

Consumers and Wireless Data Roaming

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EXECUTIVE SUMMARY

Canadians are using their wireless devices more than ever to go on the internet and connect with each other. For many wireless users, this activity doesn't stop when they travel to other countries. This is especially dangerous in the age of smartphones where data can be consumed intermittently while the device is on, even if the consumer does not actively open emails or go on the internet with their wireless device. As a result, due to international roaming fees, Canadian travelers are surprised to return home to an unexpectedly large bill from their wireless provider – an experience referred to as “bill shock.”

This report examines wireless service and billing practices related to international data roaming fees. As well, PIAC examines the consumer experience with international data roaming fees, and how these fees affect their wireless device usage behavior when outside of Canada. It also provides a comparative look at consumer protection measures implemented and considered in other countries to determine what actions, if any, are required to limit the occasions of bill shock experienced by Canadian consumers.

This examination is both valuable and timely, since Canadian consumers continue to embrace the use of wireless devices that consume increasing amounts of data. This newly developed revenue stream from data usage has become progressively more important to Canada's wireless providers over the past 5 years and is projected to reach over 40% of all wireless revenues by 2014.

During the course of this study, PIAC found that 89% of Canadian consumers surveyed feel they pay too much for the use of wireless data when they are outside of Canada. Moreover, many do not feel confident in estimating the cost of their international data roaming charges while traveling, nor do they find this information easy to understand on their wireless services bill upon their return. It comes as no surprise then the vast majority of Canadians surveyed, 89% in fact, who have been billed for data roaming charges while traveling received an unexpected large wireless bill. As a result of these findings, PIAC contends that Canadian consumers remain insecure about using their wireless device while traveling internationally. In fact, 44% of respondents surveyed prefer to either leave the device turned off while they travel, while 16% simply leave their wireless device at home.

As part of the effort to mitigate the effects of bill shock, Canadian wireless service providers encourage their subscribers to contact them before traveling so consumers can be made aware of available data plan add-ons. However, the evidence is clear Canadian consumers are looking for additional measures to help them manage their wireless data usage while traveling outside of Canada. Fully 89% of those surveyed agree that wireless providers should send subscribers notifications via text message when they arrive at a foreign destination, and advise them of charges they have incurred while roaming abroad. While a number of Canadian

wireless providers now provide these notifications, they are provided on a voluntary basis and have yet to become an industry standard.

At the present time, the European Union is the only jurisdiction PIAC examined where roaming and data usage notifications are legally required. EU wireless providers also have to respect a monthly default cut off limit for roaming fees of €50 per month, unless otherwise directed by the consumer. Moreover, unless you are a resident within the European Union, there are no restrictions or regulations placed on your wireless service provider regarding the establishment of wholesale or retail international data roaming rates. In short, while the web may be world-wide, attempts to regulate or even review international data roaming rates have been, with the exception of the European Union, largely country-specific. As a result of regulation, between July 2012 and July 2014, wholesale international data roaming rates in the EU will be reduced by 80%, while retail rates in the EU will see a 70% decrease.

While wholesale and retail rates for international data roaming are not regulated in either the United States or Australia, the prospect of regulation has been considered by regulatory bodies in each of these countries at least once since 2005. The Australian government is currently contemplating the implementation of roaming notifications, data usage notifications and the use of a monthly default cut off limit. Meanwhile, usage notices are currently being implemented in the United States, while monthly default cut off limits remain voluntary.

In Canada, market regulation for international data roaming rates has never been considered. It is highly questionable whether the continued absence of any direction or regulation from the federal government concerning the international data roaming rates offered by Canada's wireless providers is in the best interests of Canadian consumers. As a result of the frustration expressed by Canadian consumers regarding their wireless service, a patchwork of provincial laws and regulations are either being considered, or have already been implemented. In the absence of a clear set of operating rules set out by a federal regulator, this haphazard approach to consumer protection measures has even prompted calls from Canadian wireless service providers for clarity in the form of a legally enforced code of consumer protection. The Canadian Radio-television and Telecommunications Commission has now initiated a public proceeding to establish a mandatory code for wireless services.

Recent efforts in other jurisdictions relating to international data roaming fees lead PIAC to conclude it may be time for Canadian regulators to revisit the notion that the existing wireless market effectively provides Canadian travelers with adequate protection from bill shock, as well as competitive international data roaming rates.

In an effort to clarify the rules of engagement for Canadian consumers and Canadian wireless service providers, as well as provide effective protection measures for Canadian consumers who use their wireless device while traveling, PIAC recommends the following:

Recommendation 1

Canadian wireless subscribers should receive a notification by SMS text message from their wireless provider to remind customers of the applicable international data roaming rates when they arrive in another country and turn on their wireless device. The Canadian Radio-television and Telecommunications Commission (CRTC) should require wireless service providers to provide this notification safeguard for consumers in a mandatory Wireless Code or a separate roaming code.

Recommendation 2

Canadian wireless providers should implement a monthly international roaming spending limit, chosen by the subscriber, and in the absence of a limit set by the subscriber, should be set to a default limit amount. This limit would be in addition to the customer's monthly fees. Canadian wireless providers would then be obligated to temporarily suspend data service when the subscriber incurs international roaming fees that exceed either the monthly spending limit indicated by the subscriber, or the default monthly limit. The subscriber shall receive notification by SMS text message from their wireless provider of the suspension of service, and the wireless provider can resume service only upon the explicit direction of the wireless subscriber.

The Canadian Radio-television and Telecommunications Commission (CRTC) should require wireless service providers to provide this safeguard and prescribe the default limit amount to protect consumers from "bill shock" in a mandatory Wireless Code or a separate roaming code.

The pre-set default monthly international roaming spending limit should be set to a low amount in order to manage "bill shock" by consumers. PIAC recommends that the default monthly international roaming spending limit should be set at \$50. Of course, a subscriber could override that spending limit by requesting a lower or higher limit that matches their personal bill shock tolerance.

Recommendation 3

Canadian wireless subscribers should receive notifications by SMS text message by their wireless provider at least twice before their data usage reaches their monthly international roaming spending limit. PIAC recommends that at minimum, wireless service providers should be required to provide subscribers with a notification when they have reached 80% of the limit. PIAC strongly suggests that consumers receive a notice when they have reached 50% of the limit. The Canadian Radio-television and Telecommunications Commission (CRTC) should require wireless service providers to provide this notification safeguard in a mandatory Wireless Code or a separate roaming code.

Recommendation 4

The Canadian Radio-television and Telecommunications Commission (CRTC) should implement reporting requirements for international roaming services on Canadian wireless service providers. The CRTC should collect information about the wholesale roaming rates that Canadian wireless service providers charge to other international wireless service providers and the wholesale roaming rates that Canadian wireless service providers are charged by other international wireless service providers. The CRTC should focus on obtaining costs, revenues,

and service usage information from Canadian wireless service providers on an annual basis. Collection of this data by the regulator could ensure that the commercial sensitivity of the data is protected, however, this would give the regulator transparency regarding the wholesale roaming rates paid and charged, and the ability to monitor whether retail roaming rates for Canadian consumers are fair or represent a disproportionate mark-up for Canadian consumers in accordance with market expectations. If the Commission is not satisfied with the competitiveness of retail roaming rates, the Commission could then conduct a public consultation to ascertain whether a different regulatory approach is required for wholesale and retail roaming rates.

Recommendation 5

The Canadian Government should pursue a policy of regulating the framework for the wholesale cost of roaming through bilateral and multilateral negotiations with other countries, ensuring that countries with the largest number of Canadian visitors are given priority. This may require efforts by the CRTC to engage such discussions initially with the Federal Communications Commission in the United States followed by the European Union and then Asia-pacific countries.

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1. INTRODUCTION

People love being connected to each other. A generation ago, in an effort to keep in touch, consumers would have sat down and wrote a letter, which could take days to arrive. Alternatively, they could pick up their landline telephone to speak with their friends and family, but that was only successful if they happened to be home. Not so today, where the advent of the wireless device industry, and particularly wireless data services, has transformed the way consumers around the globe connect with each other, and Canadians are no exception. Where in the past, consumers would have to wait for mail delivery or until they were together to see pictures of the family vacation, now they can have access to those vacation shots instantaneously, thanks to wireless data roaming.

While the methods Canadians use to stay in touch with one another have evolved, employing these methods comes at a price. For instance, the Canadian Radio-television and Telecommunications Commission (CRTC) estimated Canadian households spent on average \$181 each month on communications services in 2011.¹ That figure accounts for approximately 4.1% of total household spending, and is equal to the amount households spend on healthcare.² Of this \$181 per month, approximately 50% can be attributed to wireless and internet services.³

Included in these expenses are international data roaming fees paid to wireless service providers by consumers to obtain services such as multimedia messages (MMS), e-mail and the internet on their wireless device from a wireless network on those occasions when they travel outside Canada. The consumer's wireless service provider ensures that wireless device consumers remain connected to a wireless network while outside their country of residence.⁴

These international data roaming fees can be very expensive and Canadians have taken notice. Canadian travelers have been astonished to arrive home to a large bill from their wireless service provider for their data usage – a phenomenon otherwise known as “bill shock.” For instance, in 2011, a Vancouver woman was billed \$37,694 in international roaming charges following a two week stay in North Africa.⁵ This has become especially dangerous with the

¹ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report*, September 2012, page i.

² Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report*, September 2012, page i.

³ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report*, September 2012, page i.

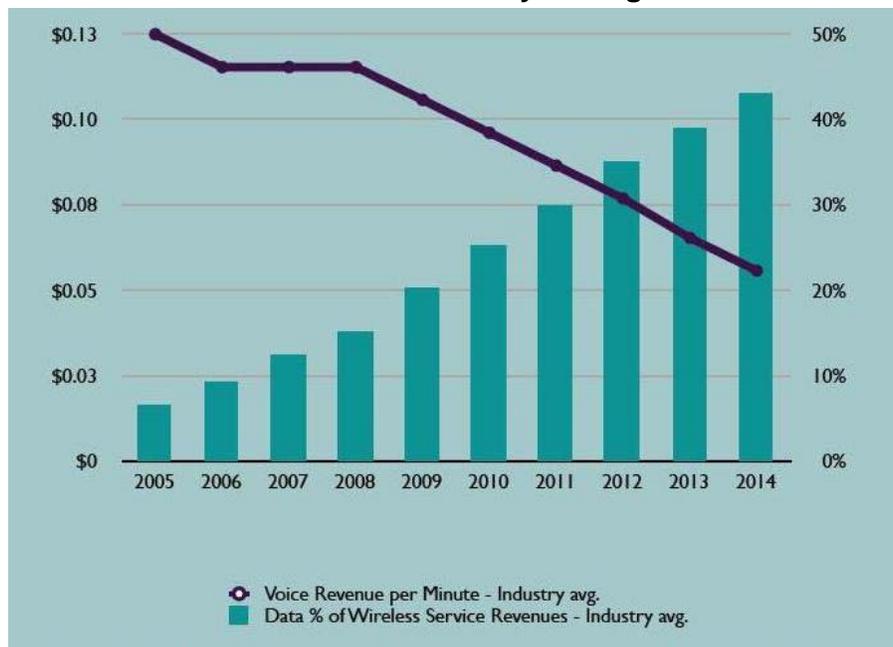
⁴ European Union, EC Commission Staff Working Paper *Impact Assessment of Policy Options in Relation to the Commission's Review of the functioning of Regulation (EC) No. 544/2009 of the European Parliament and of the Council of 18 June 2009 on Roaming on Public Mobile Telephone Networks Within the Community SEC (2011) 870 Final*, Brussels, 6.7.2011 at p. 8

⁵ BC CTV, "Vancouver Woman Racks up \$37K on Monthly iPhone Bill," (March 3, 2011), online: <http://bc.ctvnews.ca/vancouver-woman-racks-up-37k-on-monthly-iphone-bill-1.614194>. See also: Australia, Telecommunications Industry Ombudsman, "2010 Complaints Landscape" (2010), online: <http://www.tio.com.au/publications/annual-reports> at p. 17. See also Australian Communications and Media Authority, *Reconnecting the Customer: Final Public Inquiry Report*, (September 2011), online: http://www.acma.gov.au/WEB/STANDARD/pc=PC_312222 at p. 50. The TIO defines bill shock as a customer's reaction when they receive an internet or phone bill far in excess of their expectations. ACMA defines bill shock as the experience of a consumer either receiving a higher than expected bill or seeing their prepaid credit run down faster than expected, and suggests that the phenomenon is both the cause of customer dissatisfaction and an effect of poor customer care.

growth in smartphone usage, since these devices use data intermittently even if the consumer does not actively open emails or visit webpages on the device. As a result, many Canadians choose to turn their phones off or leave them at home when they travel in order to avoid being charged international data roaming fees.

The collection of wireless data usage fees has quickly developed into an important source of revenue for the Canadian wireless industry. It appears Canadian consumers have developed a voracious appetite for access to data services on their wireless devices. In fact, wireless data generated \$4.42 billion in revenues from data services in 2010, representing 25% of total revenues.⁶ This represents a 25% increase from 2009.⁷ Figure 1-1 demonstrates the sudden and rapid growth of the wireless data sector within the Canadian wireless industry, compared to the relative decline of the Revenue per Minute (RPM) generated by wireless voice services in Canada. Figure 1-1 also projects that revenues associated with wireless data will account for over 40% of all wireless industry revenue in Canada by 2014, compared to less than 10% in 2006.

Figure 1-1 – Wireless Voice Revenue Per Minute and Data % out of Wireless Service Revenues – Industry Average



Source: SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011), page 6.

In fact, with the evolution and implementation of Long Term Evolution (LTE) Networks, the distinction between voice and data will effectively be eliminated, since all services plan to use data protocols.⁸ It is fair to say that LTE is being built in order to satisfy growing consumer

⁶ Ovum Group Ltd., *The Benefit to the Canadian Economy from the Wireless Telecommunications Industries: An Economic Impact Assessment*, (June 2012), page 2.

⁷ Ovum Group Ltd., *The Benefit to the Canadian Economy from the Wireless Telecommunications Industries: An Economic Impact Assessment*, (June 2012), page 7.

⁸ SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011) at p. 13.

demand for increasing amounts of data. Proponents of LTE claim that with the same given resources (towers, spectrum, subscriber behavior), LTE can allow wireless providers to offer service to almost five times as many subscribers demanding 5GB of wireless data per month compared to the current High Speed Packet Access (HSPA) technology.⁹ Moreover, LTE will allow many consumers to enjoy higher data speeds on their wireless device than they currently have using a landline in their homes.¹⁰

A convergence of factors related to the current and future operation of the wireless industry in Canada leads PIAC to believe an examination of international data roaming is both valuable and timely. As Canadian consumers consume increasing amounts of data, this newly developed revenue stream will become progressively more important to Canada's wireless providers. These providers continue to offer products that consume more data at faster rates than ever before. Moreover, wireless providers are testing and implementing new network technologies in order to accommodate increasing volumes of data traffic more efficiently.

This report examines wireless service and billing practices related to international data roaming fees. In addition, the report examines the consumer experience with international data roaming fees, and how these fees affect their wireless device usage behavior when outside of Canada. The report analyzes international approaches to regulating international data roaming, be it rate wholesale or retail rate regulation or mandating safeguards to protect consumers against bill shock.

1.1. Methodology

To provide an extensive analysis of the Canadian consumer experience with international wireless data roaming, PIAC interviewed industry and regulatory stakeholders. PIAC contacted key players in the Canadian wireless marketplace to better understand the current pricing structure and their views on existing international wireless data roaming regulatory frameworks, and possible solutions to encourage Canadian consumers to use data services while abroad. The CRTC, the Commissioner for Complaints for Telecommunications Services (CCTS) and the Competition Bureau were also contacted to obtain information about consumer complaints with international data roaming. Finally, foreign regulators and consumer groups in Australia, Europe and the United States, were contacted to better understand current international practices and regulatory initiatives to address common consumer concerns with data roaming.

PIAC conducted primary research to examine the consumer experience with data roaming services. The online consumer survey was conducted between October 20th and 26th, 2011 and solicited answers from 2002 consumers located across the country. The survey provides concrete statistics on Canadian consumers' views and opinions regarding Canadian international data roaming practices and regulatory structure as it exists today. The survey examines consumer travel and cell phone use abroad, consumer knowledge and experience

⁹ SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011) at p. 15.

¹⁰ "Why Would I Need 4G? A Guide to LTE," whistleOut (June 1, 2012), online: <http://www.whistleout.com.au/Broadband/Guides/Why-Would-I-Need-4G-A-Guide-to-LTE>, and SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011) at p. 16.

with roaming rates, and consumer attitudes towards regulation and safeguards. The data obtained from the online survey is used throughout PIAC's report to illustrate difficulties with the existing system and how consumers feel these difficulties may be best remedied. The survey in its entirety is appended in Appendix A.

2. INTERNATIONAL DATA ROAMING EXPLAINED

International data roaming is a service that allows a customer of a wireless network in one country to obtain services such as multimedia messages (MMS), e-mail and the internet on their wireless device from a wireless network in another country. The consumer's wireless service provider ensures that wireless device consumers remain connected to a wireless network while outside of one's country of residence.¹¹

Figure 2-1 illustrates international data roaming when a consumer uses the internet abroad on their wireless device. The consumer's connection is established through the foreign operator's network, which is then transmitted to the domestic network.¹² The foreign operator's network passes a consumer's internet traffic through the international transit service to and from the consumer's domestic network. The international transit service is an international data or transit backbone network used to send data between a visited country and a home country.¹³

Figure 2-1 What happens when you use the mobile internet abroad



Source: GSMA, "Mobile SMS and Data Roaming Explained", at p. 4.

¹¹ European Union, EC Commission Staff Working Paper Impact Assessment of Policy Options in Relation to the Commission's Review of the functioning of Regulation (EC) No. 544/2009 of the European Parliament and of the Council of 18 June 2009 on Roaming on Public Mobile Telephone Networks Within the Community SEC (2011) 870 Final, Brussels, 6.7.2011 at p. 8

¹² GSMA, "Mobile SMS and Data Roaming Explained", online: <http://gsmworld.com/technology/roaming/index.htm> at p. 4.

¹³ For a more detailed explanation of international data roaming, please consult Appendix B.

International roaming involves at least two telecommunications carriers as well as other possible intermediaries – “the wholesale arrangements.” Their role and the effect they have on the provision of service offered to the customer, “the retail arrangements,” are discussed below in Section 2.2. For a technical explanation of international data roaming, see Appendix B.

2.1. Measuring Data Roaming Usage

Wireless data usage rates are usually measured using either kilobytes (kB) or megabytes (MB). Both of these units refer to the volume of data transmitted when using a data service. The table below provides examples of the amount of data typically consumed for a given service.

Figure 2-2 Typical Data Consumption for a Given Service

Data Service	Data Consumed
E-mail without an attachment	1-50 kB
View an average webpage	Several 100 kB or more (depending on the number of graphical elements)
Downloaded song	2-5 MB (depending on quality and length)
Send or receive an MMS	30-100kB per message
Surf the internet	Several 100kB/ day
Surf the internet with downloaded songs and/or video streams	Several MB/ day
Mobile broadband use (downloading presentations, pictures, music and videos)	10MB+

Source: GSMA, "Mobile SMS and Data Roaming Explained".

This table provides a rough guideline for data usage, as data consumption can vary considerably based on a number of factors such as the brand of wireless phone or smartphone used, the type of usage, and the usage intensity of various data services. For example, technology made available on some BlackBerry devices compresses data prior to transmission so that it will use less of a customer’s data plan.¹⁴

2.2. Wholesale and Retail Billing Arrangements for International Data Roaming

2.2.1. Wholesale Billing Arrangements

International wireless roaming rates can be broken down into two components: wholesale roaming services and retail roaming services.¹⁵ In order to bill consumers for their data usage abroad, the foreign network operator must capture and record the usage details in a Call Detail

¹⁴ BlackBerry Connection, “Get more on your Fixed Data Plan” online: <http://www.blackberry.com/newsletters/connection/ce/i0311/datasmart.html>. See also Josh Ong, “iPhone 4S users consume nearly twice as much data as iPhone 4 – study”, online: http://www.appleinsider.com/articles/12/01/06/iphone_4s_users_consume_nearly_twice_as_much_data_as_iphone_4_study.html.

¹⁵ European Union, EC Commission Staff Working Paper Impact Assessment of Policy Options in Relation to the Commission’s Review of the functioning of Regulation (EC) No. 544/2009 of the European Parliament and of the Council of 18 June 2009 on Roaming on Public Mobile Telephone Networks Within the Community SEC (2011) 870 Final, Brussels, 6.7.2011 at p. 8

Record (CDR).¹⁶ A foreign network operator uses the information contained in the CDR to calculate the wholesale roaming charge owed by the domestic network provider.¹⁷ The CDR and the applicable wholesale charges are then saved to a Transferred Account Procedure or TAP file. TAP files are then sent to a domestic network operator by way of a data clearinghouse.

According to international benchmark data, wholesale costs consist of the following: wireless call origination and termination; international call transit; and roaming specific costs.¹⁸ These charges are then levied by the foreign carrier against a consumer's domestic carrier and are usually determined by way of a confidential bilateral agreement negotiated between the foreign and domestic network operators.

2.2.2. Retail Billing: What the consumer pays for when using data services abroad

When a consumer uses data services abroad, he or she will be billed by their domestic wireless carrier. The retail rate is determined by the domestic wireless carrier and includes a mark-up from the wholesale rate. Retail rates generally include the following costs and inputs:

- wholesale costs;
- cost for sending a message (if sending an MMS);
- costs for connecting to a foreign network as well as the domestic network (if using the internet);
- data clearinghouse fees;
- signaling fees;
- a domestic operator's retail costs;
- taxes; and
- any other costs associated with the service such as commercial costs, IT costs, and marketing costs.¹⁹

While many of the costs listed above would generally be considered overhead costs, there is also a retail mark-up included to ensure a profit for the domestic carrier. For the purposes of this report, a key question is whether the current rate of retail markup applied by Canadian wireless providers in the provision of international data roaming is just and reasonable.

2.3. Where's the Beef? Lack of Transparency for International Data Roaming Rates

PIAC contends that an aggravating factor for wireless consumers worldwide is a lack of transparency with regards to wholesale and retail costs for international data roaming services.

¹⁶ GSMA, "Mobile SMS and Data Roaming Explained", online: <http://gsmworld.com/technology/roaming/index.htm> at p. 5.

¹⁷ GSMA, "Mobile SMS and Data Roaming Explained" online: <http://gsmworld.com/technology/roaming/index.htm>.

¹⁸ International Telecommunication Union, "International Mobile Roaming Regulation – An Incentive for Cooperation" GSR 2008 Discussion Paper at p. 6.

¹⁹ GSMA, "Mobile SMS and Data Roaming Explained", online: <http://gsmworld.com/technology/roaming/index.htm> at p. 5.

Wireless providers deem this specific information as commercially sensitive and therefore it is not publicly accessible.²⁰ This creates an ongoing challenge to regulators around the globe.

Despite the absence of retail and cost-specific information, at least one regulator has studied the issue in depth. A study undertaken by the European Commission in 2006 estimated that the average retail charge for a roamed call was more than five times higher than the actual wholesale cost. On received roaming calls, the European Commission stated that operators make retail margins between 300% and 400%.²¹ This report concluded that roaming charges were hard to justify from a cost-based point of view and that international roaming rates were unjustifiably high.²² One Australian news report suggested that Australians using their wireless devices overseas to make a call, send a text message or surf the internet have been stung by phone companies reaping profit margins as high as 1000%.²³

Similar data is not currently available in Canada and therefore it is impossible to determine with any degree of certainty if, or to what degree, Canadian consumers are paying too much for international data roaming services. What can be determined, however, is how Canadians compare to consumers elsewhere regarding the international data roaming rates they face. In addition, we can ascertain how Canadian consumers feel they are being treated by their wireless providers in relation to international data roaming fees. This examination may provide evidence compelling Canadian regulators to initiate an inquiry to ascertain if international data roaming charges applied to Canadian consumers are too high.

3. CONSUMER EXPERIENCE WITH INTERNATIONAL DATA ROAMING

While bill shock stemming from international roaming charges remain a concern for consumers worldwide, an obvious question remains - how do Canadian consumers fare when their roaming rates are compared to other data roaming users around the world?

A recent report issued by the Organization for Economic Co-operation and Development (OECD) comparing international wireless roaming rates across OECD countries garnered much media attention after it ranked Canada first among OECD countries for having the highest international data roaming prices for a one session, 1 MB traffic exchange.²⁴ In order to arrive at

²⁰ International Telecommunication Union, "International Mobile Roaming Regulation – An Incentive for Cooperation" GSR 2008 Discussion Paper.

²¹ European Union, "Mobile roaming charges: frequently asked questions" Press Release (7 November 2006), online: [http://europa.eu/rapid/press-release MEMO-06-408_en.htm](http://europa.eu/rapid/press-release_MEMO-06-408_en.htm). See also Australian Department of Broadband, Communications and the Digital Economy, *Report of Findings on: International Mobile roaming charges*, prepared by KPMG (June 2008).

²² European Parliament, Briefing Note "Technical Issues of Roaming: Transparency, Technical Aspects and Data Overview related to the Proposed Regulation on Roaming" (IP/A/ITRE/FWC/2006-087/Lot2/SCI) at pp. 1 and 13.

²³ "Travellers charges thousands for using mobile overseas" news.com.au (August 23, 2012), online: www.news.com.au/technology/smartphones/travellers-charged-thousands-for-using-mobiles-overseas/story-fn6vihic-1226456146618.

²⁴ Organisation for Economic Co-operation and Development, *International Mobile Data Roaming*, DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at pp. 13-14. See also: CBC, "Mobile roaming fees highest in Canada: OECD", (June 8, 2011), online: <http://www.cbc.ca/news/technology/story/2011/06/08/technology-mobile-roaming-wireless-oecd.html>; Terence Corcoran, "Canada's data roaming fees look pretty cheap", National Post (June 9, 2011), online: <http://fullcomment.nationalpost.com/2011/06/09/fps-terence-corcoran-canada%E2%80%99s-data-roaming-fees-look>

this result, the OECD reviewed retail data roaming prices charged to post-paid subscribers of the two largest operators from each of the 34 OECD countries.²⁵ The report reviewed five usage scenarios and measured the average price for data roaming separately from the price for data roaming to the least expensive destination by country of origin of the traveler. Canadian travelers fared well regarding data roaming prices while visiting the United States. However, Canadians are consistently charged some of the highest prices for international data roaming services when traveling elsewhere in the world, according to the OECD data. While Canadian consumers appear to pay considerably more in certain circumstances for international data roaming services, high data roaming prices appear to be endemic among OECD countries. The OECD report found that in general, data roaming prices are very high compared to domestic rates in the country of origin.²⁶

3.1. Are International Data Roaming Rates Competitive for Canadians?

In light of the results of the recent OECD study, it is natural to pose an obvious question – is the Canadian market for international data roaming competitive? When this question was posed to industry stakeholders, the response among Rogers, TELUS and Vidéotron was a unanimous “yes.”²⁷ However, one industry stakeholder, WIND Mobile, noted that Canadians generally pay more for roaming than customers of other carriers, and in particular, U.S. based carriers. Wind surmises this is a result of less competition in Canada, and that we are just now beginning to see price reductions on roaming rates from Canadian carriers.²⁸

When asked the question directly in PIAC's recent survey, a majority of Canadian consumers expressed their frustration with the international data roaming fees.²⁹ In fact, according to Figure 3-1, almost 9 in 10 consumers felt these fees were, at the very least, a little too high, while over 7 in 10 felt they were much too high.

[pretty-cheap/](http://www.theglobeandmail.com/news/technology/mobile-technology/roaming-canadians-taking-costly-wireless-hits/article2051566/); Iain Marlow, “Roaming Canadians taking costly wireless hits”, The Globe and Mail, (June 8, 2011), online: <http://www.theglobeandmail.com/news/technology/mobile-technology/roaming-canadians-taking-costly-wireless-hits/article2051566/>; Karen Fournier, “Regulation, competition for roaming fees can have unintended consequences, analyst says”, The Wire Report, (June 16, 2011), online: <http://www.theglobeandmail.com/news/technology/mobile-technology/roaming-canadians-taking-costly-wireless-hits/article2051566/>; Josh O’Kane, “Don’t get dinged by Canada’s high roaming rates”, The Globe and Mail, (August 4, 2011), online: <http://www.theglobeandmail.com/globe-investor/personal-finance/home-cents/dont-get-dinged-by-canadas-high-roaming-rates/article2120278/>.

²⁵ Data roaming charges collected and reported were not associated with a particular device and only daily tariffs that allowed for the lowest cost for 1 MB of traffic exchange were considered. See the OECD Report at pp. 10, 11 and 13.

²⁶ OECD Report at p. 4.

²⁷ Rogers response to PIAC questionnaire (2011). TELUS response to PIAC questionnaire (2011). Videotron response to PIAC questionnaire (2011).

²⁸ WIND Mobile response to PIAC questionnaire (2011).

²⁹ PIAC engaged survey firm Environics Research Group to conduct an online survey. The online survey was conducted among a national sample of 2,002 adults 18 years of age and older of all demographics between October 20 and 26, 2011. The survey questions were grouped into four categories: cell phone use; consumer travel and cell phone use abroad; consumer knowledge and experience with roaming rates; and consumer attitudes towards regulation and safeguards. Respondents were selected from among those who have registered to participate in Environics’ online surveys. The data have been weighted to reflect the demographic composition of the adult Canadian population. Because the sample is based on those who initially self-selected for participation in the online panel rather than a probability sample, no estimates of sampling error can be calculated. All sample surveys and polls may be subject to multiple sources of error, including, but not limited to sampling error, coverage error, and measurement error.

Figure 3-1

When you use your cell phone outside Canada, do you think that the fees charged for using data services (e.g. web browsing, audio, video or other applications) are reasonable, a little too high or much too high?

Response	% of those Surveyed
Reasonable	7%
A little too high	16%
Much too high	73%
No Answer	4%

Source: Environics Survey conducted for PIAC (October 2011).

In the same survey, Canadian consumers were asked what they typically did with their cell phone when they left Canada on a personal trip. Given the views expressed in Figure 3-1, as well as those in Figure 3-2, a case can be made that Canadians have a healthy fear of international data roaming fees, and this fear has a definite effect on their wireless device usage behaviour when they are outside of Canada.

Figure 3-2

Which of the following best describes what you typically do with your cell phone when you leave Canada on a personal trip? (select all that apply)

Response	% of those Surveyed
I switch off my cellphone and have it only for emergencies	44%
I turn off data roaming on the handset	24%
I use my cell phone and all its functions just like I do at home	20%
I only access the Internet on my phone using WiFi hotspots	20%
I buy a SIM card in the country I'm visiting to put into my cell phone	8%
I buy a local cell phone in the country I am visiting	7%
I never take my cell phone with me at all	16%

Source: Environics Survey conducted for PIAC (October 2011).

Fully 44% of Canadian travelers surveyed choose to leave their wireless device turned off while traveling. A further 16% indicated they simply leave their wireless device at home, denying themselves convenience and their wireless service provider a revenue generating opportunity. Of those Canadians who decide to travel with their wireless device, almost a quarter turn off access to data roaming, while only 20% travel with the intention of using their wireless device as they would if they were in Canada. While a fear of international data roaming fees may not be the only explanation for these results, it is reasonable to conclude that these fees, at their current level, have contributed to Canadians reluctance to operate their wireless devices abroad as they would at home. As a result of these figures, it comes as no surprise that the same

survey revealed that 89% of Canadians who have been charged international roaming fees received a bill that was a lot more than they had expected.³⁰

89% of Canadians surveyed who have been charged international roaming fees received a bill that was a lot more than they had expected.

Source: Environics Survey conducted for PIAC (October 2011).

It is clear from the data available that this is an industry-wide trend and not one that is confined to Canada or any other geographic region. In the United States, for example, a January 2012 survey of Fortune 1000 companies revealed that nearly 70% of these corporations are experiencing increases to their international wireless roaming costs.³¹ Moreover, 37% of those surveyed spend, on average, \$1,000 or more per user per month on international wireless roaming, and 12% of those companies spend over \$3,500 per user each month.³² As a result, 4 in 10 companies surveyed either encourage employees to curtail wireless

usage when traveling or forbid the use of wireless devices altogether.³³

Meanwhile, in February 2011, it was found that 72% of Europeans surveyed still limit their roaming calls because of high charges even if a majority is aware that prices have fallen since 2006.³⁴ Only 19% of people who use internet-related services on their wireless phones when abroad think the costs of international data-roaming are fair. The Australian Digital Industry Association (AIMIA) has been tracking a number of wireless device-related issues since 2006, including consumer satisfaction with data roaming rates. In 2011, 47% of respondents claimed they were satisfied with the cost of accessing data services on their wireless device, while 44% expressed their dissatisfaction.³⁵ The Australian survey did not ask a specific question regarding international roaming charges. Nevertheless, a case can be made that consumers, regardless of the jurisdiction, are longing for changes to international data roaming fees currently being charged by wireless service providers.

3.2. Canadian Consumer Complaints about Billing for International Data Roaming

As an increasing number of Canadians embrace new advances in wireless technologies and wireless providers respond to this new demand, unforeseen issues inevitably come to light. An illustration of this is the increasing number of complaints filed with respect to wireless services.

³⁰ Environics Survey conducted for PIAC (October 2011).

³¹ CCMI, *Trends and Best Practices to Control International Roaming Costs* (January 2012), online: http://whitepapers.thevoicereport.com/DisplayWhitepaper.aspx?whitepaper_id=152 at p. 2.

³² CCMI, *Trends and Best Practices to Control International Roaming Costs* (January 2012), online: http://whitepapers.thevoicereport.com/DisplayWhitepaper.aspx?whitepaper_id=152 at p. 2.

³³ CCMI, *Trends and Best Practices to Control International Roaming Costs* (January 2012), online: http://whitepapers.thevoicereport.com/DisplayWhitepaper.aspx?whitepaper_id=152 at p. 2.

³⁴ European Commission, "Digital Agenda: Europeans use mobile phones more when travelling abroad, but still worry about costs, EU survey reveals" (February 14, 2011), online: http://ec.europa.eu/information_society/activities/roaming/what_is/report/index_en.htm at p. 1.

³⁵ Australian Interactive Media Industry Association, *Australian Mobile Phone Lifestyle Index*, 7th Edition (October, 2011), online: http://www.aimia.com.au/enews/events/AMPLI%202011/AMPLI%20Report2011_FINAL.pdf at p. 36.

According to the Commissioner for Complaints for Telecommunications Services' (CCTS) 2010-2011 annual report, over 62% of the 8007 complaints received that year were related to wireless services.³⁶ This marks an increase of 11% from the preceding year. Consultations with the Commissioner revealed that 44% of the complaints stemmed from billing disputes between consumers and their wireless provider.³⁷

Although the CCTS did not have specific data regarding the number of complaints filed with respect to international data roaming, the 2010-2011 Annual Report reveals that many consumers struggle to understand how to assess and measure their data usage.³⁸ This is a common problem for individuals who are accessing the internet from personal computers at home as well as those accessing similar services from their wireless handset. One particular issue raised in the report is that even if consumers are aware of the amount of data included in their monthly plan, they may not always fully appreciate how their device uses data. For instance, the CCTS noted data usage caused by background applications, such as a GPS provider or mapping service, can consume significant amounts of data.³⁹ These findings correspond with the results from PIAC's survey indicating that 80 percent of consumers do not feel confident that they can accurately estimate the cost of their data roaming on their phone while travelling abroad. In addition to this difficulty, consumers often do not realize the extent of fees charged for international data roaming.⁴⁰

4. INITIATIVES TO COUNTER BILL SHOCK – INTERNATIONAL APPROACHES TO PROTECT CONSUMERS FROM HIGH INTERNATIONAL DATA ROAMING FEES

The section will provide an overview of various international approaches to assisting consumers from becoming victims of bill shock. These initiatives range from the regulation of wholesale and retail international data roaming rates to a series of consumer protection measures that have either been considered or implemented in the European Union, the United States, Australia and Canada. Finally, we asked Canadians for their views regarding the impact of data roaming fees, their purchasing behavior prior to international travel, as well as the implementation of consumer protection measures to prevent instances of bill shock in the future. For further information on alternatives to international data roaming that consumers can use in order to avoid bill shock, please consult Appendix C of this report.

Figure 4-1 below provides a brief summary comparison of the types of data roaming price regulation and consumer safeguards discussed in this section:

³⁶ Commissioner for Complaints for Telecommunications Services, *Restoring Connections: Annual Report 2010-2011*, (2011), online: <http://www.ccts-cprst.ca/en/documents/annual-reports> at p. 13.

³⁷ PIAC consultation with CCTS, November 2011.

⁴² Commissioner for Complaints for Telecommunications Services, *Restoring Connections: Annual Report 2010-2011*, (2011), online: <http://www.ccts-cprst.ca/en/documents/annual-reports> at p. 24.

³⁹ Commissioner for Complaints for Telecommunications Services, *Restoring Connections: Annual Report 2010-2011*, (2011), online: <http://www.ccts-cprst.ca/en/documents/annual-reports> at p. 24. Examples used were provided by the author and not singled out by the CCTS.

⁴⁰ PIAC consultation with CCTS, November 2011.

Figure 4-1 International Data Roaming Price Regulation and Consumer Safeguards –A Comparison

Market	No. of Active Wireless Devices	Wholesale Prices Regulated	Retail Prices Regulated	SMS Usage Notices Required	Roaming Cutoff Required
Canada	26.15 Million	No	No	Voluntary	Voluntary
European Union	656 Million	Yes	Yes	Yes	Yes
United States	322 Million	No – considered by FCC in 2010	No – considered by FCC in 2010	Yes, currently being implemented	Voluntary
Australia	25.99 Million	No – considered by ACCC in 2005	No – considered by ACCC in 2005	Being considered	Being considered

Currently, unless you are a resident within the European Union, there are no restrictions or regulations placed on your wireless service provider regarding the establishment of wholesale or retail international data roaming rates. In short, while the web may be world-wide, attempts to regulate or even review international data roaming rates have been, with the exception of the European Union, largely country-specific. As a result, a majority of wireless service providers encourage customers to contact them before travelling in order to offer an add-on to their existing service plan in an effort to reduce, but not eliminate, bill shock.

For wireless service providers and consumers in the European Union, the story is different. The European Commission developed a Digital Agenda for Europe, stating that by 2015 the difference between international roaming rates and rates for domestic wireless services should approach zero.⁴¹ The European Commission believes there is no justification in a competitive market for charging customers considerably higher prices for roaming services.

In 2007, the European Commission passed its roaming regulation, introducing wholesale and retail price caps for voice roaming. In 2009, the European Commission amended the regulation to include a wholesale price cap on data roaming. In 2011, the European Commission advised the European Parliament on the functioning of existing roaming regulation and proposed structural solutions to address the competition problems in the EU roaming market in a durable way, along with transitory safeguard price caps, including a price cap for retail data roaming services.⁴² In early 2012, a compromise was reached between the EU Commission, the European Parliament and the European Council, and the European Parliament adopted the new “Regulation on roaming on public mobile telephone networks within the Community,” which is

⁴¹ European Commission, *Digital Agenda for Europe*, online: http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=259&pillar_id=43&action=Action%20101%3A%20Roaming.

⁴² European Commission, *Digital Agenda for Europe*, online: http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=259&pillar_id=43&action=Action%20101%3A%20Roaming.

now in force.⁴³ The Body of European Regulators of Electronic Communications (BEREC) will be undertaking the technical details required in order for the new regulation to be implemented on a compulsory basis in the EU in July 2014.⁴⁴ Details of the history of the EU's regulated and wholesale rates for roaming can be found in Appendix E.

As part of the recent European Union regulation, the EU imposed on wireless service providers a monthly default cut off limit for roaming fees of €50 per month. Moreover, the regulations included a provision ensuring the customer is informed in advance of the corresponding data volume amount associated with this cut-off limit.⁴⁵ As a result, wireless device users within the EU now receive an automated message of the charges that apply for calls, texts and data roaming services. Customers are free to set an alternative limit for their monthly roaming fees if they choose. However, if the customer does not specify a limit, a default cut off limit of €50 per month is applied.⁴⁶ In this case, the consumer's wireless data plan is suspended when they reached their monthly limit until they are made aware of the charges and consent to having their wireless data plan reactivated.

Seemingly following suit, in June 2012, the Groupe Speciale Mobile Association (GSMA), representing nearly 800 wireless device operators in over 220 countries, announced an initiative providing consumers greater visibility of their roaming charges and usage of wireless data services when travelling abroad.⁴⁷

The GSMA committed to working with wireless operators worldwide to adopt the following measures:

- Sending text messages to remind customers of their data roaming tariffs when they arrive in another country and turn on their mobile device;
- Implementing a monthly data roaming spending limit to help consumers manage their roaming bill and sending alerts when their data usage approaches the limit; and
- Temporarily suspending data service when usage exceeds the spending limit.⁴⁸

In the first phase of this initiative, 24 operators and their group subsidiaries have agreed to implement these data roaming transparency measures by the end of 2012, representing more than 4 billion wireless connections worldwide.⁴⁹ This initial group of 24 wireless service providers includes U.S.-based carriers AT&T and Verizon, as well as Manitoba Telecom

⁴³ European Union, "Regulation on roaming on public mobile telephone networks within the Community", Regulation (EU) No. 531/2012.

⁴⁴ European Union, "Regulation on roaming on public mobile telephone networks within the Community", Regulation (EU) No. 531/2012.

⁴⁵ European Union, "Regulation on roaming on public mobile telephone networks within the Community", Regulation (EU) No. 531/2012 at Article 15.

⁴⁶ European Union, "Travelling in Europe 2012-13", online: http://europa.eu/travel/comm/index_en.htm#phone.

⁴⁷ GSMA, "GSMA Launches Data Roaming Transparency Initiative" (June 24, 2012)online: <http://www.gsma.com/newsroom/gsma-launches-data-roaming-transparency-initiative/>.

⁴⁸ GSMA, "GSMA Launches Data Roaming Transparency Initiative" (June 24, 2012)online: <http://www.gsma.com/newsroom/gsma-launches-data-roaming-transparency-initiative/>.

⁴⁹ GSMA, "GSMA Launches Data Roaming Transparency Initiative" (June 24, 2012)online: <http://www.gsma.com/newsroom/gsma-launches-data-roaming-transparency-initiative/>.

Services Inc. The GSMA also committed to promote the adoption of these guidelines across its full membership. This commitment has already paid dividends, since in September 2012, the GSMA announced more than 40 Latin American mobile network operators have launched a similar data roaming transparency scheme to be fully implement in the first half of 2013.⁵⁰ This new agreement will cover more than half a billion wireless subscribers.

In October 2011, United States wireless service providers association, the CTIA, held a joint press conference with the Federal Communications Commission and Consumers Union to announce the implementation of free alerts to consumers both before and after they reach monthly limits on voice, data and text services on their wireless devices.⁵¹ In addition, the plan includes a notification to inform consumers of international roaming charges when traveling abroad. Subscribers will be covered by this plan unless they opt-out. According to the voluntary agreement, each wireless provider shall provide its customers at least two of these alerts by October 17, 2012 and all of these alerts by April 17, 2013.⁵² The agreement also states that wireless providers will clearly disclose tools or services that enable consumers to monitor and/or set limits on voice, messaging and data usage.⁵³ However, this agreement does not provide for a cut off of data service once a consumer's monthly data limit is reached.

Australia has taken an alternative approach to addressing concerns related to international data roaming rates. In 2005 the Australian Competition and Consumer Commission (ACCC) conducted a wireless services review and found it was unnecessary to take regulatory action in relation to these services. In 2009, the Australian House of Representatives Committee on Communications conducted an inquiry into international wireless roaming and recommended the Australian Government pursue a policy of regulating the framework for the wholesale cost of roaming through bilateral and multilateral negotiations with other countries, ensuring that countries with the largest number of Australian visitors are given priority.⁵⁴ The Committee further suggested the ACCC introduce reporting requirements for international wireless roaming services on Australian providers. In particular, the Committee recommended that cost, revenue and service usage information should be provided.⁵⁵

In response to this report, the Australian Government agreed in principle to explore the options available for developing reasonable bilateral and/or multilateral arrangements for wholesale

⁵⁰ GSMA, "GSMA Latin America Launch Data Roaming Transparency Scheme" (September 10, 2012) <http://www.gsma.com/newsroom/gsma-latin-america-launch-data-roaming-transparency-scheme/>.

⁵¹ CTIA-The Wireless Association, "CTIA-The Wireless Association®, Federal Communications Commission and Consumers Union Announce Free Alerts to Help Consumers Avoid Unexpected Overage Charges" (October 17, 2011), online: <http://www.ctia.org/media/press/body.cfm/prid/2137>.

⁵² CTIA-The Wireless Association, "CTIA-The Wireless Association®, Federal Communications Commission and Consumers Union Announce Free Alerts to Help Consumers Avoid Unexpected Overage Charges" (October 17, 2011), online: <http://www.ctia.org/media/press/body.cfm/prid/2137>.

⁵³ CTIA-The Wireless Association, "CTIA-The Wireless Association®, Federal Communications Commission and Consumers Union Announce Free Alerts to Help Consumers Avoid Unexpected Overage Charges" (October 17, 2011), online: <http://www.ctia.org/media/press/body.cfm/prid/2137>.

⁵⁴ Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. XIII.

⁵⁵ Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. XIII.

roaming charges.⁵⁶ To that end, the Australian Department of Broadband, Communications and the Digital Economy (DBCDE) has initiated a joint market investigation into international wireless roaming between Australia and New Zealand. In August 2012, a discussion paper was released outlining the need for immediate action to reduce data roaming rates between the two countries.

Since these consultations began, the cost to consumers in both countries to call, text and use data when traveling between Australia and New Zealand has decreased dramatically. For instance, the Australian Minister responsible for the DBCDE, Stephen Conroy, noted “at the beginning of the study the mark-up, the margin for international cost calls between here and New Zealand was 1,000 per cent. With the spotlight on, it's come down to 300 per cent.”⁵⁷ However, Minister Conroy remains unsatisfied with this progress. During the release of the draft report, he noted “I'm directing the Australian Communications and Media Authority (ACMA) to put in place a standard which will see wireless phone companies notifying their customers when they're overseas of the cost of a call, the cost of sending a text, the cost of going online, and giving them the option to opt out.”⁵⁸ Critics of this move argue it does not go far enough to protect consumers and only serves to let consumers know what they are being charged and does not tackle the root cause of the problem.⁵⁹ Moreover, there is concern among Australian industry observers that wireless service providers will pass on the cost of the new notification and opt-out system to customers.⁶⁰ ACMA and the Australian Communications Consumer Action Network (ACCAN) have called for the implementation of a system similar to what is in place in the EU and what the GSMA proposed in October 2011.⁶¹

5. PROTECTING CANADIAN CONSUMERS

When asked in late 2011 if the Canadian Radio-television and Telecommunications Commission (CRTC) should implement transparency and safeguard mechanisms to better protect consumers from bill shock and international data roaming rates, a number of Canadian industry stakeholders expressed a view similar to that offered by Videotron:

“We believe that the Canadian wireless industry is fully capable of identifying and implementing appropriate transparency and safeguard mechanisms in

⁵⁶ Commonwealth of Australia, Department of Broadband, Communications and the Digital Economy, Government Statement of Response, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 5.

⁵⁷ Mark Gregory, “Technology Spectator: Conroy must do more on roaming rip-offs,” *Business Spectator* (August 29, 2012) online: <http://www.businessspectator.com.au/bs.nsf/Article/TECHNOLOGY-SPECTATOR-Conroy-needs-to-do-more-on-ro-pd20120829-XM2HN?opendocument&src=rss>.

⁵⁸ Mark Gregory, “Technology Spectator: Conroy must do more on roaming rip-offs,” *Business Spectator* (August 29, 2012)

⁵⁹ David Frith, “Ending roaming rip-off won't be easy,” *The Australian*, (August 28, 2012), online: <http://www.theaustralian.com.au/australian-it/opinion/ending-roaming-rip-off-wont-be-easy/story-e6frgb0o-1226459264968>.

⁶⁰ Mark Gregory, “Technology Spectator: Conroy must do more on roaming rip-offs,” *Business Spectator* (August 29, 2012).

⁶¹ Australian Communications and Media Authority, *Reconnecting the Customer: Final Public Inquiry Report*, (September 2011), online: http://www.acma.gov.au/WEB/STANDARD/pc=PC_312222 at pp. 100-101, and Australian Communications Consumer Action Network, *Response to ACMA's 'Reconnecting the Customer' Draft Report*, (August 2011) atp. 34.

order to adequately protect their customers who are using data roaming services. On this basis, we do not believe that regulatory intervention is warranted.”⁶²

This point of view was countered by WIND Mobile, who supported the implementation of transparency and safeguard mechanisms in order to reduce the risk of bad debts, as long as there was also a customer override to prevent undesired affects such as service disruption while traveling.⁶³

To the Canadian wireless industry’s credit, a number of stakeholders already have in place some notification safeguards for their customers via SMS text messages. For instance, Rogers, TELUS and WIND Mobile all provide their customers with a welcome message when they visited a network outside of Canada. In addition, as indicated by Figure 5-1, TELUS, and WIND Mobile customers are notified when they reach various thresholds of their monthly data roaming allowances. Rogers wireless customers receive similar notifications if they have purchased a data roaming pass.

Figure 5-1 Data Roaming Fee Transparency Safeguards for Canadian Consumers by Wireless Service Provider

Provider	Current Safeguards
TELUS	<p>Welcome Message when entering another network – SMS Notification</p> <p>Consumers receive the following notifications:</p> <p>USA At 10 MB, 40MB, 100MB & 200MB of data consumed– SMS Notification</p> <p>While in Western Europe, Mexico and Oceania At 10 MB, 40MB, 100MB & 200MB of data consumed -- SMS Notification At 40MB, 100MB & 200MB of data consumed – Data roaming is blocked and customer is asked by text message if they wish to continue data service.</p> <p>While in Eastern Europe, Asia, South America and some Caribbean Nations At 5 MB, 20MB, 50MB & 100MB of data consumed -- SMS Notification At 20MB, 50MB & 100MB of data consumed – Data roaming is blocked and customer is asked by text message if they wish to continue data service.</p>
WIND Mobile	<p>Welcome Message when entering another network – SMS Notification</p> <p>When visiting the United States, customers receive the following notifications:</p> <p>At 5MB/50MB/100MB/195MB of data consumed - SMS Notification</p> <p>At 200MB of data consumed – Data roaming is blocked and customer is asked</p>

⁶² Videotron response to PIAC questionnaire (2011).

⁶³ WIND Mobile response to PIAC questionnaire (2011).

	<p>by text message if they wish to continue data service.</p> <p>When traveling to other international destinations, WIND monitors roaming usage on a daily basis. Customers receive an SMS notification if WIND determines a subscriber's usage is concerning, based on an internal credit profile of the customer.</p>
Rogers	<p>Welcome Message when entering another network – SMS Notification</p> <p>When you buy a data roaming pass, you receive the following notifications:</p> <p>50% of data bucket– SMS Notification 80% of data bucket– SMS Notification 100% of data bucket– SMS Notification</p>
Videotron	<p>Welcome Message when entering another network – SMS Notification</p> <p>Customers can monitor their data consumption via the Videotron Website.</p>
Bell Canada	<p>Welcome Message when entering another network – SMS Notification</p> <p>When visiting the United States, customers receive the following notifications:</p> <p>At 5MB/25MB/125MB of data consumed - SMS Notification</p> <p>At 500MB of data consumed – Data roaming is blocked and customer is asked to contact Bell by test message to make a payment if they wish to continue data service.</p> <p>When traveling to other international destinations, customers receive the following notifications:</p> <p>At 2MB/10MB/50MB of data consumed - SMS Notification</p> <p>At 100MB of data consumed – Data roaming is blocked and customer is asked to contact Bell by test message to make a payment if they wish to continue data service.</p>

Sources:

Separate responses of TELUS, WIND Mobile, Rogers, and Videotron to PIAC questionnaire (2011). TELUS, WIND and Rogers updated their responses in November 2012.

Bell Canada did not respond to PIAC's questionnaire. Bell Canada information was obtained at [http://support.bell.ca/Mobility/Network_coverage/Where can I use my HSPA or LTE mobile phone outside Canada and how much will it cost#hspago](http://support.bell.ca/Mobility/Network_coverage/Where_can_I_use_my_HSPA_or_LTE_mobile_phone_outside_Canada_and_how_much_will_it_cost#hspago), and O'Kane, Josh, "Don't get dinged by Canada's high roaming rates," *The Globe and Mail*, August 4, 2011, <http://www.theglobeandmail.com/globe-investor/personal-finance/home-cents/dont-get-dinged-by-canadas-high-roaming-rates/article616433/> on October 24, 2012.

TELUS Data Blocking information obtained at <http://www.telusmobility.com/en/ON/International/enhanced-data-notifications-and-international-data-blocking.shtml> on October 24, 2012.

While the data contained in Figure 5-1 may provide evidence supporting Videotron's position that the Canadian wireless industry is fully capable of identifying and implementing safeguard

mechanisms to protect their data roaming customers, the measures listed in Figure 5-1 are voluntary and vary from provider to provider. Of the Canadian wireless subscribers who have traveled internationally during the past 5 years participating in PIAC's survey, 89% of respondents stated that wireless service providers should notify consumers by text message of the roaming charges they have incurred while travelling abroad.⁶⁴ In addition, the same number, 89%, believe wireless service providers should send a text message to notify consumers of data roaming rates when they arrive at their travel destination.⁶⁵ Moreover, 88% of those surveyed believe regulation is needed to require cell phone providers to notify consumers about the charges they have incurred for roaming while they are travelling.⁶⁶

Consumer discontent regarding wireless services has prompted efforts by various provincial legislatures to regulate contracts and consumer protection in the wireless industry. For example, Bill C-5, the *Wireless Phone, Smart Phone and Data Services Transparency Act, 2011*, in the Ontario legislature proposes that wireless providers must notify consumers when they may incur additional charges as a result of exceeding usage limits or for attempting to use a service outside geographical limits set out in the agreement. Similar efforts have taken place in Quebec, Manitoba, Newfoundland and Labrador and Nova Scotia.⁶⁷

This spreading provincial patchwork of wireless industry regulation in an effort to protect consumers also prompted Rogers and TELUS to request the CRTC establish of a national wireless services consumer protection code.⁶⁸ In its March 2012 application, Rogers Senior Vice-President Ken Engelhart noted:

The proliferation of provincial legislation is a clear indication that there is a demand on the part of Canadian wireless consumers for a comprehensive legally enforced code of consumer protection.⁶⁹

In response to a public hearing regarding whether the CRTC should intervene to develop a code to address consumers' concerns about mobile wireless services, the CRTC heard from over 900 interveners.⁷⁰

Perhaps in an effort to counter this apprehension, most Canadian wireless service providers offer data plan "add-ons" or "passes" for international travel promoted as providing "discounts" on the pay-per-use roaming rate. However, it appears that most Canadian wireless customers

⁶⁴ Environics survey conducted for PIAC (October 2011).

⁶⁵ Environics survey conducted for PIAC (October 2011).

⁶⁶ Environics survey conducted for PIAC (October 2011).

⁶⁷ See Appendix D for more details about these provincial efforts.

⁶⁸ Part 1 application to the CRTC by the Public Interest Advocacy Centre (December 22, 2011) and Part 1 application to the CRTC by Rogers Communications Partnership (March 8, 2012).

⁶⁹ Part 1 application to the CRTC by Rogers Communications Partnership (March 8, 2012).

⁷⁰ Telecom Notice of Consultation CRTC 2012-206, *Proceeding to consider whether the conditions in the Canadian wireless market have changed sufficiently to warrant Commission intervention with respect to retail wireless services*, (4 April 2012). In Telecom Decision CRTC 2012-556 issued October 11, 2012, the Commission found it necessary to develop a mandatory code to address the clarity and content of mobile wireless service contracts and related issues, and issued Telecom Notice of Consultation CRTC 2012-558, *Proceeding to establish a mandatory code for mobile wireless services* (October 11, 2012) to determine the content and enforcement of the Wireless Code.

are skeptical about whether these "add-on" passes provide value. When asked, 74% of Canadian wireless subscribers who have traveled internationally during the past 5 years stated they either rarely or never purchase a data plan "add-on" prior to travel.⁷¹ Of the respondents that purchase data plan "add-ons," 84% believe the retail price of these packages are too high.⁷²

Contributing to the problem is a lack of confidence among Canadian consumers that they can accurately forecast what they will spend on roaming charges when they travel. When surveyed, 4 out of 5

respondents expressed a lack of confidence in accurately forecasting these charges. Part of the explanation may be that 58% of Canadian consumers feel billing related to international roaming charges is difficult to understand.⁷³ As a result, the summary of views expressed by a majority of Canadian wireless device consumers who travel paints an unflattering picture, as revealed in Figure 5-2.

58% of Canadians surveyed feel billing related to international roaming charges is difficult to understand.

Source: Environics Survey conducted for PIAC (October 2011).

Figure 5-2 Canadian wireless consumers views on International Data Roaming Fees

A Majority of Canadian Consumers Travelling with their Wireless Device:

- expressed that billing related to international roaming charges is difficult to understand;
- rarely buy a data plan add-on, and if they do, feel they paid too much for it;
- feel they should be notified by text message of data roaming rates when they arrive at their travel destination;
- feel they should be notified by text message of the roaming charges they have incurred while travelling;
- believe regulation is required to compel wireless service providers to notify consumers about the charges they have incurred for roaming while they're travelling.

Result

- **44% of Canadians surveyed travel with their mobile device turned off.**
- **16% refuse to bring their mobile device at all.**

Source: PIAC Survey conducted by Environics (October 2011).

A few obvious questions wireless service providers may be asking themselves under these conditions are: "how do we get our customers to take their devices out of their pockets?" and "how do we make customers more comfortable using their wireless devices abroad?" We have

⁷¹ Environics survey conducted for PIAC (October 2011).

⁷² Environics survey conducted for PIAC (October 2011).

⁷³ Environics survey conducted for PIAC (October 2011).

already seen some Canadian wireless service providers take action to address a number of the consumer concerns in Figure 5-2, such as notifying customers when they enter a new international network and applicable roaming rates, and providing them with usage notifications. However, the fact remains many Canadians are wary of using their wireless devices at all when they are traveling, undoubtedly causing inconvenience for them and lost revenues for their wireless service providers.

One possible course of action is to follow the lead of the European Union, where wireless phone providers have to limit data roaming for travellers to a pre-set financial amount, otherwise known as a bill limit. Travellers can choose a higher or lower limit prior to departure, and when the consumer reaches 80% of their data-roaming bill limit, the provider must send a notice via text message. This would provide Canadian consumers with peace of mind, knowing in advance of their travel that data roaming fees would be kept under control. On the other hand, it may prompt more wireless device users to use their devices more often while traveling, generating additional revenue for Canadian wireless service providers. The implementation of such a system could also result in reducing the volume of complaints voiced by Canadian consumers regarding their international roaming data billing. When asked directly whether they would support the implementation of self directed bill limits, Canadian consumers overwhelmingly endorsed the idea with 95% support.⁷⁴

In the European Union, the monthly default bill limit for international data roaming fees is €50 per month, according to Regulation No. 531/2012. When Canadian consumers were asked what they felt their monthly "bill limit" for data roaming should be if a similar system were implemented, the responses were varied. It is important to keep in mind that the bill limit for international data roaming would be in addition to their existing monthly fees. Figure 5-3 reveals that 40% of respondents favored a bill limit of \$20 per month or less, while the figure increases to 55% when the proposed limit is moved up to \$30 or less, and 92% for a limit of \$50 or less.

Figure 5-3

If Canada had a system like they have in Europe with a monthly "bill limit" for data roaming, what dollar amount do you think the monthly data roaming bill limit should be set to? (Note that this dollar amount would be in addition to your monthly bill amount.)

Amount	Support
\$20 or less	40%
\$30 or less	55%
\$50 or less	92%

5.1. Encourage Innovation and Competition in Roaming

As noted in the introduction, the widespread use of internet-enabled wireless devices means that data roaming is of increasing economic significance. High roaming charges constitute an

⁷⁴ Environics survey conducted for PIAC (October 2011).

impediment to efforts to develop into a knowledge-based economy, regardless of the geographic market.⁷⁵ The European Commission's roaming regulations give customers the option to shop around for a separate roaming provider that gives the customer the ability to use their own mobile number. The European Commission believes that this will give wireless service providers an incentive to offer roaming services at rates close to domestic prices, stating:

As people's mobile data use intensifies, and they want to use their devices anywhere, any time, many travelers are likely to find this Wi-Fi - like option very attractive. These forces will reinforce each other to create lower prices and better network coverage.⁷⁶

If Canadian business and consumers are to facilitate and benefit from the emergence of new business models and technologies, we contend that there may be a need to increase competitive pressure in Canada's international data roaming market. If, after an investigation by a regulatory body, it is found that a regulatory approach is required, the subsequent regulation of roaming charges should be designed in a way that encourages competition towards lower price levels. We believe acting in this manner will result in the reduction of international retail data rates faced by Canadian consumers. Moreover, this may serve as the necessary incentive to Canadian wireless providers to be more innovative regarding broadband speeds, mobility, coverage and capacity, in an effort to lower costs.

6. CONCLUSIONS AND RECOMMENDATIONS

As a result of this analysis, it is fair to say that most Canadian consumers enjoy using their wireless devices when in Canada, while the wireless industry is currently faced with the challenge of satisfying exponential growth for broadband mobile data services.⁷⁷ However, Canadians, on the whole, remain wary of using their wireless devices for data services when outside Canada due to the high cost of international data roaming fees. While regulatory bodies in other jurisdictions have considered the myriad of issues associated with international data roaming fees, those same bodies at the federal level in Canada have seemingly paid little attention publicly. As a result of the frustration expressed by Canadian consumers regarding their wireless service, a patchwork of provincial laws and regulations are either being considered, or have already been implemented. In the absence of a clear set of operating rules defined by a federal regulator, this haphazard approach to consumer protection measures has even prompted calls from Canadian wireless service providers for clarity in the form of a legally enforced code of consumer protection.

Are Canadian travelers being charged international data roaming fees at a reasonable rate? Without knowing the wholesale rates for these fees that are being paid by wireless service

⁷⁵ European Union, Regulation (EU) No 531/2012 of the European Parliament and of the Council at Articles 5 and Article 6 online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:172:0010:0035:EN:PDF>.

⁷⁶ European Commission, "Digital Agenda: New price caps for mobile data roaming expected to save families over €200 each year and business travellers over €1000", (May 10, 2012), online: http://europa.eu/rapid/press-release_MEMO-12-316_en.htm.

⁷⁷ Ovum Group Ltd., *The Benefit to the Canadian Economy from the Wireless Telecommunications Industries: An Economic Impact Assessment*, (June 2012) at p. 2.

providers operating in Canada, this is difficult to determine. However, given the information contained within this analysis of the wholesale and retail international data roaming rates applied to consumers in other jurisdictions, as well as recent price movements in Canada, we contend the prices charged to Canadian consumers could be decreased while still allowing wireless providers to earn a healthy return on their investments.

The ongoing challenge is the need to strike a balance in the retail pricing of international data roaming rates. On the one hand, a price point is required where Canadian wireless providers are inclined to innovate in order to lower costs and continue their important contribution to the national economy. On the other hand, Canadian consumers should be operating their wireless devices in an environment where there are clear rules and indicators provided to them about their data usage. Moreover, Canadian consumers should be charged international data roaming fees at a rate where they are comfortable using their devices occasionally when they are traveling outside of Canada without having to worry about obtaining a shocking wireless service bill upon their return. Therefore, the continued absence of any direction or regulation concerning the international data roaming rates offered by Canada's wireless providers is not in the best interests of Canadian consumers.

In an effort to clarify the rules of engagement for Canadian consumers and Canadian wireless service providers, as well as provide effective protection measures for Canadian consumers who use their wireless device while traveling, PIAC recommends the following:

Recommendation 1

Canadian wireless subscribers should receive a notification by SMS text message from their wireless provider to remind customers of the applicable international data roaming rates when they arrive in another country and turn on their wireless device. The Canadian Radio-television and Telecommunications Commission (CRTC) should require wireless service providers to provide this notification safeguard for consumers in a mandatory Wireless Code or a separate roaming code.

Recommendation 2

Canadian wireless providers should implement a monthly international roaming spending limit, chosen by the subscriber, and in the absence of a limit set by the subscriber, should be set to a default limit amount. This limit would be in addition to the customer's monthly fees. Canadian wireless providers would then be obligated to temporarily suspend data service when the subscriber incurs international roaming fees that exceed either the monthly spending limit indicated by the subscriber, or the default monthly limit. The subscriber shall receive notification by SMS text message from their wireless provider of the suspension of service, and the wireless provider can resume service only upon the explicit direction of the wireless subscriber.

The Canadian Radio-television and Telecommunications Commission (CRTC) should require wireless service providers to provide this safeguard and prescribe the default limit amount to protect consumers from "bill shock" in a mandatory Wireless Code or a separate roaming code.

The pre-set default monthly international roaming spending limit should be set to a low amount in order to manage "bill shock" by consumers. PIAC recommends that the default monthly international roaming spending limit should be set at \$50. Of course, a subscriber could override that spending limit by requesting a lower or higher limit that matches their personal bill shock tolerance.

Recommendation 3

Canadian wireless subscribers should receive notifications by SMS text message by their wireless provider at least twice before their data usage reaches their monthly international roaming spending limit. PIAC recommends that at minimum, wireless service providers should be required to provide subscribers with a notification when they have reached 80% of the limit. PIAC strongly suggests that consumers receive a notice when they have reached 50% of the limit. The Canadian Radio-television and Telecommunications Commission (CRTC) should require wireless service providers to provide this notification safeguard in a mandatory Wireless Code or a separate roaming code.

Recommendation 4

The Canadian Radio-television and Telecommunications Commission (CRTC) should implement reporting requirements for international roaming services on Canadian wireless service providers. The CRTC should collect information about the wholesale roaming rates that Canadian wireless service providers charge to other international wireless service providers and the wholesale roaming rates that Canadian wireless service providers are charged by other international wireless service providers. The CRTC should focus on obtaining costs, revenues, and service usage information from Canadian wireless service providers on an annual basis. Collection of this data by the regulator could ensure that the commercial sensitivity of the data is protected, however, this would give the regulator transparency regarding the wholesale roaming rates paid and charged, and the ability to monitor whether retail roaming rates for Canadian consumers are fair or represent a disproportionate mark-up for Canadian consumers in accordance with market expectations. If the Commission is not satisfied with the competitiveness of retail roaming rates, the Commission could then conduct a public consultation to ascertain whether a different regulatory approach is required for wholesale and retail roaming rates.

Recommendation 5

The Canadian Government should pursue a policy of regulating the framework for the wholesale cost of roaming through bilateral and multilateral negotiations with other countries, ensuring that countries with the largest number of Canadian visitors are given priority. This may require efforts by the CRTC to engage such discussions initially with the Federal Communications Commission in the United States followed by the European Union and then Asia-pacific countries.

APPENDIX A – PIAC/ENVIRONICS CONSUMER SURVEY

Commissioned Research
conducted for the:
Public Interest Advocacy Centre

ONLINE SURVEY ABOUT WIRELESS DATA ROAMING

Field dates: October 20 – 26, 2011

Number of Respondents: 2002 (18+)

Cell Phone Use

1. Do you own a cell phone or smart phone for which you pay the bill?

TOTAL 2002

Yes	81%
No	19%

2. Which of the following things do you regularly do with your cell or smart phone? Select all that apply.

SUBSAMPLE: 1625 (Those who own a cell phone or smart phone for which they pay the bill)

a. Make and receive telephone calls	98%
b. Send and receive text messages	70%
c. Send and receive emails	37%
d. Web browsing	37%
e. Download and use other applications (e.g. interactive games, social networking, etc.)	31%
f. Use location-based services (maps, local weather apps and GPS)	30%
g. Use instant messaging services (e.g. BlackBerry Messenger, Whatsapp, Lifeprofile, MSN Messenger)	23%
h. Download or stream video content	14%
i. Download or stream audio content	12%

Consumer Travel and Cell Phone Use Abroad

3. Have you travelled outside Canada for any personal trips (i.e. not a business trip) in the past five years?

SUBSAMPLE: 1625 (Those who own a cell phone or smart phone for which they pay the bill)

Yes	76%
No	24%

4. In a typical year, about how many days do you spend outside of Canada travelling on personal trips?

SUBSAMPLE: 1232(Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years)

More than 30 days	12%
15-29 days	26%
8-14 days	29%
1-7 days	29%
None	4%

5. Which of the following best describes what you typically do with your cell phone when you leave Canada? Select all that apply.

SUBSAMPLE: 1232 (Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years)

a. I switch off my cell phone and have it only for emergencies	44%
b. I turn off data roaming on the handset	24%
c. I use my cell phone and all its functions just like I do at home	20%
d. I only access the Internet on my phone using WiFi hotspots	20%
e. I buy a SIM card in the country I'M visiting and put it into my cell phone	8%
f. I buy a cell phone in the country I am visiting	7%
g. I never take my cell phone with me at all	16%

6. Which of the following do you typically do with your cell phone when travelling outside Canada on a personal trip? Select all that apply.

SUBSAMPLE: 1036 (Those who have taken their cell phone or smart phone with them on a personal trip outside of Canada in the past 5 years.)

a. Make and receive telephone calls	54%
b. Send and receive text messages	48%
c. Send and receive emails	19%
d. Web browsing	12%

e. Use instant messaging services (e.g. BlackBerry Messenger, Whatsapp, Lifeprofile, MSN Messenger)	11%
f. Use location-based services (maps, local weather apps and GPS)	10%
g. Download and use other applications (e.g. interactive games, social networking, etc.)	5%
h. Download or stream video content	2%
i. Download or stream audio content	2%
j. None of these things	27%

7. When you use your cell phone outside Canada, do you think that the fees charged for each of the following are reasonable, a little too high or much too high?

SUBSAMPLE: 1036 (Those who have taken their cell phone or smart phone with them on a personal trip outside of Canada in the past 5 years.)

- a) Making and receiving voice calls

Reasonable	11%
A little too high	22%
Much too high	67%
No answer	1%

- b) Sending and Receiving text messages

Reasonable	16%
A little too high	26%
Much too high	56%
No answer	2%

- c) Using data services (e.g., Web browsing, audio, video or other applications)

Reasonable	7%
A little too high	16%
Much too high	73%
No answer	4%

Consumer knowledge and experience with roaming rates

8. How often do you buy a flat fee roaming package before you travel abroad?

SUBSAMPLE: 1036 (Those who have taken their cell phone or smart phone with them on a personal trip outside of Canada in the past 5 years.)

Always	6%
Usually	9%
Sometimes	11%

Rarely	14%
Never	59%

9. Do you think the cost of the flat fee roaming packages offered by wireless companies for using cell phones while travelling are reasonable, a little too high or much too high?

SUBSAMPLE: 1036 (Those who have taken their cell phone or smart phone with them on a personal trip outside of Canada in the past 5 years.)

Reasonable	14%
A little too high	43%
Much too high	41%
No answer	1%

10. How confident are you that you could accurately estimate the cost of your data roaming on your phone while travelling abroad if you wanted to?

SUBSAMPLE: 1036 (Those who have taken their cell phone or smart phone with them on a personal trip outside of Canada in the past 5 years.)

Very confident	5%
Somewhat confident	14%
Not very confident	35%
Not at all confident	45%
No answer	1%

11. Have you ever been billed international data roaming charges while using your phone to access data services abroad?

SUBSAMPLE: 1036 (Those who have taken their cell phone or smart phone with them on a personal trip outside of Canada in the past 5 years.)

Yes	40%
No	60%

12. Have you ever received a bill with international data roaming charges that were a lot more than you had expected?

SUBSAMPLE: 415 (Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years and have been billed international data roaming charges)

Yes	89%
No	11%

13. Is the billing information from your wireless service provider about international data roaming presented in a manner that is....?

SUBSAMPLE: 415 (Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years and have been billed international data roaming charges)

Very easy to understand	8%
Somewhat easy to understand	34%
Somewhat difficult to understand	41%
Very difficult to understand	17%

Consumer attitudes towards regulation and safeguards

14. To what extent do you agree with each of the following statements?

SUBSAMPLE: 1232 (Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years)

a) Cell phone providers should send a text message to notify consumers of data roaming rates when they arrive at their travel destination.

Strongly agree	66%
Somewhat agree	23%
Somewhat disagree	6%
Strongly disagree	5%

b) Cell phone providers should send a text message to inform consumers about the charges they have incurred for roaming while they are travelling abroad.

Strongly agree	64%
Somewhat agree	26%
Somewhat disagree	5%
Strongly disagree	5%

c) Regulation is needed to require cell phone providers to notify consumers (such as text message) about the charges they have incurred for roaming while they are travelling.

Strongly agree	65%
Somewhat agree	23%
Somewhat disagree	6%
Strongly disagree	5%

15. In the European Union, mobile phone providers have to limit data roaming for travellers to a pre-set financial amount (bill limit). Travellers can choose a higher or lower limit. When the customer reaches 80% of their data-roaming bill limit, the provider must send a notice via

text message...Do you support or oppose introducing this requirement for Canadian cell phone providers?

SUBSAMPLE: 1232 (Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years)

Strongly support	62%
Somewhat agree	33%
Somewhat disagree	4%
Strongly disagree	1%

16. If Canada had a system like they have in Europe with a monthly “bill limit” for data roaming, what dollar amount do you think the monthly data roaming bill limit should be set to? (Note that this dollar amount would be in addition to your monthly bill amount.)

SUBSAMPLE: 1232 (Those who own a cell phone or smart phone for which they pay the bill and who have left Canada on a personal trip in the past 5 years)

N.B. Consumers were asked to provide a dollar amount. The amounts were subsequently coded into the appropriate bracket by Environics.

\$10 or less	19%
\$11 to \$20	21%
\$21 to \$30	15%
\$31 to \$40	3%
\$41 to \$50	34%
\$51 to \$60	1%
More than \$60	5%
No answer	1%

APPENDIX B - INTERNATIONAL DATA ROAMING – A TECHNICAL EXPLANATION

How international data roaming works

The technical process of voice and data roaming is called "routing".⁷⁸ In order for a consumer to have access to international data roaming services, a bilateral roaming agreement and an inter-operator tariff (IOT) must be in place between the domestic provider and the foreign provider. Although the content of these agreements is largely discretionary, the Global System for Mobile Communications Association (GSMA) and the CDMA Development Group (CDG), have created a broad outline for the content of these agreements.⁷⁹ If a roaming agreement is in place, then when a consumer arrives at the foreign destination and turns on his or her wireless phone, the device will attempt to communicate with a GSM or 3G network. A consumer's handset is often preconfigured to automatically select a preferred network; however a different one may also be manually selected. Once the foreign network receives the signal from the handset, it makes note that the consumer is visiting and attempts to identify the individual's domestic wireless network provider. As soon as this occurs, the consumer will have access to data roaming services.

Components of the International Data Roaming Retail Price

When setting a consumer price for data roaming services, wireless operators consider charges related to the wholesale costs and charges related to retail costs.⁸⁰ Many of the wholesale costs are determined through an Inter-Operator Tariff (IOT), which is a bilateral agreement between domestic and foreign operators. PIAC's consultation with industry stakeholders revealed that bilateral roaming agreements and IOTs are a key determinant of international roaming rates. Rogers, TELUS and Vidéotron stated that the cost incurred from a foreign partner is one of the most important factors in setting a retail rate for international data use.⁸¹ Rogers underscored the inconstant nature of rates which can be influenced by extraneous factors such as the local competitive landscape in the foreign country, the volume and balance of roaming traffic between Canada and the foreign jurisdiction, the prevalence of alternatives such as public Wi-Fi and internet cafés, and offers made by other operators around the world.

⁷⁸ The Parliament of the Commonwealth of Australia, House of Representatives Standing Committee on Communications, *Phoning Home: Inquiry into international mobile roaming*, (March 2009) at section 2.1.

⁷⁹ International Telecommunication Union, "International Mobile Roaming Regulation – An Incentive for Cooperation" GSR 2008 Discussion Paper at p. 6.

⁸⁰ International Telecommunication Union, "International Mobile Roaming Regulation – An Incentive for Cooperation" GSR 2008 Discussion Paper at p. 6. Wholesale costs consist of the following: mobile call origination termination costs; international call transit costs; and roaming specific costs.

⁸¹ Separate responses by Rogers, TELUS, and Videotron to PIAC questionnaire (2011). Other factors cited by the providers include the cost of interconnection (i.e. setup fees, testing, interconnection, support and financial clearing services); competitive landscape (other available services) and competitor pricing. See also Evidence before the Senate Standing Committee on Transport and Communications, 40th Parliament, 3rd Session, (October 21, 2009). One provider stated that Canadian operators are at the whim of foreign service providers with whom they are negotiating.

According to the OECD, technological choices made by member states, such as GSM or Code Division Multiple Access (CDMA) technology, can limit an operator's ability to negotiate wholesale roaming charges. In fact, this can at times cause operators using CDMA technology to face higher wholesale charges than their GSM counterparts.⁸² TELUS' response to consultations appears to support this assertion, as they attribute the recent 60% reduction of international roaming rates to the company's new HSPA+ network. This network change allowed TELUS to renegotiate international carrier agreements and pass savings on to consumers.⁸³

A country's geographical location and ability to attract travelers may impact retail roaming prices. Canada, for example, shares a geographical proximity to fewer countries and is a less frequent destination for travel. These factors may also contribute to reduced bargaining power and lead to higher charges for roaming.⁸⁴

International Data Retail Roaming Payment Options

Wireless providers generally offer three price options for data roaming: pay-per-use; data roaming packages; and pre-paid services.⁸⁵

Pay-per-use services charge consumers on a per kB or per MB rate for the amount of data he or she consumes while abroad. Pay-per-use services are usually charged either at a standard roaming rate if no other data roaming plan is selected.⁸⁶ A consumer can gain access to a lower data roaming rate if he or she pays a one-time fee or selects a monthly add-on.⁸⁷

Due to the trend of higher data consumption, many operators have offered international data roaming packages as an option to for consumer savings.⁸⁸ International data roaming packages offer a specified amount of data that can be accessed by a consumer while abroad for a fixed price, which is a discounted rate compared to the pay-per-use rate. Once a consumer has exceeded the pre-set amount, he or she will be charged a different rate (usually the default pay-per-use rate) for any additional use. Traditionally these international data roaming packages had to be purchased prior to travel, but are now also available for purchase when a consumer has arrived at their desired destination. Consumers can select between daily, weekly or monthly

⁸² Organisation for Economic Co-operation and Development, *International Mobile Data Roaming*, DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at p. 6.

⁸³ TELUS response to PIAC questionnaire (2011).

⁸⁴ Organisation for Economic Co-operation and Development, *International Mobile Data Roaming*, DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at p. 6.

⁸⁵ For more information on charging patterns see GSMA, "Mobile SMS and Data Roaming Explained" at p. 3 and Organisation for Economic Co-operation and Development *International Mobile Data Roaming* DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at pp. 12 to 13.

⁸⁶ Organisation for Economic Co-operation and Development, *International Mobile Data Roaming*, DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at p. 12.

⁸⁷ GSMA, "Mobile SMS and Data Roaming Explained" at p. 3. Special data roaming fees are increasingly being offered as part of domestic monthly packages.

⁸⁸ GSMA, "Mobile SMS and Data Roaming Explained" at p. 3 and Organisation for Economic Co-operation and Development, *International Mobile Data Roaming*, DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at p. 12.

data roaming packages, where a pre-determined amount of data can be accessed at a fixed rate for set number of days.

Some service providers also offer international data roaming to customers who use pre-paid wireless services. In this situation a consumer can consume data up to the maximum amount available in their pre-paid account.

All charges, whether accessed at a pay-per-use default rate or incurred through the use of a package at a discounted rate, are dependent on the country a consumer is roaming in.⁸⁹ Most providers group countries together to create different zones used to determine the data roaming rate that will be applied to a subscriber. Most providers break down data roaming rates into two, three or four zones. TELUS for example, divides international roaming rates into three zones: U.S. which includes the United States; Zone 1, which includes Mexico, Greenland, Western Europe, Australia and New Zealand; and Zone 2 which includes all other international destinations.⁹⁰

Finally, many service providers have begun implementing various consumer protection safeguards to help consumers monitor their data usage while abroad. These safeguards include general disclosure practices (such as information on a provider's website or a text message send to a roaming consumer), notification tools to advise consumers when they have incurred costs for data roaming, and cut-off mechanisms that disable further data roaming when a consumer reaches a certain price threshold. In Europe these safeguards have recently become mandatory. In the rest of the world however, these safeguards remain largely discretionary.

⁸⁹ Organisation for Economic Co-operation and Development, *International Mobile Data Roaming*, DSTI/ICCP/CISP (2010) 12/FINAL, (May 30, 2011) at p. 12.

⁹⁰ TELUS, "International Travel Rates", online: http://www.telusmobility.com/en/ON/international_travel/index.shtml.

APPENDIX C - INTERNATIONAL DATA ROAMING ALTERNATIVES FOR CONSUMERS

Various data roaming alternatives exist for consumers who would like to avoid incurring international data roaming charges. These options are: accessing data services using Wi-Fi hotspots; purchasing a cell phone in the country they are visiting; purchasing and using a SIM card in the foreign destination; and using services provided by an independent specialized roaming provider.⁹¹

If a wireless device has Wi-Fi capabilities, a consumer can access data while traveling by using a local internet connection. Wi-Fi networks are often available at private residences, hotels, and other commercial locations such as a coffee shop or café. Wi-Fi networks or “hotspots” are often free or low-cost and allows a consumer to avoid international data roaming costs as they are not accessing data through their domestic provider. While using a Wi-Fi network, consumers have access to the same data services as those that are accessible on their domestic provider’s network, such as internet access, e-mail, and sending or receiving instant messages.⁹²

Consumers can also purchase a cell phone in a foreign destination and subscribe to a pre-paid service offered by a local provider. The consumer is then able to access data services in the country they are visiting at the rate determined by the foreign provider they have selected.⁹³

A consumer who is using an unlocked wireless device can purchase a Subscriber Identity Module (SIM) card from a provider in the country they are visiting to gain access to data services.⁹⁴ The consumer will then have access to data services in the country they are visiting at the rate determined by the provider they have selected on the unlocked phone, if the phone is compatible with the foreign network. They will also be provided with a local phone number, as the domestic number they use is linked to the SIM card provided by their domestic provider.⁹⁵ For example, a traveler in the United States can purchase a T-mobile SIM card and use a pay-per-day prepaid plan (ranging from \$1 to \$3 per day). AT&T allows travelers to purchase a SIM card with unlimited pay-per-month or pay-per-day prepaid plans. Canadian wireless carriers do not offer this option for travellers visiting Canada.

⁹¹ Australian Department of Broadband, Communications and the Digital Economy, *Report of Findings on: International Mobile roaming charges*, prepared by KPMG (June 2008) at p. 34. See also Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 45.

⁹² BlackBerry, "Networks", online: http://ca.blackberry.com/ataglance/networks/#tab_tab_overview .

⁹³ Australian Department of Broadband, Communications and the Digital Economy, *Report of Findings on: International Mobile roaming charges*, prepared by KPMG (June 2008) at p. 35. See also Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 47

⁹⁴ Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 47

⁹⁵ Australian Department of Broadband, Communications and the Digital Economy, *Report of Findings on: International Mobile roaming charges*, prepared by KPMG (June 2008) at p. 35 and Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 47.

A Canadian wireless subscriber whose phone is locked to a Canadian carrier may be able to unlock their phone, depending on the phone unlocking policy of their wireless carrier. The following chart summarizes Canadian wireless carriers' unlocking phone policies:

Wireless Carrier	How long the customer must have service with the carrier before unlocking is permitted	Charge	Effect on warranty
Bell	90 days	\$50	Voided
Mobilicity	Anytime	Depends on phone model	Factory warranty not affected; Mobilicity warranty voided
Rogers	1 year	\$50	Warranty already ended
TELUS	90 days	\$50	Not affected
Videotron	Unlocking not permitted		
WIND Mobile	6 months	\$10	Not affected

Independent Specialized Providers

As of January 17, 2012, Canadians have access to Roam Mobility, an independent specialized mobility provider, when traveling to the United States. Consumers can: use a Roam SIM card in their unlocked device; purchase a Roam Mobility phone (the Breeze Phone); or purchase a hotspot to connect up to five devices, to access voice, text and data through direct access to wireless network across the US.⁹⁶ In order to gain access to reduced roaming rates, consumers must purchase a pre-paid Roam Mobility plan. Users have access to a United States telephone number that can be used for their present and any subsequent visits.⁹⁷ This service is currently only available for Canadians traveling to the U.S. and no comparable service is available to consumers traveling to other international destinations at the time this study was published.

⁹⁶ Roam Mobility, online: <http://www.roammobility.com/how-it-works>.

⁹⁷ Roam Mobility, "Introduction to Roam Mobility", online: <http://www.roammobility.com/blog/roam-intro/>.

APPENDIX D - FEDERAL AND PROVINCIAL LEGISLATIVE AND REGULATORY APPROACHES ADDRESSING INTERNATIONAL DATA ROAMING

Currently, wireless service providers in Canada are free to apply international data roaming rates at their discretion.

While at present there is not a direct approach to regulating international data roaming in Canada, there are regulatory agencies that have the jurisdiction or the ability to apply regulations in order to protect consumers in this area.

Canadian Radio-television and Telecommunications Commission (CRTC)

The Canadian Radio-television and Telecommunications Commission (CRTC) is an independent administrative tribunal responsible for regulating and supervising telecommunications systems in Canada. The CRTC has a general mandate to guarantee that the Canadian public is served by telecommunications systems within the country and is tasked with making decisions that meet the policy objectives of the *Telecommunications Act*, which helps the CRTC make decisions.⁹⁸

One of the policy objectives is to ensure that Canadians benefit from reliable telephone and other telecommunications services at affordable prices. Moreover, section 47 of the *Telecommunications Act* states that Canadian carriers must provide telecommunications services and charge rates that are just and reasonable and not unduly discriminatory.

The CRTC has refrained from regulating wireless services since the 1990s and therefore does not regulate wireless services. The CRTC's chief role in its regulation of wireless telecommunications services is to encourage competition in the industry. In 2006, the Governor-in-Council issued a Policy Direction requiring the CRTC to implement the policy objectives of the *Telecommunications Act* in a way that relies on market forces to the maximum extent feasible as a means for achieving the telecommunications policy and objectives.⁹⁹ The Policy Direction states that market forces and competition offer better protection to consumers by allowing for competitive pricing structures and packages.¹⁰⁰

⁹⁸ Canadian Radio-television and Telecommunications Commission, "About the CRTC", online: <http://www.crtc.gc.ca/eng/backgrnd/brochures/b29903.htm>.

⁹⁹ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, P.C. 2006-1534, SOR/2006-355.

¹⁰⁰ CRTC, "About the CRTC", online: <http://www.crtc.gc.ca/eng/backgrnd/brochures/b29903.htm>. In December 2010, PIAC released *Waiting for the Dream, The Consumer Brief for Telecom Reform 2010*, recommending that the government rescind the Policy Direction of December 2006, and establish a licensing regime for all carriers with codes of conduct in place for all licensees. PIAC also recommended reforms to the CRTC operations, including the establishment of more powers and resources recommended by the Government's Policy Review Panel Report of 2006. The report, containing a thorough analysis of the Policy Direction of December 2006, can be accessed at http://piac.ca/piac_telecom_reform_report_final_april_2011.pdf

On October 11, 2012, the Commission noted that while it forbears from regulating the mobile wireless market, it retains regulatory powers under s. 24 of the *Telecommunications Act* and found it necessary to impose a s. 24 condition that all mobile wireless service providers abide by a mandatory code to address the clarity and content of mobile wireless service contracts and related issues to ensure that consumers have the information and protection they need to make informed choices in the competitive marketplace.¹⁰¹ The Commission then launched a public proceeding to establish the mandatory code for mobile wireless services, inviting comments from the public regarding the content and enforcement of the Wireless Code.¹⁰²

Competition Bureau

The Competition Bureau is an independent law enforcement agency responsible for the administration and enforcement of the *Competition Act* and ensures that Canadian businesses and consumers prosper in a competitive and innovative market place.¹⁰³ The Act applies generally to all businesses in Canada, including wireless services providers. The Competition Bureau is not a consumer protection agency and cannot act on behalf of consumers to obtain reimbursement or to settle disputes between parties. However, certain complaints regarding wireless services, such as those relating to false and misleading advertising, fall within the scope of the *Competition Act* and are therefore subject to the Bureau's oversight.

The Bureau was not able to provide PIAC with information about data roaming complaints it has received. The Bureau did note however that it has taken an active role in regulating false and misleading advertising practices within the telecommunications industry. In 2011, the Bureau signed a consent agreement with Bell Canada that required the provider to improve its advertising practices and pay an administrative monetary penalty of \$10 million dollars. This amount represents the maximum amount allowed by the civil provisions governing misleading advertising of the *Competition Act*.¹⁰⁴

Senate Standing Committee on Transport and Communications: "A Plan for Digital Canada"

In June 2010, the Standing Senate Committee on Transport and Communications issued a report entitled *A Plan for Digital Canada* which provides a comprehensive review of the current Canadian digital society. The scope of the final study was considerably expanded from the original proposal and among the reasons given for this were the growing popularity of smartphones and the substitution of cell phones as computers. The Committee noted that cell

¹⁰¹ Telecom Decision CRTC 2012-556, *Decision on whether the conditions in the mobile wireless market have changed sufficiently to warrant Commission intervention with respect to mobile wireless services*, (October 11, 2012).

¹⁰² Telecom Notice of Consultation CRTC 2012-557, *Proceeding to establish a mandatory code for mobile wireless services*, (October 11, 2012).

¹⁰³ Competition Bureau, online: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/home>.

¹⁰⁴ Competition Bureau, Press Release, "Competition Bureau Reaches Agreement with Bell Canada Requiring Bell to Pay \$10 Million for Misleading Advertising" (June 28, 2011) online: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03388.html>. See also *The Commissioner of Competition v. Bell Canada, Bell Mobility Inc. and Bell Expressvu Limited Partnership*, Competition Bureau CT – 2011-005 (June 26, 2011) online: <http://www.ctc.gc.ca/CasesAffaires/CasesDetails-eng.asp?CaseID=349>.

phones were no longer separate devices used for the transmission of voice calls and text messages but rather Canadians were increasingly accessing broadband from handheld and other wireless devices.¹⁰⁵ The report acknowledged the existence of ongoing irritants, such as bill shock from high roaming charges and the continuing high cost of roaming packages.¹⁰⁶

The Committee considered international developments regarding bill shock prevention.¹⁰⁷ In light of these findings, the report issued a recommendation that Industry Canada and the CRTC work with the Canadian Wireless Telecommunications Association (CWTA) and individual Canadian wireless services providers to develop a technological procedure for informing users when their usage will push their monthly bill past a set limit.¹⁰⁸ Unfortunately, this recommendation was not directly addressed in the Government's response to this report.

Federal Private Members Bill C-555

Private Member's Bill C-555, *The Telecommunications Clarity and Fairness Act*, was introduced in the second session of the 39th Parliament in June of 2008. The Bill sought to prohibit wireless service providers from levying additional fees or charges not part of a subscriber's monthly fee or monthly plan rate. The Bill also attempted to mandate the CRTC to engage in a public inquiry regarding competition, consumer protection and consumer choice issues relating to telecommunication services in Canada.¹⁰⁹ Following the dissolution of Parliament, however, the bill has not subsequently been re-introduced.

Ontario – The Wireless Phone, Smart Phone and Data Services Transparency Act, 2011

The *Wireless Phone, Smart Phone and Data Services Transparency Act 2011* or Bill 5 is a private member's bill that calls for greater consumer protection with regards to wireless phone services. Originally introduced by MPP David Oraziotti as Bill-133 in 2010, Bill 5 was re-introduced in November 2011 and received all party support in its second reading and was referred to the Standing Committee on General Government in December of the same year. The proposed act would require clearer disclosure practices for mandatory and optional services, including the disclosure of hidden fees and contract cancellation penalties, and would

¹⁰⁵ Senate, Standing Senate Committee on Transport and Communications, *Plan for a Digital Canada*, 40th Parliament, 3rd Session, (June 2010) at p. 11.

¹⁰⁶ Senate, Standing Senate Committee on Transport and Communications, *Plan for a Digital Canada*, 40th Parliament, 3rd Session, (June 2010) at p. 58.

¹⁰⁷ Senate, Standing Senate Committee on Transport and Communications, *Plan for a Digital Canada*, 40th Parliament, 3rd Session, (June 2010) at p. 45

¹⁰⁸ Senate, Standing Senate Committee on Transport and Communications, *Plan for a Digital Canada*, 40th Parliament, 3rd Session, (June 2010) at Appendix 1. High roaming charges and bill shock were extensively studied as can be seen in the Committee transcripts. For more information please see:

http://www.parl.gc.ca/Content/SEN/Committee/402/tran/05evce.htm?Language=E&Parl=40&Ses=2&comm_id=19.

Also, in a letter to the Committee issued on March 12, 2011, the Minister of Industry stated that the recommendations presented in *A Plan for a Digital Canada* will provide valuable input in the development of the Ministry's digital economy strategy.

¹⁰⁹ Parliament, Bill C-555, *An Act to Provide Clarity and Fairness in the Provision of Telecommunication Services in Canada*, 39th Parliament, 2nd Session (2008).

apply to performance agreements for cell phones, smart phones and wireless data devices signed in Ontario.¹¹⁰

Among other things, the bill proposes that wireless providers must notify consumers when they may incur additional charges as a result of exceeding usage limits or for attempting to use a service outside geographical limits set out in the agreement.

Quebec – Amendments to the Consumer Protection Act

The Quebec *Consumer Protection Act* was amended in June 2010 to include additional provisions addressing wireless contracts. Under the Act, these contracts are categorized as a contract involving sequential performance for a service provided at a distance.¹¹¹

Under the new provisions, a wireless provider must fulfill specific disclosure requirements with regards to a cell phone contract. In particular, the contract must be presented in writing and must include specific information concerning monthly charges and charges for additional services incurred for roaming services.¹¹² This information must be displayed at the very beginning of the contract and must be presented in a clear and legible manner.¹¹³

Manitoba – The Consumer Protection Amendment Act (Cell Phone Contracts)

The *Consumer Protection Amendment Act (Cell Phone Contracts)* amends Manitoba's *Consumer Protection Act* and aims to provide greater protection for consumers who enter into cell phone contracts.¹¹⁴ Among other things, the Act requires all important information about a wireless contract to be clearly set out at the beginning of the agreement.¹¹⁵ Of importance to the present discussion are the provisions that require a contract to include information on rates for

¹¹⁰ David Oraziotti, News Release, "Oraziotti Re-introduces Tough New Legislation to Reduce Cell Phone Costs" (November 23, 2011), online: <http://www.davidoraziotti.onmpp.ca/RELNOV232011.htm>. See also David Oraziotti, News Release, "Oraziotti's Cell Phone Bill Passes Second Reading in Ontario Legislature" (December 1, 2011), online: <http://www.davidoraziotti.onmpp.ca/RELDEC12011.htm>.

¹¹¹ Office de la Protection du Consommateur, online: http://www.opc.gouv.qc.ca/Webforms/NousJoindre/NousJoindre_En.aspx. See also Quebec, *Consumer Protection Act*, R.S.Q., chapter P-40.1 at Division VII.

¹¹² Quebec, *Consumer Protection Act*, R.S.Q., chapter P-40.1 at s. 214.2. This section provides an extensive list of mandatory information to be listed in a contract. With regards to international data roaming services, the applicable provisions appear to be subsections 214.2 (h) and (n) which read as follows:

(h) any restrictions on the use of the service or services as well as the geographical limits within which they may be used;

(n) the manner of easily obtaining information on the rate for services that are not provided under the contract, and the rate for services that are subject to restrictions or geographical limits as mentioned earlier.

¹¹³ Quebec, *Regulation respecting the application of the Consumer Protection Act*, c. P-40.1, r. 3 at s. 79.8.

¹¹⁴ Manitoba, *The Consumer Protection Amendment Act (Cell Phone Contracts)*.

¹¹⁵ Manitoba, Bill-35, *The Consumer Protection Amendment Act (cell phone contracts)*, 39th Legislature, 5th Session (2011) at s. 185(1).

additional use charges and details about optional services.¹¹⁶ This would require international data roaming rates to be clearly explained in wireless service contracts.¹¹⁷

Nova Scotia –Amendments to the Consumer Protection Amendment Act (Cell Phone Contracts)

In May 2012, Amendments to the Nova Scotia *Consumer Protection Act* were passed in response to public concerns around long-term wireless device contracts, silent extensions and high cancellation fees. Some of the protections proposed include:

- letting customers cancel their contract at any time, and limiting contract cancellation fees to no more than \$50. Customers will still be responsible for buying out their equipment if they cancel the contract early.
- restricting automatic contract renewals or extensions
- requiring cellphone service providers to include consumer protection information on responsible cellphone use with the contract.¹¹⁸

Wireless providers will also be required to provide more information about minimum monthly costs in their advertising. As well, wireless providers will not be able to change major parts of the contract, including service options, costs, fees, or areas of use without customer permission.

Newfoundland and Labrador –Amendments to the Consumer Protection and Business Practices Act

In June 2012, the House of Assembly of Newfoundland and Labrador passed amendments to the *Consumer Protection and Business Practices Act* that will require actions on the part of service providers of cell phones, residential phones, Internet, cable and satellite television, and remote surveillance services. This Bill would:

- prescribe information required to be disclosed by a supplier to a consumer in a contract;
- establish the circumstances under which a consumer or supplier may cancel or amend a contract;
- establish rules regarding cancellation fees;
- establish rules regarding the use of security deposits;
- prescribe information respecting warranties which is required to be disclosed by a supplier to a consumer; and

¹¹⁶ Manitoba, Bill-35, The Consumer Protection Amendment Act (cell phone contracts), 39th Legislature, 5th Session at para. 185(1)(h).

¹¹⁷ At the committee stage, Ms. Gloria Desorcy, a representative from the Consumers' Association of Canada, Manitoba Branch stated that activation fees, roaming charges and long-distance data fees can at times make a significant difference in a consumer's total bill. In her opinion, consumers would be more likely to make sound decisions and choose options they can afford if they are clearly informed about minimum monthly fees, optional service costs ahead of time and also about the tools available to them to minimize some of those costs.
http://www.gov.mb.ca/legislature/hansard/5th-39th/sed_04/sed_04.html.

¹¹⁸ Service Nova Scotia, "Province Protects Consumers," (April 27, 2012), online:
<http://novascotia.ca/news/release/?id=20120427001>.

- prescribe information required to be included when advertising goods or services which may be sold or provided under a contract.¹¹⁹

¹¹⁹ Newfoundland and Labrador, Bill 6, *An Act to Amend the Consumer Protection and Business Practices Act* (June 27, 2012), online: <http://www.assembly.nl.ca/business/bills/Bill1206.htm>.

APPENDIX E - A COMPARATIVE STUDY OF INTERNATIONAL DATA ROAMING RATES IN THE EUROPEAN UNION, UNITED STATES, AUSTRALIA, AND CANADA

During this investigation, research was undertaken to obtain the retail and wholesale international data roaming rates in the European Union, the United States, Australia and Canada. The average regulated wholesale and retail rates that are applied to residents of the European Union are included.

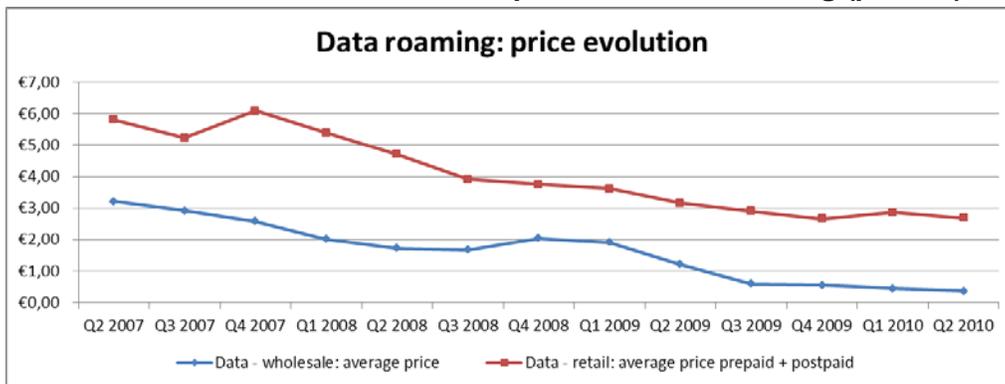
Retail Roaming Rates

European Union

The structure of the EU roaming market of 656 million subscribers has not substantially changed since the introduction of roaming regulation in 2007 in terms of actors in the market. While there are around 100 mobile network licences granted in 27 Member States, approximately half of these operators are subsidiaries of, or have co-operation agreements with, the four main market players.¹²⁰ As a result, almost 80% of EU citizens subscribe to one of the four main mobile groups.¹²¹ It can be argued the quasi-oligopolistic structure of the EU's mobile network industry, which is similar to what currently exists in Canada, has done little to encourage competition in the international roaming market. Simply put, neither the structure of Europe's mobile industry, or the roaming regulations imposed prior to 2012, have effectively compelled mobile operators to provide services at the lowest possible price.¹²²

The European Commission based this conclusion, in part, on the figures generated during the first year the wholesale international data roaming regulation was applied.

Figure E-1 Evolution of wholesale and retail prices for data roaming (per MB), 2007-2010



¹²⁰ European Commission, *Impact Assessment of Policy Options in Relation to the Commission's Review of the Functioning of Regulation (EC) No. 544/2009 of the European Parliament and the Council of 18 June 2009 on Roaming on Public Mobile Telephone Networks Within the Community*, Working Paper, June 2011, at p. 9.

¹²¹ European Commission, *Impact Assessment*, (June 2010) at p. 9.

¹²² European Commission, *Impact Assessment*, (June 2010) at p. 18.

Source: BEREC database on roaming data collection.¹²³

During that period (Q2 2009 and Q2 2010 in the chart above), wholesale rates decreased by about 70%, while retail rates declined by only about 15%.¹²⁴ Obviously, any decrease in price is beneficial to European consumers; however, the European Commission Vice-President Neelie Kroes in September 2010, noted that retail prices do not reflect the underlying cost for providing roaming services when margins over 95% can be observed.¹²⁵

This sentiment was part of the motivation for the implementation of the new regulation on retail international data roaming rates within the EU that was passed in June 2012 by the European Parliament. As shown by the following table, retail international data roaming rates within the EU will decrease by over 70% between 2012 and 2014.

Figure E-2 European Union's Current and Proposed Average Retail Price Caps

	1 July 2012	1 July 2013	1 July 2014 – 30 June 2017
Data (per MB)	70 cents	45 cents	20 cents

Source: Regulation (EU) No 531/2012 of the European Parliament and of the Council, Article 8, Article 10 and Article 13.

United States

While the United States has not followed the EU by regulating international data roaming rates, it is evident this industry has become a vibrant and dynamic segment of the U.S. economy. According to an independent assessment, the United States wireless industry was valued at \$195.5 billion in July 2012, which is larger than publishing, agriculture, and the air transportation industries.¹²⁶ More specifically, the CTIA reported in October 2010 that wireless service providers handled 161.5 billion MB of data during the first half of 2010, up 49.8 percent from the second half of 2009.¹²⁷

Given its sheer size, a U.S.-based consumer may expect a highly competitive market to fulfill their international roaming requirements. Unfortunately, our investigation of publicly available information reveals that in the United States, international data roaming rates appear to vary widely, depending upon the wireless service provider.

¹²³ Since Q1 2010, the BEREC database makes a distinction between retail tariffs applicable to prepaid versus post-paid customers. Therefore, a weighted tariff has been determined, based on respective volumes of roaming data services used by prepaid and post-paid customers. More precisely, on average for Q1 and Q2 2010; 13% of roaming data volumes was transmitted by prepaid user and 87% by postpaid subscribers. European Commission, Working Paper, June 2011, Page 11.

¹²⁴ European Commission, *Impact Assessment*, (June 2011) at p. 11.

¹²⁵ *Impact Assessment*, at p. 18 and Neelie Kroes, European Commission, "Vice-President for the Digital Agenda Telecoms markets – Working together for change Brussels", Speech/10/472 (September 23, 2010).

¹²⁶ Roger Entner, Recon Analytics, *The Wireless Industry: The Essential Engine of US Economic Growth*, (2012), online: <http://reconanalytics.com/wp-content/uploads/2012/04/Wireless-The-Ubiquitous-Engine-by-Recon-Analytics-1.pdf>.

¹²⁷ CTIA-The Wireless Association, "CTIA-The Wireless Association Releases Semi-Annual Survey on Wireless Trends", Press Release, (October 6, 2010) online: <http://www.ctia.org/media/press/body.cfm/prid/2021>.

The Federal Communications Commission advises consumers to educate themselves and contact their wireless service providers prior to departure to protect themselves from instances of bill shock.

Australia

In Australia's wireless industry, which generated \$17.8 billion in revenue during 2009-2010, wireless data services continue to see significant growth.¹²⁸ The Australian Mobile Telecommunications Association (AMTA) stated that during 2011, for the first time, the volume of data processed through wireless devices was double the volume of voice traffic.¹²⁹ In fact, the Australian Communications and Media Authority (ACMA) contends that mobile broadband services are an economic enabler within society and the provision of these services, technologies and applications in the wider community is in the public interest.¹³⁰

The Australian Competition & Consumer Commission (ACCC) in 2005, and a committee of the Austrian Parliament in 2009, reviewed the possibility of regulating international data roaming rates based on the model implemented in the European Union.

It can be speculated that these investigations, existing retail prices faced by Australians, and the fact that 1 in 5 Australian travelers are destined for New Zealand, laid the foundation for the Australian and New Zealand governments undertaking a joint market investigation into international wireless roaming rates. While roaming rates for Australian and New Zealand consumers have decreased in these countries since this investigation began, it is interesting to note the investigation itself may be a chief cause of the retail roaming rate reductions, according to the Trans-Tasman Roaming draft report, released in August 2012:

The current investigation, and with it the threat of legislation, will soon come to an end. It is not an established and enduring access regime; rather, it is an ad hoc process, difficult to establish and resource-intensive to run. Upon the conclusion of the investigation, a key component of the forces constraining New Zealand and Australian visited networks will disappear. We are concerned that the downward trend in wholesale margins is likely to flatten out upon conclusion of this investigation, as the threat of (effective) regulation recedes.¹³¹

Canada

As the Australian and New Zealand investigate methods to reduce international retail data roaming rate reductions, the Canadian wireless industry has been experiencing movement in retail prices for international data roaming. For instance, in April 2012, TELUS announced price reductions for international data roaming for customers traveling to Western Europe, Mexico

¹²⁸ Australian Mobile Telecommunications Association, *Annual Report*, 2011, at p. 6.

¹²⁹ Australian Mobile Telecommunications Association, *Annual Report*, 2011, Page 6.

¹³⁰ Australian Mobile Telecommunications Association, *Annual Report*, 2011, Page 6. From 2011 ACMA "*Towards 2020—Future spectrum requirements for mobile broadband*"

¹³¹ Commonwealth of Australia, Department of Broadband, Communications and the Digital Economy and New Zealand, Ministry of Business, Innovation and Employment, Draft Report, *Trans-Tasman Roaming* (August 2012) at p. 51

and Oceana from \$10/MB to \$5/MB and from \$25/MB to \$10/MB for those accessing their wireless devices from cruise ships.¹³² While this is encouraging news to consumers, some may argue that changes of this nature are long overdue, given the growth and popularity of Canada's wireless device industry.

In 2011, the number of Canadian wireless subscribers increased by 6.0%, following an 8.5% increase in 2010.¹³³ Moreover, a recent survey noted that 47% of Canadian wireless device users now have a data plan, representing a 20% increase since 2011.¹³⁴ As a result, this growth contributed to a 6.3% increase in revenue collected by the wireless sector in 2011, when compared to 2010 figures.¹³⁵

As an increasing number of Canadian consumers acquire smartphones and data plans, they are also beginning to embrace new entrant wireless service providers. In 2011, new wireless entrants captured approximately 4% of wireless subscribers and 2% of \$19.1 billion collected by the wireless industry in revenues.¹³⁶ However, even in the face of new entrants and exceptional growth, the average per-subscriber revenues actually increased from \$57.86 in 2010 to \$57.98 in 2011.¹³⁷

Not surprisingly, retail roaming rates for Canadian wireless subscribers vary from provider to provider. There appear to be three distinct price points for Canadian consumers when it comes to retail data roaming rates for international travel – rates for travel to the United States, rates for travel to Europe, and rates for travel to the rest of the world. Generally, it appears that a number of Canadian wireless service providers have attempted to provide competitive retail data roaming rates to those traveling to the United States. These efforts reflect the reality noted by one industry stakeholder that the vast majority of Canadian wireless consumers visit the United States more than any other country.¹³⁸ Some wireless providers offer data add-on plans. However, PIAC noted in its scan of retail roaming rates that many add-ons require consumers to purchase plans for large amounts of data that are only valid for a short period of time, such as 30 days, regardless of whether the full data amount is used or not.

Wholesale Roaming Rates

European Union

As previously noted, the European Union introduced international data roaming regulation in 2007, and there are around 100 wireless network licences granted in 27 Member States.¹³⁹

¹³² Ian Hardy, "TELUS cuts international roaming rates again, data pay-per-use drops to \$5/MB" MobileSyrup, online: <http://mobilesyrup.com/2012/04/09/telus-cuts-international-roaming-rates-again-data-pay-per-use-drops-to-5mb/>.

¹³³ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report*, (September 2012) at p. iii. 2011 marks the fifth consecutive year this rate has surpassed 6%.

¹³⁴ Quorus Consulting Group, "2012 Cell Phone Consumer Attitudes", (April 23, 2012) at p. 5.

¹³⁵ CRTC, *Communications Monitoring Report*, (September 2012) at p. 165.

¹³⁶ CRTC, *Communications Monitoring Report*, (September 2012), at p. iii.

¹³⁷ CRTC, *Communications Monitoring Report*, (September 2012) at p. 165.

¹³⁸ Rogers response to PIAC questionnaire (2011).

¹³⁹ European Commission, *Impact Assessment of Policy Options in Relation to the Commission's Review of the Functioning of Regulation (EC) No. 544/2009 of the European Parliament and the Council of 18 June 2009 on Roaming on Public Mobile Telephone Networks Within the Community*, Working Paper, (June 2011), at p. 9.

While on its face, this might indicate an effective, competitive market, the European Commission has recently suggested that neither the large number of retail suppliers, nor the regulations imposed, have created the conditions where wireless operators to provide services at the lowest possible price.¹⁴⁰ However, at the wholesale level, a case can be made that the EU's roaming regulations have been quite effective. For instance, in the first year of application of wholesale data roaming price caps, occurring in 2009-2010, wholesale prices decreased by about 70%.¹⁴¹ Moreover, wholesale SMS and voice roaming rates within the EU have dropped on average by at least 50% since 2007.¹⁴²

In response to the wireless industry's reluctance to provide services at the lowest possible price, and in a continuing effort to ensure that residents of the European Union do not pay excessive prices for EU-wide roaming services, the European Parliament passed a new regulation in June 2012. The regulation is aimed at fostering competition and transparency in the wireless services market while offering incentives for innovation.

As a result of the passage of this regulation, the following price guidelines have now been placed on wireless service providers within the European Union:

Figure E-3 European Union's Current and Proposed Average Wholesale Price Caps

	1 July 2012	1 July 2013	1 July 2014 – 30 June 2022
Data (per MB)	25 cents	15 cents	5 cents
Voice (per minute)	14 cents	10 cents	5 cents
SMS (per SMS)	3 cents	2 cents	2 cents

Source: Regulation (EU) No 531/2012 of the European Parliament and of the Council, Article 7, Article 9 and Article 12.

United States

In the United States, there were more than 322 million wireless devices active in 2011, and the wireless industry generated \$195.5 billion in economic activity in the 12 months from July 2010 to June 2011.¹⁴³ While resellers and Mobile Virtual Network Operators (MVNOs) purchase minutes at wholesale prices from facilities-based mobile service providers, the contractual agreements between mobile network operators and resellers or MVNOs are generally not publicly available.¹⁴⁴ As a result, it is difficult to track wholesale pricing in the United States mobile wireless sector in a comprehensive manner.

¹⁴⁰ European Commission, *Impact Assessment*, (June 2011) at p. 18.

¹⁴¹ European Commission, *Impact Assessment*, (June 2011) at p. 11.

¹⁴² European Commission, *Impact Assessment*, (June 2011) at p. 10.

¹⁴³ Roger Entner, Recon Analytics, *The Wireless Industry: The Essential Engine of US Economic Growth*, (2012), online: <http://reconanalytics.com/wp-content/uploads/2012/04/Wireless-The-Ubiquitous-Engine-by-Recon-Analytics-1.pdf>.

¹⁴⁴ Federal Communications Commission, *15th Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, (June 27, 2011) at p. 122.

That being said, one industry analyst estimated the pricing for Sprint Nextel's wholesale deal with Virgin Mobile USA prior to Sprint Nextel's acquisition of Virgin Mobile in November, 2009. According to this analyst, Virgin Mobile paid Sprint Nextel approximately \$0.02 per minute on average.¹⁴⁵ Based on Virgin Mobile's retail pricing structure, the analyst estimated that Sprint Nextel received about 25 percent of the revenues generated by an average Virgin Mobile customer.¹⁴⁶

In 2010, the Federal Communications Commission (FCC) prepared a working document contemplating whether a wholesale data roaming tariff should be applied across the United States.¹⁴⁷ During the consultation process that followed, the country's larger wireless service providers, AT&T and Verizon, strongly objected to the proposed plan, claiming existing data-roaming contracts were sufficient. Meanwhile, smaller wireless providers argued that without the change, their larger competitors would be in a position to strong-arm them into paying excessive fees to enable their customers to roam outside their coverage zones.¹⁴⁸ The smaller providers feared that as a result of these fees being passed on to the consumer, customers may well choose to leave for one of the two national incumbents. Thus, the larger networks would effectively stifle any hope that the challenger companies would have in establishing and building customer bases.¹⁴⁹

In April 2011, the FCC adopted rules for national roaming requiring major carriers to offer "reasonable" rates to their domestic rivals.¹⁵⁰ However, it did so in a 3-2 vote, and, as a result, Verizon Wireless and AT&T sought to appeal the decision.¹⁵¹ Subsequently, as a condition of a spectrum purchase, Verizon agreed to adhere to these rules for 5 years in August 2012.¹⁵²

Australia

Meanwhile, the Government of Australia, as noted previously, has been engaged in a strategy of developing bilateral and multilateral arrangements for wholesale roaming charges, highlighted by the joint market investigation into international wireless roaming between Australia and New Zealand. However, unlike the experience in the European Union, negotiations for bilateral and multilateral arrangements in an effort to regulate wholesale roaming charges remain at the discussion phase. This lack of progress has become increasingly frustrating for Australian

¹⁴⁵ Federal Communications Commission, *15th Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless*, (June 27, 2011) at p. 122.

¹⁴⁶ Federal Communications Commission, *15th Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless*, (June 27, 2011) at p. 122.

¹⁴⁷ SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011) at p. 7.

¹⁴⁸ SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011) at p. 11.

¹⁴⁹ SeaBoard Group, *A Tide in the Affairs of Men*, (May 2011) at p. 11.

¹⁵⁰ Jasmin Melvin, "FCC mandates wireless data roaming," Reuters, (April 7, 2011) online: <http://www.reuters.com/article/2011/04/07/us-fcc-data-roaming-idUSTRE7365VG20110407>.

¹⁵¹ Ewan Sutherland, "A review of international mobile roaming to December 2011" (January 2012) at p. 14.

¹⁵² Phil Goldstein, "FCC approves Verizon's \$3.9B AWS purchase, T-Mobile spectrum swap" Fierce Wireless, (August 23, 2012), online: <http://www.fiercewireless.com/story/fcc-approves-verizons-39b-aws-purchase-t-mobile-spectrum-swap/2012-08-23>.

consumers, as complaints to the Australian Telecommunications Industry Ombudsman regarding international wireless roaming charges increased about 80% in 2010 alone.¹⁵³

In 2005, the ACCC investigated whether it had the jurisdiction to regulate roaming charges set by providers in overseas jurisdictions. The ACCC concluded it is unlikely that it has jurisdiction over the setting of wholesale prices by overseas providers or over telecommunications services established outside Australia.¹⁵⁴ Further, the ACCC noted that, even if it did have jurisdiction over the wholesale cost setting behaviour of overseas wireless network providers, it would be impractical to regulate the wholesale costs set by the large number of overseas wireless network providers on whose networks Australian consumers could potentially roam while travelling overseas.¹⁵⁵

During the 2009 investigation into international wireless roaming by the Australian House of Representatives Committee on Communications, the model of wholesale regulation employed by the European Union was examined. It was determined that due to the structural arrangement of the EU, the goal of negotiating and implementing roaming regulation in that jurisdiction was more achievable than it would be in other regions of the world.¹⁵⁶

Canada

While there currently is no wholesale regulation of international data roaming rates in Canada, the submissions PIAC received from industry stakeholders revealed a few instructive insights. When asked for their views on the desirability of applying the EU approach to regulating wholesale roaming rates in Canada, WIND Mobile responded that it would have no objections to such regulation.¹⁵⁷ In fact, WIND noted it would be desirable for consumers since it would increase consumer comfort with their wireless devices.¹⁵⁸ In response to the same question, TELUS expressed no view on the EU approach to regulating roaming rates. However, TELUS did contend that wholesale telecommunication service rates are not regulated by the CRTC since the provision of these services is subject to competition sufficient to protect the interests of consumers. Therefore, TELUS currently sees no need for regulatory intervention respecting wholesale telecommunication service rates.¹⁵⁹

Rogers meanwhile suggests that the EU approach to regulating wholesale data roaming rates is not international at all and is similar to the Canadian government regulating data roaming rates between provinces within Canada. This argument is based on the notion that the EU has not proposed regulating wholesale data roaming rates when EU residents travel outside the EU, nor

¹⁵³ Australia, Telecommunications Industry Ombudsman, *TIO Talks* (January 2011), online:

http://www.tio.com.au/data/assets/pdf_file/0003/8814/TIOTalks_No1_2011.pdf at p. 3.

¹⁵⁴ Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 32.

¹⁵⁵ Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 32.

¹⁵⁶ Commonwealth of Australia, House of Representatives Standing Committee on Communications, Report, *Phoning Home, Inquiry into International Mobile Roaming* (March 2009) at p. 33.

¹⁵⁷ WIND Mobile response to PIAC questionnaire (2011).

¹⁵⁸ WIND Mobile response to PIAC questionnaire (2011).

¹⁵⁹ TELUS response to PIAC questionnaire (2011).

the wholesale rates non-EU residents are charged when they use roaming services within the EU. As a result, Rogers concludes the EU initiatives to regulate wholesale data roaming rates do not provide a useful model for the regulation of these rates in Canada, stating that under such a model, foreign customers would benefit, while Canadians traveling abroad would see little improvement in their roaming rates.¹⁶⁰

On the question of whether the CRTC should regulate wholesale data roaming rates, Rogers maintains the Canadian wireless market is fiercely competitive. As evidence, Rogers notes the existence of as many as six wireless carriers as well as a number of resellers and mobile virtual network operators (MVNOs) in a number of urban markets.

¹⁶⁰ Rogers response to PIAC questionnaire (2011).

APPENDIX F - GLOSSARY OF ACRONYMS

ACCAN	Australian Communications Consumer Action Network
ACCC	Australian Competition and Consumer Commission
ACMA	Australian Communications and Media Authority
AIMIA	Australian Digital Industry Association
AMTA	The Australian Mobile Telecommunications Association
DBCDE	Australian Department of Broadband, Communications and the Digital Economy
BEREC	Body of European Regulators of Electronic Communications
CCTS	Commissioner for Complaints for Telecommunications Services
CDG	CDMA Development Group
CDR	Call Detail Record
CDMA	Code Division Multiple Access
CRTC	Canadian Radio-television and Telecommunications Commission
CTIA	The Wireless Association - an international nonprofit membership organization that has represents the wireless communications industry
CWTA	Canadian Wireless Telecommunications Association
FCC	Federal Communications Commission
GSMA	Groupe Speciale Mobile Association
HSPA	High Speed Packet Access
IOT	Inter-operator Tariff
LTE	Long Term Evolution Networks
MNO	Mobile Network Operator
MVNO	Mobile Virtual Network Operators
MMS	Multimedia Messages
OECD	Organization for Economic Co-operation and Development
RPM	Revenue per Minute
SIM	Subscriber Identity Module
TAP	Transferred Account Procedure