

**Price Comparisons of  
Wireline, Wireless and Internet Services in  
Canada and with Foreign Jurisdictions**

**2012 Update**

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***Wall Communications Inc.***

**NOTE: the views expressed in this document are solely those of Wall Communications Inc. and do not necessarily represent the views of the Canadian Radio-television and Telecommunications Commission or Industry Canada.**

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## **1.0 INTRODUCTION**

This report provides an update of the previous annual domestic and international telecommunications price comparison studies conducted in 2008, 2009, 2010 and 2011 by Wall Communications Inc. (Wall Communications) for the Canadian Radio-television and Telecommunications Commission (the CRTC or Commission) and Industry Canada. As in previous years, the consumer telecommunications services covered in this year's price comparison study include the following stand-alone and bundled services:

- i) wireline,
- ii) mobile wireless,
- iii) broadband Internet access (using wireline technology),
- iv) mobile Internet access (using 3G or higher wireless technology), and
- v) bundled combinations of the first three services and basic digital TV.

The Canadian price information collected in the initial years focused primarily on the major incumbent telephone and cable service providers, since they account for the vast majority of each service market covered in the study.

In the 2010 study, WIND Mobile (WIND) was included in the mobile wireless and mobile broadband Internet access service categories. Last year, several other new entrant wireless service providers were included in the study – namely, Mobilicity, Public Mobile and Videotron.<sup>1</sup> In addition, one reseller, Primus Canada (Primus), was also included in all market segments in which it provides services – i.e., wireline, mobile wireless and broadband Internet access. All of these service providers are once again included in this year's study.

As in previous studies, in addition to Canada, prices for the same set of stand-alone and bundled services are also collected and reported for the United States (U.S.), the United Kingdom (U.K.), France, Australia and Japan.

In this year's study we have made two significant changes in methodology. First, we have revised the definitions of the four broadband Internet service baskets included in the study. Available broadband speeds, especially in urban areas, have continued to ramp upwards. Consequently, we have revised the four broadband Internet service baskets to reflect the faster broadband speeds generally available to consumers today. At the same time, we have also kept in mind the need to retain a valid comparative base over time while still capturing the evolution of the industry. Second, we have added an additional mobile

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<sup>1</sup> As an incumbent cable company, Videotron has been included in all previous studies. However, while it previously provided wireless services on a resale basis, Videotron now provides wireless services on its own wireless network using AWS spectrum acquired in the 2008 AWS spectrum auction.

Internet access service basket in order to consider prices for higher monthly data usage levels.

The next section provides a brief review of the methodology used to measure and compare stand-alone and bundled service prices, and describes all changes made in this year's study relative to last year's study. Sections 3 through 7 provide the Canadian and international price comparisons results for wireline, mobile wireless, broadband Internet access, mobile Internet access, and bundled services, respectively. A summary of the overall results is provided in Section 8. More detailed summary results in both tabular and graphic form are provided in Attachments 2 and 3.

## 2.0 METHODOLOGY

### 2.1 Basket Design

This study relies on the service basket-based price comparison methodology described in detail in Wall Communications' 2008 methodology report.<sup>2</sup> Various modifications to the 2008 methodology have been made in subsequent studies to reflect changes in service usage patterns over time. All such changes have been carried over into this year's study. All additional changes in methodology introduced this year are described below.

In brief, the price comparison methodology, for wireline, mobile wireless and broadband Internet access, involves three separate service "levels" or "baskets" which have been defined as follows:

- **Level 1:** entry level or low-volume service usage
- **Level 2:** average or mid-level service usage
- **Level 3:** premium level or high-volume service usage

Each of the baskets has been designed to reflect typical low, mid and high-volume Canadian consumption levels and/or services available to Canadian consumers.

An additional Level 4 service basket was introduced in last year's study for the first time for broadband Internet services, and is once again included in the current study.

A single mobile Internet access service basket was included in the study for the first time in 2010. For this year's study, we have added a second mobile Internet access service basket in order to capture a higher level of monthly data usage.

Three service bundles are also included in the study:

- **Bundle 1:** wireline, broadband internet and mobile wireless
- **Bundle 2:** wireline, broadband internet and digital TV
- **Bundle 3:** wireline, broadband internet, mobile wireless and digital TV

Level 2 or "average-user" stand-alone service baskets were generally used in each of the bundles. In some cases, advertized bundling options restrict the available choice of specific service elements that are eligible for bundling discounts. In such cases, we have included the eligible service elements (even if

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<sup>2</sup> Wall Communications, *An Examination of Alternative Approaches for Conducting Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions*, prepared for the CRTC and Industry Canada, 5 May 2008.

it involved including a Level 3 service element) as long as the resulting bundled price is less than the sum of the corresponding standalone prices based on Level 2 service elements.

For the digital TV service component, a basic digital television service package option was selected for inclusion in the applicable bundles.

The specific service elements included in each service basket are described in detail in the following sections, and the associated service elements and usage assumptions in each case are also summarized in Attachment 1.

## 2.2 Canadian Price Data

For each service basket, Canadian price data has been collected for each applicable service provider included in the study in each of the following five Canadian cities: Halifax, Montreal, Toronto, Regina and Vancouver. In addition to the incumbent telephone, wireless and cable companies, the study also includes, where applicable, Primus and new entrant wireless service providers WIND, Mobilicity, Public Mobile and Videotron. Table 1 lists the service providers surveyed in this year's price study by city and by service basket. Note that no changes have been made to the Canadian service providers surveyed for this year's study relative to last year.

**Table 1**  
**SELECTED CANADIAN CITIES AND SERVICE PROVIDERS**

City	Basket	Service Providers
Halifax	Wireline	Bell Aliant, EastLink
	Broadband Internet	Bell Aliant, EastLink
	Mobile Wireless	Bell, TELUS, Rogers
	Mobile Internet	Bell, TELUS, Rogers
	Bundles	Bell Aliant, EastLink
Montreal	Wireline	Bell, Videotron, Primus
	Broadband Internet	Bell, Videotron, Primus
	Mobile Wireless	Bell, TELUS, Rogers, Primus, Videotron, Public Mobile
	Mobile Internet	Bell, TELUS, Rogers, Videotron
	Bundles	Bell, Videotron, Primus (as applicable)
Toronto	Wireline	Bell, Rogers, Primus
	Broadband Internet	Bell, Rogers, Primus
	Mobile Wireless	Bell, TELUS, Rogers, Primus, WIND, Mobilicity, Public Mobile
	Mobile Internet	Bell, TELUS, Rogers, WIND, Mobilicity
	Bundles	Bell, Rogers, Primus (as applicable)

City	Basket	Service Providers
<b>Regina</b>	Wireline Broadband Internet Mobile Wireless Mobile Internet Bundles	SaskTel, Access Communications SaskTel, Access Communications SaskTel, TELUS, Rogers SaskTel, TELUS, Rogers SaskTel, Access Communications
<b>Vancouver</b>	Wireline Broadband Internet Mobile Wireless Mobile Internet Bundles	TELUS, Shaw, Primus TELUS, Shaw, Primus Bell, TELUS, Rogers, Primus, WIND, Mobilicity Bell, TELUS, Rogers, WIND, Mobilicity TELUS, Shaw, Primus (as applicable)

The measured prices for each of the stand-alone and bundled service baskets in each Canadian city were aggregated using each service provider's respective estimated subscriber-based market share as weights. In addition, to determine a Canada-wide market price for each stand-alone and bundled service basket, city-specific average prices were aggregated using corresponding city population levels as weights.

It is also important to note that, as in previous studies, the price data presented in this report is based on current service price levels offered by the surveyed service providers in each of the selected product and geographic markets covered.<sup>3</sup> These prices, which are posted on the service provider's websites and/or made available through customer service representatives (CSRs), are generally available to new customers or existing customers changing service plans. As such, they are not necessarily reflective of the average price levels paid by a service provider's customer base in that a certain number of existing customers would be on pre-established price plans.

*Overall, the Canadian price comparisons included in this year's study are based on the measurement of the prices of roughly 250 separate Canadian telecommunications service baskets, covering five cities, two to seven service providers by city and up to fifteen different stand-alone or bundled service baskets for each service provider.*

### 2.3 International Price Data

As in last year's study, five foreign jurisdictions are taken into account for price comparison purposes: the U.S., the U.K., Australia, France and Japan. The cities and service providers surveyed in each of these countries are summarized in Table 2 below. There are no changes in this respect relative to last year's study.

<sup>3</sup> All Canadian and foreign services price data presented in this report was collected during the period January 6 to March 23, 2012.



**Table 2**  
**SELECTED FOREIGN JURISDICTIONS AND SERVICE PROVIDERS**

City	Basket	Service Providers
<b>United States</b> Boston, MA	Wireline Broadband Internet Mobile Wireless Mobile Internet Bundles	Verizon, Comcast Verizon, Comcast AT&T, Verizon, Sprint AT&T, Verizon, Sprint Verizon, Comcast
Kansas City, MO	Wireline Broadband Internet Mobile Wireless Mobile Internet Bundles	AT&T, Time Warner AT&T, Time Warner AT&T, Verizon, Sprint AT&T, Verizon, Sprint AT&T, Time Warner
Seattle, WA	Wireline Broadband Internet Mobile Wireless Mobile Internet Bundles	Qwest, Comcast Qwest, Comcast AT&T, Verizon, Sprint AT&T, Verizon, Sprint Qwest/Verizon, Comcast
<b>United Kingdom</b> London	Wireline Internet Mobile Wireless Mobile Internet Bundles	BT, Virgin, Talk Talk BT, Virgin, Orange, AOL Broadband Orange, Virgin, Vodafone Orange, Virgin, Vodafone BT (Orange),* Virgin
<b>Australia</b> Sydney	All baskets	Telstra and Optus
<b>France</b> Paris	All baskets	Orange (France Telecom), SFR (Neuf Cegetel), Numericable
<b>Japan</b> Tokyo	Wireline Broadband Internet Mobile Wireless Mobile Internet Bundles	NTT, J:Com NTT, J:Com, KDDI, Yahoo! BB NTT DoCoMo, J:Com (Willcom), KDDI, eMobile NTT DoCoMo, J:Com (Willcom), KDDI, eMobile NTT, J:Com (Willcom**)

\* BT discontinued marketing mobile wireless services in 2008. For the purposes of the UK bundles, Orange's mobile wireless service was included along with BT's wireline, Internet and digital TV services.

\*\* Willcom was acquired by SoftBank in 2010.

For international price comparison purposes, foreign currency prices have been converted to Canadian dollars using currency market exchange rates adjusted for purchasing power parity (PPP) differences across countries. The OECD's latest available PPP comparative price level indexes for January 2012 were used

for this purpose in conjunction with average market exchange rates for the same one-month period.<sup>4</sup>

Canadian dollar-based price comparisons between Canada and other countries can be significantly affected by year-over-year currency exchange rate fluctuations. PPP-adjusted exchange rates take into account both changes in exchange rates and PPP adjustment factors between countries and, therefore, generally provide a more appropriate basis for comparing price levels between countries. For this reason, all of the international price comparison results shown in the main body of this report are based on PPP-adjusted Canadian dollars.

Nevertheless, it should be noted that fluctuations in both exchange rates and PPP adjustment factors can affect international price comparisons over time. This caveat is particularly relevant in the case of this study given the significant changes in both Canadian dollar exchange rates and PPP adjustment factors over the course of the five year period (2008-12) covered by the study.

Lastly, it should also be noted that service prices in the U.K., France and Australia are typically quoted inclusive of value added taxes (VAT) or goods & services taxes (GST). In each case, we have removed applicable VAT or GST charges to allow a cross-country comparison of service rates excluding government sales taxes.<sup>5</sup> On the other hand, other industry-specific fees or surcharges are included for price comparison purposes (e.g., 911 fees, universal service and regulatory charges in the U.S., and television licence fees in the U.K.).

*Overall, the international price comparisons included in this year's study are based on the measurement of the prices of roughly 270 separate foreign stand-alone and bundled service baskets. Adding the Canadian and international service baskets together, the prices of roughly 520 service baskets were measured to generate the price comparison results presented in this report.*

## **2.4 Summary of Key Changes in Methodology**

The following methodological and measurement changes are included in this year's study:

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<sup>4</sup> See the OECD's main economic Indicators at: [http://www.oecd.org/document/47/0,3343,en\\_2649\\_34357\\_36202863\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/47/0,3343,en_2649_34357_36202863_1_1_1_1,00.html). Currency exchange rates were obtained from: <http://www.xe.com>.

<sup>5</sup> VAT in the U.K. is currently 20% (it had temporarily been reduced to from 17.5% to 15% as an economic stimulus measure in 2009 and recently increased from 17.5% to 20% to assist with government debt reduction). The VAT is 19.6% in France and 5% in Japan. The GST in Australia is 10%. Typically in each of these countries prices are quoted including VAT or GST.

- i) The Broadband Internet service baskets were re-defined to reflect higher speed broadband services and average monthly data usage levels that are more typically found today in the Canadian cities covered in the study (as well as in the other countries included in the study). Specifically, the following basket definition changes were made:

Broadband Basket	2011 Study	Present Study
<b>Level 1</b> Download Speed: Data Usage:	≤ 1.5 Mbps 2GB/month	≤ 3 Mbps 5GB/month
<b>Level 2</b> Download Speed: Data Usage:	2 – 9 Mbps 10 GB/month	4 – 15 Mbps 20 GB/month
<b>Level 3</b> Download Speed: Data Usage:	10 – 19 Mbps 30 GB/month	16 – 40 Mbps 50 GB/month
<b>Level 4</b> Download Speed: Data Usage:	≥ 20 Mbps 50 GB/month	> 40 Mbps 75 GB/month

In each basket, the highest available speed offered by a surveyed service provider within the applicable speed range was selected for inclusion in the study. For Level 4, a target download speed range of 41 to 100 Mbps was used.

- ii) An additional mobile Internet service basket was added, creating two service basket levels in this year's study. Level 1, which is the same as last year, is defined to include 2 GB of monthly data usage. Level 2, which is new this year, is defined to include 5 GB of monthly data usage. In both cases, we focus on 3G or higher mobile broadband service plans which generally provide advertized download speeds of roughly 1.5 Mbps or higher.
- iii) Updates to the mobile wireless service baskets were introduced to reflect changes in Canadian usage patterns (e.g., in the applicable wireless baskets, monthly text message volumes were increased from 200 to 250 per month).
- iv) Market share information used for weighted averaging purposes was updated in the case of surveyed Canadian and foreign service providers where applicable.<sup>6</sup>

<sup>6</sup> For Canada, the latest CRTC Monitoring Report was relied on for this purpose. For the U.S., FCC market share and industry reports were used. In other cases, regulatory agency market reports, company financial and media reports were also relied on, where necessary.

This year, as in the case of the previous studies, a number of changes in measurement methodology have been implemented. While none of the changes over time, including this year, are significant enough to render price comparisons between study years unduly problematic, caution should nevertheless be exercised when considering price trends over the five year period for which price data is now available. One exception in this respect applies in the case of the new broadband Internet service baskets included in this year's study. These changes significantly affect comparisons of this year's measured broadband prices with previous years. These impacts are highlighted in Section 5 below. All other instances where methodological changes have had a significant impact on inter-temporal price comparisons are noted in following sections and/or have been noted in previous years' reports.

### 3.0 WIRELINE SERVICE

As in last year's study, the following service element charges are considered for wireline service price comparison purposes:

- i) access line charges (including, as applicable, free calling allowances);
- ii) local usage/calling charges (where applicable);
- iii) long distance charges for both domestic and international calls;
- iv) optional feature charges (e.g., voice mail, call display & other features); and
- v) other recurring charges such as 9-1-1, network access fees and/or other surcharges or regulatory fees.

One-time service charges, such as installation or activation fees are not considered since these fees are often waived for new customers or offset by limited term promotional discounts. Similarly, we have not taken into account any short term promotions or price discounts for which new customers may be eligible. We have used the lowest available current stand-alone price for the purpose of determining the total cost of each wireline service basket.

Three wireline service baskets are included in the study:

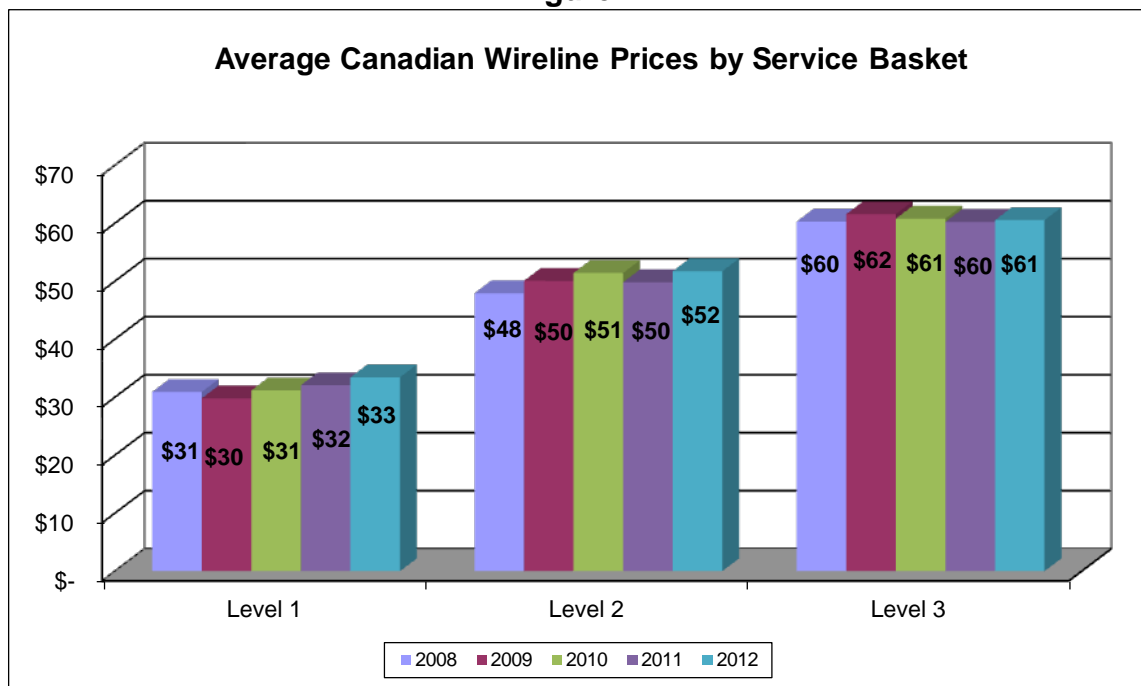
- **Level 1:** 400 incoming & outgoing minutes per month, 10 % of outgoing minutes long distance, and no optional features
- **Level 2:** 1,000 incoming & outgoing minutes per month, 20 % of outgoing minutes long distance, two optional features (voice mail and call display)
- **Level 3:** 1,600 incoming & outgoing minutes per month, 30 % of outgoing minutes long distance, full set of optional features

Table A1.1 in Attachment 1 provides a detailed summary of the service elements and usage assumptions for each the three wireline service baskets included in this study. No changes to the wireline service basket definitions have been made relative to the previous studies.

### 3.1 Canadian Wireline Service Price Comparisons

Figure 1 below provides a summary of current Canadian average monthly prices for each of the three wireline service baskets. The figure also provides a comparison of prices with those measured in the four previous studies.

**Figure 1**



Wall Communications Inc. 2012

Average monthly prices for the Level 1 basket have gradually increased from a low of \$30 to \$33 this year (roughly 8% in total). Average monthly prices for the Level 2 basket have also gradually increased from \$48 in 2008 to \$52 in 2012 (also roughly 8% in total). On the other hand, the average prices for the Level 3 basket have remained relatively stable at roughly \$60 to \$61 over the course of the last five years. Thus, on balance, average wireline prices in Canada have increased at a moderate rate – i.e., about 2% per year in the case of the Level 1 and Level 2 baskets or roughly equal to the rate of inflation of the same period.<sup>7</sup>

Table A2.1 in Attachment 2 provides detailed average wireline prices by service level and by surveyed city (Halifax, Montreal, Toronto, Regina and Vancouver) for the five-year period 2008 to 2012.

<sup>7</sup> The average increase in the Canadian all-items CPI over the period 2008 to 2011 was 2%. See Statistics Canada, Catalogue no. 62-001-X.

### 3.2 International Wireline Service Price Comparisons

As noted in previous studies, in the case of wireline services, there are a variety of important pricing differences to be taken into account when comparing Canadian and foreign prices.

In the U.S., there are a number of unique regulatory and government fees and surcharges (other than sales taxes). These include, among other things, subscriber line charges (SLC) and universal service fund (USF) charges. Collectively, these charges can add up to as much as \$8 to \$12 a month over and above a service provider's local, long distance and feature charges. The range and magnitude of these charges, however, varies by state and, indeed, municipality.<sup>8</sup> For this year's price study, we have updated the primary surcharges wireline customers face in the U.S., namely the SLC and USF.

In addition, wireline rate structures in the U.K., Australia, France and Japan differ significantly compared to Canada (as well as the U.S.). Local phone service rates in these countries are priced on a usage sensitive basis. In the case of local calls, per minute charges apply along with a per call set-up or connection fee, both of which can vary depending on the selected service plan.<sup>9</sup> Charges also vary depending on whether a call is made to a landline or mobile number (and can also vary by mobile service provider). Local and national per minute and per call rates are generally the same; as a result, there is no price difference between local and domestic long distance calling rates.<sup>10</sup>

Figure 2 below provides a comparison of 2012 average wireline prices for Canada and all five surveyed foreign jurisdictions for each of the three wireline service baskets. All prices have been converted to Canadian dollars using PPP-adjusted exchange rates. Service rates for the U.K., France and Japan exclude VAT and, in Australia's case, GST.

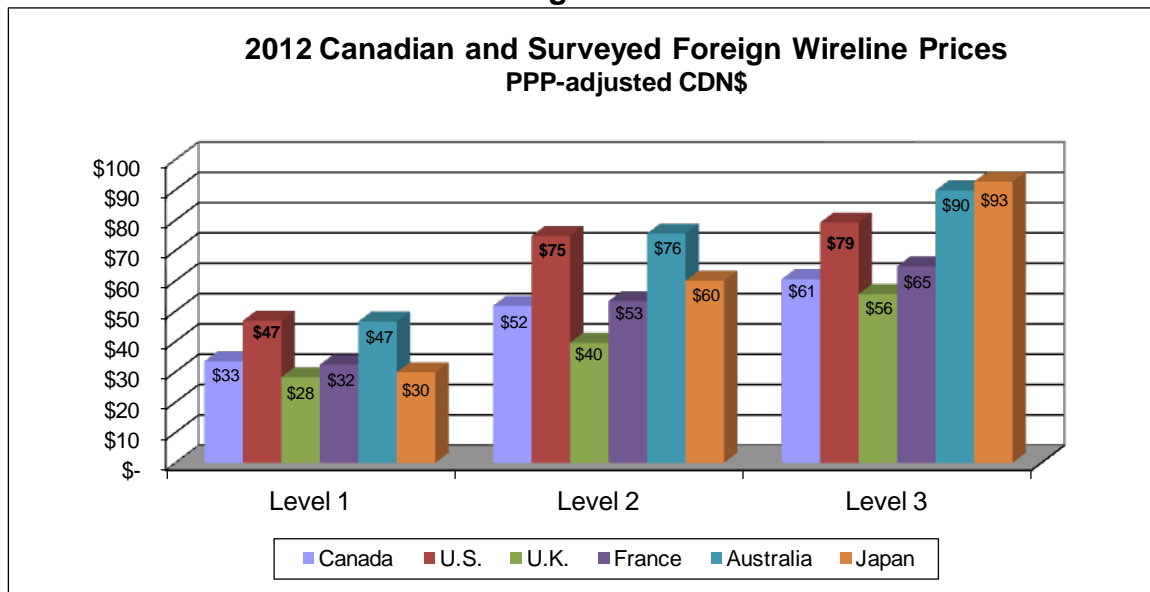
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<sup>8</sup> As noted in previous studies, obtaining precise information on these fees and surcharges is extremely difficult and even company CSRs are unable to provide complete information with regard to these surcharges given they vary so widely by location. As a result, we have included estimated surcharges for some of the surveyed companies in some cases. See the FCC's Consumer Facts Information on Understanding Your Phone Bill: <http://www.fcc.gov/cgb/phonebills/samplePhonebill.html>.

<sup>9</sup> Australia is unique among the three countries in that local calls to landlines are charged on a per call basis with no additional per minute charges.

<sup>10</sup> Australia differs somewhat in this respect. Under some home phone service plans different per minute rates can apply depending on the distance of a domestic call.

Figure 2



Wall Communications Inc. 2012

As can be seen from Figure 2, at roughly \$33 per month for the Level 1 basket, Canada falls just above the middle of the group of the surveyed countries. The Canadian Level 1 wireline service basket price is slightly higher than the corresponding average prices found in the U.K., France and Japan, but significantly lower than those measured for the U.S. and Australia.

For the Level 2 wireline service basket, Canada falls just below the middle of the group of the surveyed countries. In this case, only the U.K. has a lower price, while the measured price in France is very similar to Canada. On the other hand, Level 2 wireline service basket prices are considerably higher in the remaining surveyed countries, namely the U.S., Australia and Japan.

A similar ranking applies in the case of the Level 3 wireline service basket. The U.K. has the lowest price among the group of surveyed countries. The Level 3 wireline service basket price is slightly higher in France compared to Canada, while the measured prices for the remaining three countries are significantly higher than those in Canada.

Detailed average price comparison results for the four-year period 2008 to 2012 for each of the three wireline service baskets are provided in Table A3.1 in Attachment 3. Table A3.1 includes country-specific prices expressed in terms of (i) own currencies, (ii) PPP-adjusted Canadian dollars and (iii) unadjusted exchange rate based Canadian dollars. In addition, Figures A3.1, A3.2 and A3.3 illustrate the average price trends for each of the three wireline service baskets, respectively, expressed in PPP-adjusted Canadian dollars.



As can be seen from the information in Attachment 3, Canada's 2012 wireline service basket price rankings shown in Figure 2 above are generally consistent with the results obtained in previous price comparison studies.

As in last year's study, the significant difference between measured prices for Canada and the U.S. warrants an explanation. As shown in Figure 2 above, measured in "PPP-adjusted Canadian dollars", U.S. wireline rates for each of the three wireline service baskets are considerably higher than those in Canada. Compared in terms of "own currencies" (see Table A3.1 in Attachment 3), average U.S. Level 1 and Level 2 wireline prices in U.S. dollars are also higher than the corresponding prices in Canada measured in Canadian dollars, however, the price differences are far less pronounced on this basis. In the case of the Level 3 wireline services basket, the "own currency" based rates in Canada and the U.S. are almost identical. Note that the Canada-US exchange rate was close to par during the time period the price data was collected. Therefore, the significantly higher U.S. wireline service prices expressed in PPP-adjusted Canadian dollar rates is, in large part, a result of the PPP adjustment to the Canadian/U.S. exchange rate. The PPP adjustment, in this case, accounts for the higher purchasing power of a U.S. dollar in the U.S. relative to a Canadian dollar in Canada, which according to the latest available OECD PPP data is 29% higher.<sup>11</sup>

This same PPP adjustment effect applies in the case of the Canadian and U.S. price comparisons providing in the following sections for the other stand-alone and bundled service considered in the study. Indeed, the same consideration applies for the other four foreign jurisdictions as well.<sup>12</sup>

*In sum, as in previous years' studies, weighted average Canadian wireline service rates generally compare favourably with the surveyed foreign jurisdictions. On balance, Canadian wireline prices tend to fall into the middle of the range of prices measured for the five surveyed countries included in the study.*

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<sup>11</sup> To provide some further context: Suppose that the Canadian/U.S. exchange rate is at par (i.e., a Canadian dollar equals a U.S. dollar). Then suppose the exact same basket of telephone services costs \$40 CDN in Canada and \$40 US in the US. If the PPP is 1.3, meaning that a US dollar will purchase 30% more (of all goods and services) than a Canadian dollar, this implies that the \$40 US paid for the telephone service basket would buy more non-telephone goods and services than the \$40 CDN. In other words, it would take \$52 CDN to buy as much of other goods and services as the \$40 US. Accounting for this PPP difference implies that a \$40 US telephone service basket is equivalent to \$52 CDN in PPP-adjusted terms.

<sup>12</sup> Based on the same vintage OECD PPP data (i.e., January 2012), the PPP adjustment for the U.K. is 0.99, France is 1.10, Australia is 0.78 and Japan is 0.83.

## 4.0 MOBILE WIRELESS SERVICE

As in last year's study, the following mobile wireless service element charges are considered for price comparison purposes:

- i) network access/airtime charges (taking into account defined amounts of daytime, evening and weekend minute volumes);
- ii) optional feature charges (e.g., voice mail, call display and others);
- iii) long distance charges for both domestic and international calls;
- iv) basic data service charges (e.g., text or multimedia messaging);
- v) advanced data service charges (e.g., web browsing and e-mail); and
- vi) other monthly recurring service fees such as 9-1-1 service charges, System Access Fee and other regulatory fees or surcharges.

As in the case of wireline services, we have not included activation fees since they are often waived for new customers or offset by initial promotional discounts. Roaming charges are also not included in any of the wireless service baskets as the complexity of including them would make obtaining reasonably straight-forward comparable measurements impossible.<sup>13</sup> In addition, handset costs are not included since they are often discounted or subsidized by wireless service providers in order to incent customers to subscribe or switch service provider. Similarly, limited term promotional discounts are not taken into account. We have used the lowest posted current stand-alone price for the purpose of determining the total cost of each mobile wireless service basket.

Three mobile wireless service baskets are included in the study:

- **Level 1:** 150 incoming & outgoing minutes per month, 10 % of outgoing minutes long distance, and no optional features
- **Level 2:** 450 incoming & outgoing minutes per month, 10 % of outgoing minutes long distance, two optional features (voice mail and call display), 250 text messages per month

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<sup>13</sup> We recognize that roaming charges can be an important component of some users' bills, in Canada, the U.S. and in other countries. A separate examination focused solely on roaming charges would be the best way of providing useful comparisons.

- **Level 3:** 1,200 incoming & outgoing minutes per month, 15 % of outgoing minutes long distance, full set of optional features, 250 text messages and 1 GB data usage per month

This year one change to the mobile wireless service baskets was made. The number of monthly text messages in the Level 2 and Level 3 service baskets has been increased from 200 to 250. The new figure is consistent with the current number of monthly text messages sent by the average Canadian wireless service subscriber.<sup>14</sup>

In the case of the Level 1 mobile wireless service basket, we have considered both “pre-paid” and “post-paid” service options and included prices associated with the cheaper of the two options. In the case of the other two mobile wireless service baskets, post-paid plans are generally less expensive.

Table A1.2 in Attachment 1 provides a summary of each of the service elements and usage assumptions included in all three mobile wireless service baskets.

#### 4.1 Canadian Mobile Wireless Price Comparisons

Figure 3 below provides a summary of Canadian weighted average mobile wireless prices for each of the three service level baskets for the years 2008 to 2012. The reported 2012 price levels are based on the average prices of the incumbent wireless services providers (Rogers, Bell, TELUS and SaskTel) and, in the applicable cities, Primus and new entrants WIND, Mobilicity, Public Mobile and Videotron. However, the prices offered by Primus and new entrants (as included in our basket measurements) have very little effect on the overall average price level at this time in view of their relatively small market share (which is assumed to be between 0 and 3% collectively, depending on the city under consideration).<sup>15</sup>

It is important to note that for the incumbents, we have only considered their respective “name” brand rather than “flanker” brand services to determine their prices for the three defined mobile wireless service baskets.<sup>16</sup> The incumbents may offer less expensive options for some or all of the mobile wireless service baskets through their respective flanker brands. However, any such potentially lower-priced flanker brand service options have not been included in this study.

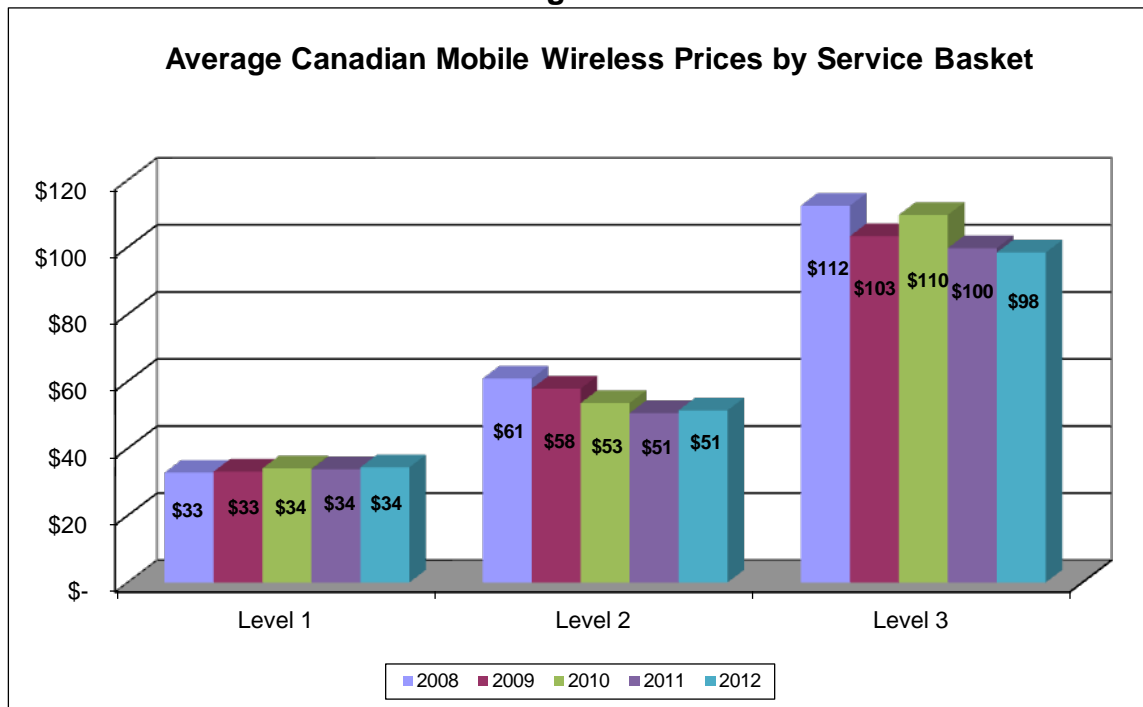
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<sup>14</sup> Source: <http://cwta.ca/facts-figures/>.

<sup>15</sup> For Canadian wireless services, as for other Canadian telecom services included in this study, we have relied on the most recently available CRTC Communications Monitoring Report results to determine service-provider market share weights. We would note that even if higher weights were used – such as double the Monitoring Report numbers – the impact on the overall price levels would be marginal.

<sup>16</sup> The incumbents' flanker brands include Bell Solo and Virgin, Rogers Fido and Chatr, and TELUS Koodo and Clearnet.

Figure 3



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As shown in Figure 3, Canadian average monthly prices for the Level 1 mobile wireless service basket have increased slightly from \$33 to \$34 over the past five year period, representing an overall increase of close to 5%.

On the other hand, average monthly prices for the Level 2 mobile wireless service basket have declined substantially from \$61 to \$51 since 2008, representing an overall decrease of close to 16% (or roughly 4% per year on average). The drop in the Level 2 wireless service basket price can largely be explained by reductions in the monthly plan rates as well as the near complete elimination of former System Access Fee by most incumbent wireless service providers.<sup>17</sup>

Average prices for the Level 3 mobile wireless service basket have also declined considerably since 2008, from \$112 to \$98, an overall decrease of over 12% (or roughly 3% per year on average). Much of this decline occurred in 2011 due, in part, to the introduction of lower cost smartphone voice and data plans.

Table A2.2 in Attachment 2, provides average mobile wireless prices by city and by service basket for the period 2008 to 2012.

<sup>17</sup> SaskTel still charges such a fee, whereas Rogers replaced the fee with a lower "government regulatory recovery fee" which varies by province.

Table 3 below provides a comparison on average monthly rates for the incumbent carriers and the new entrants by service level basket. The three cities where this comparison is currently possible include Vancouver (where WIND and Mobilicity currently operate), Toronto (where WIND, Mobilicity and Public Mobile currently operate) and Montreal (where Videotron and Public Mobile currently operate). It should be noted that unlike last year, Public Mobile now provides data services and, therefore, it is now taken into account in calculating the price differentials in the case of the Level 3 mobile wireless service basket.

**Table 3**  
**Canadian Mobile Wireless Service Rates**  
**Incumbents versus New Entrants**

Baskets	Vancouver	Toronto	Montreal	Average
<b>Level 1 Basket (low-volume use, 150 min/month)</b>				
Incumbents	\$ 34.53	\$ 34.38	\$ 34.80	\$ <b>34.57</b>
New Entrants	\$ 24.43	\$ 22.95	\$ 28.08	\$ <b>25.15</b>
<i>Percentage Differential</i>	<b>-29%</b>	<b>-33%</b>	<b>-19%</b>	<b>-27%</b>
<b>Level 2 Basket (average use, 450 min and 250 text per month)</b>				
Incumbents	\$ 51.82	\$ 51.48	\$ 50.87	\$ <b>51.39</b>
New Entrants	\$ 35.55	\$ 38.37	\$ 44.68	\$ <b>39.53</b>
<i>Percentage Differential</i>	<b>-31%</b>	<b>-25%</b>	<b>-12%</b>	<b>-23%</b>
<b>Level 3 Basket (high-volume use, 1,200 min, 250 text and 1GB data per month)</b>				
Incumbents	\$ 98.82	\$ 98.82	\$ 99.22	\$ <b>98.95</b>
New Entrants	\$ 55.20	\$ 56.80	\$ 75.45	\$ <b>62.48</b>
<i>Percentage Differential</i>	<b>-44%</b>	<b>-43%</b>	<b>-24%</b>	<b>-37%</b>

*Averages calculated on a market share and population weighted basis.*

*Wall Communications 2012*

As can be seen in Table 3, for the Level 1 mobile wireless service basket, the monthly prices charged by new entrants are between 19% and 29% lower than those of the incumbents and 27% lower, on average, for the three cities combined. The relative price discount available from the new entrants is similar in the case of the Level 2 service basket, where entrants' prices are between 12% to 31% lower by city, and 23% lower on average. The differences are greater in the case of the Level 3 service basket, where the price discounts offered by entrants relative to the incumbents' name brand services are 24% to 44% lower by city, and 37% lower on average. The somewhat lower entrant discount in the case of Montreal is largely due to Videotron's pricing strategy which appears to be based on providing greater discounts when its mobile wireless service is bundled with other Videotron services rather than purchased on a stand-alone basis.

Compared to last year's study, the price discounts offered by entrants relative to the incumbents' name brand mobile wireless service offers have grown markedly for all three service baskets, especially so in the cases of the Level 2 and 3 service baskets.

## **4.2 International Mobile Wireless Service Price Comparisons**

As noted in previous studies, there are a number of important pricing differences that should be borne in mind when comparing Canadian and foreign mobile wireless prices.

In the U.S., as in the case of wireline service, there are a number regulatory and federal and state surcharges and fees that add to the monthly cost of wireless service. These include regulatory cost recovery charges, federal and state USF surcharges and other fees.<sup>18</sup> For this year's study, we have estimated these charges based on information collected in previous pricing studies and, where applicable, updated regulatory cost recovery charges and the USF fees.

The price structure of mobile wireless service plans in the U.K., Australia, France and Japan differs significantly compared to Canada as well as the U.S. Mobile wireless plans in the U.K., Australia, France and Japan are Calling Party Pays (CPP) based plans, under which mobile customers pay only for outgoing calls. In contrast, Canadian and U.S. plans are Receiving Party Pay (RPP) plans, under which customers pay for incoming and outgoing calls.

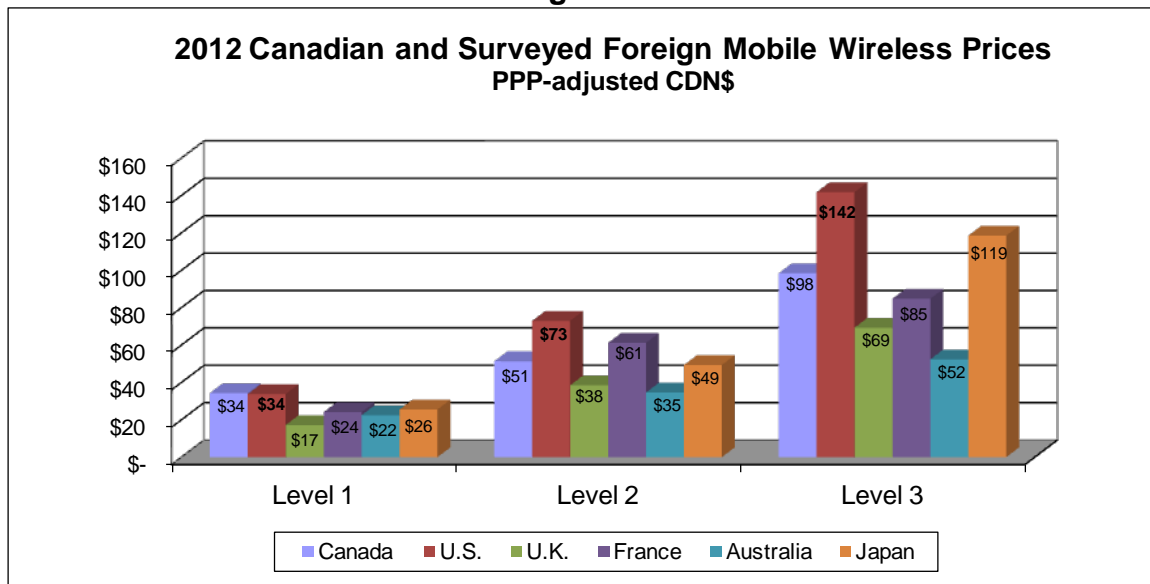
In addition, unlike Canada, some mobile wireless service plans in the U.K., Australia, France and Japan can include per call setup charges and/or different per minute call rates for calls to landline versus mobile customers, as well as potentially different per minute rates for on-net versus off-net mobile calls.

Figure 4 below provides a comparison of current weighted average wireless prices for Canada and the surveyed foreign jurisdictions for each of the three wireless service baskets. All prices have been converted to PPP-adjusted Canadian dollars. Service rates for the U.K., France and Japan exclude VAT and, in Australia's case, GST.

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<sup>18</sup> See, for instance, <http://www.fcc.gov/cgb/phonebills/WirelessPhonebill.html>.

**Figure 4**



Wall Communications Inc. 2012

In the case of the Level 1 mobile wireless service basket, the Canadian average monthly price of \$34 is roughly equal to the average price in the U.S. However, the Canadian and U.S. average Level 1 prices are considerably higher than rates found in all of the remaining surveyed foreign jurisdictions. Moreover, the \$34 rate is significantly higher than the rates found in the U.K. (i.e., roughly twice the price).

In the case of the Level 2 wireless service basket, the Canadian average monthly price of \$51 falls roughly in the middle of the group of surveyed countries. It is similar to, but slightly higher, than the Japanese rate, and well below the rates for the U.S. and France. On the other hand, Level 2 rates in the U.K. and Australia are considerably lower than in Canada.

In the case of the Level 3 wireless service basket, the average Canadian monthly rate of roughly \$98 falls on the high-side of the average for the group of surveyed foreign jurisdictions as a whole. In this case, the Canadian Level 3 rate is well below the rates found in the U.S. and Japan, but well above those in the U.K., France and Australia.

Detailed price results for the period 2008 to 2012 for each of the three mobile wireless service baskets by country are provided in Table A3.2 in Attachment 3. In addition, Figures A3.4, A3.5 and A3.6, which are also provided in Attachment 3, illustrate the average price trends over the 2008 to 2012 period for each of the three wireline service baskets, respectively, expressed in PPP-adjusted Canadian dollars.

As the results in Attachment 3 show, Canada's relative mobile wireless services ranking has changed little over the period 2008 to 2011 with respect to the five surveyed foreign jurisdictions. One exception is in the case of the Level 1 wireless service basket. In previous years (2008-10), Canadian Level 1 wireless service prices were lower than in the U.S. U.S. Level 1 rates have since declined relative to Level 1 rates in Canada,<sup>19</sup> so that they are now roughly equal.

*In sum, in terms of Level 2 (medium use) and Level 3 (high use including data) mobile wireless service basket prices, Canada tends to fall into the middle of the pack relative to the five foreign justifications included in this study. However, in the case of the Level 1 (low use) service level basket, Canada now has the highest average rate of the group of surveyed countries – just above the U.S. and well above the other four surveyed countries.*

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<sup>19</sup> The noticeable decline in U.S. Level 1 wireless service rates is largely due to the introduction of new lower price pre-paid wireless service offers in the U.S.



## 5.0 BROADBAND INTERNET ACCESS SERVICE

As noted above, in this year's study we redefined all four of the broadband Internet access service baskets to reflect the higher speed broadband service speeds that typically available today as well as higher average monthly data usage levels. The new broadband service level baskets included in the study are defined as follows:

- **Level 1:** Speed: "basic" Internet access service with advertized download speeds of up to **3.0 Mbps** (with a targeted speed in the upper end of the range).  
Data usage per month: **5 GB**.
- **Level 2:** Speed: "average" (Canadian) high-speed Internet access service with advertized download speeds of **4.0 to 15 Mbps** (with a targeted speed in the upper end of the range).  
Data usage per month: **20 GB**.<sup>20</sup>
- **Level 3:** Speed: high-speed Internet access service with advertized download speeds of **16 to 40 Mbps** (with the targeted speed in the upper end of the range).  
Data usage per month: **50 GB**.
- **Level 4:** Speed: high-speed Internet access service with advertized download speeds of **over 40 Mbps** (with the targeted speed in the 41 to 100 Mbps range).  
Data usage per month: **75 GB**.

It is important to note that in comparing prices, we rely on "advertized" broadband service speeds. In practice, actual as opposed to advertized service speeds can vary for a variety of reasons, and the range of any such differences can vary by technology and geographic location. That said, for the purpose of this study we assume that any such variations are roughly equal on a relative basis across the broadband services included in this study.

Some service providers apply monthly data usage caps to their broadband service plans. Where they are applied, they are typically set on the basis of a

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<sup>20</sup> According to the CRTC 2011 Communications Monitoring Report, Section 5.3, roughly two thirds of Canadian broadband users subscribe to broadband services with speeds of between 5 Mbps and 15 Mbps and the average broadband user uploads and downloads just over 18.5 GB of data per month.

monthly data allowance (GB/month), with additional fees applied when the data allowance is exceeded.<sup>21</sup> Where usage caps apply, we have taken them into account, including any overage fees that may apply once assumed usage levels are exceeded. Most of the service providers surveyed for this study either have no usage caps or, where they do apply, they are high enough that no overage fees would be incurred given the data usage assumptions adopted for the four above-noted broadband service baskets.<sup>22</sup>

Where required, modem rental or purchase costs are also taken into account. In the latter case, we have assumed that required equipment costs are amortized over 24 months.

Once again, we have not included installation or activation fees. These are often waived for new customers or offset by promotional discounts. We have relied on regular stand-alone prices to determine the total cost of each of the four broadband service baskets.

## **5.1 Canadian Broadband Service Price Comparisons**

Figure 5 below provides a summary of Canadian weighted average broadband Internet access service prices for the Levels 1 to 3 service baskets for the period 2008 to 2012 and for the Level 4 broadband service basket for the period 2011 and 2012. The Level 4 broadband basket was introduced for the first time in last year's study.

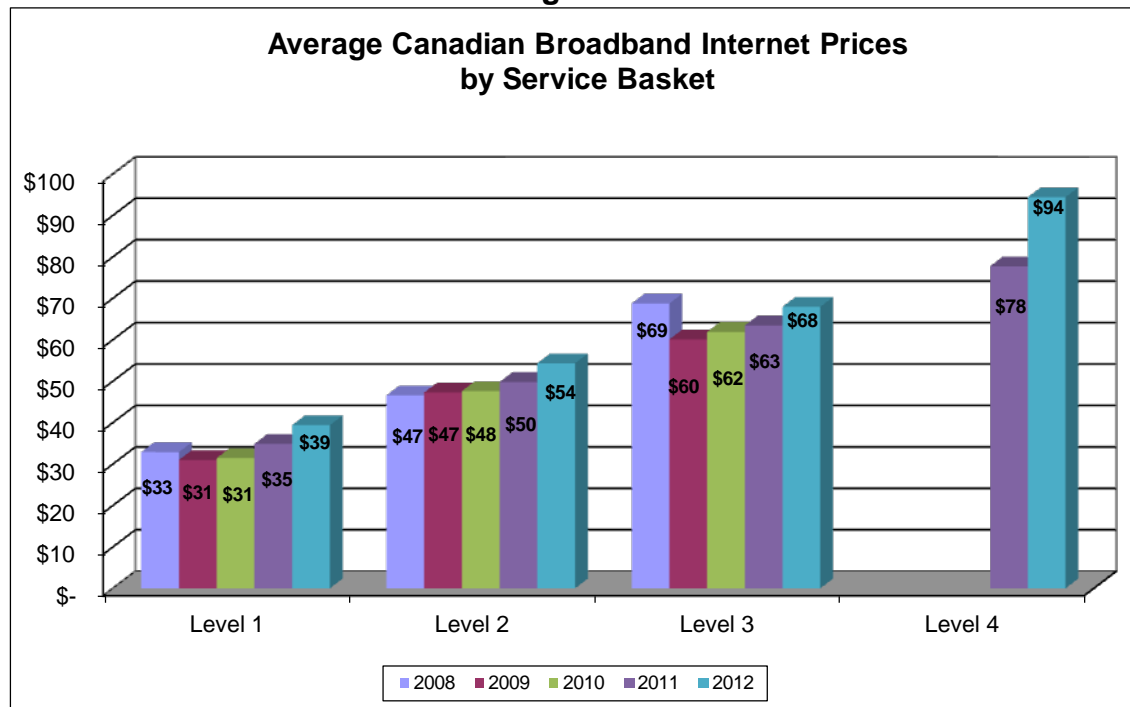
At the outset, it is important to note that the changes in broadband service basket definitions in this year's study significantly affect comparisons of the 2012 price levels with those reported for previous years. Generally, the changes in service basket definitions (i.e., higher speeds and data usage) have the effect of raising measured prices for each service basket, all else being equal. This fact should be borne in mind when comparing 2012 price levels with prices in earlier years.

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<sup>21</sup> In some cases, as in Australia, rather than excess data charges applying, service speed is throttled significantly (i.e., to 256 kbps).

<sup>22</sup> There was only one exception in this respect pertaining to the Level 1 service basket: Bell Canada's current 2 Mbps service plan, available in Toronto, includes a 2 GB monthly data cap (with an fee of \$2.50 per additional GB). To meet the assumed Level 1 data usage of 5 GB, an additional data usage fee of \$7.50 was added in the case of this plan.

Figure 5



**NOTE** that all broadband service basket definitions were revised 2012 to reflect faster available broadband speed, therefore, affecting price comparisons between 2012 and earlier years.  
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The average monthly price of the Level 1 basket increased slightly from roughly \$33 to \$35 between 2008 and 2011. With the new Level 1 basket definition, the average price is now higher still, at roughly \$39. While the average price has increased in 2012 relative to 2011 by roughly 13%, the average advertised download speed for the Level 1 broadband services increased more significantly from roughly 1.1 Mbps in 2011 to 1.9 Mbps in 2012 (a 73% increase).

The average monthly price of the Level 2 basket also increased slightly from \$47 to \$50 between 2008 and 2011 and, with the new basket definition, is now \$54. The 2012 over 2011 price increase is roughly 9%. In this case, however, the Level 2 average advertised download speed was 6.3 Mbps in 2011, whereas it is 10.4 Mbps this year under the new basket definition (i.e., 65% higher).

The average monthly price of the Level 3 basket declined from \$69 to \$63 between 2008 and 2011. With the new basket definition, the average price increased in 2012 to \$68 or by roughly 7%. In this case, the average Level 3 advertised download speed was 14.2 Mbps last year, while it is 28.0 Mbps this year under the new basket definition (i.e., roughly 100% higher).

Lastly, the average price of the new Level 4 broadband service basket increased from roughly \$78 last year to \$94 this year, an increase of 22%. The advertised download speeds for the Level 4 broadband services included in last year's study

ranged from 25 to 50 Mbps, with an average of 28.9 Mbps. With the new basket definition adopted for this year's study the range of speeds included under the Level 4 basket range from 50 to 100 Mbps, with an average speed of 66 Mbps (over twice as high as last year's average Level 4 speed).

Roughly half of the Canadian broadband service plans surveyed offer unlimited data usage plans (subject to fair use policies). For those that include monthly usage caps, the following ranges currently apply:

- Level 1: 2 to 30 GB, average 15 GB per month.
- Level 2: 40 to 250 GB, average 107 GB per month.
- Level 3: 90 to 500 GB, average 193 GB per month
- Level 4: 150 to 400 GB, average 267 GB per month.

Where usage caps are applied, they have generally increased significantly (i.e., more than doubled in magnitude in each case) this year relative to those included in last year's study. However, much of the increase can be attributed to the redefined, higher-speed broadband service baskets used in the current study.

Table A2.3 in Attachment 2, provides average broadband Internet access service prices by city and by year for each of the three service baskets. In view of the changes the broadband service baskets noted above, caution should be exercised when comparing 2012 prices with those in early years. However, while rates have generally tended to increase due largely to the re-specification of the broadband service baskets, as noted above, the resulting average service speed increases far exceed any corresponding average price increases.

## **5.2 International Broadband Service Price Comparisons**

As with the other service categories, there are a number of notable differences in the way in which broadband services are provisioned in some of the surveyed countries compared to Canada, including the following:

- In the U.K. and France, to obtain a DSL broadband Internet service on a stand-alone basis, the customer must also lease a landline connection (adding an additional access line charge).
- Fibre and DSL-based broadband services offered in the U.K. and France often come with IPTV and/or VoIP services for a single bundled price. The option of a pure stand-alone broadband Internet service is not available in some cases.
- In Japan, broadband Internet service typically consists of two separately priced service elements: (i) a network access facility (fibre or ADSL), often obtained from NTT directly or indirectly, and (ii) Internet access

service through a third-party ISP. An additional ISP fee applies over and above the broadband access fee.

- In Australia, service providers such as Telstra and Optus to offer a single broadband speed (which can vary by location) with alternative price levels set on the basis of monthly data usage. Once a data usage cap is reached, service speed is then throttled to 256 kbps.

As in previous years' studies, not all surveyed service providers offer a broadband service that falls into each of the four defined service baskets. For instance, in many cases, the surveyed service providers do not offer a broadband service that falls into the Level 1 broadband service basket. Consequently, in several of the surveyed countries, there is no price available for the Level 1 basket.

### Summary of Service Speeds and Data Usage Caps

Table 4 below provides a summary of the unweighted average "advertized" download and upload service speeds of the surveyed broadband services included in each of the four specified broadband service baskets for Canada and the five surveyed foreign jurisdictions. The table also includes average monthly data usage caps for those plans which include data caps.

**Table 4**  
**International Broadband Internet Services**  
**2012 Average Advertized Speeds and Applicable Data Caps**

Baskets	Canada	U.S.	U.K.	France	Australia	Japan
<b>Level 1 Basket ( ≤ 3 Mbps, 5GB/month)</b>						
Download Speed (Mbps)	1.9	2.6	NA	NA	NA	1.2
Upload Speed (Mbps)	0.5	0.8	NA	NA	NA	0.7
Data Caps, as applicable (GB)	15	NA	NA	NA	NA	NA
<b>Level 2 Basket ( 4 - 15 Mbps, 20 GB/month)</b>						
Download Speed (Mbps)	10.4	14.0	9.0	11.5	8.0	10.3
Upload Speed (Mbps)	2.0	3.0	0.7	0.9	0.5	1.3
Data Caps, as applicable (GB)	107	NA	10	30	50	NA
<b>Level 3 Basket ( 16 - 40 Mbps, 50 GB/month)</b>						
Download Speed (Mbps)	28.0	29.8	30.0	22.5	25.0	34.0
Upload Speed (Mbps)	6.0	9.4	6.0	0.8	1.0	1.3
Data Caps, as applicable (GB)	193	NA	NA	NA	85	NA
<b>Level 4 Basket ( &gt; 40 Mbps, 75 GB/month)</b>						
Download Speed (Mbps)	66.0	50.0	100.0	100.0	100.0	115.0
Upload Speed (Mbps)	8.6	11.3	12.5	7.5	2.0	29.5
Data Caps, as applicable (GB)	267	NA	NA	100	200	NA

NA = no broadband service available from surveyed service providers at specified service basket level.

NA = no data cap applicable on surveyed service providers at specified service basket level.

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As can be seen from Table 4, no broadband services are currently offered by the surveyed service providers in the U.K., France or Australia that fall into the Level 1 basket. While broadband service speeds are generally comparable within each of the first three service basket levels, more significant differences exist in the case of the Level 4 basket. For almost all of the surveyed countries, Canada included, one or more of the surveyed broadband Internet service providers did not offer a service with an advertized download speed of over 40 Mbps. The exception was Japan, where all four surveyed service providers provided a service in this category. In fact, for Japan, while some of the surveyed service providers do not currently provide a broadband service with a download speed of between 41 and 100 Mbps, they do provide broadband services above 100 Mbps. Consequently, we included those higher speed services in the study – specifically including a 200 Mbps service for NTT and a 160 Mbps service for J:Com.

Table 4 also shows that advertized upload speeds can vary significantly. The most significant differences are associated with fibre-based broadband Internet services in the Level 3 and Level 4 baskets, and which provide very fast upload speeds (e.g., in the Level 4 basket, up to 100 Mbps in the case of NTT, 30 Mbps in the case of Bell Aliant and 20 Mbps in the case of Verizon).

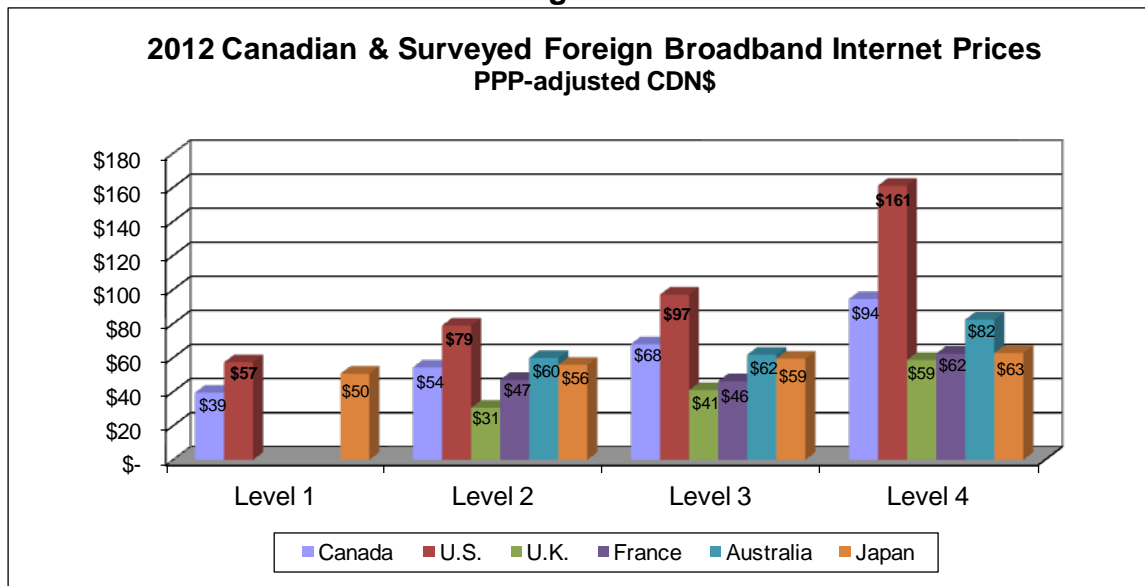
With respect to data usage, there are numerous broadband service plans included in the study that offer unlimited data usage. For instance, all of the service providers we surveyed in the U.S. and Japan currently offer unlimited data usage plans. All but one of the plans included for the U.K. provided unlimited data usage. Only one of the service providers surveyed in France (i.e., Numericable) applied data caps. On the other hand, as noted above, the Australian plans are based more so on data usage than service speed. Consequently, all of the surveyed plans for Telstra and Optus include data caps.

As noted for Canada, roughly half of the surveyed broadband Internet service providers currently include data caps with their various service offers.

### *Price Comparison Results*

Figure 6 below provides a comparison of current weighted average broadband service prices for Canada and the five surveyed foreign jurisdictions for each of the four broadband service level baskets.

Figure 6



Wall Communications Inc. 2012

In the case of the Level 1 broadband Internet service basket, Canada's average monthly price of roughly \$39 is considerably lower than the average prices in the U.S. and Japan – the only two countries for which Level 1 prices were measurable. As noted, none of the surveyed service providers in the U.K., France or Australia currently offer a broadband Internet service with a download speed equal to or less than 3.0 Mbps.

In the case of the Level 2 broadband service basket, Canada's average monthly price of roughly \$54 falls into the middle of the group of surveyed countries. Rates in the U.S., Australia and Japan are higher, whereas rates in the U.K. and France are lower than in Canada, considerably so in the case of the U.K.

For the Level 3 broadband service basket, Canada's average monthly price of roughly \$68 falls on the higher side of the range of rates for the surveyed countries. It is considerably lower than the rate in the U.S. Otherwise, it is higher than the rates measured for France and Japan, and considerably higher than the measured rates for the U.K. and France.

A similar ranking is found in the case of the Level 4 broadband service basket. Canada's average monthly price of roughly \$94 is only lower than the rate measured for the U.S. Otherwise, it is considerably higher than the measured rates in the other four countries, significantly so in most cases. It is worth noting in this respect that all of the countries with lower rates in this case also offer higher average download speeds compared to Canada (see Table 4 above).

Detailed average price level results for the four-year period 2008 to 2012 for each of the four broadband service baskets by country are provided in Table

A3.3 in Attachment 3. In addition, Figures A3.7, A3.8 and A3.9 illustrate the average price trends over the 2008 to 2012 period for each of the first three broadband service baskets, expressed in PPP-adjusted Canadian dollars. As already noted, comparisons between 2012 and early years should be made with caution in light of the significant changes to the broadband Internet service baskets in this year's study.

Relative to previous years' studies, Canada's ranking has improved in the case of the Level 1 broadband service basket. It now has the lowest price of the surveyed group. However, at Level 1, price comparisons are limited by the fact that no observations are available for half of the countries in the study at this service speed level. Otherwise, under the new basket definitions, Canada's relative ranking has suffered somewhat. At Level 2, it is now on the high side of the middle of the group. And with respect to Levels 3 and 4 Canadian prices are higher than all of the surveyed countries with the exception of the U.S.

*In sum, while Canadian broadband Internet service prices compare favourably with the other surveyed countries in the case of the Level 1 broadband service basket ( $\leq 3.0$  Mbps download speeds), broadband service plans at this level were only available for two of the five surveyed foreign jurisdictions. As to Level 2 (4 – 15 Mbps), Level 3 (16 – 40 Mbps) and Level 4 (> 40 Mbps), Canadian broadband Internet service prices tend to be higher than the corresponding prices measured for the surveyed countries included in the study, especially so in the case of the higher speed Level 3 and 4 baskets.*



## 6.0 MOBILE INTERNET SERVICE

In this year's study, we added an additional mobile Internet service basket. Therefore, there are now two service levels included in the study, which consist of the following service elements and characteristics:

- Technology            Third Generation (3G) or better
- Service speed:        Advertized download speed of 1.5 Mbps or faster<sup>23</sup>
- Equipment:            USB modem stick (rental or purchase)
- Monthly usage:        **Level 1:** 2 GB per month  
                                  **Level 2:** 5 GB per month

Once again, for price comparison purposes we rely on regular stand-alone mobile Internet service rates – i.e., rates which exclude limited term promotional discounts. We also exclude service activation fees (if any), since they are often waived for new customers. On the other hand, we include any applicable regulatory and/or government non-sales tax fees.

### 6.1 Canadian Mobile Internet Service Price Comparisons

The service providers considered in the case of mobile Internet services are the same as those included in the measurement of mobile wireless services. These include the incumbent wireless service providers (Rogers, Bell, TELUS and SaskTel) and, where applicable, the new wireless entrants (i.e., WIND, Mobilicity and Videotron).<sup>24</sup> Here again, the new entrant's mobile Internet market shares are assumed to be relatively small at this time and, therefore, the impact of their rates on the national average mobile Internet price calculated in this study is also very limited.

Table 5 below provides a summary of Level 1 Canadian mobile Internet prices for the period 2010 to 2012 and the new Level 2 prices for 2012.

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<sup>23</sup> Note that advertized speeds in many cases are considerably higher than 1.5 Mbps in the case of recently introduced 3G+ and 4G services. The fastest available mobile Internet service speeds have generally been taken into account for price measurement purposes in this study. However, as noted in Section 5.0, actual and advertized speeds can vary significantly, especially in the case of wireless services which can be sensitive to overall network usage levels and a user's location.

<sup>24</sup> Note that neither Public Mobile nor Primus currently provides mobile Internet access services.

**Table 5**  
**Canadian Mobile Internet Prices**

Baskets	Halifax	Montreal	Toronto	Regina	Vancouver	Average
<b>Level 1 Basket (2GB usage per month)</b>						
2010	\$ 54.15	\$ 54.15	\$ 54.15	\$ 56.23	\$ 54.16	\$ 54.19
2011	\$ 52.32	\$ 52.76	\$ 52.17	\$ 53.98	\$ 52.22	\$ 52.41
2012	\$ 53.05	\$ 52.56	\$ 52.51	\$ 53.05	\$ 52.51	\$ 52.55
CAGR	-1%	-1%	-2%	-3%	-2%	-2%
<b>Level 2 Basket (5 GB usage per month)</b>						
2012	\$ 66.38	\$ 60.94	\$ 65.59	\$ 69.55	\$ 70.22	\$ 65.11

*Averages calculated on a market share and population weighted basis.  
Wall Communications 2012*

As shown in Table 5, at \$52.55, average Level 1 mobile Internet service prices have changed little from 2011. However, the average Level 1 price is lower than the average price of \$54.19 first measured in 2010. The service plans included in this category typically offer between 2 and 3 GB data usage per month, with the average being 2.5 GB per month. Mobilicity offers a single unlimited data plan which has been included in the Level 1 basket.

The average Level 2 mobile Internet service price is just over \$65. The service plans included in this category typically offer between 5 and 10 GB data usage per month, with the average being 5.7 GB per month. Again, Mobilicity offers a single unlimited data plan which has been included in the Level 2 basket.

The average advertized speed of the services included in this year's study is much higher than last year at roughly 64 Mbps (downstream) reflecting the fact that Rogers and Bell have recently launched 4G LTE mobile Internet access services.<sup>25</sup> Rogers, for instance, advertizes that its 4G LTE network provides maximum theoretical download speeds of up to 100 Mbps, but that speeds are dependent on network spectrum and the hardware being used. It also suggests that currently its LTE customers are more likely to experience typical download speeds ranging from 12 Mbps to 25 Mbps. All to say that advertized and actual average speeds can vary significantly in the case of mobile Internet services.

As in the case of mobile wireless rates, we have also provided a comparison of the mobile Internet service rates offered by incumbents and new entrants, where applicable. The results are summarized in Table 6 below.

<sup>25</sup> The average advised mobile Internet download speed reported in last year's study was 18 Mbps.

**Table 6**  
**Canadian Mobile Internet Service Rates**  
*Incumbents versus New Entrants*

Baskets	Vancouver	Toronto	Montreal	Average
<b>Level 1 Basket (2 GB usage per month)</b>				
Incumbents	\$ 53.05	\$ 53.05	\$ 53.05	\$ <b>53.05</b>
New Entrants	\$ 34.99	\$ 34.99	\$ 36.61	\$ <b>35.53</b>
<i>Percentage Differential</i>	<b>-34%</b>	<b>-34%</b>	<b>-31%</b>	<b>-33%</b>
<b>Level 2 Basket (5 GB usage per month)</b>				
Incumbents	\$ 66.38	\$ 66.38	\$ 61.38	\$ <b>64.72</b>
New Entrants	\$ 39.99	\$ 39.99	\$ 46.61	\$ <b>42.19</b>
<i>Percentage Differential</i>	<b>-40%</b>	<b>-40%</b>	<b>-24%</b>	<b>-35%</b>

*Averages calculated on a market share and population weighted basis.*

*Wall Communications 2012*

As in the case of mobile wireless services, the new entrants are currently offering mobile Internet service rates that are significantly lower in average price than those of the incumbents – with relative price discount averaging 33% for the Level 1 service basket and 35% in the for the Level 2 basket.

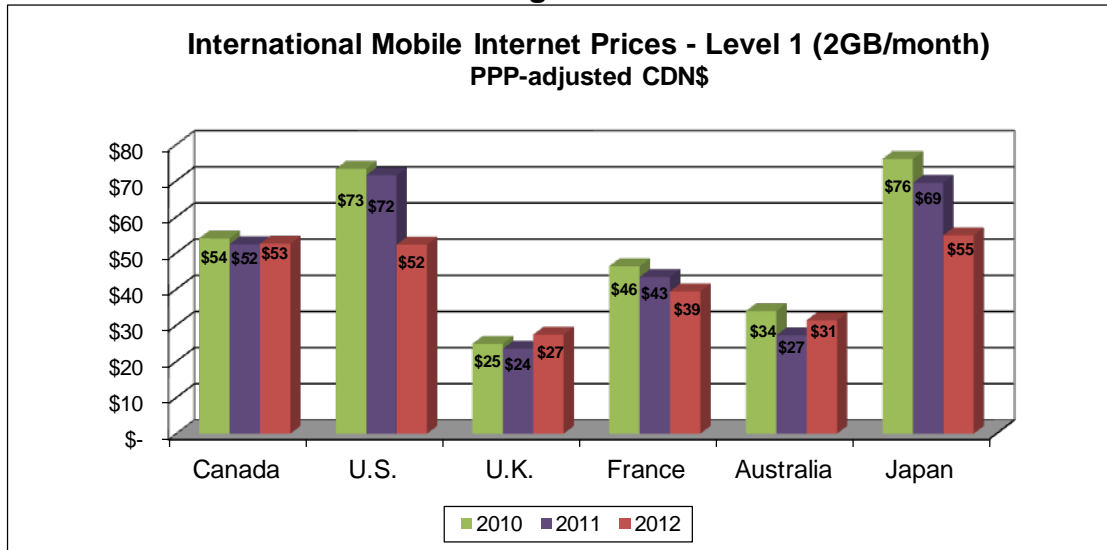
It is also worth noting that in the case of the Level 1 basket, the service plans for both WIND and Videotron include 3 GB of monthly usage (which is slightly higher than the average for the incumbents in this basket category), whereas Mobilicity's plan includes unlimited data usage. In the case of the Level 2 basket, WIND's service plan includes 10 GB of monthly usage, whereas Mobilicity's plan again includes unlimited data usage. On the other hand, the Level 2 Videotron plan includes 5 GB of monthly data usage as is the case of the service plans included in the Level 2 basket for the incumbents.

## 6.2 International Mobile Internet Service Price Comparisons

Figure 7 below provides a comparison of international Level 1 mobile Internet service prices for the period 2012 to 2012. In most of the surveyed countries, Level 1 mobile Internet prices have declined since 2010. The lone exception is the U.K., where the average measured price increased by over 10%. The sharp decline in the case of the U.S. is largely due to the fact that this year a 2 GB monthly data usage option is available from the surveyed service providers in the U.S., whereas last year the lowest available data plan was for 5 GB (and because of the higher data usage level, it was more expensive).

The current Level 1 average mobile Internet price of roughly \$53 in Canada is comparable to the average rates in the U.S. and Japan, but considerably higher than rates in France and significantly higher than rates in the U.K. and Australia.

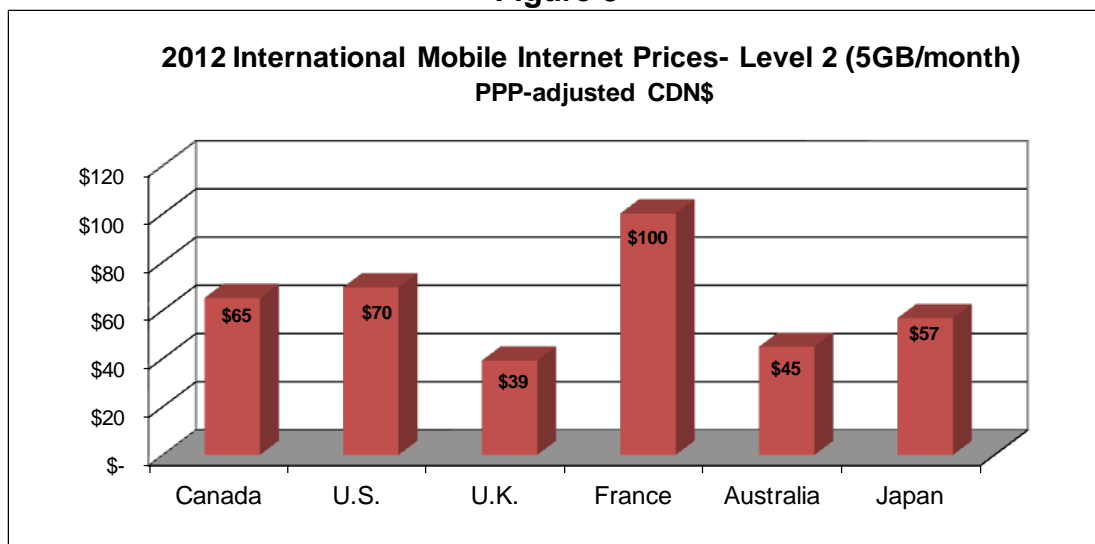
**Figure 7**



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Figure 8 below provides a summary of Level 2 mobile Internet service rates. In this case, the average Canadian price falls in the middle of the group, below the U.S. and France, but considerably higher than average rates in the U.K. and Australia. The rate in France was based on a single plan offered by France Telecom, the other two surveyed French service providers do not currently offer a mobile Internet service plan with more than 3 GB of data usage per month.

**Figure 8**



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As noted, the average advertized speed of the Canadian mobile Internet services included in this year's study is roughly 64 Mbps. The average advertized speed of the services surveyed in the five surveyed foreign jurisdictions is considerably lower than the average Canadian speed. For instance, the average advertized download speed is roughly 7 Mbps for the U.K., 11 Mbps for the U.S., 21 Mbps for Australia, 29 Mbps for France and 37 Mbps for Japan.

However, mobile broadband speed comparisons across countries are difficult since advertized speeds do not necessarily reflect actual average speeds. Verizon and AT&T, for instance, have both launched 4G LTE mobile Internet services in the U.S. They seem reluctant to advertize a specific download speeds for their services however, be it on a theoretical or average speed basis. Information on their websites suggests that LTE download speeds are currently in the range of 14 Mbps. CSRs can be unwilling or unable to provide speed information. In contrast, and as already noted, Rogers advertizes download speeds of up to 100 Mbps for LTE technology, but also indicates that users are more likely to experience typical download speeds ranging from 12 Mbps to 25 Mbps.

None of the other countries in the study offers 4G LTE based services at this time. Most offer HSPA+ (which can also be considered to be a 4G technology) at least through one service provider. U.K. service providers, on the other hand, offer the lowest advertized download speeds of the group of selected countries. No service provider has launched 4G (LTE or otherwise) in the U.K. as of yet.

In terms of monthly data usage, most of the plans included in the Level 2 category specifically allow for 5 GB of monthly usage. There are a few exceptions such as the plans included for Australia, which are closer to 10 GB per month, and Japan where unlimited plans are included.

More detailed mobile Internet service price information, by country, is provided in Table A3.4 in Attachment 3.

*On balance, Canadian mobile Internet service rates tend to fall on the high-side of the middle of the group of surveyed countries. At the same time, however, the advertized download speeds of the services in Canada are considerably faster than those in the other surveyed countries (largely due to the recent launch of 4G LTE services in Canada).*

## 7.0 BUNDLED SERVICES

Lastly, we have also compared prices for three alternative sets of bundled services:

- **Bundle 1:** Wireline, Internet and Wireless Services
- **Bundle 2:** Wireline, Internet and Digital TV Services
- **Bundle 3:** Wireline, Internet, Wireless and Digital TV Services

For the wireline, Internet and wireless mobile services elements, Level 2 or "average" usage service baskets were used in each case. For television services, a basic digital TV package was included in the applicable bundle.

It is important to note that with the re-definition to the broadband Internet service baskets, the Level 2 broadband Internet service component of each bundle includes higher speed service and usage levels compared to last year. As discussed in Section 4.0, this has generally resulted in slightly higher prices for the all of the broadband Internet service baskets (albeit for higher speed services) and, consequently, this same price effect carries over to the prices for bundled services, though to a more limited degree since broadband is but one component of three or four in the bundles. Therefore, as in the case of broadband services, comparisons of 2012 bundled service price levels with those in earlier years must be made with caution, with this caveat in mind.

It should also be noted that in a limited number of cases where Level 2 service options are not eligible for bundling discounts, higher level service options (e.g., Level 3 or 4) have been included in a bundle as long as the resulting bundled price is lower than the sum of the corresponding stand-alone Level 2 service component prices.

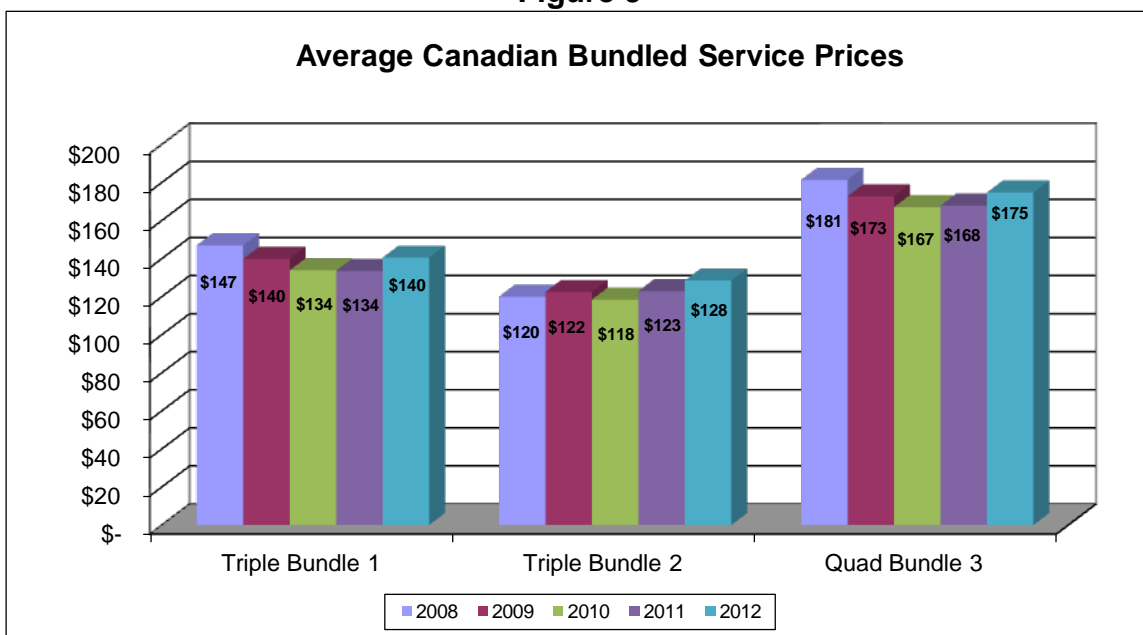
### 7.1 Canadian Bundled Service Price Comparisons

As in last year's study, we have measured the price discounts available to consumers who purchased, where available, wireline, broadband, wireless and/or basic digital television services on a bundled basis from either the local incumbent telephone or cable TV company. All of the incumbent telephone companies surveyed are capable of offering all three bundles, whereas some cable companies cannot provide all services. Access Communications and Shaw, for instance, do not provide wireless services either directly or indirectly through a third party. Similarly, Primus only offers the first of the three bundles (i.e., Bundle 1) since it does not currently offer digital TV services.

It should be noted that basic digital TV packages can vary considerably across service providers in terms of TV channel inclusions and package prices. Based on the Canadian service offerings surveyed for the study, basic cable and IPTV service packages include between 30 and 70 channels, whereas basic satellite service packages include roughly 150 or more channels (of which many are time-shifted channels, often in both standard and high definition formats). Standalone prices vary considerably as well, ranging from roughly \$26 to \$52 and averaging roughly \$37 (excluding equipment fees). There is no clear correlation between the number of channels offered and prices of the surveyed plans.

Figure 9 below provides a summary of Canadian average monthly prices for each of the three defined service bundles for the five year period 2008 to 2012.

**Figure 9**



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The average monthly price for Bundle 1 had declined significantly between 2008 and 2011, from roughly \$147 to \$134 (i.e., by roughly 9% in total). In 2012, it increased to \$140 (or roughly 5%). Much of the increase is due to the higher speed broadband service component included in the bundle. As noted in Section 5.1, the average Level 2 broadband service price increased by 9% (or roughly \$4.50) this year relative to last; although as also noted, the corresponding service speed increased by much more (i.e., by 65%) as a result of the redefinition of the broadband service baskets.

The average price for Bundle 2 had increased slightly over the period 2008 to 2011, from roughly \$120 to \$123. The Bundle 2 price increased further in 2012 to

\$128 (or by roughly 5%). Again, the increase is largely due to the higher speed broadband service component included in the bundle.

Lastly, the average price for Bundle 3 had declined noticeably between 2008 and 2011, from roughly \$181 to \$168 (by roughly 7% in total). The 2012 Bundle 3 price increased to \$175 (or by roughly 4%) for the same reason noted for the other two bundles.

Table A2.4 in Attachment 2 provides average bundled service prices by city and by bundle for the period 2008 to 2012.

## **7.2 International Bundled Service Price Comparisons**

As with the Canadian service providers included in the study, only a few of the surveyed foreign service providers are capable of providing all three bundles considered in this study. These include the incumbent telecom carriers in the U.S., France, Australia and Japan, while others cannot typically because they do not offer mobile wireless services. BT in the U.K., however, discontinued providing wireless services (on a resale basis) in 2009. Consequently, in BT's case, we have included Orange's Level 2 mobile wireless service (at stand-alone rates) along with other BT services to ensure that we have two bundled service packages to consider in the case of the U.K. (Virgin being the other, along with Sky in the case of Bundle 2). As well, in Japan, J:COM no longer resells Willcom mobile wireless service (Willcom was acquired by Softbank last in 2010). In its case, we have continued to include Willcom's mobile wireless service as part of J:COM's bundles; however, there is no bundling discount available for this service element.

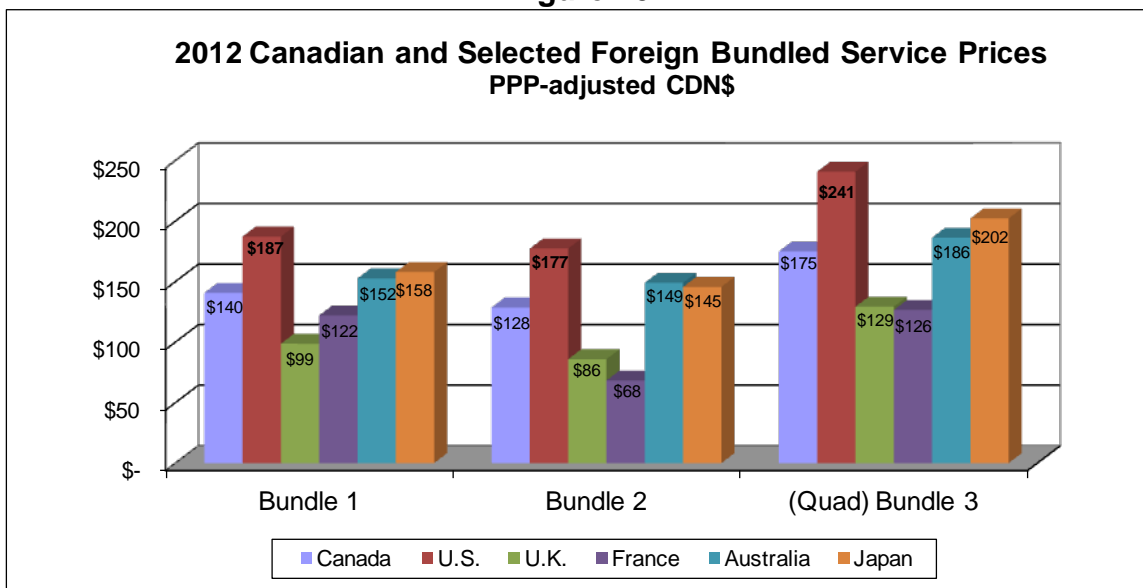
As noted, basic digital TV service packages can vary significantly by service provider in terms of TV channels and prices, which complicates the comparison of bundles which include this service. Basic TV packages in the U.S., for instance, tend to offer a large number of TV channels (well over 100 on average), but at prices that are the most expensive (i.e., roughly US\$55 on average) of the group of surveyed countries included in the study. In contrast, in the U.K. and France, digital TV services are included with broadband services for little or no additional cost. The basic digital TV service packages in these two cases are by far the least expensive of the surveyed jurisdictions included in the study. They also include among the highest number of TV channels (e.g., in the case of France, well over 100). The basic digital TV service packages in Canada's case fall in the middle ground between these two extremes in terms of prices, on average. At the same time, the average number of TV channels offered is lower (compared to the U.S. and France). The surveyed basic digital TV service packages in the cases of Australia and Japan are similar to Canada, in terms of both price and channels.



Figure 10 below provides a comparison of current average monthly prices in PPP-adjusted Canadian dollars for each of the three service bundles.

Before considering to the results, it should be reiterated that the new broadband Internet service basket definitions have generally had the effect of increasing this year's measured bundle prices slightly (due to the fact that the bundled broadband service component has increased in speed and, consequently, is generally more expensive this year). The exceptions in this respect apply in the case of the U.K. and, to a lesser degree, France where bundled prices have fallen relative to last year (see Table A3.5 in Attachment 3).

**Figure 10**



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In the case of service Bundle 1, the average monthly price in Canada of roughly \$140 falls into the middle of the rates measured for surveyed group countries. Bundle 1 rates are lower in the U.K. and France, but higher in Australia, Japan and, considerably so, in the U.S.

A similar result occurs in the case of Bundle 2. The Canadian average monthly price of \$128 is once again higher than the rates in the U.K. and France, but lower than rates in Australia, Japan and the U.S.

The same relative ranking applies in the case of Bundle 3, which includes all four services – wireline, broadband, wireless and digital TV.

More detailed bundled price information for the period 2008 to 2012 is provided in Table A3.5 in Attachment 3. As well, price trends in PPP-adjusted Canadian dollar prices for each of the three bundles are shown in Figures A3.10, A3.11 and A3.12.

As Table A3.5 of Attachment 3 shows, Canada's middle-of-the-pack rating with respect to bundled services has changed little over the last few years. However, the price differentials across the selected jurisdictions have tended to grow somewhat over time (e.g., the U.S. price is increasingly higher than Canada's whereas the U.K. and French rates are increasingly lower).

*In sum, average Canadian bundled service rates, on balance, tend to fall in the middle of the group of countries surveyed for this study. While differences across countries in the underlying services included in the bundles (especially broadband and digital TV services) can make bundled service comparisons somewhat tenuous, it is noteworthy that Canadian bundled service rates continue to compare very favourably to those in the U.S., where service pricing and provisioning practices are similar to those in Canada.*

## 8.0 SUMMARY OF RESULTS

The following table provides a summary of the 2012 price comparison results (in PPP-adjusted Canadian dollars) for Canada and the five surveyed foreign jurisdictions.

**Table 7**  
**Summary of International Price Comparisons**  
*Average Monthly Prices in PPP adjusted \$CDN*

	Canada	U.S.	U.K.	France	Australia	Japan
<b>Wireline Service</b>						
Level 1 (low-volume use)	\$ 33.42	\$ 46.84	\$ 28.22	\$ 32.34	\$ 46.57	\$ 29.84
Level 2 (average use)	\$ 51.71	\$ 74.75	\$ 39.57	\$ 53.29	\$ 75.55	\$ 60.00
Level 3 (high-volume use)	\$ 60.52	\$ 79.21	\$ 55.60	\$ 64.76	\$ 89.81	\$ 92.65
<b>Wireless Service</b>						
Level 1 (low-volume use)	\$ 34.32	\$ 33.78	\$ 17.21	\$ 24.09	\$ 22.44	\$ 25.53
Level 2 (average use)	\$ 51.31	\$ 72.94	\$ 38.43	\$ 61.13	\$ 34.56	\$ 49.28
Level 3 (high-volume use)	\$ 98.37	\$ 141.80	\$ 69.30	\$ 84.77	\$ 52.35	\$ 118.51
<b>Broadband (Fixed access)</b>						
Level 1 ( $\leq$ 3 Mbps, 5 GB/month)	\$ 39.37	\$ 57.24	na	na	na	\$ 50.48
Level 2 (4 -15 Mbps, 20 GB/month)	\$ 54.31	\$ 78.84	\$ 30.50	\$ 46.97	\$ 59.81	\$ 55.70
Level 3 (16 - 40Mbps, 50 GB/month)	\$ 67.94	\$ 97.00	\$ 40.88	\$ 46.07	\$ 61.69	\$ 59.37
Level 4 ( $\geq$ 40 Mbps, 75 GB/month)	\$ 94.39	\$ 160.97	\$ 58.66	\$ 62.36	\$ 82.25	\$ 62.65
<b>Mobile Internet (<math>\geq</math> 3G Technology)</b>						
Level 1 (2 GB/month)	\$ 52.55	\$ 52.29	\$ 27.42	\$ 39.36	\$ 31.38	\$ 54.89
Level 2 (5 GB/month)	\$ 65.11	\$ 69.51	\$ 39.11	\$ 100.15	\$ 44.85	\$ 56.77
<b>Bundled Services</b>						
1) Wireline-Broadband-Wireless	\$ 140.47	\$ 187.07	\$ 98.57	\$ 121.94	\$ 152.47	\$ 157.73
2) Wireline-Broadband-DTV	\$ 128.44	\$ 177.15	\$ 85.78	\$ 68.23	\$ 148.88	\$ 145.47
3) Wireline-Broadband-Wireless-DTV	\$ 174.71	\$ 240.65	\$ 129.11	\$ 126.39	\$ 186.13	\$ 202.02

*Latest available OECD Purchasing Power Parity (PPP) indexes were used to calculate PPP-adjusted exchange rates. Average market exchange rates for the month corresponding to the OECD PPPs were used to convert foreign prices into Canadian dollars.*

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## ATTACHMENT 1 – SERVICE BASKETS

**TABLE A1.1  
WIRELINE SERVICE BASKETS**

Local Minutes of Use	Level 1	Level 2	Level 3
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)

**TABLE A1.2  
MOBILE WIRELESS SERVICE BASKETS**

Minutes of Use/Month	Level 1	Level 2	Level 3
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.

Minutes of Use/Month	Level 1	Level 2	Level 3
<b>Features</b>			
Voice Mail		Yes	Yes
Caller ID		Yes	Yes
Other			Yes
<b>Data</b>			
SMS		250	250
Data Service			1 GB

**TABLE A1.3  
BROADBAND INTERNET SERVICE BASKETS**

Elements	Level 1	Level 2	Level 3	Level 4
Transmission Speed	Basic Services ≤ 3.0 Mbps	4 – 15 Mbps (highest available)	16 – 40 Mbps (highest available)	> 40 Mbps (highest available in target range of 41 to 100 Mbps)
Monthly Usage	5 GB	20 GB	50 GB	75 GB
Modem	No cost with contract or rental / 24 month amortization			

**TABLE A1.4  
MOBILE INTERNET SERVICE BASKETS**

Elements	Level 1	Level 2
Monthly Usage	2 GB	5 GB
Transmission Speed	≥ 1.5 Mbps (download )	
USB Modem	No cost with contract or rental / 24 month amortization	

**TABLE A1.5  
BUNDLED SERVICE BASKETS**

Elements	Bundle 1 Triple-play	Bundle 2 Triple-play	Bundle 3 Quad-Play
Wireline	Wireline Level 2	Wireline Level 2	Wireline Level 2
Wireless	Wireless Level 2		Wireless Level 2
Broadband Internet	Broadband Level 2	Broadband Level 2	Broadband Level 2
Television		Basic Digital Package	Basic Digital Package

*Note that where Level 2 service options are not eligible for bundling discounts ,higher level services (i.e., Level 3 or 4) may be included in a bundle as long as the resulting bundled price is lower than the sum of the corresponding stand-alone Level 2 service component prices.*

## ATTACHMENT 2 – CANADIAN PRICE COMPARISONS

**Table A2.1**  
**Canadian Wireline Prices**

Baskets	Halifax	Montreal	Toronto	Regina	Vancouver	Average
<b>Level 1 Basket (low-volume use, 400 min/month)</b>						
2008	\$ 31.73	\$ 30.27	\$ 31.61	\$ 28.16	\$ 30.90	\$ 30.88
2009	\$ 32.23	\$ 28.92	\$ 32.51	\$ 28.16	\$ 25.92	\$ 29.80
2010	\$ 30.08	\$ 29.39	\$ 33.88	\$ 26.49	\$ 28.27	\$ 31.16
2011	\$ 31.79	\$ 27.33	\$ 34.63	\$ 26.52	\$ 34.52	\$ 32.06
2012	\$ 31.89	\$ 31.31	\$ 35.30	\$ 26.76	\$ 33.16	\$ 33.42
CAGR	0%	1%	3%	-1%	2%	2%
<b>Level 2 Basket (average use, 1,000 min/month)</b>						
2008	\$ 48.93	\$ 45.44	\$ 48.96	\$ 41.39	\$ 48.67	\$ 47.91
2009	\$ 53.61	\$ 52.01	\$ 57.78	\$ 41.39	\$ 34.68	\$ 50.05
2010	\$ 50.78	\$ 46.81	\$ 58.09	\$ 41.50	\$ 44.18	\$ 51.42
2011	\$ 47.34	\$ 46.72	\$ 54.66	\$ 41.52	\$ 44.62	\$ 49.81
2012	\$ 49.05	\$ 48.55	\$ 57.08	\$ 41.71	\$ 45.19	\$ 51.71
CAGR	0%	2%	4%	0%	-2%	2%
<b>Level 3 Basket (high-volume use, 1,600 min/month)</b>						
2008	\$ 60.63	\$ 59.36	\$ 63.02	\$ 49.81	\$ 57.45	\$ 60.27
2009	\$ 66.34	\$ 61.68	\$ 67.59	\$ 49.56	\$ 51.51	\$ 61.55
2010	\$ 67.02	\$ 61.15	\$ 64.19	\$ 48.96	\$ 51.79	\$ 60.78
2011	\$ 58.35	\$ 60.97	\$ 61.36	\$ 48.99	\$ 57.59	\$ 60.22
2012	\$ 60.33	\$ 59.08	\$ 65.97	\$ 49.66	\$ 50.62	\$ 60.52
CAGR	0%	0%	1%	0%	-3%	0%

*Note that some generally minor changes in methodology apply year-to-year.*

*Averages calculated on a market share and population weighted basis.*

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**Table A2.2**  
**Canadian Mobile Wireless Prices**

Baskets	Halifax	Montreal	Toronto	Regina	Vancouver	Average
<b>Level 1 Basket (low-volume use, 150 min/month)</b>						
2008	\$ 33.25	\$ 31.96	\$ 33.55	\$ 30.16	\$ 32.90	\$ <b>32.73</b>
2009	\$ 32.48	\$ 33.24	\$ 33.34	\$ 29.44	\$ 33.32	\$ <b>33.03</b>
2010	\$ 29.23	\$ 34.38	\$ 34.33	\$ 28.64	\$ 34.10	\$ <b>34.03</b>
2011	\$ 29.24	\$ 34.47	\$ 34.45	\$ 29.59	\$ 31.94	\$ <b>33.73</b>
2012	\$ 29.75	\$ 34.72	\$ 34.44	\$ 29.66	\$ 34.58	\$ <b>34.32</b>
CAGR	-3%	2%	1%	0%	1%	1%
<b>Level 2 Basket (average use, 450 min and 250 text per month)</b>						
2008	\$ 53.14	\$ 62.62	\$ 63.37	\$ 61.20	\$ 58.34	\$ <b>60.81</b>
2009	\$ 48.73	\$ 59.17	\$ 59.20	\$ 44.44	\$ 59.30	\$ <b>57.78</b>
2010	\$ 48.05	\$ 54.34	\$ 53.56	\$ 44.77	\$ 53.74	\$ <b>53.49</b>
2011	\$ 47.39	\$ 51.50	\$ 49.99	\$ 48.19	\$ 50.86	\$ <b>50.51</b>
2012	\$ 47.22	\$ 51.04	\$ 51.97	\$ 42.54	\$ 51.61	\$ <b>51.31</b>
CAGR	-3%	-5%	-5%	-9%	-3%	-4%
<b>Level 3 Basket (high-volume use, 1,200 min, 250 text and 1GB data per month)</b>						
2008	\$ 121.04	\$ 113.21	\$ 111.51	\$ 113.67	\$ 109.68	\$ <b>112.34</b>
2009	\$ 105.61	\$ 104.38	\$ 102.20	\$ 94.64	\$ 101.24	\$ <b>103.24</b>
2010	\$ 101.44	\$ 108.37	\$ 112.63	\$ 94.97	\$ 107.27	\$ <b>109.59</b>
2011	\$ 96.73	\$ 98.73	\$ 100.76	\$ 96.69	\$ 99.61	\$ <b>99.69</b>
2012	\$ 96.44	\$ 98.92	\$ 98.26	\$ 96.42	\$ 98.22	\$ <b>98.37</b>
CAGR	-6%	-3%	-3%	-4%	-3%	-3%

*Note that some generally minor changes in methodology apply year-to-year.*

*Averages calculated on a market share and population weighted basis.*

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**Table A2.3**  
**Canadian Broadband Internet Service Prices**

Baskets	Halifax	Montreal	Toronto	Regina	Vancouver	Average
<b>Level 1 Basket (≤ 1.5 Mbps, 2 GB/month - as of 2012: ≤ 3 Mbps, 5GB/month)</b>						
2008	\$ 34.95	\$ 32.45	\$ 38.95	\$ 30.45	\$ 23.45	\$ 32.88
2009	\$ 35.95	\$ 28.43	\$ 35.45	\$ 30.45	\$ 24.95	\$ 30.98
2010	\$ 36.95	\$ 29.43	\$ 33.45	\$ 30.95	\$ 29.00	\$ 31.44
2011	\$ 36.15	\$ 36.90	\$ 34.15	\$ 32.52	\$ 33.00	\$ 34.85
2012	\$ 39.15	\$ 33.35	\$ 45.37	\$ 31.95	\$ 35.40	\$ 39.37
CAGR	3%	1%	4%	1%	11%	5%
<b>Level 2 Basket (1.5 - 9 Mbps, 15 GB/month - as of 2012: 4 - 15 Mbps, 20 GB/month)</b>						
2008	\$ 47.45	\$ 48.95	\$ 48.95	\$ 45.45	\$ 40.95	\$ 46.58
2009	\$ 48.45	\$ 50.43	\$ 50.95	\$ 45.45	\$ 38.45	\$ 47.26
2010	\$ 49.45	\$ 51.43	\$ 47.95	\$ 45.95	\$ 40.00	\$ 47.60
2011	\$ 50.75	\$ 52.83	\$ 49.33	\$ 48.52	\$ 45.65	\$ 49.79
2012	\$ 57.75	\$ 60.92	\$ 52.79	\$ 54.95	\$ 46.40	\$ 54.31
CAGR	5%	6%	2%	5%	3%	4%
<b>Level 3 Basket (10 - 19 MBps, 30 GB/month - as of 2012: 16 - 40 Mbps, 50 GB/month)</b>						
2008	\$ 57.45	\$ 83.45	\$ 73.95	\$ 55.95	\$ 50.95	\$ 68.74
2009	\$ 58.45	\$ 64.40	\$ 62.45	\$ 55.95	\$ 53.45	\$ 60.08
2010	\$ 59.45	\$ 65.40	\$ 62.45	\$ 56.45	\$ 55.48	\$ 61.88
2011	\$ 60.75	\$ 66.33	\$ 65.35	\$ 56.75	\$ 55.00	\$ 63.44
2012	\$ 88.95	\$ 66.95	\$ 72.17	\$ 79.95	\$ 54.60	\$ 67.94
CAGR	12%	-5%	-1%	9%	2%	0%
<b>Level 4 Basket (&gt; 20 Mbps, 50 GB/month - as of 2012: &gt; 40 Mbps, 75 GB/month)</b>						
2011	\$ 84.75	\$ 73.30	\$ 73.75	\$ 99.95	\$ 91.40	\$ 77.71
2012	\$ 138.95	\$ 82.95	\$ 106.98		\$ 74.90	\$ 94.39
CAGR	64%	13%	45%		-18%	21%

Note that some generally minor changes in methodology apply year-to-year.

Averages calculated on a market share and population weighted basis.

Note that speed ranges and data usage per month has been increased as of 2012 for all four service levels which has had the effect of increasing prices in 2012 relative 2011 in some cases.

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**Table A2.4**  
**Canadian Bundled Service Prices**

Baskets	Halifax	Montreal	Toronto	Regina	Vancouver	Average
<b>Bundle 1 (Wireline-Broadband-Mobile)</b>						
2008	\$ 139.86	\$ 141.61	\$ 152.20	\$ 140.02	\$ 152.47	\$ 146.96
2009	\$ 135.63	\$ 141.37	\$ 152.65	\$ 120.12	\$ 122.22	\$ 139.86
2010	\$ 132.23	\$ 135.16	\$ 139.75	\$ 125.12	\$ 118.30	\$ 133.83
2011	\$ 132.10	\$ 131.72	\$ 138.69	\$ 130.36	\$ 124.54	\$ 133.50
2012	\$ 134.44	\$ 140.06	\$ 146.09	\$ 133.85	\$ 129.11	\$ 140.47
CAGR	-1%	0%	-1%	-1%	-4%	-1%
<b>Bundle 2 (Wireline-Broadband-TV)</b>						
2008	\$ 124.71	\$ 118.68	\$ 126.54	\$ 112.13	\$ 111.40	\$ 119.93
2009	\$ 121.14	\$ 123.46	\$ 129.71	\$ 115.13	\$ 110.31	\$ 122.43
2010	\$ 120.37	\$ 116.94	\$ 123.39	\$ 119.47	\$ 108.36	\$ 118.41
2011	\$ 121.46	\$ 119.09	\$ 129.92	\$ 127.52	\$ 112.05	\$ 122.87
2012	\$ 124.19	\$ 127.91	\$ 135.81	\$ 131.56	\$ 111.81	\$ 128.44
CAGR	0%	2%	2%	4%	0%	2%
<b>Bundle 3 (Wireline-Broadband-Mobile-TV)</b>						
2008	\$ 178.86	\$ 182.13	\$ 183.94	\$ 148.97	\$ 186.47	\$ 181.31
2009	\$ 169.03	\$ 181.24	\$ 182.81	\$ 142.07	\$ 151.22	\$ 172.68
2010	\$ 169.19	\$ 168.65	\$ 169.82	\$ 145.81	\$ 158.98	\$ 167.01
2011	\$ 170.01	\$ 164.24	\$ 177.48	\$ 160.04	\$ 150.77	\$ 167.81
2012	\$ 171.85	\$ 171.99	\$ 179.85	\$ 181.58	\$ 166.61	\$ 174.71
CAGR	-1%	-1%	-1%	5%	-3%	-1%

*Note that some generally minor changes in methodology apply year-to-year.*

*Averages calculated on a market share and population weighted basis.*

*Note that bundle prices in 2012 have increased relative to 2011, in some cases, due to the changes in the broadband service speed ranges introduced in this year's study.*

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## ATTACHMENT 3 – INTERNATIONAL PRICE COMPARISONS

**Table A3.1**  
**International Wireline Prices**

<b>Baskets</b>		<b>Canada</b>	<b>U.S.</b>	<b>U.K.</b>	<b>France</b>	<b>Australia</b>	<b>Japan</b>
<b>Own Currency</b>							
<b>Wireline Level 1</b>	<b>2008</b>	\$ 30.88	\$ 31.68	£17.14	€22.43	\$ 53.84	
	<b>2009</b>	\$ 29.80	\$ 31.56	£18.57	€22.95	\$ 54.91	
	<b>2010</b>	\$ 31.16	\$ 32.63	£19.35	€23.29	\$ 54.35	¥2,767
	<b>2011</b>	\$ 32.06	\$ 34.23	£20.58	€26.71	\$ 55.81	¥2,766
	<b>2012</b>	\$ 33.42	\$ 35.77	£18.04	€22.45	\$ 56.60	¥2,766
	<b>CAGR</b>	<b>2%</b>	<b>3%</b>	<b>1%</b>	<b>0%</b>	<b>1%</b>	<b>0%</b>
<b>Wireline Level 2</b>	<b>2008</b>	\$ 47.91	\$ 56.64	£24.24	€41.25	\$ 104.43	
	<b>2009</b>	\$ 50.05	\$ 56.92	£26.19	€41.22	\$ 105.95	
	<b>2010</b>	\$ 51.42	\$ 56.76	£26.15	€41.10	\$ 105.28	¥5,416
	<b>2011</b>	\$ 49.81	\$ 56.77	£27.66	€38.68	\$ 88.87	¥5,555
	<b>2012</b>	\$ 51.71	\$ 57.09	£25.30	€36.98	\$ 91.81	¥5,561
	<b>CAGR</b>	<b>2%</b>	<b>0%</b>	<b>1%</b>	<b>-3%</b>	<b>-3%</b>	<b>1%</b>
<b>Wireline Level 3</b>	<b>2008</b>	\$ 60.27	\$ 66.21	£32.87	€48.20	\$ 117.00	
	<b>2009</b>	\$ 61.55	\$ 65.33	£36.11	€49.48	\$ 117.00	
	<b>2010</b>	\$ 60.78	\$ 63.69	£36.17	€47.76	\$ 116.14	¥8,430
	<b>2011</b>	\$ 60.22	\$ 60.76	£36.45	€48.12	\$ 99.51	¥8,578
	<b>2012</b>	\$ 60.52	\$ 60.49	£35.54	€44.94	\$ 109.14	¥8,587
	<b>CAGR</b>	<b>0%</b>	<b>-2%</b>	<b>2%</b>	<b>-2%</b>	<b>-2%</b>	<b>1%</b>
<b>CDN\$ - PPP</b>							
<b>Wireline Level 1</b>	<b>2008</b>	\$ 30.88	\$ 37.82	\$ 32.32	\$ 28.73	\$ 43.35	
	<b>2009</b>	\$ 29.80	\$ 39.45	\$ 35.24	\$ 31.24	\$ 45.20	
	<b>2010</b>	\$ 31.16	\$ 39.75	\$ 35.32	\$ 31.53	\$ 44.45	\$ 27.23
	<b>2011</b>	\$ 32.06	\$ 44.84	\$ 34.35	\$ 37.86	\$ 45.86	\$ 29.55
	<b>2012</b>	\$ 33.42	\$ 46.84	\$ 28.22	\$ 32.34	\$ 46.57	\$ 29.84
	<b>CAGR</b>	<b>2%</b>	<b>5%</b>	<b>-3%</b>	<b>3%</b>	<b>2%</b>	<b>5%</b>
<b>Wireline Level 2</b>	<b>2008</b>	\$ 47.91	\$ 67.63	\$ 45.71	\$ 52.84	\$ 84.09	
	<b>2009</b>	\$ 50.05	\$ 71.15	\$ 49.68	\$ 56.10	\$ 87.22	
	<b>2010</b>	\$ 51.42	\$ 69.13	\$ 47.74	\$ 55.63	\$ 86.10	\$ 53.30
	<b>2011</b>	\$ 49.81	\$ 74.37	\$ 46.18	\$ 54.83	\$ 73.02	\$ 59.33
	<b>2012</b>	\$ 51.71	\$ 74.75	\$ 39.57	\$ 53.29	\$ 75.55	\$ 60.00
	<b>CAGR</b>	<b>2%</b>	<b>3%</b>	<b>-4%</b>	<b>0%</b>	<b>-3%</b>	<b>6%</b>
<b>Wireline Level 3</b>	<b>2008</b>	\$ 60.27	\$ 79.05	\$ 61.99	\$ 61.74	\$ 94.21	
	<b>2009</b>	\$ 61.55	\$ 81.66	\$ 68.51	\$ 67.35	\$ 96.32	
	<b>2010</b>	\$ 60.78	\$ 77.58	\$ 66.03	\$ 64.65	\$ 94.98	\$ 82.95
	<b>2011</b>	\$ 60.22	\$ 79.59	\$ 60.86	\$ 68.20	\$ 81.77	\$ 91.61
	<b>2012</b>	\$ 60.52	\$ 79.21	\$ 55.60	\$ 64.76	\$ 89.81	\$ 92.65
	<b>CAGR</b>	<b>0%</b>	<b>0%</b>	<b>-3%</b>	<b>1%</b>	<b>-1%</b>	<b>6%</b>

**Table A3.1**  
**International Wireline Prices (Cont'd)**

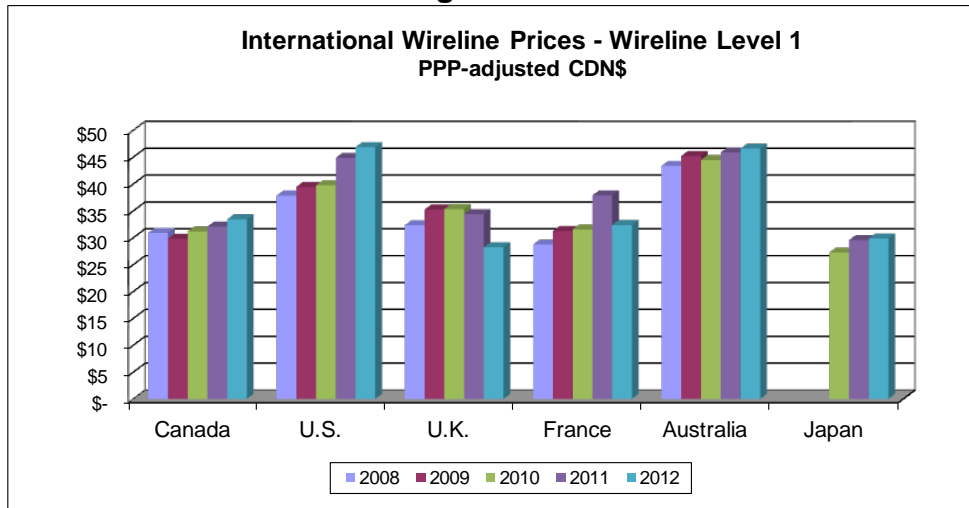
Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>CDN\$ - Exchange Rate</b>							
Wireline Level 1	2008	\$ 30.88	\$ 31.52	\$ 34.02	\$ 34.21	\$ 49.26	
	2009	\$ 29.80	\$ 39.45	\$ 33.25	\$ 37.64	\$ 46.12	
	2010	\$ 31.16	\$ 34.27	\$ 31.54	\$ 33.54	\$ 51.09	\$ 33.21
	2011	\$ 32.06	\$ 33.71	\$ 32.72	\$ 36.06	\$ 55.25	\$ 33.20
	2012	\$ 33.42	\$ 36.31	\$ 28.50	\$ 29.40	\$ 59.71	\$ 35.95
	CAGR	2%	4%	-4%	-4%	5%	4%
Wireline Level 2	2008	\$ 47.91	\$ 56.36	\$ 48.11	\$ 62.91	\$ 95.55	
	2009	\$ 50.05	\$ 71.15	\$ 46.87	\$ 67.59	\$ 89.00	
	2010	\$ 51.42	\$ 59.59	\$ 42.62	\$ 59.18	\$ 98.96	\$ 65.00
	2011	\$ 49.81	\$ 55.92	\$ 43.98	\$ 52.22	\$ 87.98	\$ 66.67
	2012	\$ 51.71	\$ 57.95	\$ 39.97	\$ 48.45	\$ 96.86	\$ 72.30
	CAGR	2%	1%	-5%	-6%	0%	5%
Wireline Level 3	2008	\$ 60.27	\$ 65.88	\$ 65.25	\$ 73.50	\$ 107.06	
	2009	\$ 61.55	\$ 81.66	\$ 64.63	\$ 81.15	\$ 98.28	
	2010	\$ 60.78	\$ 66.88	\$ 58.96	\$ 68.78	\$ 109.17	\$ 101.16
	2011	\$ 60.22	\$ 59.85	\$ 57.96	\$ 64.96	\$ 98.52	\$ 102.93
	2012	\$ 60.52	\$ 61.40	\$ 56.16	\$ 58.88	\$ 115.14	\$ 111.63
	CAGR	0%	-2%	-4%	-5%	2%	5%

Note that some generally minor changes in methodology apply year-to-year.

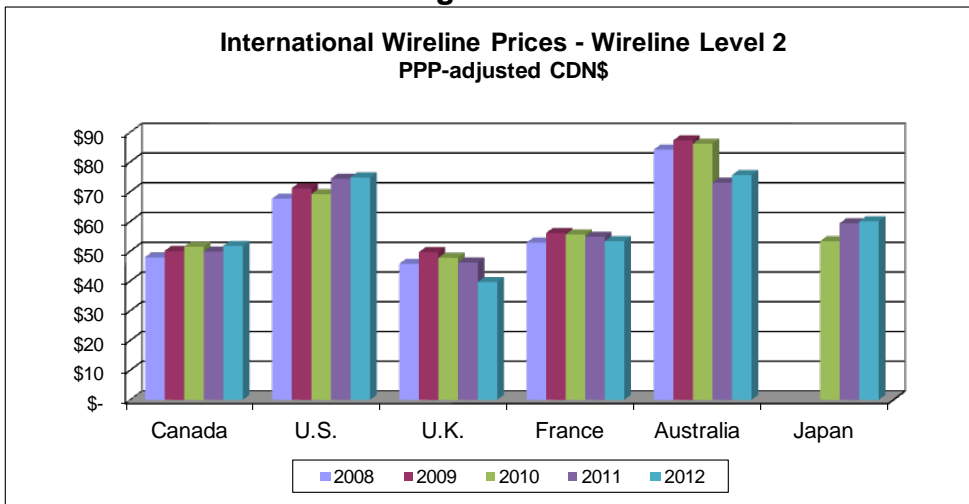
Latest available OECD Purchasing Power Parity (PPP) indexes were used to calculate PPP-adjusted exchange rates. Average market exchange rates for the month corresponding to the OECD PPPs were used to convert foreign prices into Canadian dollars.

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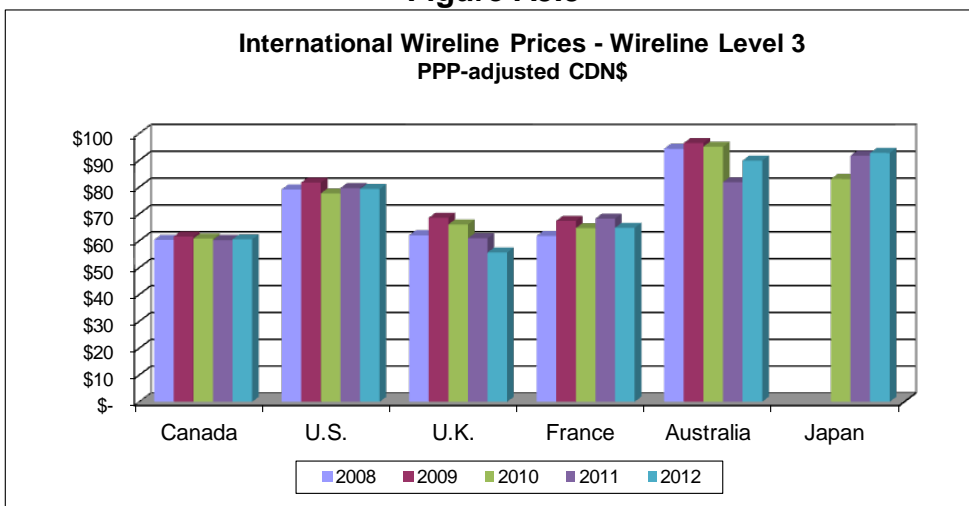
**Figure A3.1**



**Figure A3.2**



**Figure A3.3**



**Table A3.2**  
**International Mobile Wireless Prices**

Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>Own Currency</b>							
Wireless Level 1	2008	\$ 32.73	\$ 34.27	£14.09	€ 18.39	\$ 27.27	
	2009	\$ 33.03	\$ 34.01	£12.82	€ 18.64	\$ 24.27	
	2010	\$ 34.03	\$ 33.20	£12.77	€ 19.61	\$ 23.18	¥2,459
	2011	\$ 33.73	\$ 25.48	£11.17	€ 18.44	\$ 25.50	¥2,368
	2012	\$ 34.32	\$ 25.80	£11.00	€ 16.72	\$ 27.27	¥2,366
	CAGR	1%	-7%	-6%	-2%	0%	-2%
Wireless Level 2	2008	\$ 60.81	\$ 54.06	£28.63	€ 43.95	\$ 40.86	
	2009	\$ 57.78	\$ 53.10	£23.57	€ 45.19	\$ 44.55	
	2010	\$ 53.49	\$ 49.75	£20.41	€ 50.76	\$ 43.60	¥4,506
	2011	\$ 50.51	\$ 52.43	£19.62	€ 52.81	\$ 44.99	¥4,601
	2012	\$ 51.31	\$ 55.71	£24.57	€ 42.42	\$ 42.00	¥4,567
	CAGR	-4%	1%	-4%	-1%	1%	1%
Wireless Level 3	2008	\$ 112.34	\$ 113.67	£47.85	€ 86.23	\$ 120.16	
	2009	\$ 103.24	\$ 106.06	£40.25	€ 80.13	\$ 113.14	
	2010	\$ 109.59	\$ 101.81	£38.06	€ 80.80	\$ 112.41	¥11,909
	2011	\$ 99.69	\$ 106.12	£38.50	€ 71.08	\$ 89.90	¥11,256
	2012	\$ 98.37	\$ 108.30	£44.30	€ 58.83	\$ 63.61	¥10,984
	CAGR	-3%	-1%	-2%	-9%	-15%	-4%
<b>CDN\$ - PPP</b>							
Wireless Level 1	2008	\$ 32.73	\$ 40.92	\$ 26.57	\$ 23.55	\$ 21.96	
	2009	\$ 33.03	\$ 42.51	\$ 24.33	\$ 25.37	\$ 19.98	
	2010	\$ 34.03	\$ 40.43	\$ 23.31	\$ 26.54	\$ 18.96	\$ 24.20
	2011	\$ 33.73	\$ 33.38	\$ 18.64	\$ 26.13	\$ 20.95	\$ 25.29
	2012	\$ 34.32	\$ 33.78	\$ 17.21	\$ 24.09	\$ 22.44	\$ 25.53
	CAGR	1%	-5%	-10%	1%	1%	3%
Wireless Level 2	2008	\$ 60.81	\$ 64.54	\$ 53.98	\$ 56.30	\$ 32.90	
	2009	\$ 57.78	\$ 66.38	\$ 44.73	\$ 61.51	\$ 36.67	
	2010	\$ 53.49	\$ 60.60	\$ 37.27	\$ 68.70	\$ 35.65	\$ 44.34
	2011	\$ 50.51	\$ 68.69	\$ 32.75	\$ 74.86	\$ 36.97	\$ 49.14
	2012	\$ 51.31	\$ 72.94	\$ 38.43	\$ 61.13	\$ 34.56	\$ 49.28
	CAGR	-4%	3%	-8%	2%	1%	5%
Wireless Level 3	2008	\$ 112.34	\$ 135.72	\$ 90.23	\$ 110.46	\$ 96.75	
	2009	\$ 103.24	\$ 132.58	\$ 76.36	\$ 109.08	\$ 93.13	
	2010	\$ 109.59	\$ 124.01	\$ 69.49	\$ 109.37	\$ 91.93	\$ 117.19
	2011	\$ 99.69	\$ 139.03	\$ 64.27	\$ 100.75	\$ 73.87	\$ 120.21
	2012	\$ 98.37	\$ 141.80	\$ 69.30	\$ 84.77	\$ 52.35	\$ 118.51
	CAGR	-3%	1%	-6%	-6%	-14%	1%

**Table A3.2**  
**International Mobile Wireless Prices (Cont'd)**

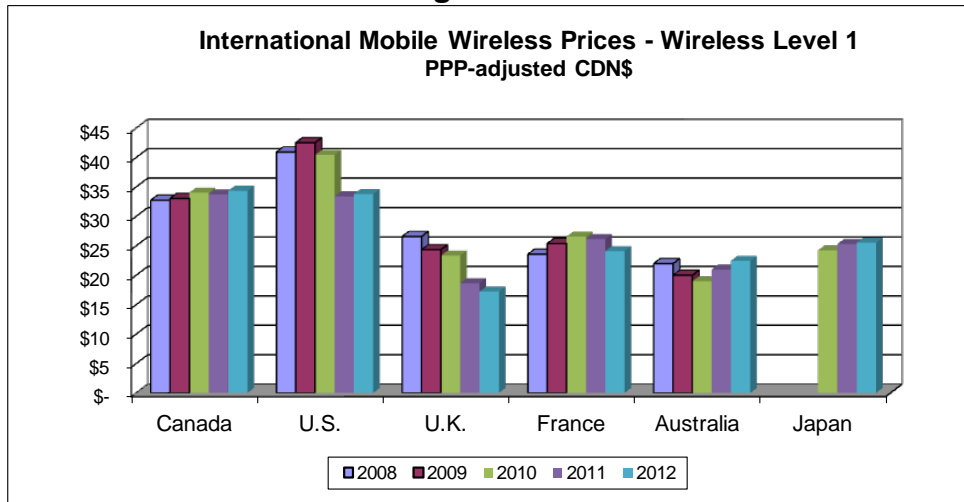
Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>CDN\$ - Exchange Rate</b>							
Wireless Level 1	2008	\$ 32.73	\$ 34.10	\$ 27.97	\$ 28.04	\$ 24.95	
	2009	\$ 33.03	\$ 42.51	\$ 22.96	\$ 30.56	\$ 20.39	
	2010	\$ 34.03	\$ 34.86	\$ 20.81	\$ 28.23	\$ 21.79	\$ 29.51
	2011	\$ 33.73	\$ 25.10	\$ 17.76	\$ 24.89	\$ 25.25	\$ 28.42
	2012	\$ 34.32	\$ 26.19	\$ 17.38	\$ 21.90	\$ 28.77	\$ 30.76
	CAGR		1%	-6%	-11%	-6%	4%
Wireless Level 2	2008	\$ 60.81	\$ 53.79	\$ 56.83	\$ 67.03	\$ 37.39	
	2009	\$ 57.78	\$ 66.38	\$ 42.19	\$ 74.11	\$ 37.42	
	2010	\$ 53.49	\$ 52.24	\$ 33.27	\$ 73.09	\$ 40.98	\$ 40.98
	2011	\$ 50.51	\$ 51.64	\$ 31.19	\$ 71.30	\$ 44.54	\$ 55.21
	2012	\$ 51.31	\$ 56.54	\$ 38.82	\$ 55.58	\$ 44.31	\$ 59.38
	CAGR		-4%	1%	-9%	-5%	4%
Wireless Level 3	2008	\$ 112.34	\$ 113.10	\$ 94.98	\$ 131.50	\$ 109.95	
	2009	\$ 103.24	\$ 132.58	\$ 72.04	\$ 131.42	\$ 95.03	
	2010	\$ 109.59	\$ 106.90	\$ 62.04	\$ 116.35	\$ 105.67	\$ 105.67
	2011	\$ 99.69	\$ 104.53	\$ 61.21	\$ 95.96	\$ 89.00	\$ 135.07
	2012	\$ 98.37	\$ 109.92	\$ 70.00	\$ 77.07	\$ 67.11	\$ 142.79
	CAGR		-3%	-1%	-7%	-13%	-12%

*Note that some generally minor changes in methodology apply year-to-year.*

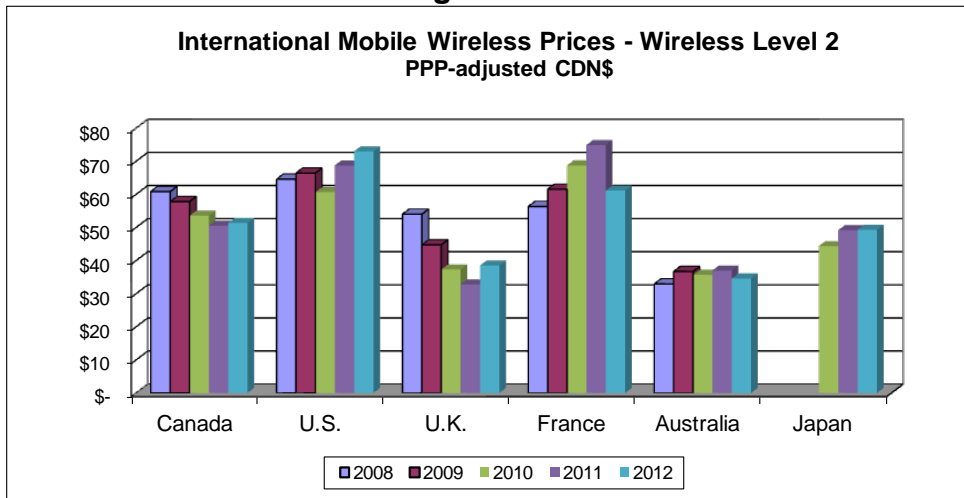
*Latest available OECD Purchasing Power Parity (PPP) indexes were used to calculate PPP-adjusted exchange rates. Average market exchange rates for the month corresponding to the OECD PPPs were used to convert foreign prices into Canadian dollars.*

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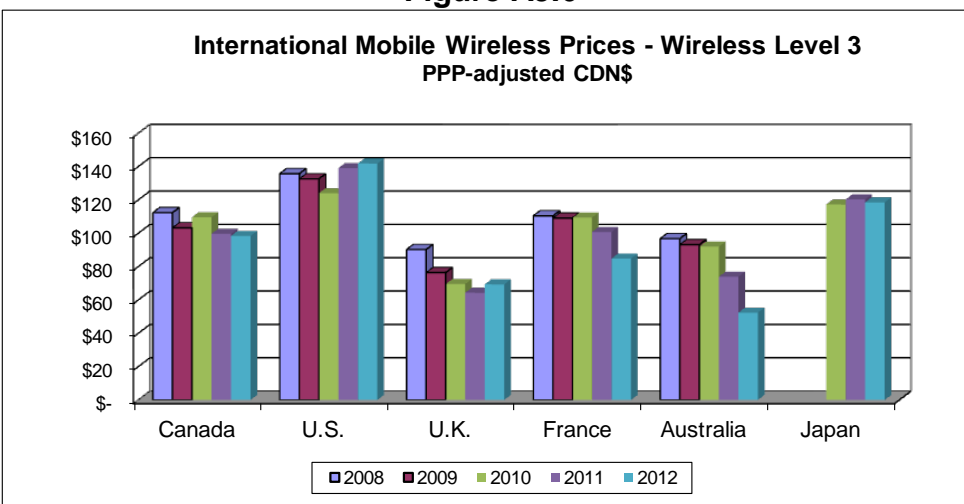
**Figure A3.4**



**Figure A3.5**



**Figure A3.6**



**Table A3.3**  
**International Broadband Internet Service Prices**

Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>Own Currency</b>							
Broadband Level 1	2008	\$ 32.88	\$ 28.28	£15.87	€32.97	\$ 53.15	
	2009	\$ 30.98	\$ 32.15	na	€32.97	\$ 50.18	
	2010	\$ 31.44	\$ 32.52	na	na	\$ 42.69	¥4,038
	2011	\$ 34.85	\$ 38.97	na	€19.98	\$ 36.32	¥4,038
	2012	\$ 39.37	\$ 43.72	na	na	na	¥4,678
	CAGR		5%	12%			
Broadband Level 2	2008	\$ 46.58	\$ 46.88	£23.36	€35.77	\$ 77.69	
	2009	\$ 47.26	\$ 46.34	£15.93	€35.77	\$ 77.45	
	2010	\$ 47.60	\$ 48.41	£22.22	€32.53	\$ 63.60	¥5,036
	2011	\$ 49.79	\$ 49.72	£24.39	€33.44	\$ 69.05	¥5,036
	2012	\$ 54.31	\$ 60.21	£19.50	€32.60	\$ 72.68	¥5,162
	CAGR		4%	6%	-4%	-2%	-2%
Broadband Level 3	2008	\$ 68.74	\$ 56.45	£27.96	€38.57	\$ 94.97	
	2009	\$ 60.08	\$ 56.33	£18.94	€35.07	\$ 94.73	
	2010	\$ 61.88	\$ 61.79	£25.33	€42.44	\$ 90.87	¥7,332
	2011	\$ 63.44	\$ 60.76	£24.01	€46.82	\$ 72.68	¥5,104
	2012	\$ 67.94	\$ 74.08	£26.14	€31.97	\$ 74.96	¥5,503
	CAGR		0%	7%	-2%	-5%	-6%
Broadband Level 4	2011	\$ 77.71	\$ 72.57	£29.99	€35.12	\$ 81.77	¥5,595
	2012	\$ 94.39	\$ 122.94	£37.50	€43.28	\$ 99.95	¥5,806
	CAGR		21%	69%	25%	23%	22%
<b>CDN\$ - PPP</b>							
Broadband Level 1	2008	\$ 32.88	\$ 33.77	\$ 29.93	\$ 42.23	\$ 42.79	
	2009	\$ 30.98	\$ 40.19	na	\$ 44.87	\$ 41.31	
	2010	\$ 31.44	\$ 39.61	na	na	\$ 34.91	\$ 39.73
	2011	\$ 34.85	\$ 51.06	na	\$ 28.33	\$ 29.84	\$ 43.13
	2012	\$ 39.37	\$ 57.24	na	na	na	\$ 50.48
	CAGR		5%	14%			
Broadband Level 2	2008	\$ 46.58	\$ 55.97	\$ 44.05	\$ 45.82	\$ 62.56	
	2009	\$ 47.26	\$ 57.92	\$ 30.22	\$ 48.69	\$ 63.76	
	2010	\$ 47.60	\$ 58.97	\$ 40.57	\$ 44.03	\$ 52.01	\$ 49.55
	2011	\$ 49.79	\$ 65.14	\$ 40.72	\$ 47.41	\$ 56.74	\$ 53.79
	2012	\$ 54.31	\$ 78.84	\$ 30.50	\$ 46.97	\$ 59.81	\$ 55.70
	CAGR		4%	9%	-9%	1%	-1%
Broadband Level 3	2008	\$ 68.74	\$ 67.40	\$ 52.72	\$ 49.41	\$ 76.47	
	2009	\$ 60.08	\$ 70.41	\$ 35.93	\$ 47.73	\$ 77.98	
	2010	\$ 61.88	\$ 75.26	\$ 46.24	\$ 57.45	\$ 74.32	\$ 72.15
	2011	\$ 63.44	\$ 79.60	\$ 40.09	\$ 66.37	\$ 59.72	\$ 54.52
	2012	\$ 67.94	\$ 97.00	\$ 40.88	\$ 46.07	\$ 61.69	\$ 59.37
	CAGR		0%	10%	-6%	-2%	-5%
Broadband Level 4	2011	\$ 77.71	\$ 95.07	\$ 50.07	\$ 49.79	\$ 67.19	\$ 59.76
	2012	\$ 94.39	\$ 160.97	\$ 58.66	\$ 62.36	\$ 82.25	\$ 62.65
	CAGR		21%	69%	17%	25%	22%



**Table A3.3**  
**International Broadband Internet Service Prices (Cont'd)**

Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>CDN\$ - Exchange Rate</b>							
<b>Broadband Level 1</b>	<b>2008</b>	\$ 32.88	\$ 28.14	\$ 31.51	\$ 50.27	\$ 48.63	
	<b>2009</b>	\$ 30.98	\$ 40.19	na	\$ 54.06	\$ 42.15	
	<b>2010</b>	\$ 31.44	\$ 34.15	na	na	\$ 40.13	\$ 48.46
	<b>2011</b>	\$ 34.85	\$ 38.39	na	\$ 26.98	\$ 35.96	\$ 48.46
	<b>2012</b>	\$ 39.37	\$ 44.37	na	na	na	\$ 60.82
	<b>CAGR</b>		5%	12%			
<b>Broadband Level 2</b>	<b>2008</b>	\$ 46.58	\$ 46.64	\$ 46.37	\$ 54.54	\$ 71.09	
	<b>2009</b>	\$ 47.26	\$ 57.92	\$ 28.51	\$ 58.66	\$ 65.06	
	<b>2010</b>	\$ 47.60	\$ 50.83	\$ 36.22	\$ 46.84	\$ 59.79	\$ 60.43
	<b>2011</b>	\$ 49.79	\$ 48.98	\$ 38.78	\$ 45.15	\$ 68.36	\$ 60.43
	<b>2012</b>	\$ 54.31	\$ 61.12	\$ 30.81	\$ 42.70	\$ 76.68	\$ 67.10
	<b>CAGR</b>		4%	7%	-10%	-6%	2%
<b>Broadband Level 3</b>	<b>2008</b>	\$ 68.74	\$ 56.17	\$ 55.50	\$ 58.82	\$ 86.89	
	<b>2009</b>	\$ 60.08	\$ 70.41	\$ 33.90	\$ 57.51	\$ 79.57	
	<b>2010</b>	\$ 61.88	\$ 64.88	\$ 41.29	\$ 61.12	\$ 85.42	\$ 87.99
	<b>2011</b>	\$ 63.44	\$ 59.85	\$ 38.18	\$ 63.21	\$ 71.96	\$ 61.25
	<b>2012</b>	\$ 67.94	\$ 75.19	\$ 41.29	\$ 41.88	\$ 79.09	\$ 71.54
	<b>CAGR</b>		0%	8%	-7%	-8%	-2%
<b>Broadband Level 4</b>	<b>2011</b>	\$ 77.71	\$ 71.48	\$ 47.69	\$ 47.41	\$ 80.96	\$ 67.15
	<b>2012</b>	\$ 94.39	\$ 124.78	\$ 59.25	\$ 56.69	\$ 105.45	\$ 75.48
	<b>CAGR</b>		21%	75%	24%	20%	30%

Note that some generally minor changes in methodology apply year-to-year.

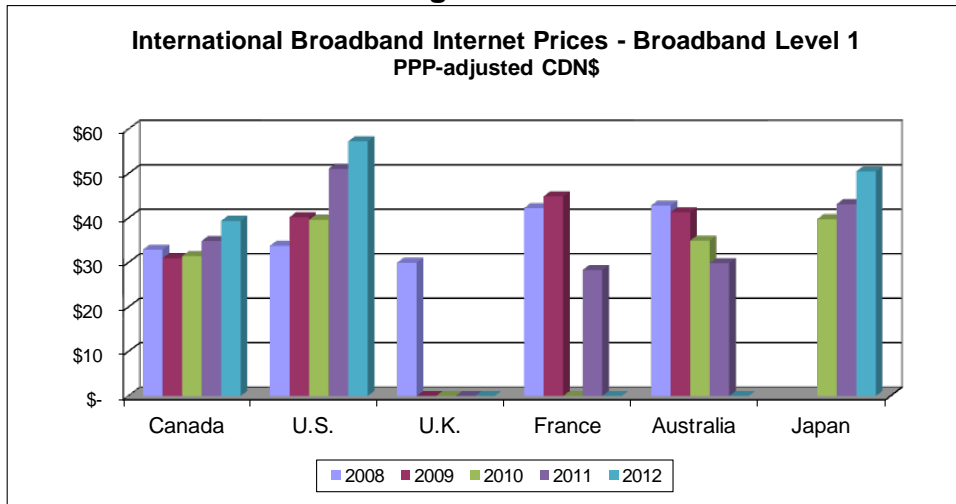
"na" implies that no service currently marketed by the surveyed companies in the defined speed range.

Latest available OECD Purchasing Power Parity (PPP) indexes were used to calculate PPP-adjusted exchange rates. Average market exchange rates for the month corresponding to the OECD PPPs were used to convert foreign prices into Canadian dollars.

Note that speed ranges and data usage per month has been increased as of 2012 for all four service levels which has had the effect of increasing prices in 2012 relative 2011 in some cases.

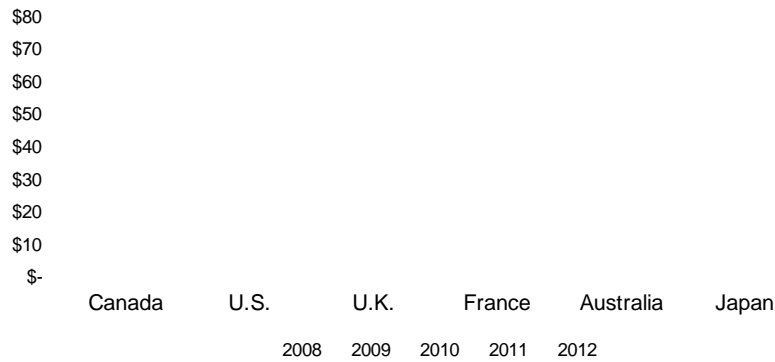
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**Figure A3.7**



**Figure A3.8**

**International Broadband Internet Prices - Broadband Level 2  
PPP-adjusted CDN\$**



**Figure A3.9**

**International Broadband Internet Prices - Broadband Level 3  
PPP-adjusted CDN\$**

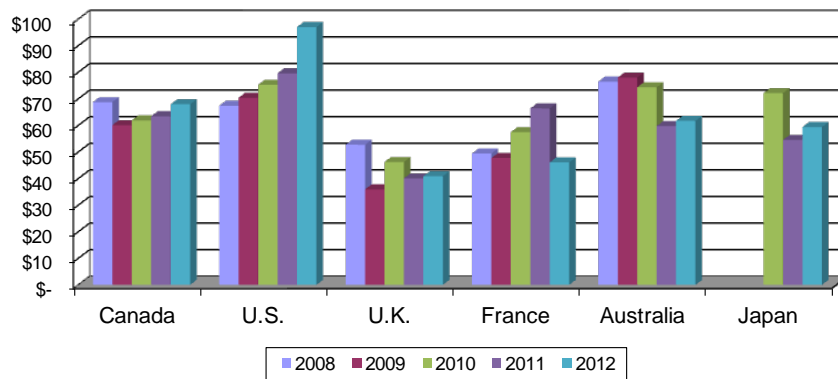
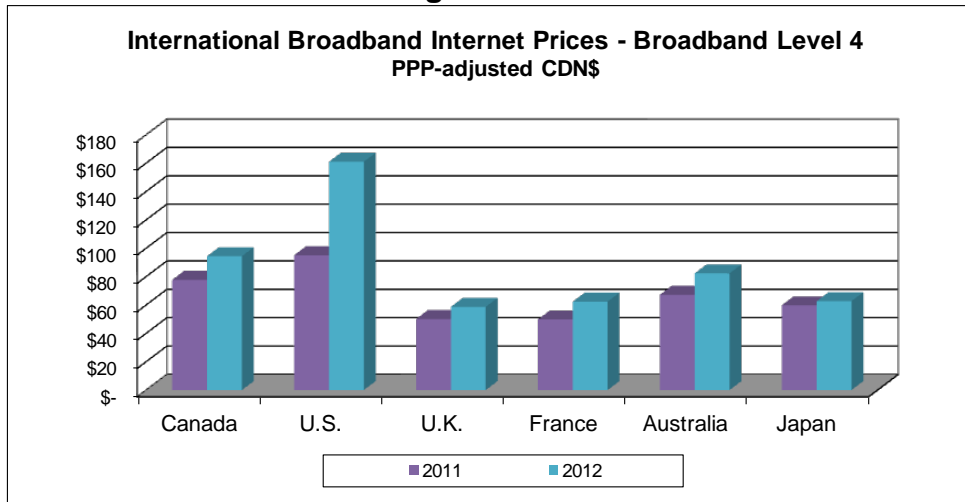


Figure A3.10



**Note:** as a result of the broadband service basket redefinitions included in this year's study – which increased download speed ranges and data usage levels in the case of each basket and, therefore, in most cases, corresponding prices, all else equal – comparisons between 2012 and earlier years should be made with caution. See Section 5 above.

**Table A3.4**  
**International Mobile Internet Prices**

Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>Own Currency</b>							
Level 1 (2 GB/month)	2010	\$ 54.02	\$ 60.15	£13.62	€34.20	\$ 41.44	¥7,724
	2011	\$ 52.41	\$ 54.58	£14.08	€30.54	\$ 33.08	¥6,497
	2012	\$ 52.55	\$ 39.94	£17.53	€27.31	\$ 38.14	¥5,087
	CAGR	-1%	-19%	13%	-11%	-4%	-19%
Level 2 (5 GB/month)	2012	\$ 65.11	\$ 53.09	£25.00	€69.50	\$ 54.50	¥ 5,261
<b>CDN\$ - PPP</b>							
Level 1 (2 GB/month)	2010	\$ 54.02	\$ 73.26	\$ 24.86	\$ 46.29	\$ 33.89	\$ 76.00
	2011	\$ 52.41	\$ 71.50	\$ 23.51	\$ 43.30	\$ 27.18	\$ 69.38
	2012	\$ 52.55	\$ 52.29	\$ 27.42	\$ 39.36	\$ 31.38	\$ 54.89
	CAGR	-1%	-16%	5%	-8%	-4%	-15%
Level 2 (5 GB/month)	2012	\$ 65.11	\$ 69.51	\$ 39.11	\$ 100.15	\$ 44.85	\$ 56.77
<b>CDN\$ - Exchange Rate</b>							
Level 1 (2 GB/month)	2010	\$ 54.02	\$ 63.16	\$ 22.20	\$ 49.24	\$ 38.95	\$ 92.69
	2011	\$ 52.41	\$ 53.76	\$ 22.39	\$ 41.23	\$ 32.75	\$ 77.96
	2012	\$ 52.55	\$ 40.53	\$ 27.69	\$ 35.78	\$ 40.23	\$ 66.14
	CAGR	-1%	-20%	12%	-15%	2%	-16%
Level 2 (5 GB/month)	2012	\$ 65.11	\$ 53.88	\$ 39.50	\$ 91.05	\$ 57.50	\$ 68.39

Note that some generally minor changes in methodology apply year-to-year.

Latest available OECD Purchasing Power Parity (PPP) indexes were used to calculate PPP-adjusted exchange rates. Average market exchange rates for the month corresponding to the OECD PPPs were used to convert foreign prices into Canadian dollars.

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**Note:** See Section 6 for charts corresponding Table A3.4 above.

**Table A3.5**  
**International Bundled Service Prices**

Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>Own Currency</b>							
<b>Bundle 1</b> (Wireline-Broadband- Mobile)	<b>2008</b>	\$ 146.96	\$ 147.40	£73.11	€107.87	\$ 191.03	
	<b>2009</b>	\$ 139.86	\$ 142.19	£66.65	€110.12	\$ 193.53	
	<b>2010</b>	\$ 133.83	\$ 135.15	£57.95	€105.77	\$ 161.75	¥13,931
	<b>2011</b>	\$ 133.50	\$ 139.42	£57.12	€98.87	\$ 176.81	¥14,037
	<b>2012</b>	\$ 140.47	\$ 142.88	£63.02	€84.62	\$ 185.28	¥14,618
	<b>CAGR</b>	-1%	-1%	-4%	-6%	-1%	2%
<b>Bundle 2</b> (Wireline-Broadband- TV)	<b>2008</b>	\$ 119.93	\$ 129.89	£57.02	€67.46	\$ 181.41	
	<b>2009</b>	\$ 122.43	\$ 131.05	£58.18	€67.42	\$ 183.26	
	<b>2010</b>	\$ 118.41	\$ 135.43	£60.90	€70.44	\$ 160.18	¥12,906
	<b>2011</b>	\$ 122.87	\$ 132.73	£59.35	€52.01	\$ 169.76	¥12,896
	<b>2012</b>	\$ 128.44	\$ 135.30	£54.84	€47.35	\$ 180.92	¥13,482
	<b>CAGR</b>	2%	1%	-1%	-8%	0%	2%
<b>Bundle 3</b> (All four services)	<b>2008</b>	\$ 181.31	\$ 180.17	£84.46	€110.40	\$ 225.53	
	<b>2009</b>	\$ 172.68	\$ 170.58	£70.82	€112.65	\$ 231.24	
	<b>2010</b>	\$ 167.01	\$ 172.84	£74.21	€120.26	\$ 201.30	¥17,533
	<b>2011</b>	\$ 167.81	\$ 181.88	£79.29	€103.39	\$ 218.17	¥18,043
	<b>2012</b>	\$ 174.71	\$ 183.79	£82.54	€87.71	\$ 226.19	¥18,723
	<b>CAGR</b>	-1%	0%	-1%	-6%	0%	3%
<b>CDN\$ - PPP</b>							
<b>Bundle 1</b> (Wireline-Broadband- Mobile)	<b>2008</b>	\$ 146.96	\$ 175.99	\$ 137.87	\$ 138.18	\$ 153.82	
	<b>2009</b>	\$ 139.86	\$ 177.74	\$ 126.45	\$ 149.89	\$ 159.31	
	<b>2010</b>	\$ 133.83	\$ 164.61	\$ 105.80	\$ 143.16	\$ 132.28	\$ 137.08
	<b>2011</b>	\$ 133.50	\$ 182.65	\$ 95.36	\$ 140.15	\$ 145.28	\$ 149.91
	<b>2012</b>	\$ 140.47	\$ 187.07	\$ 98.57	\$ 121.94	\$ 152.47	\$ 157.73
	<b>CAGR</b>	-1%	2%	-8%	-3%	0%	7%
<b>Bundle 2</b> (Wireline-Broadband- TV)	<b>2008</b>	\$ 119.93	\$ 155.09	\$ 107.53	\$ 86.41	\$ 146.07	
	<b>2009</b>	\$ 122.43	\$ 163.81	\$ 110.39	\$ 91.78	\$ 150.86	
	<b>2010</b>	\$ 118.41	\$ 164.95	\$ 111.18	\$ 95.34	\$ 131.00	\$ 126.99
	<b>2011</b>	\$ 122.87	\$ 173.88	\$ 99.08	\$ 73.72	\$ 139.49	\$ 137.73
	<b>2012</b>	\$ 128.44	\$ 177.15	\$ 85.78	\$ 68.23	\$ 148.88	\$ 145.47
	<b>CAGR</b>	2%	3%	-5%	-6%	0%	7%
<b>Bundle 3</b> (All four services)	<b>2008</b>	\$ 181.31	\$ 215.13	\$ 159.27	\$ 141.43	\$ 181.60	
	<b>2009</b>	\$ 172.68	\$ 213.23	\$ 134.37	\$ 153.35	\$ 190.36	
	<b>2010</b>	\$ 167.01	\$ 210.52	\$ 135.48	\$ 162.78	\$ 164.62	\$ 172.52
	<b>2011</b>	\$ 167.81	\$ 238.27	\$ 132.38	\$ 146.56	\$ 179.27	\$ 192.70
	<b>2012</b>	\$ 174.71	\$ 240.65	\$ 129.11	\$ 126.39	\$ 186.13	\$ 202.02
	<b>CAGR</b>	-1%	3%	-5%	-3%	1%	8%

**Table A3.5**  
**International Bundled Service Prices (Cont'd)**

Baskets		Canada	U.S.	U.K.	France	Australia	Japan
<b>CDN\$ - Exchange Rate</b>							
<b>Bundle 1</b>	<b>2008</b>	\$ 146.96	\$ 146.66	\$ 145.12	\$ 164.50	\$ 174.80	
(Wireline-Broadband- Mobile)	<b>2009</b>	\$ 139.86	\$ 177.74	\$ 119.29	\$ 180.59	\$ 162.56	
	<b>2010</b>	\$ 133.83	\$ 141.91	\$ 94.46	\$ 152.30	\$ 152.05	\$ 167.17
	<b>2011</b>	\$ 133.50	\$ 137.33	\$ 90.82	\$ 133.48	\$ 175.04	\$ 168.44
		\$ 140.47	\$ 145.02	\$ 99.56	\$ 110.85	\$ 195.47	\$ 190.04
	<b>CAGR</b>	<b>-1%</b>	<b>0%</b>	<b>-9%</b>	<b>-9%</b>	<b>3%</b>	<b>7%</b>
<b>Bundle 2</b>	<b>2008</b>	\$ 119.93	\$ 129.24	\$ 113.18	\$ 102.87	\$ 165.99	
(Wireline-Broadband- TV)	<b>2009</b>	\$ 122.43	\$ 163.81	\$ 104.15	\$ 110.57	\$ 153.94	
	<b>2010</b>	\$ 118.41	\$ 142.20	\$ 99.26	\$ 101.43	\$ 150.57	\$ 154.87
	<b>2011</b>	\$ 122.87	\$ 130.74	\$ 94.36	\$ 70.21	\$ 168.06	\$ 154.75
		\$ 128.44	\$ 137.33	\$ 86.65	\$ 62.03	\$ 190.87	\$ 175.27
	<b>CAGR</b>	<b>2%</b>	<b>2%</b>	<b>-6%</b>	<b>-12%</b>	<b>4%</b>	<b>6%</b>
<b>Bundle 3</b>	<b>2008</b>	\$ 181.31	\$ 179.27	\$ 167.65	\$ 168.36	\$ 206.36	
(All four services)	<b>2009</b>	\$ 172.68	\$ 213.23	\$ 126.77	\$ 184.75	\$ 194.24	
	<b>2010</b>	\$ 167.01	\$ 181.48	\$ 120.97	\$ 173.17	\$ 189.22	\$ 189.22
	<b>2011</b>	\$ 167.81	\$ 179.15	\$ 126.07	\$ 139.58	\$ 215.99	\$ 216.52
		\$ 174.71	\$ 186.55	\$ 130.41	\$ 114.90	\$ 238.63	\$ 243.40
	<b>CAGR</b>	<b>-1%</b>	<b>1%</b>	<b>-6%</b>	<b>-9%</b>	<b>4%</b>	<b>13%</b>

Note that some generally minor changes in methodology apply year-to-year.

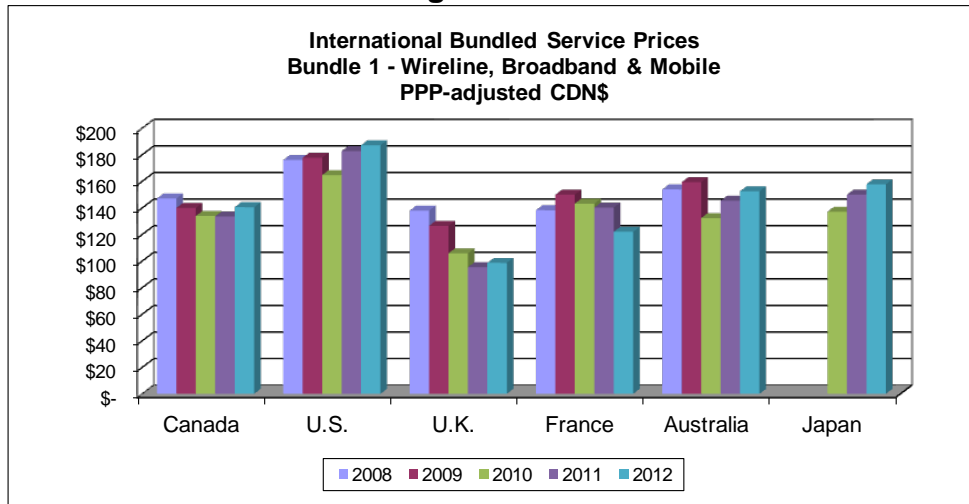
Latest available OECD Purchasing Power Parity (PPP) indexes were used to calculate PPP-adjusted exchange rates. Average market exchange rates for the month corresponding to the OECD PPPs were used to convert foreign prices into Canadian dollars.

Note that corrections were made to the 2011 bundle prices for France, which have the effect of increasing Bundle 1 and 2 prices and decreasing Bundle 3 prices in its case relative to the prices reported last year.

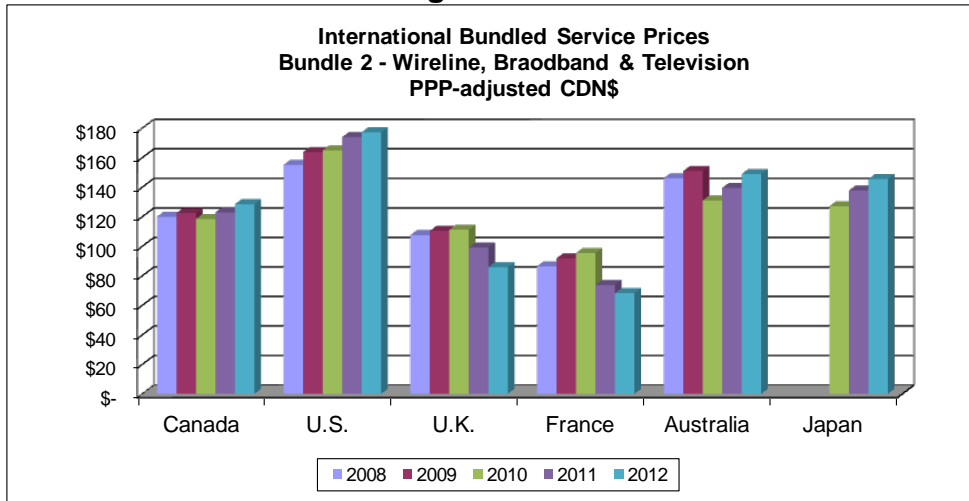
Note that speed ranges and data usage per month has been increased as of 2012 for all four service levels which has had the effect of increasing prices in 2012 relative 2011 in some cases.

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**Figure A3.11**



**Figure A3.12**



**Figure A3.13**

