same cannot be said for most other countries. This makes price comparisons between Canada and the U.S. more straightforward than is the case with other countries. When it comes to foreign jurisdictions (other than the U.S.), the following considerations generally must be taken into account:

- Local calling charges: Wireline service in Canada and the U.S. is flat-rated, permitting unlimited local calling with defined local calling areas. In most foreign jurisdictions, local calls incur charges either on a per minute or per call basis, which can vary by time of day and day of week. Average monthly call volumes can be expected to vary considerably under flat rate versus usage rate pricing plans, which must be borne in mind when comparing wireline prices across foreign jurisdictions.
- Calling party pays (CPP): Under CPP regimes, wireless subscribers do not pay for their incoming calls, the calling party pays (whether calling from a fixed line or mobile phone). Wireless subscribers under CPP plans pay only for outgoing calls. CPP regimes are typical outside of Canada and the U.S. In Canada and the U.S., wireless subscribers pay for both incoming and outgoing calls (i.e., referred to as a receiving party pays or RPP). Differences in rating regimes (i.e., CPP versus RPP) can significantly affect both wireline and wireless service price comparisons between the countries, which must be borne in mind when comparing wireless (as well as wireline) rates in Canada and the U.S. with those in other OECD countries. In a broader sense, other regulatory characteristics of each country's telecommunications industries can also impact usage behaviour.
- Consumption Patterns: Wireless subscribers outside of Canada and the U.S. often have more than one mobile account (or SIM cards) to take advantage of lower calling rates at certain times of day/week or for the purpose of traveling to neighbouring countries (to avoid high roaming fees). This implies that wireless usage levels (minutes of use per month) are typically lower in such countries compared to Canada. As a consequence, service baskets reflecting usage in one country may not reflect usage levels or pricing plans in other countries. Consumption patterns may also be affected by geographical differences, demographic differences and cultural differences.
- Technological Differences: The rate of change in telecommunications technologies in recent years has been astounding, with the introduction of

VoIP, evolving wireless generation technologies and ever faster broadband technologies. Differences in the pace at which technological advances are rolled out in country versus another also complicates international price comparisons given that standard services and features available at any one point in time can differ significantly between countries.

It should also be noted that service quality differences can often occur across services offered by different service providers locally or, more often, across regions or countries. In the case of wireless service, for instance, on-net coverage areas or local signal strength may vary by service provider. In the case, of Internet access service, quality differences can exist with respect to downstream and upstream transmission speeds (actual versus advertised). Sometimes such differences between services are reflected in price differentials, in other cases they are not. For the purpose at hand, we do not suggest that adjustments for quality differences are necessary, but it is an important consideration when selecting service providers that will be included in the price comparison analysis.

International price comparisons require that prices in the selected countries be converted into a single currency. Various options exist in this respect, including currency exchange rates, Purchasing Power Parity (PPPs) translators as well as the so-called “Big Mac” translator. Exchange rates can be highly volatile over time, as is well illustrated by recent experience with the Canadian dollar. Options such as the “Big Mac” translator – which provides the ratio of the price of a Big Mac between each of the countries being considered – may be easy to understand and appealing concept for the person-in the street, but overly simplistic. Consequently, we would recommend using a PPP translator that takes into account relative prices across countries for a broad set of products and services. The OECD regularly publishes PPP indexes for all OECD countries.

As well, a comparison of prices across regional or international jurisdictions should ideally exclude provincial and goods & services sales taxes (PST and GST) or value added taxes (VAT). In this way, differences purely in service rates can be measured and assessed. However, in certain foreign jurisdictions VAT is often included in the prices. Where possible, any such taxes should be removed when comparing Canadian prices with foreign jurisdictions.

## **3.0 WIRELINE SERVICE**

### **3.1 Wireline Service Basket Considerations**

In Canada, wireline or fixed-line service generally consists of the following service elements, each of which has an associated rate or set of monthly recurring charges (some of which are dependent on usage):

- i) access line (including unlimited local calling);<sup>1</sup>
- ii) optional features (e.g., voicemail, call display, call waiting or other optional features available on a pay-per-use basis such as busy call return);
- iii) long distance service for both domestic and international calls; and
- iv) other recurring charges such as network access fees, 9-1-1 emergency access service and/or other charges.

There are often one-time service element charges as well, such as service installation charges.

Each of these service elements should, in principle, be included in a basket of wireline service elements for price comparison purposes. Given that some of the service elements are usage sensitive, typically a set of baskets are created to reflect different customer usage levels. Differences in fixed line usage levels can significantly affect price comparisons, especially between jurisdictions with both local and long distance usage charges. For this reason, the development of a set of service baskets reflecting typical “low”, “medium” and “high” volume customer usage levels of local and long distance services as well as optional features is required in order to properly measure price differences across service providers, regions and/or countries.

For price comparisons to be of relevance across service providers or regions of Canada, usage levels included in any set of service baskets should, first and foremost, reflect typical usage patterns in Canada. In addition, the service baskets must also be designed to accommodate international price comparisons.

### **3.2 International Wireline Service Price Comparison Approaches**

The OECD produces telecommunications service price comparisons across for all OECD member countries in its biannual Communications Outlook Report.<sup>2</sup> In

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<sup>1</sup> Local access charges can in some cases involve additional charges such as a Touch-Tone charge, in the case of Bell Canada, and/or local calling area expansion fees.

<sup>2</sup> The most recent OECD Communications Outlook was published in July 2007. See [http://www.oecd.org/document/17/0,3343,en\\_2649\\_34225\\_38876369\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/17/0,3343,en_2649_34225_38876369_1_1_1_1,00.html).

addition, Ofcom produces price comparisons between the U.K and a selected number of foreign jurisdictions.

### ***The OECD Methodology***

The OECD developed a set of wireline service baskets for low, medium and high volume users. The basket design was developed in conjunction with Teligen Ltd, which is based in the U.K.<sup>3</sup> The OECD basket methodologies have been developed based on research into market trends and usage patterns in the 30 OECD member countries.

The OECD's wireline service baskets can be broken out into the following components:

- The total number of calls made over a given period for a low, medium and high volume residential user – in terms of calls per month this is estimated to be 50, 100 and 200, respectively.
- The distribution of calls to fixed line (domestic), mobile and international destinations – in the case of a medium volume residential user, it is assumed that 75% of the calls are to fixed lines, 23% to mobile and 2% to international.
- Time of day variations for each call type (i.e., fixed, mobile and international) are estimated and split out by week day, week day evening and weekend.
- Fixed lines calls are split into 14 separate distance categories (ranging from the first distance being 3 km to fourteenth distance being 490 km). In cases where the higher distances exceed national boundaries, the highest national rate is assumed to apply. Note that in the case of a medium volume user, 75% of all fixed line calls fall within the first three distance zones or within 12 kilometres.
- Lastly, call durations are estimated for fixed line and mobile calls by week day, week day evening and weekend and by local (below 26 km) or national (above 26 km) call distances. Overall the call durations range from 2 to 7 minutes in length.

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<sup>3</sup> The current OECD basket methodologies for wireline, wireless and leased circuit services are summarized in Teligen Ltd, *OECD Telecoms Price Benchmarking Baskets 2006*, which is available at: [http://www.teligen.com/t\\_basket.asp](http://www.teligen.com/t_basket.asp). Teligen is responsible for collecting the necessary tariff information and updating the price comparisons periodically.

The estimated overall average call time is not provided by the OECD. However, based on the reported estimated call times across the matrix of call type options, it would appear that the average call time is in the order of three minutes. This would suggest that the estimated outgoing call volume for a medium volume user is roughly **300** minutes per month.

The OECD reports country-specific rate estimates, for each service basket, based on the prices offered by the incumbent carrier in each OECD country (i.e., the largest incumbent in countries such as Canada and the U.S. where more than one exists). Consequently, the in-country sampling of rates in the OECD is very limited.

In the vast majority of OECD countries, fixed-line subscribers pay for local calls as well as calls to mobiles on a metered basis. Subscribers in Canada and the U.S. have unlimited local calling to both fixed and mobile subscribers. Consequently, the OECD average usage assumptions cannot be expected to correspond with North American usage patterns. Being free of charge, local call volumes would be expected to be considerably higher in both Canada and the U.S.

### ***Ofcom's Methodology***

Ofcom produces annual telecommunications market research reports which include international price comparisons for standalone telecommunications services, including fixed line and mobile services, as well as bundled services.<sup>4</sup> Ofcom's international price comparisons are made between the U.K. and France, Germany, Italy and the U.S.

To compare standalone fixed-line voice rates across countries, Ofcom defines a single wireline service basket for what it refers to as a "typical" consumer. The basket consists of 430 outgoing call minutes per month, with an average assumed call length of 3 minutes. Total monthly call minutes are broken by time of day and destination as follows:

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<sup>4</sup> See for instance, Ofcom, *Consumer Experience Research Report*, 20 November 2007, and Ofcom, *The International Communications Market 2007*, 12 December 2007 both of which are available at: <http://www.ofcom.org.uk/research>.

**TABLE 1**  
**OFCOM – TYPICAL CONSUMER FIXED-LINE VOICE BASKET**  
**Outgoing Call Minutes per Month**

	Local	National	International (fixed)	Mobile	Total
<b>Peak</b>	150	45	5	15	215
<b>Off-peak</b>	150	45	5	15	215
<b>Total</b>	300	90	10	30	430

*Source: Ofcom 2007 Consumer Experience Research Report*

Note that Ofcom does not include any optional service features in its fixed-line service price analysis.

Ofcom has also constructed a series of service baskets for the purpose of comparing bundled service offerings (including fixed-line voice, mobile, broadband and television). The set of bundled service baskets were intended to reflect the consumption behaviour of five different types of typical households that, according to Ofcom, may be representative of the average population across the countries included in its price comparison analysis. These bundled service baskets are discussed in Section 6 below.

However, it is worth noting here that with respect to the fixed-line component of Ofcom’s bundled service baskets, the above-noted “typical” fixed-line usage basket is included in one of the five bundled service baskets. In addition, several other fixed-line usage baskets are developed for the international price comparison purposes. These include bundled service baskets with the following fixed-line voice service components:

- Low fixed-line usage: 225 outgoing minutes per month (with no international calling).
- Above average fixed-line usage: 500 outgoing minutes per month (primarily with more international and mobile calling).
- Heavy fixed-line usage: 880 outgoing minutes per month (with more of all types of calling)

Here again, no optional features are included in the fixed-line service component of the bundled service baskets. In at least one bundled service basket considered, fixed-line service was not included – i.e., the user in such cases was assumed to be a mobile-only customer.

The outbound fixed-line call volumes, measured in minutes, used by Ofcom in the construction of its various service baskets are based on U.K. and well as other European average usage levels (specifically those in France, Germany and Italy).<sup>5</sup>

<sup>5</sup> Ofcom, *International Communications Market 2007*, Annex B.

### 3.3 Proposed Wireline Service Baskets

For price comparison purposes within Canada and between Canada and the U.S., estimating total call volumes may be useful, however, only those calls that attract usage charges need be measured – i.e., national and international long distance calls. However, to permit comparisons with countries other than the U.S., assumptions regarding overall wireline monthly call volumes, including local and long distance calls, is required. As with the OECD and Ofcom approaches, therefore, assumptions concerning call distributions (by type of call and time of day) should be employed. In addition, assumptions are required with respect to long distance call volumes by destination (e.g., national versus international).

As noted at the outset, since a key objective of the contemplated price comparison exercise to compare wireline rates within Canada and, ultimately, within Canada over time, the assumed call volumes should be generally reflective of typical Canadian usage levels. Given that local service in Canada provides unlimited local calling, information on local minutes of use is not generally measured or, at least, made publicly available by local exchange carriers. A recent survey, conducted by Decima Research, however, provides estimates of weekly wireline usage levels.<sup>6</sup> According to the survey Canadians spend roughly 4 hours each week, on average, making and receiving local and long distance calls. This amounts to 960 minutes per month. Roughly 25% of this time is attributed to long distance calling or roughly 240 minutes a month.

Only outgoing long distance calls are subject to charges, so total long distance calling must be divided into outgoing and incoming minutes. A reasonable assumption in this respect would be a 50/50 split; however, the residential long distance data reported in the Commission's annual Monitoring Report suggest that the residential outgoing minutes could exceed the incoming minutes.<sup>7</sup> Therefore, we assume that long distance minutes of use be split 55% outgoing and 45% incoming.

In order to compare Canadian prices with international jurisdictions, a similar assumption is necessary to split local call volumes into outgoing and incoming minutes. We would expect that calling would be roughly balanced between incoming and outgoing calls on average. Consistent with the long distance traffic distribution, we also assume that local call minutes of use be split 55% outgoing and 45% incoming.

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<sup>6</sup> Decima Research Inc., *Canadians' Usage and Views Regarding Telecommunications*, conducted for Bell Canada, Summer 2004, pages 11 – 13.

<sup>7</sup> According to the CRTC's 2007 Telecommunications Monitoring Report (page 55), Canadian residential subscribers made close to 150 minutes of long distance calls per line per month over the period 2003 to 2006.

To compare Canadian prices with international jurisdictions, a breakout of wireline to mobile calls is also necessary. In this respect, based on OECD and Ofcom studies, we assume that 15% of wireline calls are to mobile subscribers.

The average length of a call is also required for the purpose of making international price comparisons in certain instances. Both the OECD and Ofcom studies assume an average call length of 3 minutes. We would propose to adopt the same call duration assumption.<sup>8</sup>

Therefore, to establish the call volumes in the low, medium and high usage wireless service baskets, we assume that the medium volume usage basket includes **1,000** minutes of outgoing and incoming calls each month (i.e., rounding up the estimated average from the Decima survey). We have created low and high volume user baskets in relation to the medium user basket – i.e., 40% of the average monthly usage for the low user basket and 60% above the average for the high user basket – which results in low and high user baskets of **400** and **1,600** outgoing and incoming minutes of use per month, respectively. Long distance usage is assumed to be lower in the case of low volume users (10% of the total minutes of use per month) and higher in the case of high volume users (30% of the total). Long distance usage in the case of the medium user basket is assumed to be midway between the two other baskets (20% of the total).

With respect to optional features, it should be noted that, in Canada, just over 20% of residential local service revenues are attributable to optional features.<sup>9</sup> This suggests that, on average, wireline customers purchase at least one or more optional feature per line. We assume, for the purpose of the price comparison analysis, that the medium volume user basket include two optional features (e.g., voice mail and caller ID). The low user is assumed to purchase no optional features, whereas the high volume user is assumed to purchase a multi-feature bundle of four or more features.

Table 2 provides a summary of the proposed wireline service basket information that could be used to establish separate baskets for low, medium and high wireline service volume users for price comparison purposes

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<sup>8</sup> Note that this assumption only affects price measurements in countries with per call charges, as in the case of Australia.

<sup>9</sup> CRTC's 2006 Telecommunications Monitoring Report (page 35).

**TABLE 2  
PROPOSED WIRELINE SERVICE BASKETS**

<b>Local Minutes of Use</b>	<b>Low Volume User</b>	<b>Medium Volume User</b>	<b>High Volume User</b>
Outgoing (55%)	220	550	880
Incoming (45%)	180	450	720
<b>Total Minutes</b>	<b>400</b>	<b>1,000</b>	<b>1,600</b>
<b>Outgoing by Time of Day/Week</b>			
Peak (40%)	88	220	352
Off-Peak (60%)	132	330	528
<b>Outgoing LD</b>	10% of total	20% of total	30% of total
National Minutes	16	70	150
U.S. Minutes	6	30	80
Other Int'l Minutes		10	34
Total	22	110	264
<b>Outgoing to Mobile</b>	15% of total	15% of total	15% of total
Local	33	60	100
National		22.5	32
International			
Total	33	82.5	132
<b>Average Call Length</b>	3	3	3
<b>Optional Features</b>			
Voice Mail		Yes	Yes
Caller ID		Yes	Yes
Other			Yes (bundled, if available)

Other non-recurring charges, such as installation, could also be taken into account. If non-recurring costs are included, they could be amortized over a reasonable time period of at least one year to as many as three years. However, today, these charges are typically waived as incentives for customers to change supplier or return to the incumbent carrier. Consequently, we would recommend simply excluding installation charges for price comparison purposes.

The same applies to limited term promotional offers. TSPs may offer new customers either free service for the first month of service or more or, alternatively, provide a discount on the standard rate for the first several months of service or more. Often promotional offers involve multi-year contracts. In this respect, we would recommend that price comparisons be based on standard rates rather than attempting to include short term promotional discounts in some form.

## **4.0 WIRELESS SERVICE**

### **4.1 Wireless Service Basket Considerations**

In Canada, wireless or mobile service generally consists of the following service elements, each of which has an associated rate or set of monthly recurring charges (some of which are dependent on usage):

- i) local airtime (typically including defined amounts of daytime, evening and weekend minute volumes);
- ii) optional features (e.g., voicemail, call display and call waiting);
- iii) long distance service for both domestic and international calls;
- iv) roaming capabilities (national or international off-net airtime);
- v) basic data services (e.g., text or multimedia messaging, SMS and MMS messaging, respectively);
- vi) advanced data service (e.g., web browsing and e-mail); and
- vii) other monthly recurring service fees (e.g., 9-1-1 service charges and the System Access Fee).

There are additional non-recurring fees as well that are important in the case of wireless service. These include handset costs, which are often discounted or subsidized by wireless service providers in order to incent customers to subscribe or switch to the supplier's service. As well, it should be noted that heavily discounted handsets are provided only to subscribers who enter into multi-year contracts with the wireless service provider.

Each of the above-listed service elements should, in principle, be included in a basket of wireless service elements designed for price comparison purposes. To capture usage level differences, a set of service baskets reflecting typical low, medium and high volume customer usage levels of local and long distance service, as well as optional features, is required in order to properly measure price differences across service providers, regions or countries.

In addition, wireless price plans are available on a "pre-paid" or "post-paid" basis. Pre-paid plans are designed to appeal to low volume users whereas post-paid plans are designed for average to higher volume users. For price comparison purposes, both types of pricing plans should be taken into account.

As noted earlier, for price comparisons to be of relevance across service providers or regions of Canada, usage levels included in any set of service baskets should reflect typical consumer usage patterns in Canada. The first step in terms of constructing wireless service baskets for Canadian price comparison purposes is the collection of average wireless usage patterns.

One well-regarded source of such information is Merrill Lynch's quarterly Global Wireless Matrix (GWM) reports. According to Merrill Lynch, average monthly

minutes of use (MOU) in Canada has been steadily rising over time. As of mid 2007, average monthly MOU in Canada was roughly **430**.<sup>10</sup> Similarly, monthly average revenue per user (ARPU) has also been rising, reaching roughly \$59 as of mid 2007.<sup>11</sup> Roughly 12% of reported revenues are attributed to data services.<sup>12</sup> It should also be noted that roughly 22% of wireless subscribers were on pre-paid plans as of mid 2007, with the balance on post-paid plans.

As in the case of wireline services, Canadian wireless service usage patterns are more similar to those found in the U.S. than other OECD countries. The most notable exception, in this respect, is average monthly MOU where, in the U.S., American subscribers average over 800 MOU per month, almost double what is found in Canada. Usage in Canada is high compared to most other countries (especially European countries), but the U.S. is far and away the world leader in average monthly MOU. Also in both Canada and the U.S. the majority of subscribers opt for post-paid plans. The reverse is true in Europe where pre-paid plans are far more popular. As a result, it appears that average MOU in Europe is far lower than in Canada, as well as the U.S. In addition, data usage (specifically text messaging) is considerably higher in other OECD countries compared to both Canada and the U.S.

## **4.2 International and Canadian Wireless Price Comparison Approaches**

A large number of domestic and international wireless price comparison studies have been conducted, all of which tend to use somewhat different approaches for constructing service baskets. In what follows we focus on four recent studies which take different considerations into account.

### ***The OECD's Methodology***

As in the case of wireline rates, the OECD publishes price comparisons rates for wireless services in its Communications Outlook Report. In the case of wireless services, the OECD takes a similar approach to constructing three separate service baskets, representing usage levels for a low, medium and high volume user:

- Call volumes are established for low, medium and high volume users – i.e., 30, 65 and 140 calls per month, respectively.

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<sup>10</sup> Merrill Lynch, 2Q07 Global Wireless Matrix (GWM) Report, 4 October 2007, page 90.

<sup>11</sup> Ibid, page 91. This result is consistent with the Commission's ARPU estimates for the industry for 2006 which are reported in its 2007 Telecommunications Monitoring Report (page 96).

<sup>12</sup> Merrill Lynch, 2Q07 GWM Report, page 91.

- Data messaging volumes are established for each user type – i.e., 33, 50 and 55 text messages per month, respectively, and one or fewer multimedia messages per month.
- Call distribution is established by time of day. In the case of a medium volume user 50% of calls are assumed to be made during peak hours and the balance is roughly equally split between off-peak times during week days and weekends.
- Calls are further distributed among those to local fixed lines, national fixed lines, mobile on-net, mobile off-net and voice mail. In the case of a medium volume user close to 50% of calls are made to other on-net mobiles, close to 25% to off-net mobiles, almost 15% to local fixed lines and the balance is equally split between national fixed line calls and voice mail.
- In a similar fashion, text messages are split between on-net and off-net recipients – 65% and 35%, respectively, for a medium volume user.
- Lastly, call durations are estimated by type of call (i.e., to fixed, on-net mobile, off-net mobile and voicemail). All calls are estimated to be relatively short in duration, one to two minutes. Consequently, while monthly MOU volumes are not provided by the OECD, it would appear that low, medium and high volume users are assumed to make a total of roughly **50**, **100** and over **200** minutes of calling per month.<sup>13</sup>
- Non-recurring charges are amortized over three years.

The OECD's wireless service baskets are heavily influenced by European usage patterns. In both Canada and the U.S., average monthly MOU would be much higher than assumed for medium users in the OECD's price comparison study. The OECD's assumed text messaging volumes also likely overstate relative usage of that feature in North America.

It should also be noted that the OECD develops its country-specific rate estimates based on the prices offered by the two largest wireless service providers in each country (based on subscriber levels). Consequently, the OECD's in-country sampling of rates is limited, which is likely due in part to the large number of countries (30) covered in the OECD's price comparison exercise.

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<sup>13</sup> These appear to be strictly outgoing call volumes since there are no charges for incoming calls in most OECD countries (i.e., those with CCP rate regimes). To gross up the call minutes to include incoming calls could involve as much as a doubling of the outgoing minutes.

## Ofcom's Methodology

Ofcom developed two standalone wireless service baskets for historical price comparison purposes with the U.K. as well as a set of five different baskets for international price comparisons purposes. The standalone baskets were constructed to reflect typical (i) low-volume, pre-paid usage levels and (ii) average volume post-paid (contract) usage levels. Each included monthly call minutes and text or SMS messages. In addition, the post-paid plan included a premium handset since, according to Ofcom, handsets are typical heavily subsidized in the U.K.<sup>14</sup> As well, the pre-paid basket included a small number of MMS messages.

Table 3 provides a summary of the call minute and messaging volumes assumed by Ofcom in each basket:

**TABLE 3  
OFCOM STANDALONE WIRELESS SERVICE BASKETS**

Element	Pre-paid	Post Paid
Monthly Voice Minutes		
To national fixed lines	15	45
To mobile (on-net)	22.5	67.5
To mobile (off-net)	22.5	67.5
To EU		15
To Canada/U.S.		5
Total	<b>60</b>	<b>200</b>
Average Call Length	3 min.	3 min.
Messaging		
SMS	60	60
MMS	3	0
Handset	Not included	Premium Handset type

*Source: Ofcom 2007 Consumer Experience Research Report*

In addition, Ofcom created several additional mobile service baskets for the purpose of conducting international bundled service comparisons.<sup>15</sup> These included the following wireless service components:

- Higher volume wireless usage, with 380 outgoing minutes per month, including more minutes in all call types, higher SMS and MMS messaging volumes and 30 MB data usage per month (call distribution 50/50 peak/off-peak).

<sup>14</sup> Ofcom notes in its *2007 Consumer Experience Research Report* (page 68) that taking handset subsidies into account when comparing U.K. prices with the other countries included in its study has significant effect on the results.

<sup>15</sup> Ofcom, *International Communications Market 2007*, Section 1.4.

- A family plan basket with two pre-paid users (i.e., each similar to the wireless usage shown in Table 3 above) and two low-volume post-paid users (each with 120 outgoing minutes per month).
- An alternative family plan basket with two post-paid users (one with usage volumes identical to Table 3 and one with somewhat lower usage volumes).

As can be seen, wireless service plans included in each of the bundles attempt to reflect the usage of different types of households in the U.K. In one bundled service case, it is assumed that the household does not subscribe to mobile service, but just fixed-line.

### ***SeaBoard Group's Methodology***

SeaBoard has also published several wireless price comparison studies in recent years. Its March 2007 study compares Canadian rates to those in the U.S. and three other countries: Germany, Sweden and the U.K.<sup>16</sup> Like the OECD, SeaBoard constructed three wireless service baskets for price comparison purposes – i.e., including low, medium and high volume user baskets (or what SeaBoard labeled: “survival”, “average” and “heavy” user baskets).

In its price comparisons study, SeaBoard relied largely on Canadian user volumes and patterns in the construction of its wireless service baskets. It set total monthly MOU levels for each of the three baskets of **70, 500 and 1,200** MOU per month for the baskets, respectively.<sup>17</sup> SeaBoard further distributed the call volumes by type of call and time of day. Long distance minutes were assumed to account for roughly 10% of total call volumes. To allow for comparisons with European rates (where CPP rate plans apply), monthly MOU is split between incoming and outgoing minute volumes.

In the SeaBoard study, the service elements in the low user basket are kept to a minimum – i.e., no features and no text messages are included in the basket. Various other features are included in the medium and high volume user baskets such as optional features, text messaging, multimedia messaging, ringtone downloads, web browsing and e-mail. The low volume user basket is separately priced using the best available pre-paid and post-paid service plan options.

To simplify the analysis, SeaBoard excluded handset costs as well as consideration of long-term contract promotions.

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<sup>16</sup> SeaBoard Group, *Lament for a Wireless Nation: A Cross-National Survey of Wireless Service Prices: Canada, the United States and Europe*, March 2007.

<sup>17</sup> SeaBoard notes that the average user volume of 500 MOU per month is consistent with Rogers' reported usage levels in 2006, although it should be noted that Rogers has the higher average MOU of all the major wireless service providers in Canada.

Table 4 below provides a summary of the services elements included in SeaBoard's 2007 wireless price comparison study.

**TABLE 4**  
**SeaBoard's March 2007 Wireless User Service Baskets**

<b>Minutes of use/month</b> (outgoing in parentheses)	<b>Survival</b>	<b>Average</b>	<b>Heavy</b>
9am - 6pm	30 (19)	250 (162)	428 (278)
6pm-9pm	20 (13)	100 (65)	286 (186)
9pm-9am + Weekends	20 (13)	150 (98)	486 (316)
In country LD	7 min	50 min	100 min
International LD		10 min	20 min
VM Log ins	7 min	20 min	30 min
Mobile to Mobile	5 min	33 min	78 min
To other networks	5 min	33 min	78 min
<b>Total</b>	<b>70</b>	<b>500</b>	<b>1200</b>
Outgoing	45 (64%)	325 (65%)	780 (65%)
Incoming	25 (36%)	175 (35%)	420 (35%)
<b>Features</b>			
Voicemail		Yes (basic)	Yes (enhanced if available)
Caller ID		Yes	Yes
Call Waiting		Yes	Yes
Call Forward		Yes	Yes
Other Features (if any)			If available
<b>Data</b>			
Text Messages or SMS		Yes, CPM/20 messages	Yes, CPM/50 messages
Multimedia Messages or MMS			Yes, CPM/20 messages
Web Browsing			Yes
Mobile E-Mail Ring Tones IM		Yes, CPU/2 downloads	Yes, CPU/5 downloads Yes
Video Messaging			Yes, CPM/10 messages

*Source: SeaBoard Group, March 2007 Study, Exhibit 3.*

Seaboard also published a wireless data price comparison study in November 2007.<sup>18</sup> It focused strictly on data plans which allow customers to use their mobile devices as data terminals to send and receive data for web surfing, e-mail and sending and receiving files. In this respect, Seaboard focused on a single rather than multiple service baskets for price comparison purposes given that many data plans in the U.S. offer unlimited data volumes. Therefore, Seaboard

<sup>18</sup> SeaBoard Group, *Wireless Data Prices: How do Canadians Fare?* November 2007.

simply compared rates for a 1 GB data plan in Canada versus the U.S. and a number of European countries.<sup>19</sup>

### ***Merrill Lynch's Methodology***

Merrill Lynch's wireless service price comparison study, which was published in August 2006, focussed on wireless service rates within Canada.<sup>20</sup>

In its analysis, Merrill Lynch considered two service baskets – which took into account a low or light volume user and a high or heavy user. The light user basket included **150** minutes of local airtime per month (divided by time of day and day of week), along with a variety of optional features including voice mail, text messaging (50 outgoing messages per month) and long distance (15 minutes per month). The heavy user profile includes **900** minutes of local airtime per month, voice mail, 50 outgoing text messages and 90 minutes of long distance.

Unlike the SeaBoard study, Merrill Lynch included up-front costs such as connection fees and the cost of an entry-level handset (which are amortized over 24 months). However, roaming was not considered.

The light user basket was priced out using both pre-paid and post-paid plans, whereas the heavy user basket was priced out using only post-paid rate plans. The lowest available post-paid rates/costs were considered, which were typically available under three-year contract terms.

A large number of wireless service provider rates were considered in the study including those offered at the time by Bell Mobility (and Bell Solo), Rogers Wireless (and Fido) and TELUS along with several Mobile Virtual Network Operators (MVNOs) or resellers such as Primus, Virgin Mobile, Sears, President's Choice and Videotron.

It appears that Merrill Lynch focused on including as many wireless service providers as possible rather than compare rates across cities or regions. In addition, Merrill Lynch's analysis examined the variation in rates and the difference between the minimum and maximum rates observed for each of the baskets.

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<sup>19</sup> These countries include Belgium, Portugal, Germany, Holland, the U.K, Greece and Norway.

<sup>20</sup> Merrill Lynch, *Telecom Pricing in Canada*, 25 August 2006.

### 4.3 Proposed Wireless Service Baskets

To compare wireless prices within Canada as well as with foreign jurisdictions, we recommend that a minimum of three service baskets should once again be constructed to reflect low, medium and high usage customers. Based on the average MOU per month estimates for Canada, a medium volume wireless subscriber would be expected to use in the order of **450** minutes of airtime per month. Similar to other price comparison studies, a low volume user could be assumed to require **150** minutes of airtime per month whereas a high volume user could be assumed to require **1,200** minutes of airtime per month.

To allow for price comparisons between Canada and these countries, the monthly MOU in each basket must be split between outgoing and incoming traffic. In addition, minutes volumes must be split out by calls to on-net mobiles, off-net mobiles, versus fixed lines in order to calculate and compare total service package prices accurately.

Consistent with other wireless price comparison studies, we assume that 60% of total call minutes are outgoing and 40% incoming. In addition, we assume that 40% of airtime usage is during the weekday peak period and the balance is during off-peak or evening/weekend period. Long distance calling is assumed to be 10% of total MOU in the case of the low and medium-sage basket and slightly higher, at 15%, for the high-volume basket. The vast majority of long distance calling is assumed to be national. Note that some long distance charges would be incurred when the subscriber receives calls outside of his/her home local calling area.

As noted, a breakout of mobile-to-mobile calls is also necessary. The OECD and Ofcom assume that most mobile calls are to other mobiles – i.e., in the order of 75% of all monthly call minutes. Two thirds of those calls are assumed to be on-net and one third off-net. On the other hand, Seaboard assumed a considerably lower volume of outgoing calls were to mobiles (i.e., in the order of 25%). Taking the midpoint of these studies, we assume that 50% of mobile calls are to other mobiles in each of our three proposed wireless services baskets.

The average length of a call may also be required for the purpose of making international price comparisons in certain instances. The OECD assumes wireless calls are typically between 1 and 2 minutes in duration, whereas Ofcom assumes wireless calls are typically 3 minutes in duration. We would propose to adopt the higher estimate given the higher wireless call volumes in Canada compared to Europe – and therefore assume that the average call duration is three minutes in length.

We assume that only medium and high volume users use SMS and/or MMS messaging. In addition, only high volume users are assumed to use data

services (e.g., web browsing and/or e-mail access). In this latter respect, we assume a data volume usage requirement of 5 MB per month (which is slightly higher than the typical minimum data usage volume plans currently available in Canada).

Table 5 provides a summary of the proposed call volume and service elements that could be included within each of the three wireless service baskets to be used as the basis for a price comparison exercise.

**TABLE 5  
PROPOSED WIRELESS USER SERVICE BASKETS**

<b>Minutes of Use/Month</b>	<b>Low-Usage</b>	<b>Medium-Usage</b>	<b>High-Usage</b>
Outgoing (60%)	90	270	720
Incoming (40%)	60	180	480
<b>Total</b>	<b>150</b>	<b>450</b>	<b>1,200</b>
<b>Time of Day/Week</b>			
Peak (40%)	60	180	480
Off-Peak (60%)	90	270	720
<b>Outgoing LD</b>	10% of total	10% of total	15% of total
National	9	21	90
US		6	18
Other			
Total	9	27	108
<b>Outgoing to Mobile</b>	50% of total	50% of total	50% of total
On-net (2/3)	30	90	240
Off-net (1/3)	15	45	120
Total	45	135	360
<b>Average Call Length</b>	3 min.	3 min.	3 min.
<b>Features</b>			
Voicemail		Yes	Yes
Caller ID		Yes	Yes
Other			Yes
<b>Data</b>			
SMS		40	100
MMS			5
Data Service			5 MB

Note that low volume users would generally be assumed to purchase pre-paid wireless packages, whereas medium and high volume users would be assumed to purchase “post-paid” plans (generally based on a two-year contract rates). In the case of Canadian wireless subscribers additional charges such as the monthly System Access Fee would, of course, also be included in the total service package price as may be applicable.

Off-net roaming usage could have been included in medium or high usage baskets. However, for the typical customer, average monthly roaming fees are likely to be minimal. Moreover, accounting for roaming fees would significantly

complicate the price comparison analysis. Therefore, like other studies, we have not included off-net roaming minutes in any of the wireless service baskets in Table 5.

Handset costs could also be taken into account. As noted, handsets are typically subsidized (often significantly) in Canada, and in other countries, whenever a customer activates or renews a multiyear contract with a wireless service provider. The costs of handset subsidies are generally recovered by pricing usage higher than otherwise. Consequently, excluding handset costs can bias wireless service price comparisons across countries. If the residual handset changes are included, they would be amortized over a reasonable time period of at least one to as many as three years. As well, a standard set of comparable quality handsets would have to be included in the analysis (as in the case of the Ofcom study). However, to simplify the price comparison exercise, we propose to exclude handset costs and simply focus on wireless service usage price comparisons.

## **5.0 INTERNET ACCESS SERVICE**

### **5.1 Internet Access Service Basket Considerations**

In Canada, Internet access service is largely differentiated on the basis of transmission speed, ranging from narrowband dial-up to very-high speed broadband services. Narrowband dial-up service, of course, has largely been displaced by broadband Internet access services. As of 2006, 85% of residential Internet access users subscribed to broadband services, almost all of which is either cable or DSL service.<sup>21</sup> Given the very high proportion of Canadians that use broadband, we recommend that the Internet access service price comparisons should focus solely on broadband services.

Broadband services are available over a variety of technologies in Canada as well as other countries. Cable and DSL are the most common, although there are terrestrial and satellite-based wireless broadband offerings as well. In some cases, service providers have begun to introduce very-high speed broadband services over fibre to residential customers, on a limited geographic basis.

Broadband services are typically priced on the basis of transmission speed and can include usage charges if and when "service plan" thresholds are exceeded. Transmission speeds available in Canada and, indeed, in other countries can vary significantly. The same is true of download limits and/or additional usage rates. For instance, Rogers currently offers five service level options to customers which are summarized in the following table.

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<sup>21</sup> CRTC 2007 Telecommunications Monitoring Report, page 71.

**TABLE 6**  
**Rogers' Broadband Internet Service options**

Service Level	Monthly Rate	Download Speed	Upload Speed	Usage Allowance	Additional Fee/GB
Ultra-Lite	\$25	0.5 Mbps	0.256 Mbps	2 GB	\$5.00
Lite	\$35	1.0 Mbps	0.256 Mbps	25 GB	\$2.50
Express	\$45	7 Mbps	0.5 Mbps	60 GB	\$2.00
Extreme	\$55	10 Mbps	1.0 Mbps	95 GB	\$1.50
Extreme Plus	\$100	18 Mbps	1.0 Mbps	95 GB	\$1.25

Other typical broadband service elements include modem rental or purchase options, security services and remote access capabilities. Installation charges may apply, although self-installation is often the norm where the underlying access facilities are in place. In addition, one or multi-year contract options are often available which allow for lower monthly rates and/or avoidance modem rental fees.

In its price comparison analysis, Ofcom considers a standalone broadband service which consists of a 2 Mbps minimum transmission speed with a 5 GB monthly download capacity.<sup>22</sup> No installation charges are included. The service is assumed to be self-installed.

For its bundled service price comparison analysis, Ofcom includes a basic broadband service (2 Mbps service) or, alternatively, a high-speed broadband service of a minimum of 8 Mbps. It should be noted that Ofcom also includes not just modem costs in its analysis but also the cost of a PC or laptop as well (which it amortizes over 5 years).

## **5.2 Proposed Broadband Service Baskets**

Comparing broadband service prices between companies, regions or countries is complicated by the fact that broadband service providers typically do not offer the same portfolio of transmission speed options. For this reason, we have defined three separate broadband service baskets – for low, medium and high broadband speed category or usage levels – each of which covers a range of transmission speeds rather than a specific transmission speed. These include broadband services of (i) up to 1 Mbps (a typical broadband "lite" service offering), (ii) roughly 5 Mbps (or a typical broadband offering of +/- 3 Mbps of that target speed), and (iii) 10 Mbps and above (a very-high speed broadband service).

<sup>22</sup> Ofcom, *2007 Consumer Experience Research Report*, page 71.

In addition, broadband services require that the customer have an appropriate modem. Where an explicit rental charges apply, that rate will be included as part of the monthly price of the service. Alternatively, where the customer is required to purchase a modem, the price of the modem will be included in the monthly price, amortized over a 24 month period.

It is also increasingly common for broadband service providers to impose download usage allowances on customers. Additional charges apply for usage beyond established thresholds. We propose to adopt usage allowance thresholds typical of Canadian broadband service providers which, on a preliminary basis, we have set at 25GB, 60GB and 100GB for low, medium and high usage plans, respectively.

Table 7 provides a summary of the proposed standalone broadband Internet access service baskets.

**TABLE 7  
PROPOSED BROADBAND SERVICE BASKETS**

<b>Elements</b>	<b>Low-Usage</b>	<b>Medium-Usage</b>	<b>High-Usage</b>
Transmission Speed	Lite Services ≤ 1 Mbps	High-speed ~ 5 Mbps (2 – 8 Mbps)	Very high-speed > 10 Mbps
Usage Allowance	25GB	60GB	100GB
Modem	Rental / 24 month amortization	Rental / 24 month amortization	Rental / 24 month amortization

Since broadband service self installation is not uncommon and, even where required, installation is often waived when a customer enters into a contract plan with a service provider, we have not included installation charges in the service baskets.

Available broadband transmission speeds have been steadily rising over the past 5 to 10 years. Consequently, the transmission speed ranges specified in Table 7 may be significantly surpassed over the next decade.

## **6.0 BUNDLED SERVICES**

### **6.1 Bundled Service Considerations**

To this point we have developed proposed standalone wireline, wireless and broadband service baskets for price comparison purposes. An additional objective of the contemplated price comparison analysis is to compare prices of

these same services on a bundled basis, including a quadruple play bundle which adds television service.

Bundling discounts are available when jointly purchasing two, three or all four of these services. The discounts typically increase as the number of services increases and can also depend on which services are bundled. While different approaches are taken by service providers, ultimately a single total bundling discount can be calculated relative to the standalone prices of each service in the bundle.

In Canada, most of the large incumbent local exchange carriers (ILECs) and some of the major cable companies offer bundled service offerings consisting of wireline, wireless, broadband and television services. With respect to television services, most ILECs offer IPTV based television services, but only on a limited geographic basis. Bell Canada and Bell Aliant, on the other hand, also offer satellite-based television services. As well, other than Rogers, other cable companies can only offer wireless services as MVNOs at this time. For instance, Videotron currently offers wireless service on this basis.

Some other TSPs can offer a wireline voice and broadband service bundle and, in some cases, also include wireless on an MVNO basis (e.g., Primus). However, they are unable to offer a quadruple play bundle including television service. But, generally, the availability of quadruple play bundles is limited in terms of the number of TSPs able to provide the bundle and the geographic coverage of available bundles.

Merrill Lynch conducted a price comparisons analysis of triple play service bundles in Canada in 2006.<sup>23</sup> In that study, the triple play bundle included local service (local and Long distance calling), Internet access and television service. The components of the bundled included:

- Local access and three features as well as 300 anytime long distance minutes per month within Canada and to the U.S.
- High-speed Internet access service, with transmission speeds ranging from 1.5 to 10 Mbps depending on the service provider, modem rental included (reported standalone rates varied between \$36 and \$49).
- Television service – basic digital, in some cases including additional theme packs (reported standalone rates were typically about \$50).

Merrill Lynch compared standalone and bundled prices across Canada focusing on prices available from the major ILECs, cable companies and Primus (in which

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<sup>23</sup> Merrill Lynch, *Telecom Pricing in Canada*, 25 August 2006, page 11.

case Bell ExpressVu was added to provide a television service along with Primus' local, LD and Internet service bundle).

As noted earlier, Ofcom has also conducted bundled service price comparisons between the U.K. and a group of selected European countries and the U.S.<sup>24</sup> Rather than consider a set group of services, Ofcom focused on what it considered to be typical U.K. households – i.e., (i) two adults, low income and retired, (ii) two adults, early retired, late adopters of technology, (iii) one young adult, mobile only, (iv) two adults, two teenagers, networked family, and (v) two adults, professional, no children, networked couple. The assumed communications and television service requirements for each of these defined household types were assumed to vary considerably. In some cases, the household is assumed to purchase all four services (fixed, multiple mobile, broadband and television) while, in other case, the household is assumed to purchase only two services (e.g., fixed line and television or mobile and television). Consequently, Ofcom's bundled service comparisons are very specific in nature and tailored to particular household configurations.

## **6.2 Proposed Bundled Service Price Comparisons**

There are numerous possible combinations and permutations of communications service bundles that could be considered for price comparison purposes. In our view, these need to be narrowed down to focus on the most useful and meaningful basket configurations.

There a large number of TSPs who are able to offer customers a two-service bundle (i.e., wireline and broadband); however, considerably fewer are in a position to offer triple play bundles (i.e., wireline and broadband plus wireless or television). Fewer still are currently able to offer customers a quadruple play bundle. Bearing this in mind, we would propose to focus on triple and quadruple play bundles where available.

The construction of bundled service baskets should take into account expected usage levels of the individual services within the bundle. As illustrated by the Ofcom bundled service price comparison analysis, only realistic and meaningful bundles should be considered. For instance, a high volume fixed-line user may only require a low-volume mobile package or vice versa. Therefore, we would propose to limit the number bundled service baskets by focusing solely on average or medium volume usage levels (as defined in the standalone service baskets in the preceding sections). In particular, we propose to focus on three specific bundles, all of which would include medium usage levels as defined in the previous sections dealing with standalone service baskets.

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<sup>24</sup> Ofcom, *International Communications Market 2007*, Section 1.4.

Table 8 provides a summary of the proposed bundled telecommunications and television service baskets, two of which are triple play baskets and the third is a quadruple play bundle.

**TABLE 8  
PROPOSED BUNDLED SERVICE BASKETS**

Elements	Bundle 1 Triple-play	Bundle 2 Triple-play	Bundle 3 Quad-Play
Wireline	Medium Volume User	Medium Volume User	Medium Volume User
Wireless	Medium Volume User		Medium Volume User
Broadband	Medium Volume User	Medium Volume User	Medium Volume User
Television		Basic Digital Package	Basic Digital Package

The basic digital television package, included in bundles 2 and 3, would be based on a standard basic digital package offered by a Canadian cable company and also include equivalent satellite-based or IPTV-based package offered by an ILEC. In the context of international bundled service price comparisons, the closest equivalent digital television service package would be used for price comparison purposes.

## **7.0 DATA COLLECTION CONSIDERATIONS**

There are a number of further considerations remaining with respect to the collection of the necessary data to conduct both domestic price and international price comparisons.

### ***Canadian Price Data***

To compare prices within Canada, we propose that a set of representative cities be selected for data collection purposes. The selected cities should include a reasonable degree of variation in population size and regional representation, so that prices offered by a variety of different service providers can be captured in the analysis.

In this respect, we propose to collection price data for each of the standalone service baskets and service bundles in the following cities (populations noted in parentheses):<sup>25</sup>

<sup>25</sup> <http://www.citypopulation.de/Canada-Metro.html>.

- Halifax (0.4 M)
- Montreal (3.6 M)
- Toronto (5.1 M)
- Chatham (0.1 M)
- Winnipeg (0.7 M)
- Saskatoon (0.2 M)
- Calgary (1.1 M)
- Vancouver (2.1 M)

In each city, prices offered by the local ILEC and cable company would be captured, since they would account for the vast majority of the residential wireline and broadband market in each instance. Where practical, a third service provider could also be included (e.g. Primus).

In the case of wireless services, a minimum of three wireless service providers would be included (i.e., Rogers, TELUS and Bell or other ILEC Mobility service provider). Additional, service providers could also be included, such as an MVNO (e.g., Virgin). However, MVNO market shares are very limited and therefore their prices would have little effect on the weighted average price in any city or the country as a whole.

With respect to television services, only the cable companies and ILECs (via satellite or IPTV) are in a position to offer this service. Therefore, they would be the only TSPs considered in the case of service bundles 2 and 3.

The lowest observed prices for each of the standalone and bundled service baskets in each city would be aggregated using each respective service provider's market shares as weights. In addition, to calculate a Canada-wide market price for each standalone and bundled service basket, city-specific prices should be weighted by population. The Canada-wide price would be used for the purpose of international price comparisons.

### ***International Price Data***

The objective of the planned price comparison analysis is to compare prices not only in Canada but between Canada and selected number of relevant foreign jurisdictions. Given its proximity, economic importance, demographic and cultural similarities, this would necessarily include the U.S. In addition, the U.K., France and Australia would also be included in the price comparison exercise given their broad economic and cultural similarities with Canada.

While the U.S. generally has similar telecommunications service pricing structures to those in Canada (i.e., flat-rate unlimited local service and RPP wireless service rates), pricing in other countries can be significantly different. In

France and the U.K., fixed-line services are priced on per minute metered basis. In Australia, fixed-line local calling is priced on a per call basis, but otherwise un-metered. In addition, in Australia, France and the U.K, wireless service is priced on a CCP basis – thus, wireless subscribers pay only for outgoing calls, not incoming calls as in Canada and the U.S.

The differences in pricing arrangements between Canada and the other selected countries are summarized in Table 9.

**TABLE 9**  
**Wireline and Wireless Pricing Structures by Country**

<b>Country</b>	<b>Wireline</b>	<b>Wireless Calling Party Pays (CPP)</b>
Canada	Unlimited	No
Australia	Un-metered (per call rate)	Yes
France	Metered	Yes
U.K.	Metered	Yes
U.S.	Largely Unlimited	No

In the case of each foreign jurisdiction included in the analysis, prices offered by the largest three or four service providers in each country would be collected for each standalone service basket. A similar approach would be adopted with respect to service bundles. The prices collected in this manner would then be weighted by market shares to determine overall prices for each of the standalone and bundled service baskets. For France, the U.K. and Australia, we would propose to sample data from the largest city in each country. For the U.S., we would propose to use three cities to reflect large, medium and small urban centres.

## **8.0 SUMMARY**

The preceding sections explain the basis for our proposed wireline, wireless, broadband Internet access and bundled service baskets which would be used to compare prices available in different parts of Canada and between Canada and selected foreign jurisdictions (i.e., Australia, France, the K.U. and the U.S.). The proposed low, medium and high volume usage baskets for wireline, wireless and broadband services are presented in Table 2, Table 5 and Table 7, respectively. The proposed bundled service baskets are described in Table 8.

# ADDENDUM

## ***Introduction***

In this report, prepared for the CRTC and Industry Canada, various approaches to constructing telephone and related service price comparisons were reviewed and proposed. In addition to the recommendations made in the main report, we would add the following details to the proposed approaches to comparing prices within Canada and between Canada and selected foreign jurisdictions.

### **1. *Other Aspects of Competition***

While the main report focused on pricing, other aspects of the competitive characteristics of a market should also be examined. In particular, choice and variety of service offerings and of suppliers should also be reviewed. This aspect of competition can be examined in a fulsome manner with respect to the domestic environment and to a somewhat lesser degree internationally.

By their nature, price comparisons must take account of the specifics of the service or product being offered. In other words, the quantity and quality of a service is integral to establishing a price. Both aspects are discussed in the main report although it is not always possible to measure and accommodate quality features in price comparisons. However, such dimensions as number of suppliers, type of suppliers (i.e., resellers, MVNOs, national, regional, etc.), features and specific packaging or bundling arrangements can be identified.

### **2. *The Impact of Forbearance***

In the Canadian market, forbearance is a relatively recent development in the wireline industry segment. As such, the measures developed can be used on a going forward basis to track any impacts that might occur. In addition, it is possible to identify the last tariffed rates for wireline services in specified regions that have recently been subject to forbearance. This “baseline” pricing data can also be used as a benchmark to track changes that follow in the periods (e.g. annually) after the introduction of forbearance.

We recommend that a set of “baseline” pre-forbearance data for specific regions (i.e. cities) be established in the proposed pricing study.

### **3. *Pricing in Various Locations in the Domestic Market***

Preliminary examinations of the data suggest that pricing by an operator (particularly incumbent service providers) does not typically vary from one major urban area to another. It is not therefore strictly necessary from a coverage perspective to canvas the situation in a city for each and every Canadian province. However, since the initial investigation was not complete, we propose to select a city from every province for the purpose of constructing price comparators.

This approach will ensure that the comparisons will be truly comprehensive inter-provincially.