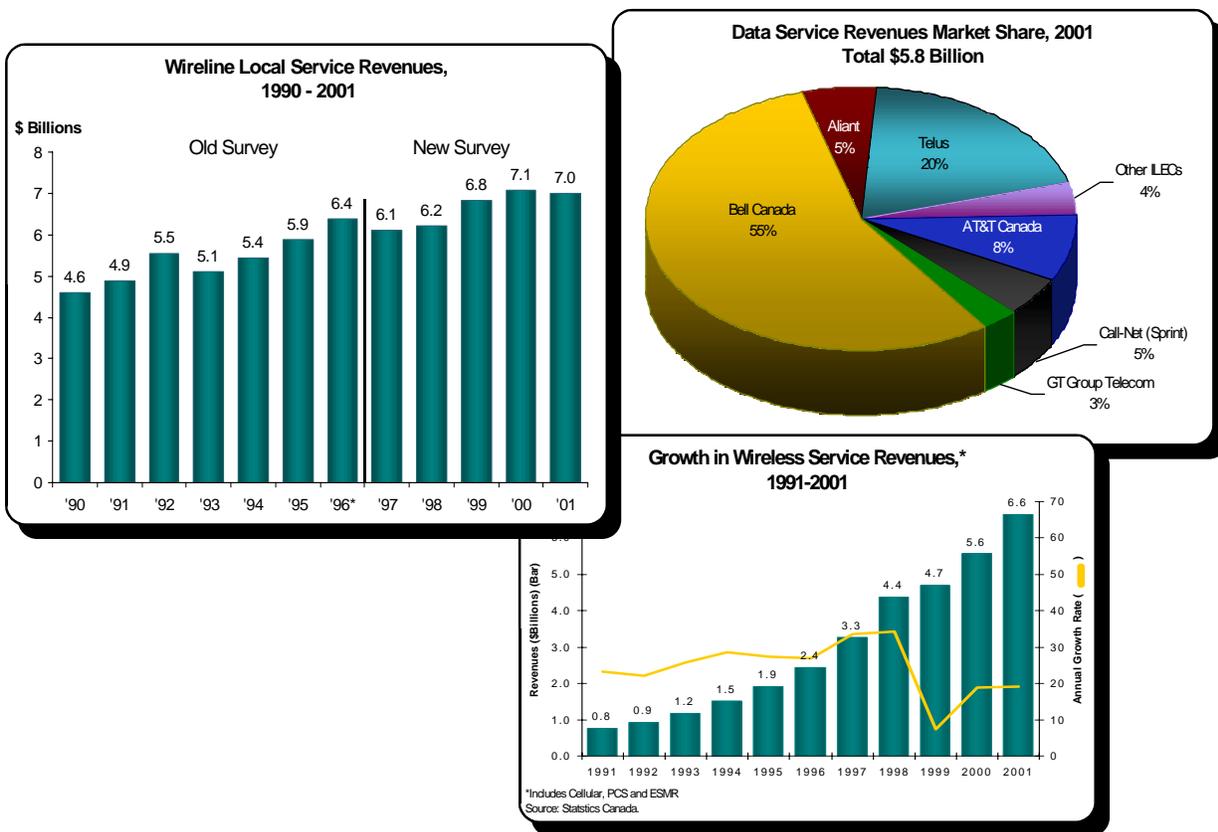


2.0 Market Segments¹

The following provides a detailed description of the telecommunications service industry’s different segments, focusing on wireline local and long distance, wireless services and international telecommunications markets. In addition, it examines the major participants in the wireline and wireless market segments and historical revenue trends for the sectors as a whole.

Highlights for 2001 are provided below:

- For the first time since 1992, revenue from wireline local services declined in 2001 to \$7.0 billion from \$7.1 billion in the previous year.
- Growth of 22.3 percent from 2000 to 2001 allowed data revenues to reach \$5.8 billion.
- In 2001, total wireless revenue was \$6.6 billion, an increase of \$1.1 billion, or 19.0 percent.

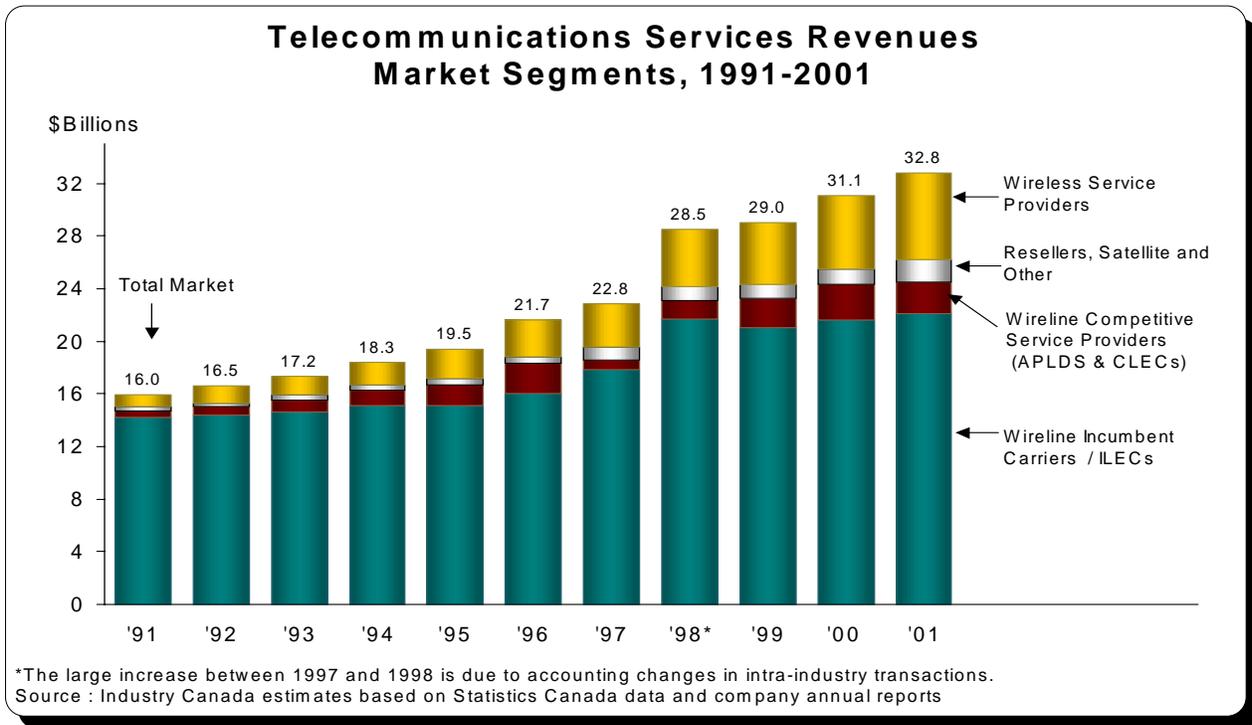


¹ This section provides data taken primarily from the Statistics Canada publication on telecommunications service providers, “Quarterly Telecommunications Statistics: 4th Quarter” (Catalogue No. 56-002-XIE), augmented by data on specific company Web sites. Some aggregate telecommunications data may differ from data presented in Section 1 due to differences in survey structure.

2.1 Canadian Telecommunications Service Market

In 2001, the total annual operating revenue for the telecommunications service industry was \$32.8 billion, an increase of 5.5 percent as compared to 2000 revenues (Figure 2-1 and Figure 2-2). From 1998 to 2001, total telecommunications services revenue has grown at an average annual rate of 4.8 percent.* Since 1998, the majority of the increases in total revenue stem from growth in the wireless segment, which has increased at an average annual rate of 14.9 percent. Conversely, the revenues generated by the wireline incumbents and competitor segments, as well as the resellers, satellite and other market segments, have been relatively stagnant since 1998, and in some cases these segments have witnessed small declines.

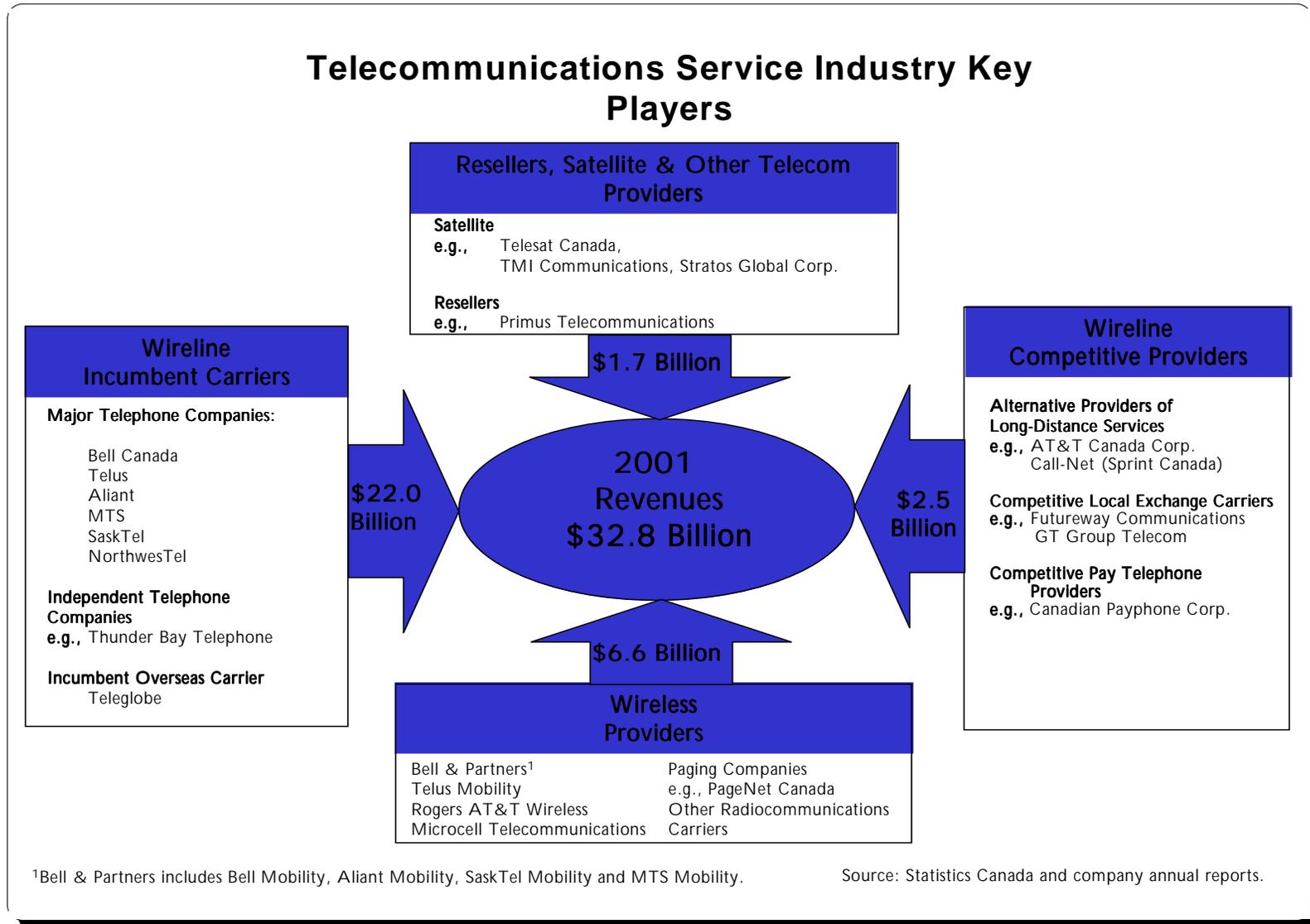
Figure 2-1



In 2001, the wireless service providers had the most extensive increase in revenues which grew by \$1.1 billion, or 19.0 percent, as compared to 2000. The resellers, satellite and other telecommunications service providers revenues increased by \$512 million, a 44.4 percent increase over 2000. Revenues for the wireline incumbent carriers increased by a more modest 1.9 percent, or \$525 million, over the same period. Conversely, revenues earned by the wireline competitive service providers declined by \$336 million, or 9.2 percent, in 2001 (Figure 2-1).

* The large increases in revenues between 1997 and 1998 are due to accounting changes, specifically the treatment of intra-industry transactions (e.g. interconnection, contribution). Since 1998, these transactions were reported on a gross basis, as opposed to a net basis.

Figure 2-2



The **Wireline Incumbent Carriers** segment is the largest in terms of annual revenue capturing 67.1 percent, or \$22.0 billion, of the total \$32.8 billion telecommunications services revenue in 2001. Incumbent Local Exchange Carriers (ILECs) include Bell Canada, Telus Communications, Aliant Communications, MTS Communications, and SaskTel. This segment also comprises 44 independent telephone companies operating in Quebec, Ontario, and Prince Rupert, British Columbia (Figure 2-2, Appendix B, Table B-2, Table B-3).

The **Wireline Competitive Service Providers** include all telecommunications service providers (carriers and non-carriers) competing with the incumbent carriers in various local and long distance service markets. In 2001, these service providers captured 7.6 percent of the market with revenues of \$2.5 billion. Major Alternative Providers of Long Distance Services (APLDS) include AT&T Canada and Call-Net (Sprint Canada) (Appendix B, Table B-4). Competitive Local Exchange Carriers (CLECs) include GT Group Telecom, Futureway Communications and Eastlink Limited (Appendix B, Table B-5, Table B-6, and Table B-7). In addition, this segment includes Modern Digital Communications Inc., Alternacall Inc., I-Link Communications, and 235 other licensed international service providers (Appendix B, Table B-12, and Table B-13).

In 2001, the **Wireless Service Providers** segment generated \$6.6 billion in revenues, securing 20.1 percent of the telecommunications services market. This segment includes Bell and its partners,² Telus Mobility, Rogers AT&T Wireless and Microcell Telecommunications. It also includes paging companies and other radiocommunication carriers, such as mobile radio dispatch service providers (Appendix B, Table B-10).

The **Resellers, Satellite and Other Telecommunications Services** segment, the smallest segment with a share of the total revenue of 5.2 percent, contributed \$1.7 billion in revenues to the Canadian telecommunications service industry (Appendix B, Table B-11). Most of these revenues came from the telecommunications resellers, such as Primus Telecommunications, of which there are now 496 operators registered with the Canadian Radio-television and Telecommunications Commission (CRTC) (Appendix B, Table B-8, Table B-14).³ The satellite service market includes Telesat Canada, TMI Communications and Stratos Global Corporation.

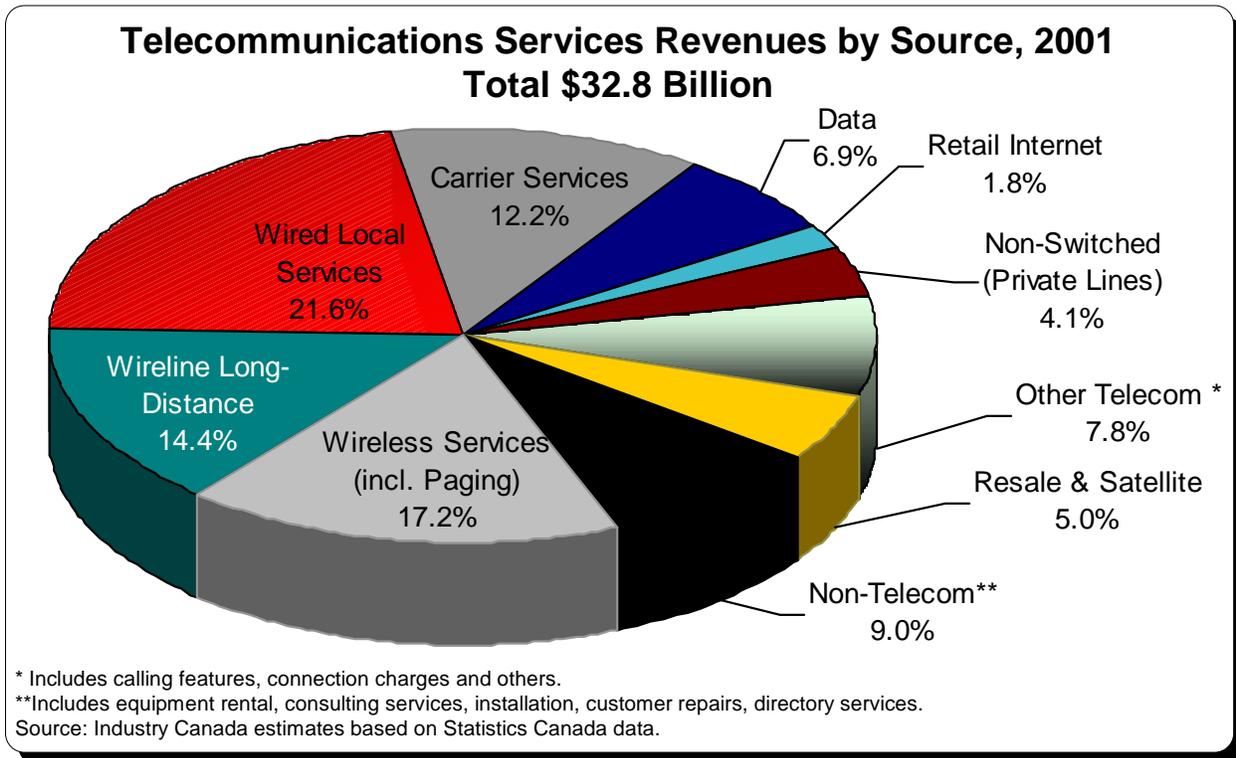
Figure 2-3 breaks down the industry revenues by source. In 2001, wired local services generated the largest share of revenues at 21.6 percent (\$7.0 billion). Wireless services, including revenue from paging services, accounted for another 17.2 percent (\$5.1 billion) followed by wireline long distance with 14.4 percent (\$4.7 billion). The remaining \$15.6 billion in revenues came from the provision of carrier services (12.2 percent), calling features, connection charges and other telecom services (7.8 percent), data (6.9 percent), non-switched private lines (4.1 percent),

² Bell and its partners include Bell Mobility, Aliant (amalgamation of IslandTel Mobility, MT&T Mobility, NBTel Mobility, NewTel Mobility as of January 1, 2001), MTS Mobility and SaskTel Mobility.

³ The CRTC and Industry Canada do not verify the accuracy of information provided by the resellers. Consequently, the list of 496 resellers may include companies no longer in operation.

resale/satellite (5.0 percent), non-telecom services (9.0 percent) and retail Internet services (1.8 percent).⁴

Figure 2-3



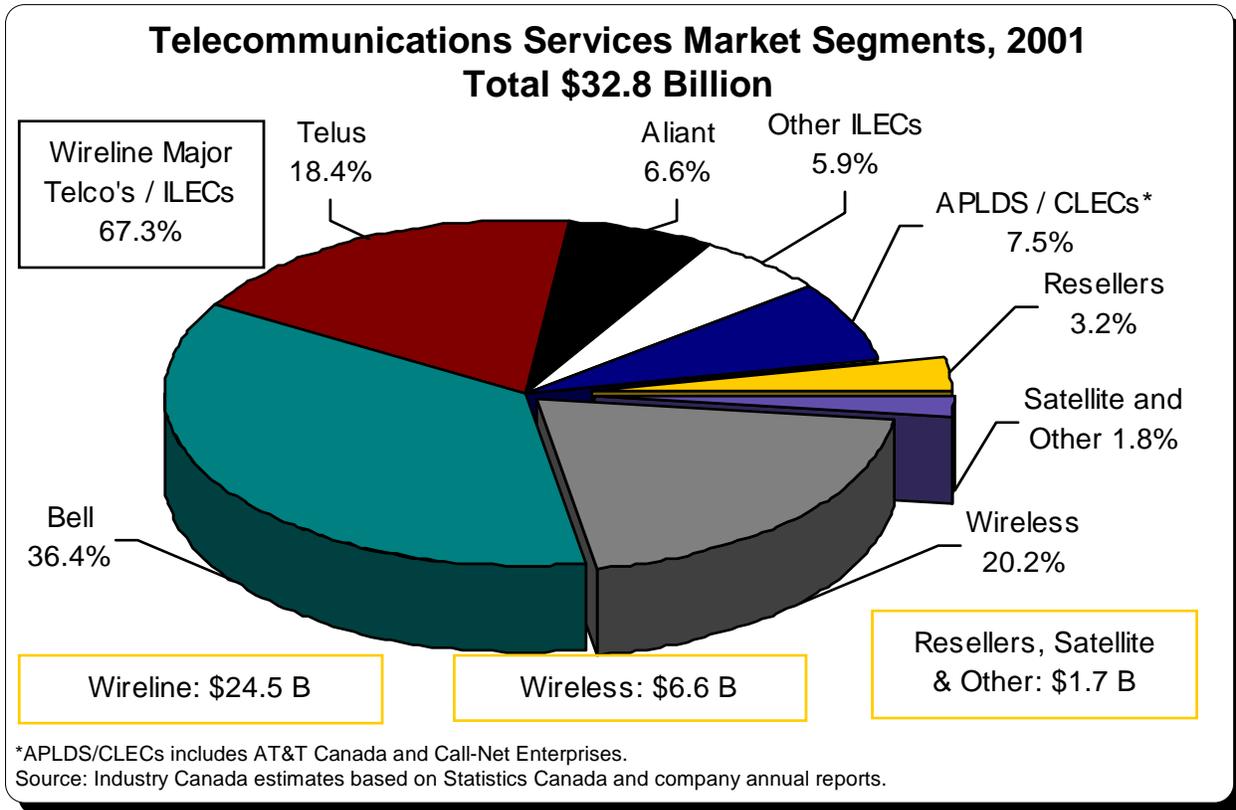
In 2001, the wireline local and long-distance markets respectively declined by 1.9 percentage points and 3.7 percentage points compared to 2000. Growing in importance, the share of wireless services revenue rose by 1.9 percentage points and the resale and satellite segment increased by 1.3 percentage points. Likewise, the shares of revenues for data and retail Internet services both increased by 0.9 percentage points. The remaining sources of revenue remained relatively stable in 2001 (Figure 2-3).

Between 2000 and 2001, changes occurred in the shares held by the respective market segments. The wireless service providers and the resellers/satellite segments increased their shares of the total telecommunications services revenue by 2.2 percentage points and 1.3 percentage points, respectively, at the expense of the wireline incumbent and competitive carriers. Consequently, the wireline segment fell by 3.5 percentage points (Figure 2-4). This decline can be explained

⁴ The retail Internet services component includes only those telecommunications companies that do not have a separate operating division or a subsidiary as their Internet Service Provider (ISP). It does not include independent ISPs or cable Internet service providers. Consequently, this value does not represent the total revenue of the ISP industry. Similarly, the data component of revenue includes part of the wholesale Internet revenues.

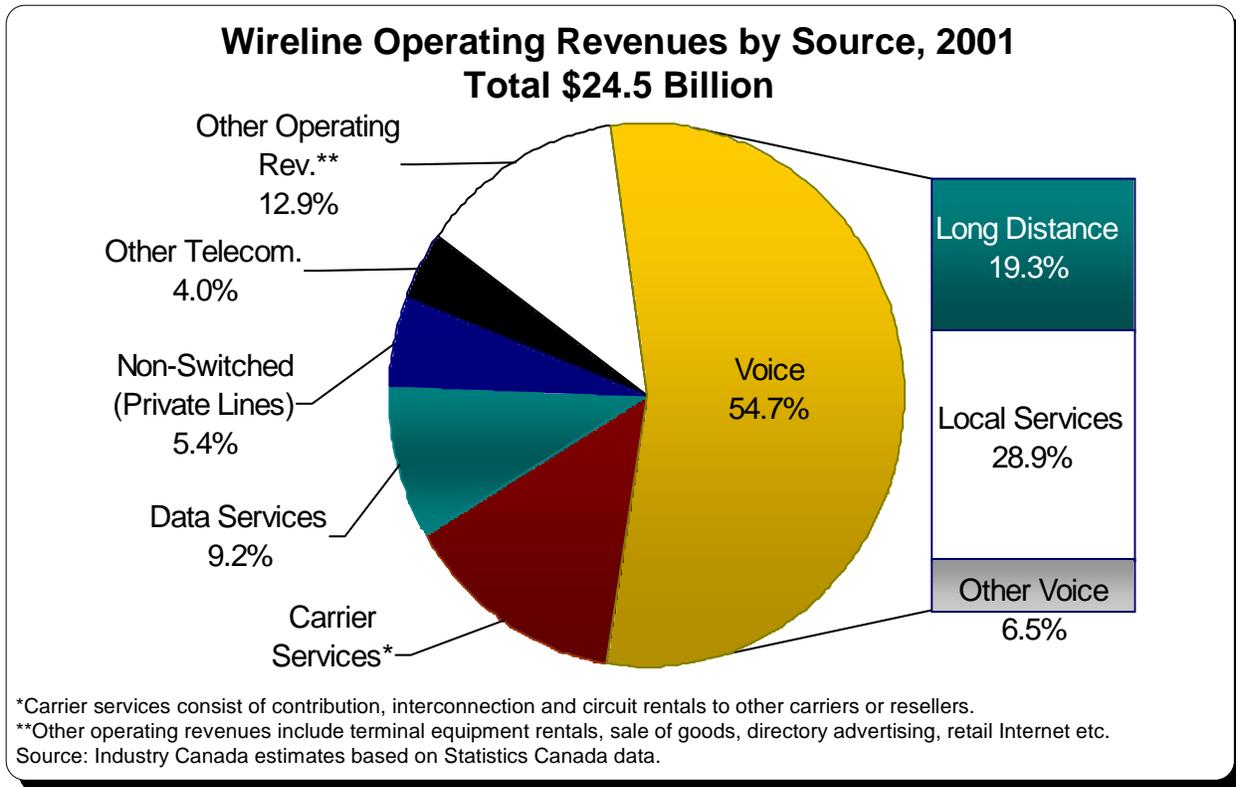
primarily by the fall in the shares of the revenue held by Bell Canada and the wireline APLDS and CLECs, which decreased by 1.2 percentage points for both segments. The other ILECs' share of the revenue declined by 0.9 percentage points while the shares for Telus and Aliant were relatively stable, changing by plus or minus 0.1 percentage points from 2000-2001.

Figure 2-4



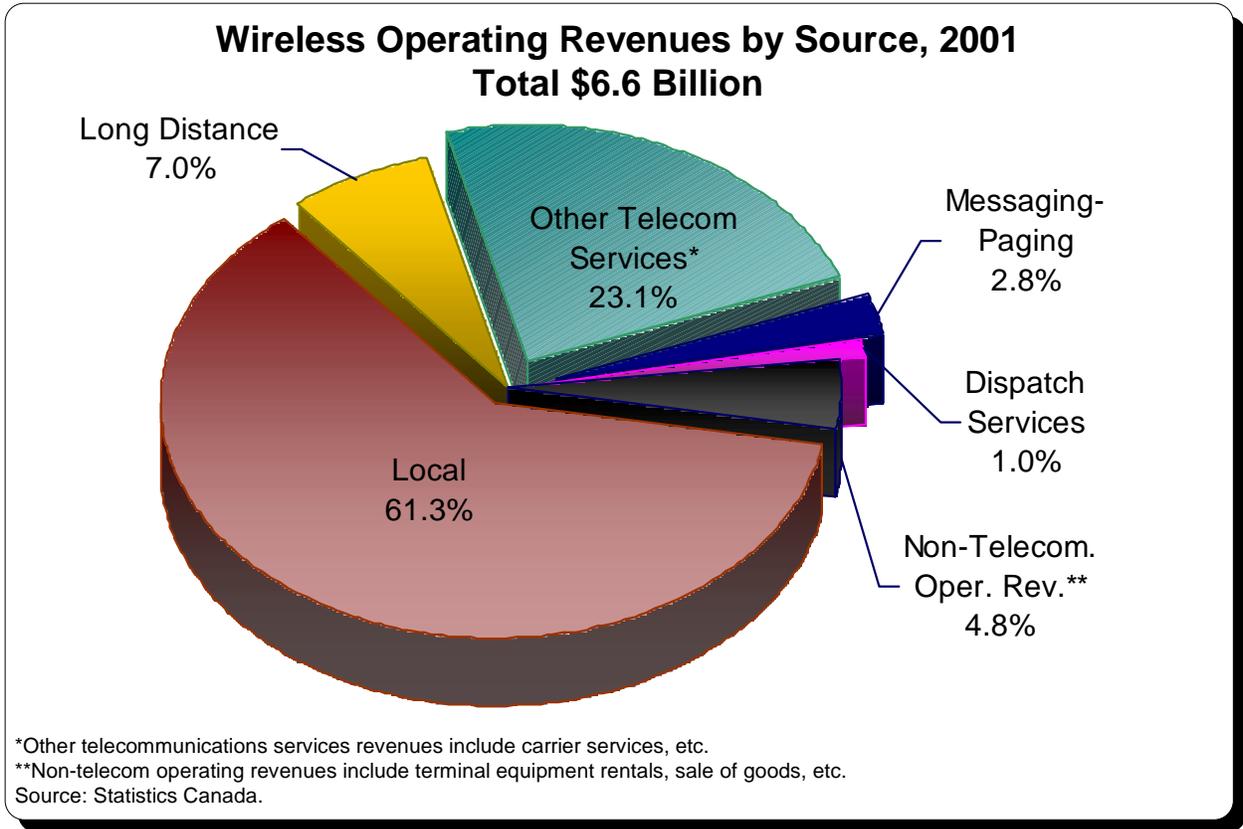
Wireline voice services made up 54.7 percent of the \$24.5 billion in wireline operating revenues in 2001. However, this represents a decline in relative importance from 2000, as the shares of local and long distance voice services decreased by 1.1 percentage points and 3.8 percentage points, respectively. The decline of voice services as a source for wireline revenues was compensated primarily by the 1.5 percentage point increase in data services' share of the revenues and the 2.5 percentage point increase in the share of other operating revenues, comprised of terminal equipment rentals, sale of goods, and directory advertising among other services. Similarly, the share of total wireline revenue earned from non-switched, or private line, services increased by 1.0 percentage point from 2000-2001 (Figure 2-5).

Figure 2-5



Local wireless telephony accounted for 61.3 percent of the total \$6.6 billion in wireless telecommunications revenues generated in 2001 (Figure 2-6). Despite wireless revenues from local services growing by 12 percent in 2001, its share of total wireless revenues decreased by 4.4 percentage points. Similarly in 2001, the share of wireless long-distance, at 7 percent of total wireless revenue, fell by 0.9 percentage points while messaging/paging, dispatch and non-telecom’s revenue shares also declined by 1.0, 0.2, and 1.5 percentage points, respectively. The only wireless source of revenue to increase in importance from 2000 to 2001 was ‘other telecom services’, comprised of ‘carrier and other services’, which increased by 8.0 percentage points.

Figure 2-6

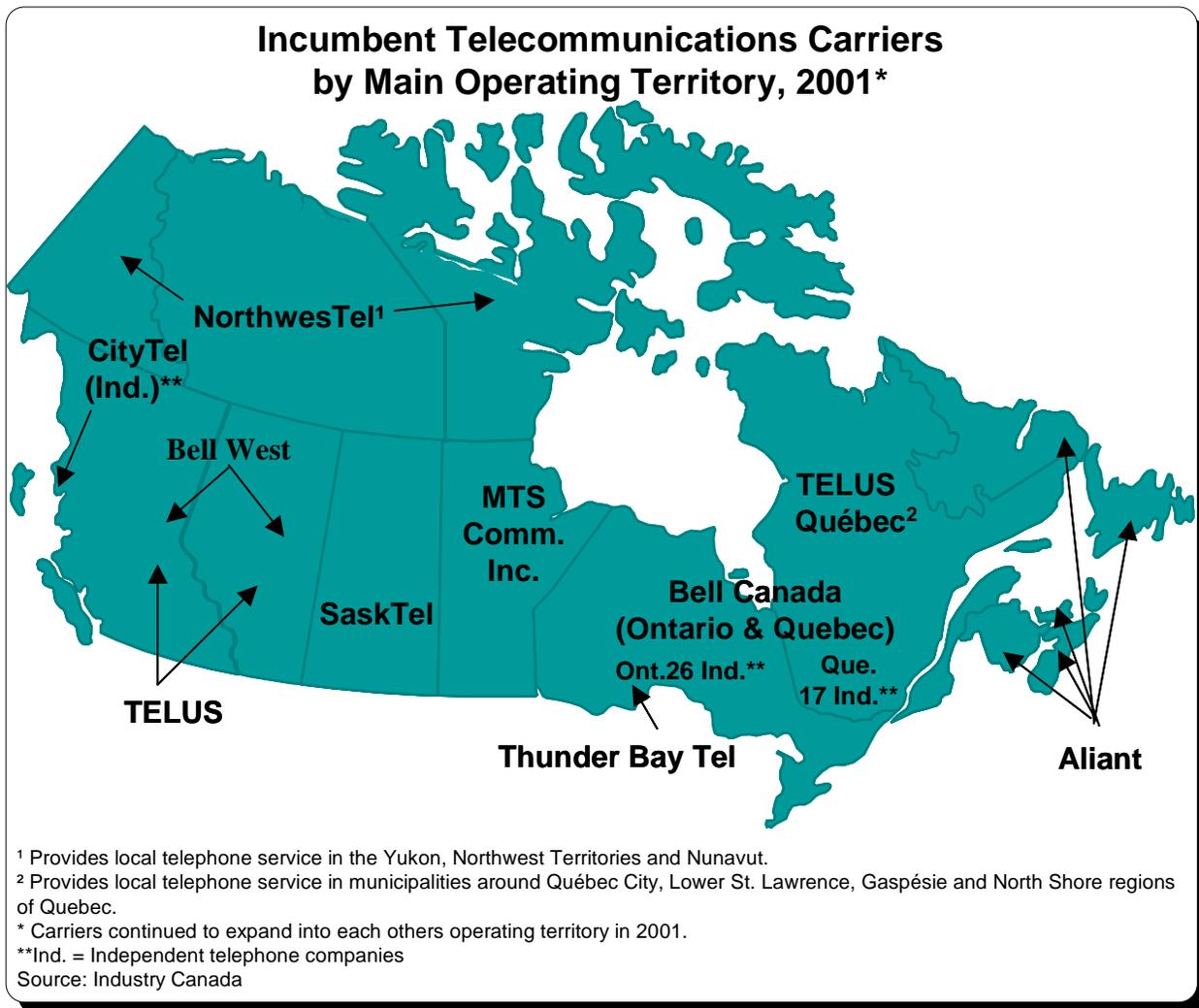


2.2 Wireline Local Services Market

The local service segment of the telecommunications market is largely made up of revenues generated from providing households and businesses with wireline access to the Public-Switched Telephone Network (PSTN).⁵

Most of the wireline local service market is controlled by the Incumbent Local Exchanger Carriers (ILECs) listed in Figure 2-7 and in Appendix B, Table B-2 and Table B-3.

Figure 2-7



⁵ Public Switched Telephone Network (PSTN) individual access line, as defined by Statistics Canada, is a subscriber line arranged to serve one main telephone. This includes PBX (private branch exchange) lines for businesses that have corresponding dedicated ports in the telephone exchange equipment.

Aliant Communications provides local wireline services in the Maritime provinces and Newfoundland. Bell Canada provides these service in both Ontario and Quebec. Telus provides local services in British Columbia, Alberta and parts of Quebec. NorthwesTel provides these services in the Northwest Territories, Nunavut, the Yukon Territory and parts of northern British Columbia.

Since 2000, increased efforts were made by Telus to enter into BCE's traditional operating area through several acquisitions.⁶ With the purchases of QuébecTel, the Quebec assets of Axxent, as well as Williams Communications' and PSINet's Canadian operations and facilities, Telus rapidly strengthened its position in Eastern Canada. Most recently, in March 2002, Telus further committed itself to eastward expansion by acquiring all of Metromedia Fiber Network Services' interest in a joint-venture company established to construct a fibre network in the City of Toronto.⁷

There are also 44 registered independent telephone companies that provide local and long-distance telephone services to specific rural communities. There are currently 17 independent companies in Quebec, 26 in Ontario, and one in Prince Rupert, British Columbia (Appendix B, Table B-3). Some of these independent telephone companies have private ownership, but most are either municipally owned or operating as customer cooperatives.

In order to provide facilities-based services in the local telephone service market, companies other than the ILECs must register with the CRTC as CLECs on a local exchange basis.⁸ Thirty-six companies have either registered with the CRTC as CLECs or registered their intention to become CLECs in approximately 85 local exchanges. Of these exchanges, many are still in the planning stage, in that competition has not yet been implemented or an actual implementation date has not yet been set. To date, competition exists primarily in urban cores serving high-traffic business customers and high-density urban residential developments (Appendix B, Table B-5).

One of the first CLECs to rollout local service was MetroNet Communications Corp., which has become part of what is now AT&T Canada. It began providing local service in Calgary, Montréal, Toronto and Vancouver in December 1997. As of May 2002, AT&T Canada's local telephone operations had expanded into 16 local exchanges in the markets of Bell Canada and Telus (Appendix B, Table B-6).

⁶ Likewise, Bell Canada has captured business customers in traditional Telus operating territory through Bell Nexia and Bell Intrigna.

⁷ Telus also purchased the national wireless company Clearnet Communications in January 2001.

⁸ The framework for local competition was set up in the CRTC's *Telecom Decision CRTC 97-8, Local Competition, May 1, 1997*. See www.crtc.gc.ca/archive/ENG/Decisions/1997/DT97-8.HTM.

Since this early entrant, other CLECs have started to provide local telephone service. For example, Call-Net Communications Inc. competes in 24 local exchanges, Futureway Communications in 15, and GT Group Telecom in 11 local exchanges. Currently, there is no single CLEC operating in the markets of all the ILEC exchanges. AT&T is in all ILEC operating territories except for Manitoba Telephone System (Table 2-1 and Appendix B, Table B-6). In addition to these telecommunications wireline entrants, wireless providers (i.e. Microcell) have registered as CLECs, primarily to be eligible for number portability and the portable contribution.

Table 2-1

Number of ILEC Exchanges Targeted by CLECs*				
CLECs \ ILECS	Manitoba Telephone System (Manitoba)	Aliant Communications (Atlantic Canada)	Telus (British Columbia and Alberta)	Bell Canada (Quebec and Ontario)
AT&T		1	4	11
Call-Net			7	17
GT Group Telecom	1		3	7
Futureway				15
Others	1	3	33	61

* Since many exchanges are targeted by more than one company, the numbers reflect double counting; it is estimated that there are 85 exchanges identified as possible markets by the registered CLECs.
Source: Industry Canada estimates based on CRTC Website, www.crtc.gc.ca

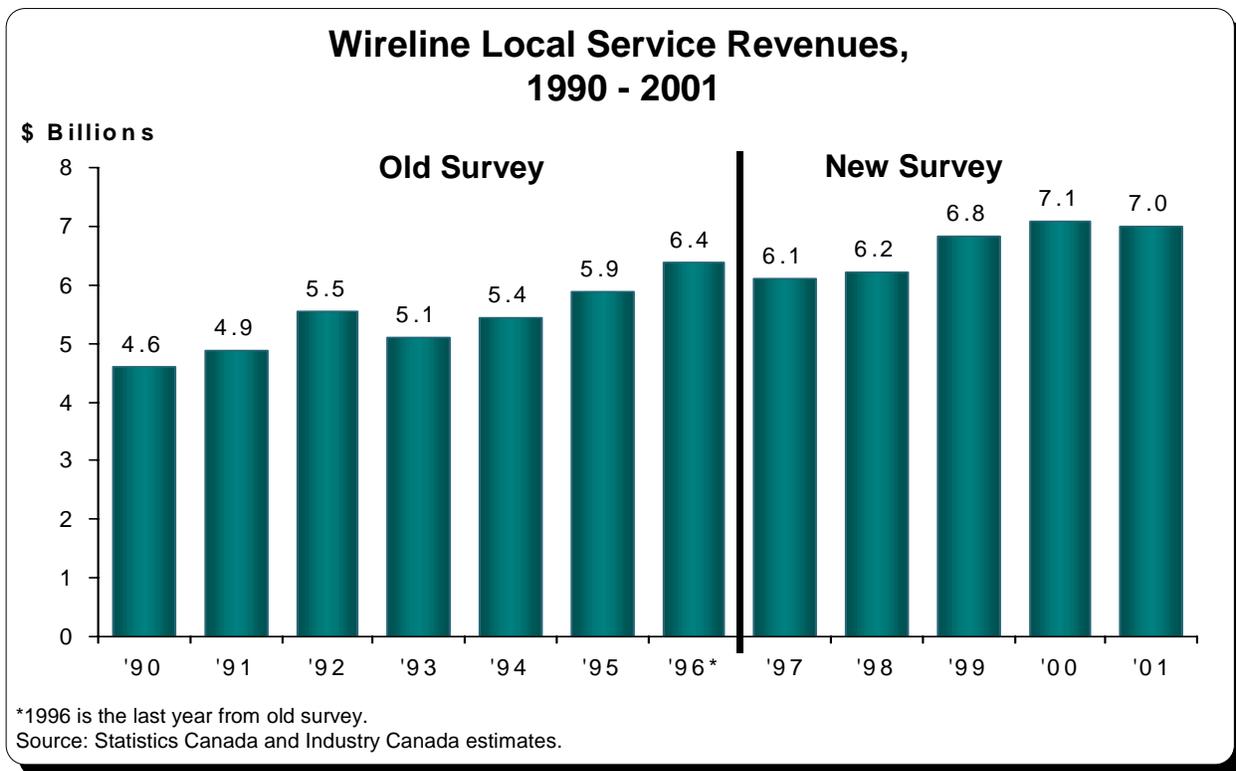
Cable companies have also registered to provide local service via Internet Protocol (IP), rather than conventional switched services, in specific regions of the country. The competitive local exchange business has been arduous for the cable operators: C1 Communications Inc. (formerly Fundy Cable Ltd.) and Cable Atlantic have both exited the CLEC industry. After delays in launching its IP telephone service, Cogeco Cable Inc. announced in October 2001, that it would be writing off its investment in the project, citing as the cause an unforeseen level of effort required for successful implementation. Vidéotron Télécom and Eastlink Telephone are the only remaining cable companies to offer CLEC services (Appendix B, Table B-6).

Competing in the local services market as a CLEC has been financially difficult. For example, in February 2001, Cannect Communications was placed in receivership and later ceased operations after selling off its assets. C1 Communication Inc. filed for bankruptcy protection in April 2001, after the proposed merger of C1 and Wispra Networks was cancelled. Shortly thereafter, C1 sold its assets in Atlantic Canada to GT Group Telecom and its Toronto-based DSL co-locations to Futureway Communications. Axxent Communications was placed in receivership in April 2001, eventually selling most of its Quebec assets to Telus Québec prior to ceasing operations. In August 2001, Norigen Communications was placed into receivership and shut down operations completely by the end of the month. In April 2002, Gateway Telephone was placed into receivership and ended its telecommunications services one month later.

The financial troubles for the CLECs have not been limited to the smaller companies. In early 2002, Call-Net Enterprises underwent a recapitalization of its obligations to reduce its debt by \$2 billion. Call-Net’s restructuring ended on April 17, 2002, with the private placement of \$25 million in class B non-voting shares. On June 10, 2002, AT&T Canada announced that after it finalizes an agreement with its banking syndicate, it can complete the restructuring of its \$4.5 billion in publically held debt. GT Group Telecom is in a similar situation as it has not met its financial covenant with its bankers and will have to renegotiate its credit lines, among other possible restructuring activities. During this process, GT Group has entered into bankruptcy protection.

Figure 2-8 displays wireline local service revenues between 1991 and 2001.⁹ Since 1997, there had been a slight upward trend in wireline local service revenues. However, this increasing trend changed in 2001, as revenue from local voice services was down slightly at \$7.0 billion, compared to the \$7.1 billion in the previous year.

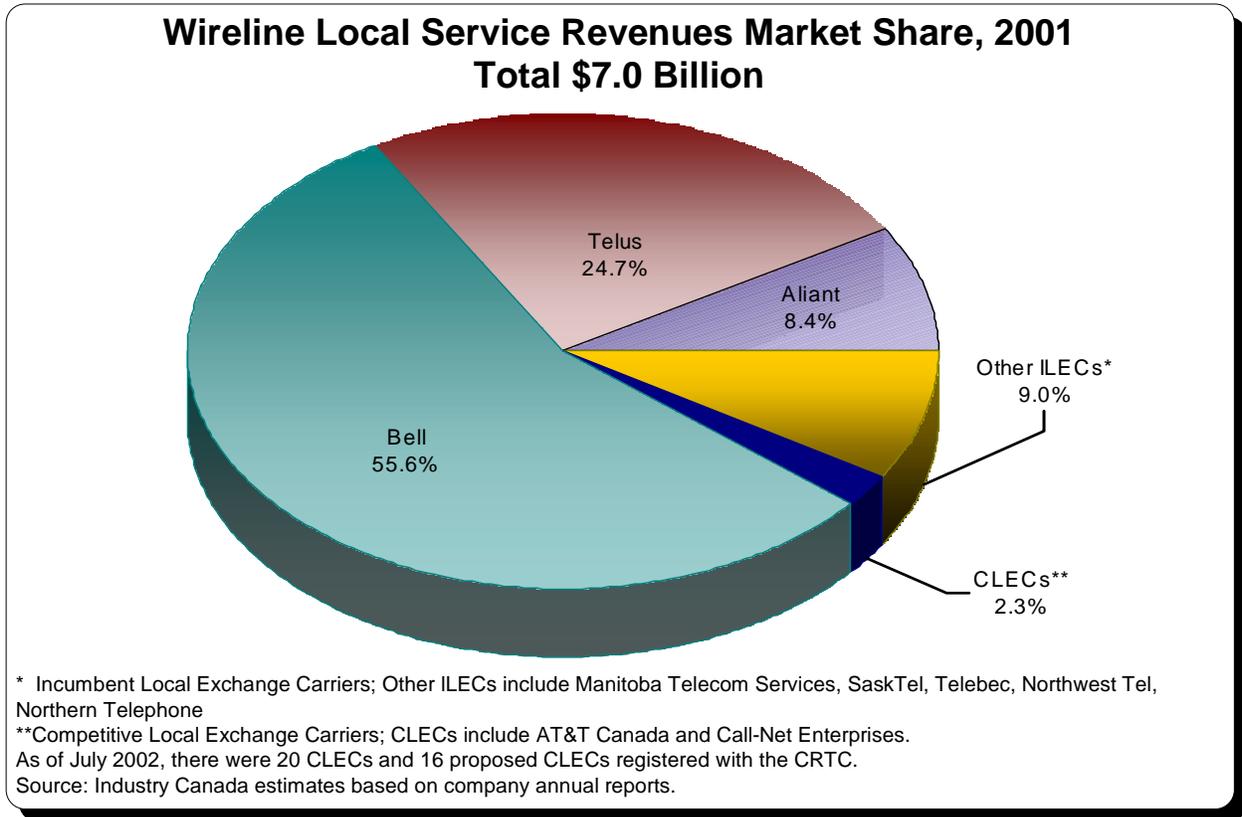
Figure 2-8



⁹ The drop in local service revenues between 1996 and 1997 was due to a redesign of the Statistics Canada survey resulting in more detailed responses as to what constitutes wireline local service revenues.

The \$7.0 billion in wireline local service revenues in 2001 were almost entirely attributable to ILECs. The three largest ILECs (i.e. Bell, Aliant and Telus) accounted for 88.7 percent of the local wireline revenue. The remaining 11.3 percent was divided between the other ILECs (9.0 percent) and the CLECs (2.3 percent) (Figure 2-9).

Figure 2-9



The local market shares held by the respective companies were very stable in 2001. No company increased or decreased its share by more than 1 percentage point when compared to 2000. Bell Canada increased its local service market share by 0.8 percentage points to captured 55.6 percent of the local wireline market. Likewise, the CLECs also increased their share of the market by 0.4 percentage points. Telus, Aliant and the other ILECs respectively decreased their local market shares by 0.2 percentage points, 0.2 percentage points, and 0.8 percentage points.

2.3 Wireline Long-Distance Market

Over the past two decades, the market for long-distance services has undergone several stages of liberalization. In 1979, the CRTC eliminated the wireline incumbent carriers' monopoly on leased private lines and ended the monopoly by allowing CNCP (later renamed Unitel; now AT&T Canada) to offer such services. In 1990, the CRTC began to permit the reselling of long-distance voice services¹⁰. The year 1992 saw the biggest step towards competition in the long-distance segment: the CRTC eliminated the incumbent telecommunications carriers' monopoly in the provision of public interexchange voice services.¹¹

Competition in the resellers' market segment continued to increase as recent entrants, including AlterNet Telecom Inc. and Vectoria Inc., entered the market, increasing the total number of operators registered with the CRTC to 496, as of June 2002.¹² The past few years have also witnessed a significant amount of consolidation. For example, in 1998 and 1999, TigerTel Services purchased several resellers, including Whistler Telecom Inc., Long Distance Atlantic, Argos Alliance and Telnet Communications; TigerTel was subsequently acquired by AT&T Canada in January 2000. In 1999, Primus Telecommunications acquired Telephone Savings Network, a Windsor-based Centrex reseller, as well as London Telecom. On December 3, 2001, RSL COM, a SaskTel subsidiary, agreed to purchase Startec Canada, formerly known as Vancouver Telephone Company. Furthermore, competition has led to numerous resellers exiting the industry due to bankruptcy. These companies include, among others, Cam-Net Communications Network in January 1997, Westcomm Inc. in July 1999, and ESP Media in May 2001.

The wireline long-distance market is composed primarily of revenues earned from the provision of inter-exchange communication services to residential and business customers. Long-distance voice services generated revenues of close to \$4.7 billion in 2001, a decrease of 14.4 percent as compared to 2000. Another way of examining the long-distance market is to look at the revenues as reported by the companies, which may also include revenues from the provision of private lines and data networking services to business customers.¹³ Under this definition, long-distance revenues in 2001, as reported by the companies, increased from \$4.7 billion to \$6.0 billion (Figure 2-10 and Figure 2-11).

¹⁰ CRTC Telecom Decision 90-30.

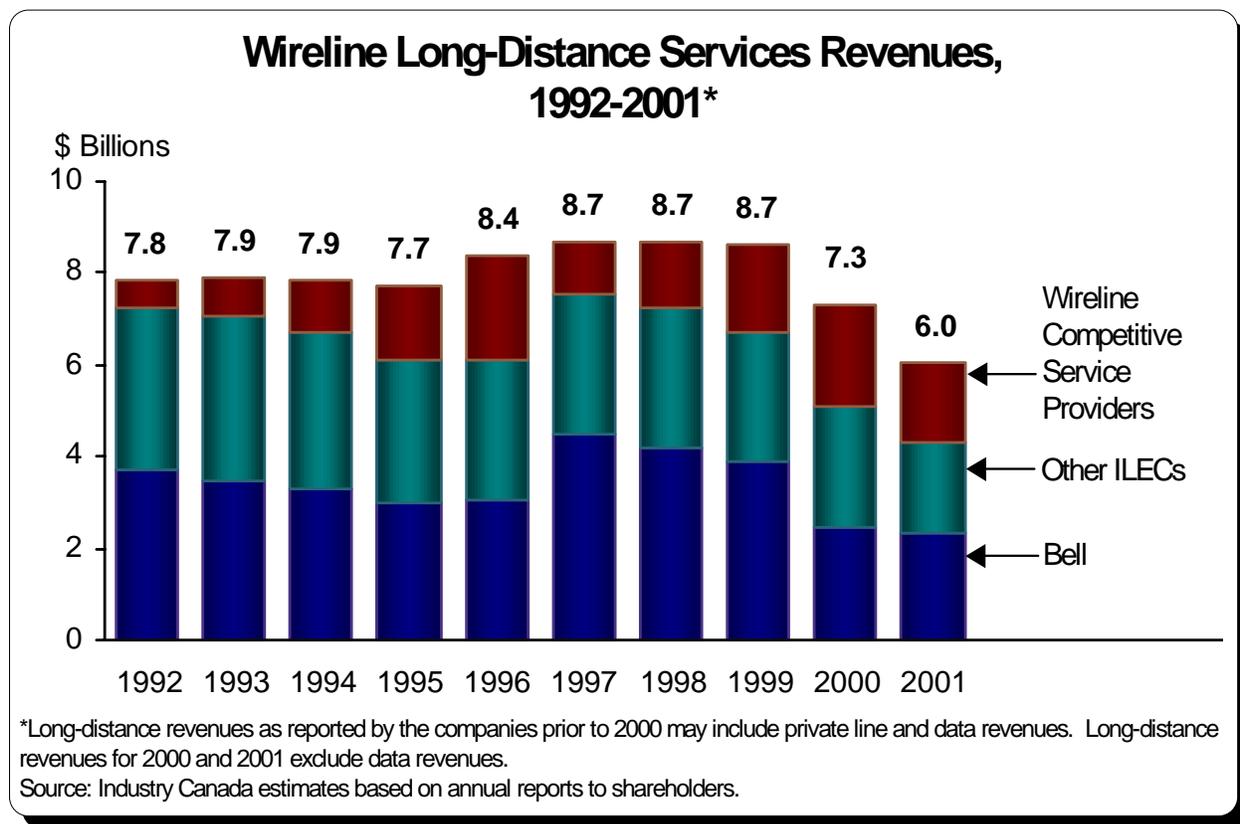
¹¹ CRTC Telecom Decision 92-12.

¹² The CRTC and Industry Canada do not verify the accuracy of information provided by the resellers. Consequently, the list of 496 resellers may include companies no longer in operation.

¹³ Data, included in long-distance, may include revenues from competitive network services, national and regional IP data, sale of inter-networking equipment and cabling, and Internet related services.

The large decrease in long-distance service revenues as reported by the companies in 2000 is due in part to the segmenting out of data revenues from long-distance, by the telecommunications service providers. However, the 17.6 percent decrease in long-distance revenues in 2001, from the prior year, is more reflective of the state of the long-distance market as the decline is free of the effects of the data revenues. Indeed, all of the long-distance segments saw their long-distance revenues decrease in 2001 by varying degrees. Long-distance revenues for the wireline competitive service providers and the other ILECs decreased respectively by 22 percent and 25 percent. In this light, Bell Canada did comparatively well as their long-distance revenues only declined by 5.9 percent (Figure 2-10).

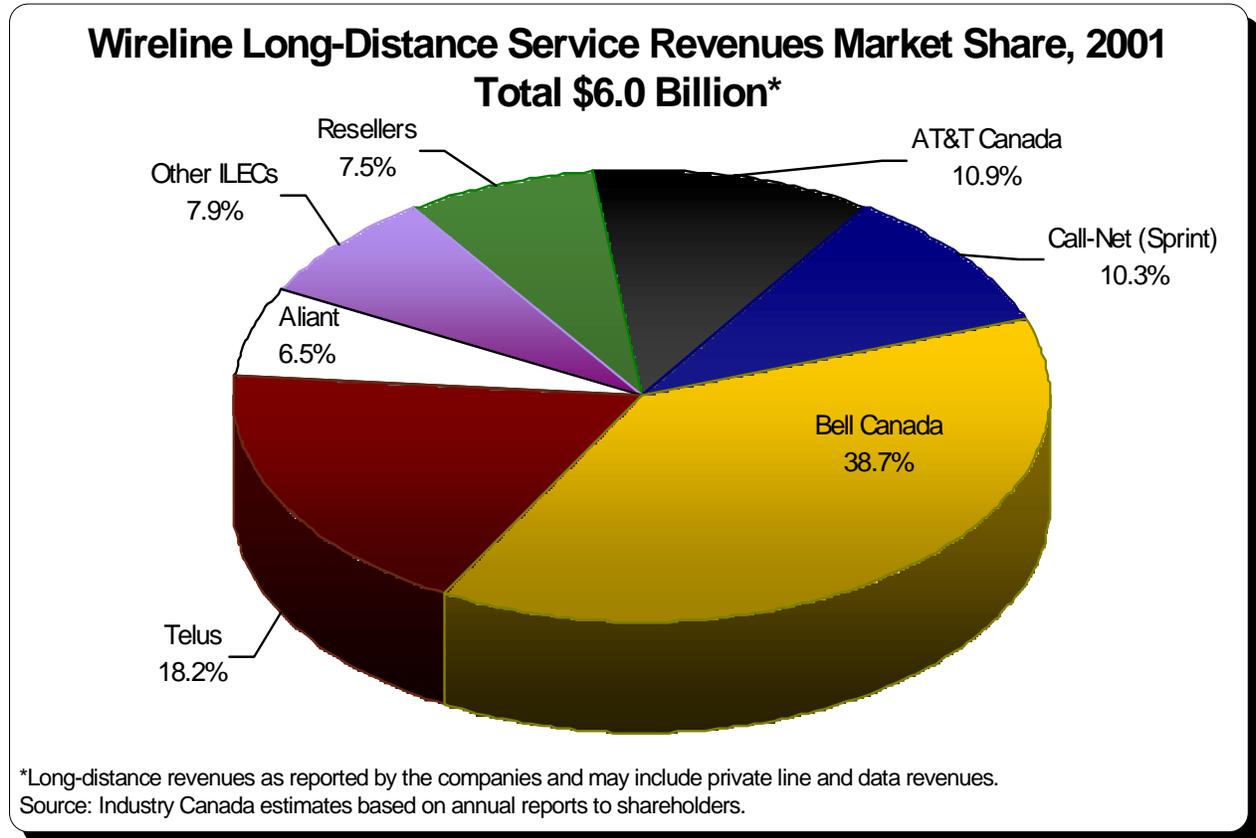
Figure 2-10



As all of the market segments witnessed decreasing long-distance revenues in 2001, those segments that declined at lower rates, gained relative market share. As such, Bell Canada saw its share of the long-distance market increase by 4.9 percentage points to 38.7 percent. The market share of the other ILECs decreased by 3.4 percentage points in 2001, to 32.6 percent. The market share held by the competitive service providers decreased 1.5 percentage points to 28.8 percent (Figure 2-10).

Incumbents like Bell Canada (38.7 percent), Telus (18.2 percent) and Aliant (6.5 percent) continue to control nearly two-thirds of the Canadian long-distance market. AT&T Canada and Call-Net Enterprises (i.e. the parent company of Sprint Canada) split approximately 21 percent of the overall market. The other wireline-based long-distance service providers and the resellers each accounted for 7.9 percent of the national market in 2001 (Figure 2-11).¹⁴

Figure 2-11



In 2001, Aliant’s and the other ILECs’ market shares respectively increased by 2.9 percentage points and 1.4 percentage points, when compared to 2000. The alternative providers of long-distance services, AT&T Canada, Call-Net and the resellers, also had gains in their respective market shares, by 1.2 percentage points, 0.1 percentage points and 0.5 percentage points, respectively. These gains in market shares came at the expense of the two largest ILECs, Bell Canada and Telus, which each witnessed a market share reduction of 3.0 percentage points in 2001.

¹⁴ In 2001, air time (including prepaid services and additional minutes on plans) represented 98.5 percent (\$446.9 million) of the total \$453.5 million in wireless long-distance revenues.

Revenues alone do not necessarily reflect the state of the long-distance segment in a complete manner. With intensifying competition in the long-distance market, market prices for services have significantly declined while annual revenues had tended to increase. In 2000, a significant departure from this trend occurred as wireline long-distance revenues began to decline. Furthermore, total long-distance minutes, which had consistently grown by a significant margin since 1997, declined for the first time by 4.8 percent from 2000 to 2001 (Table 2-2). These results suggest that although prices are continuing to decline, residential and business consumers are using alternative technologies, such as e-mail, for their long-distance communications.

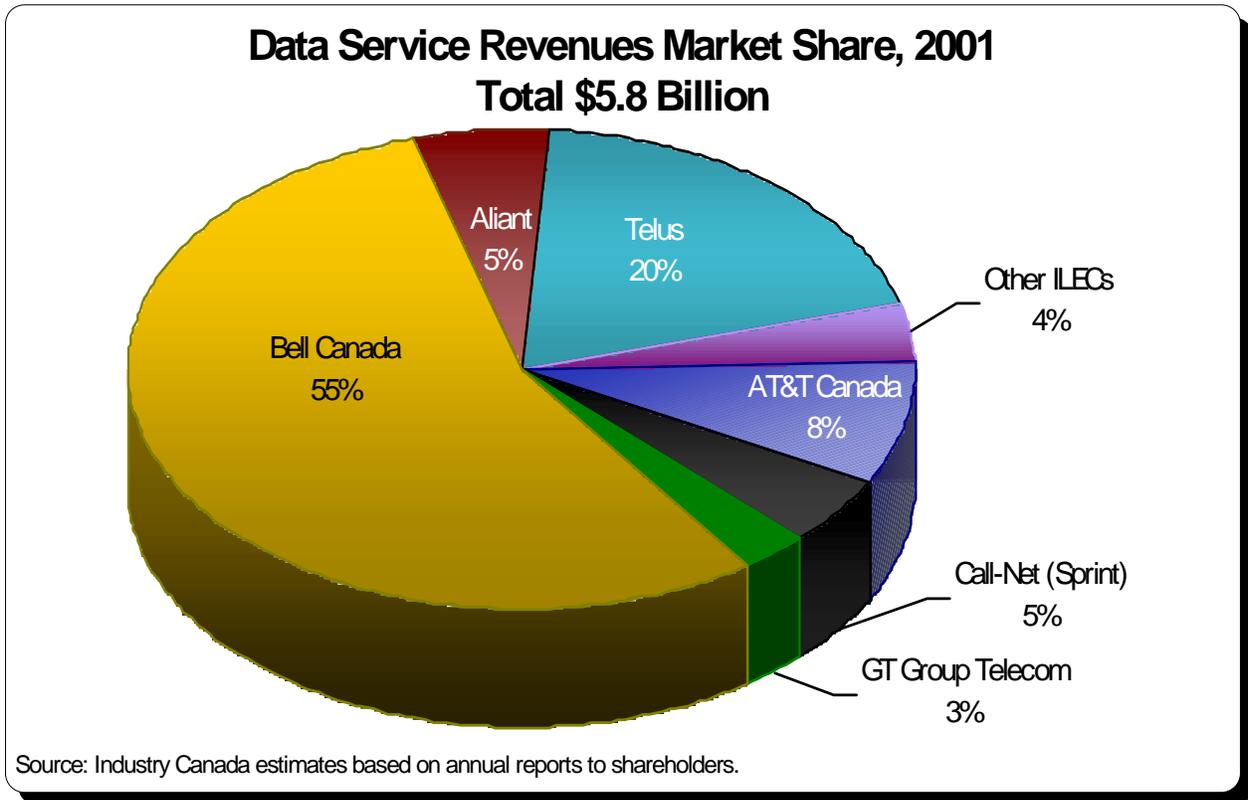
Table 2-2

Wireline Long-Distance Traffic					
	1997	1998	1999	2000	2001
Total Minutes (millions)	28732.3	33283	42803.6	51894.2	49380.6
Annual Growth Rate	32.4%	15.8%	28.6%	21.2%	-4.8%
Data based on long-distance minutes includes all outbound, inbound and toll-free calls in Canada Source: Statistics Canada					

In 2001, nearly all telecommunications service providers began segmenting out data revenues from their wireline local and long-distance revenues, which have become an increasingly important source of revenue. Growth of 22.3 percent during 2001 allowed these revenues to reach \$5.8 billion in 2001 (Figure 2-12). At the present growth rates, revenues from data services should surpass long-distance services by March 2002.

Bell Canada generated data revenues of \$3.2 billion, an increase of 27.0 percent as compared to 2000. Telus and Aliant also enjoyed robust revenue growth as their data revenues increased by 18.6 percent (\$1.1 billion) and 17.7 percent (\$317 million), respectively. Similarly, data revenues have become an increasingly important segment for competitive service providers, including AT&T Canada, Call-Net and GT Group Telecom, as their total data revenues increased by 12.3 percent in 2001, to \$922 million. Although data revenues for the other ILECs grew by 29.4 percent in 2001 (\$225 million), the other ILECs continued to represent the smallest of the segments examined here (Figure 2-12).

Figure 2-12



The majority of the data revenues belong to Bell Canada which held approximately 55.3 percent of the data market. Telus, Aliant, and the other ILECs respectively have 19.5 percent, 5.5 percent, and 3.9 percent of the data market. Wireline competitors collectively earned 15.9 percent of the data revenues as AT&T Canada had 8.3 percent, Call-Net had 4.8 percent and GT Group Telecom had 2.7 percent of the market. The respective shares of the data market have been relatively stable in 2001, with little change occurring between the companies under review.

2.4 Wireless Local and Long-distance Market

The cellular/Personal Communication Service (PCS) market is among the most competitive segment in the telecommunications industry. The introduction of new competitors has fueled innovation and price competition in the marketplace. Growth in the PCS market is expected to continue over the next several years. In addition, advanced satellite services continue to provide both fixed and mobile telecommunications services to all regions in Canada. Coupled with these developments, new terrestrial high-speed services, such as 24/38 GHz and Multipoint Communications System (MCS) services, will add new dimensions to the local competitive market with the promise of high-speed wireless access for business and consumers.

On September 19, 2001, Microcell Connexions launched its upgraded network using the wireless General Packet Radio Services (GPRS) standard, introducing 2.5G¹⁵ technology in Canada. GPRS supports flexible data transmission rates typically between 20 Kbps and 40 Kbps, as well as continuous connection to a network. In June 2002, Rogers AT&T Wireless completed its digital GPRS network, offering integrated wireless voice and high-speed packet data services to 93 percent of the Canadian population. Employing a data technology called 1XRTT, Bell Mobility and Telus Mobility launched, in the spring of 2002, similar enhanced wireless data services in major urban centres across Canada; this technology is expected to operate between speeds of 50 Kbps and 60 Kbps.

In October 2001, an enhanced reciprocal agreement was signed by the wireless units of Bell Canada, Telus, and Aliant expanding access to each other's networks. Bell Mobility's digital PCS service, for example, will have access to Telus Mobility's facilities in British Columbia and Alberta. This agreement will bring greater competition to the rural areas within Bell Mobility's and Telus Mobility's operating territories, by extending the previous roaming and resale agreements.

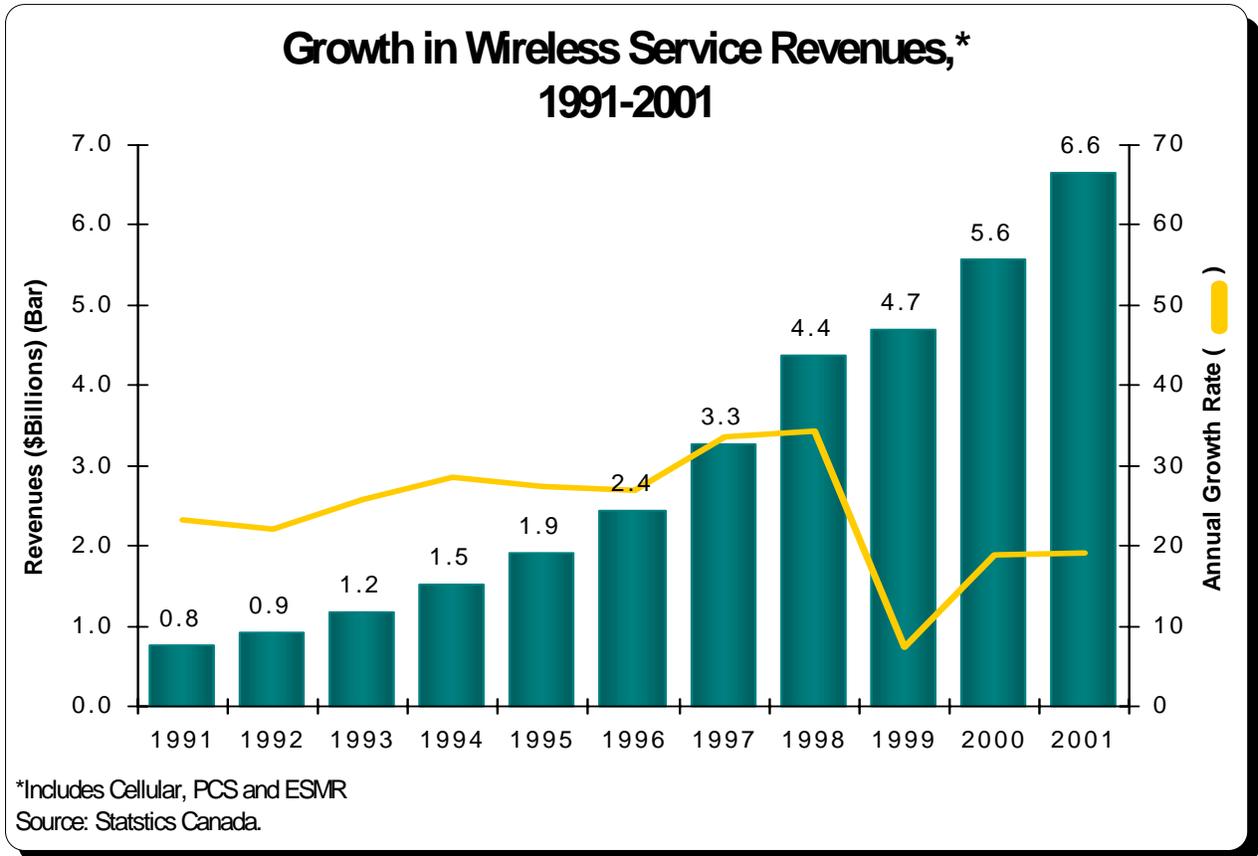
Most recently, in a November 2001 press release, the Minister of Industry announced that incumbent licensees for MCS will not be relocated as part of a restructuring of the bandwidths allocated to the MCS service. This will provide increased certainty to current licensees and ensure the continuation of wireless communication services in Canada.

Beginning in late 1996, consumer demand has been led by the continued expansion of cellular service areas and the introduction of digital Personal Communication Service (PCS). While total wireless revenue increased in 2001, to \$6.6 billion, the growth rate of 19 percent is considerably below the average annual growth rate of 24 percent since 1991 (Figure 2-13 and Appendix A, Table A-8). However, revenue growth may increase in the future as the wireless service providers have recently made attempts to increase their revenues. In November 2001, Canada's four national wireless carriers joined forces to offer short messaging services (SMS) across all

¹⁵ G refers to "generation".

networks, a move that was the first of its kind in North America.¹⁶ Furthermore, Telus Mobility and Rogers AT&T announced in June 2002, that they will be switching to per-minute billing from the current standard of per-second billing in an effort to boost revenue per subscriber. Bell Mobility followed suit in July 2002. Such efforts, as well as the increased usage of data services among consumers, should contribute to sustaining growth in the future.

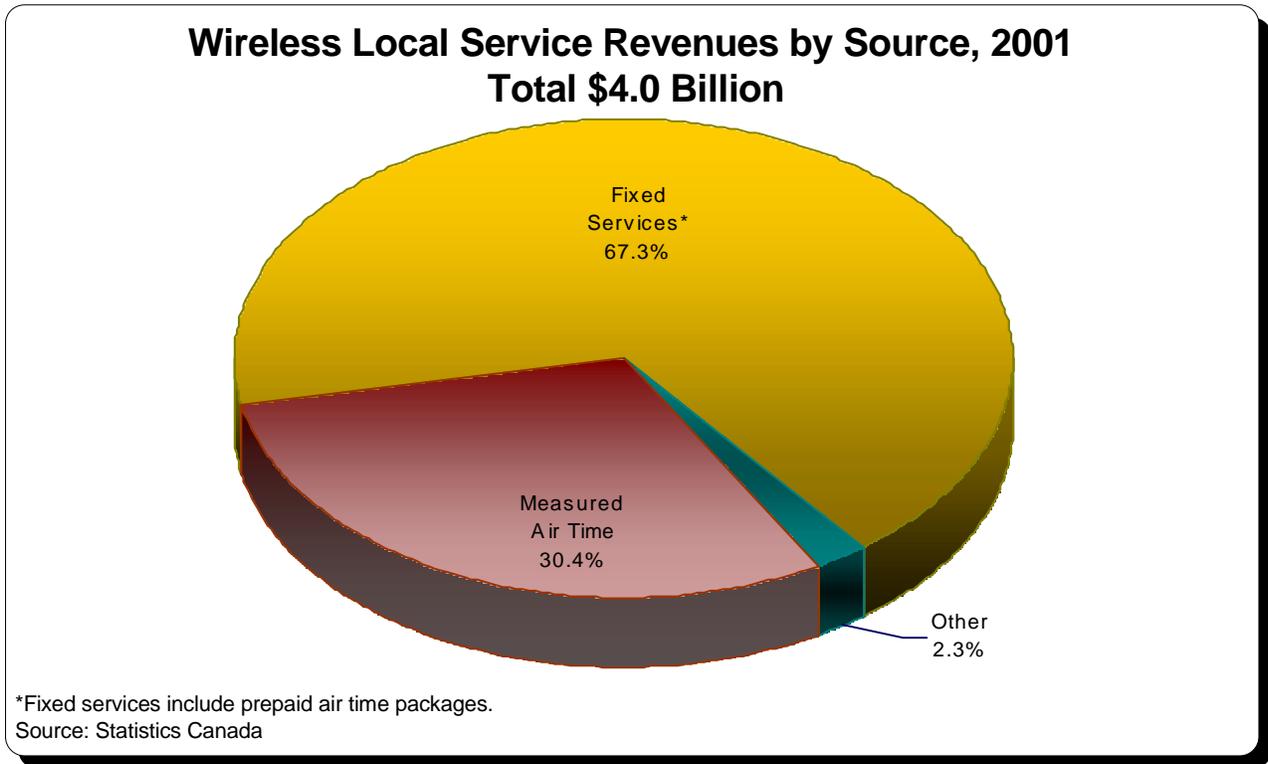
Figure 2-13



In 2001, revenues generated from fixed services (including prepaid air time packages) were the main source of revenue for local wireless with 67.3 percent (\$2.7 billion) of the total. By comparison, measured air time accounted for 30.4 percent (\$1.0 billion) of local wireless revenues (Figure 2-14). Fixed services grew 16.1 percent from 2000 to 2001, while measured air time generated revenue growth of 17.4 percent.

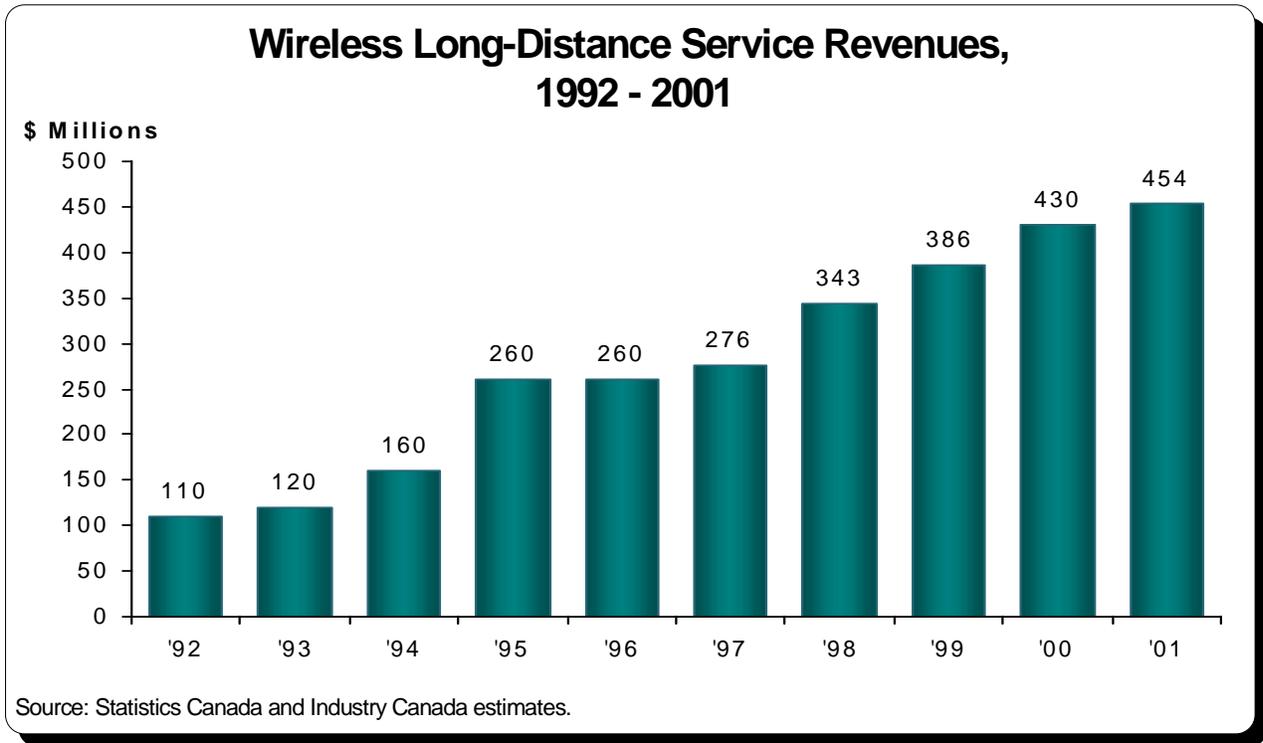
¹⁶ Source: Showwei, Chu. "Cell phones to speak as one: four wireless firms [Bell Mobility, Telus Mobility, Rogers Wireless Inc., Microcell Connexions] team up to offer text messaging services across all networks." *The Globe & Mail*, 7 Nov. 2001: B3.

Figure 2-14



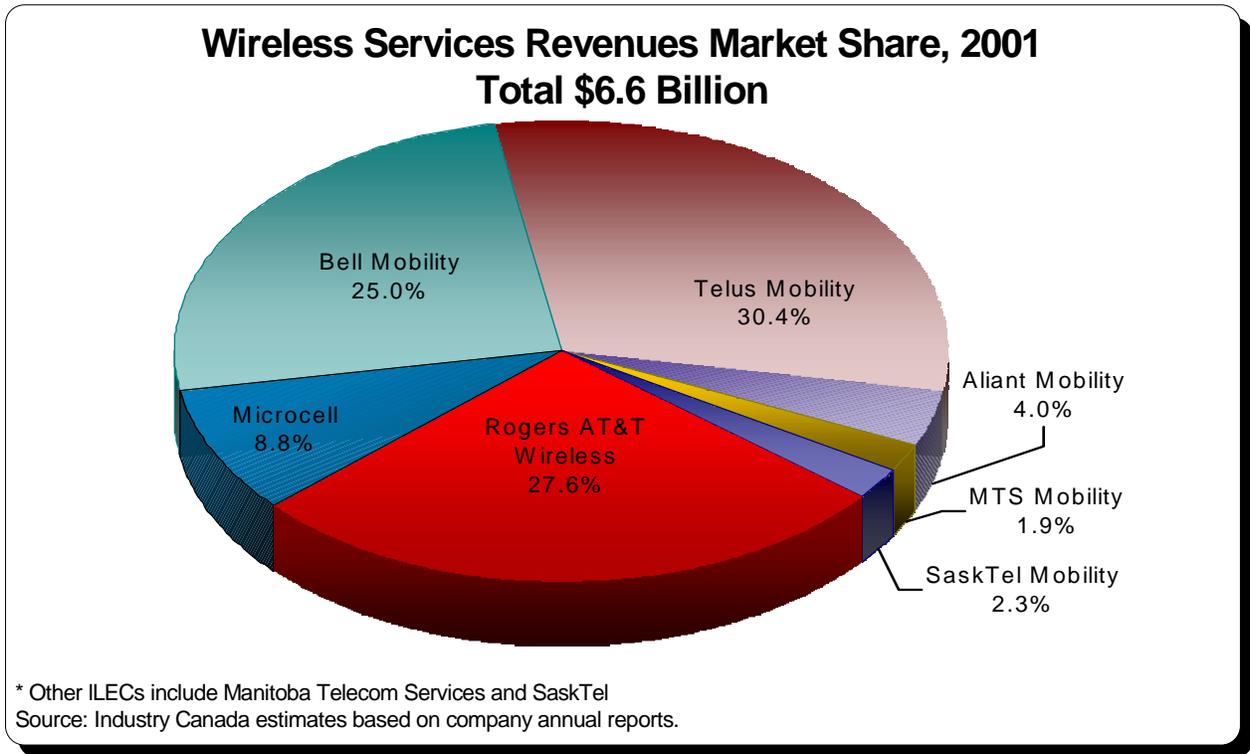
Accounting for only 6.9 percent of total wireless revenue, the \$454 million in wireless long-distance revenues in 2001 continued to be a relatively insignificant source of revenue for the wireless service providers. With growth of 5.5 percent from 2000 to 2001, and an average annual growth rate of 17.1 percent over the past 10 years, these revenues have been superseded by other wireless revenue streams. However, in the future, as more consumers substitute wireless technologies for their communications needs, wireless long-distance revenues should continue to become an increasingly important source of revenue (Figure 2-15).

Figure 2-15



In 2001, revenues in the wireless services market were \$6.6 billion, the majority of which is attributable to the ILECs wireless operating divisions. With \$1.9 billion in wireless revenues, Telus Mobility had the greatest share of the market at 30.4 percent. Bell Mobility captured 25 percent of the wireless market with \$1.6 billion in revenues. The other wireless service providers, including Aliant Mobility, MTS Mobility and SaskTel Mobility, had 3.9 percent (\$250 million) 1.9 percent (\$121 million) and 2.3 percent (\$147 million), respectively. Competitive wireless service providers, including Rogers AT&T Wireless and Microcell, respectively had 27.6 percent (\$1.8 billion) and 8.8 percent (\$561 million) of the wireless market in 2001 (Figure 2-16).

Figure 2-16

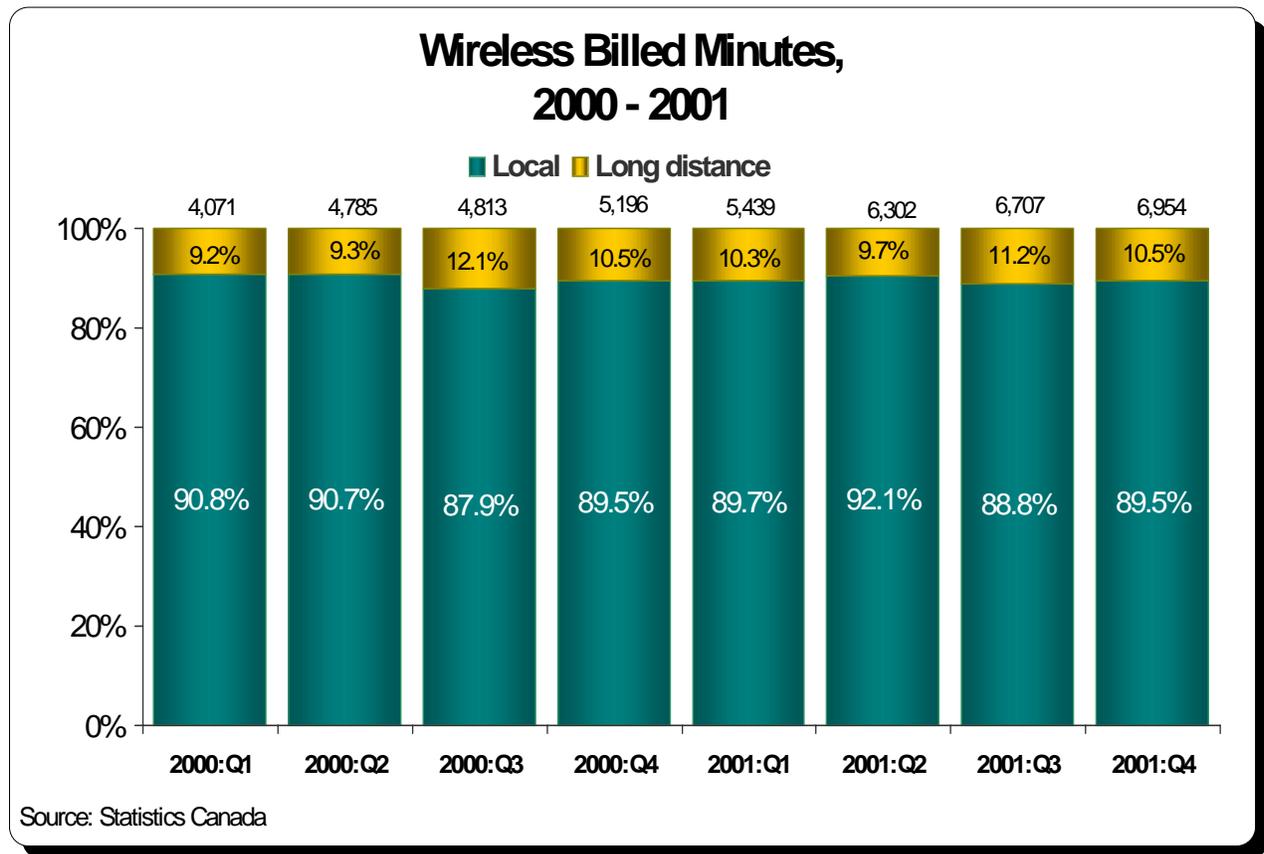


Compared to 2000, the largest change in market share was realized by Telus Mobility, which saw its wireless market increase by 5.7 percentage points in 2001. Telus Mobility's increase in market share came at the expense of Rogers AT&T Wireless, as its market share declined by 4.7 percentage points. Similarly, Bell Mobility witnessed a 1.4 percentage point decrease in their share of the wireless market revenue. The market shares held by Aliant Mobility, MTS Mobility, SaskTel Mobility and Microcell Communications remained relatively stable in 2001, with changes of plus or minus 0.1 percent.

Traffic

Growth in wireless revenues can be partly attributed to billed minutes, which rose continuously in 2001, from 5.4 billion minutes in the first quarter to 7.0 billion minutes in the fourth quarter.¹⁷ Total wireless billed minutes for the year increased by 34.4 percent when compared to 2000, for a total of 25.4 billion. The split between local and long-distance has remained relatively constant, although the share of long-distance minutes should increase as users rely more on wireless phones and wireless long-distance charges decrease (Figure 2-17).¹⁸

Figure 2-17



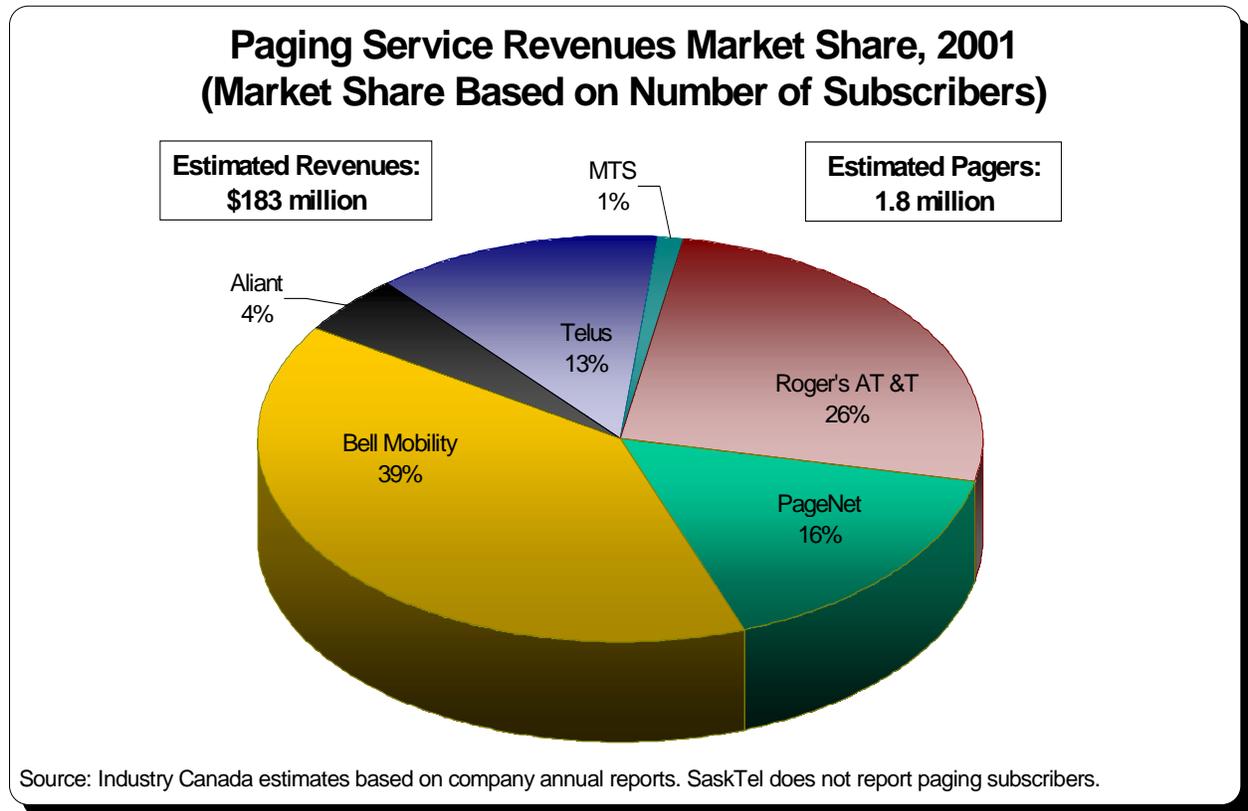
¹⁷ Billed minutes = incoming + outgoing + other minutes.

¹⁸ Outgoing minutes not reported due to lack of survey response.

Paging Market

The paging market has not seen continuous revenue growth in the past few years. Paging revenues were \$183 million in 2001, an decrease of 11.0 percent since 2000, and 18.1 percent below 1997 revenues of \$224 million. The number of paging services subscribers decreased for the first time in 2001, by 2 percent to 1.8 million subscribers, although it has actually increased by 43.9 percent since 1997. These results would seem to indicate that over this period paging usage per subscriber has gone down in conjunction with lower paging fees. Rogers AT&T and Bell Mobility continued to dominate the market in 2001, as the market shares changed little from 2000 to 2001 (Figure 2-18).

Figure 2-18



2.5 International Telecommunications Market

The liberalization of Teleglobe's monopoly on Canada's overseas telecommunications facilities was completed much quicker than the liberalization in the local services market. Initially, other companies were permitted to offer overseas service on lines through leasing arrangements with Teleglobe who was still the sole owner of facilities. On October 1, 1998, Teleglobe's monopoly on overseas facilities ended, and several companies have taken advantage of the opportunity to enter the market.¹⁹

In addition, the CRTC eliminated restrictions on the routing of traffic and instituted a licensing system for international service providers (facilities-based providers, and resellers). By December 1998, the CRTC had issued 70 licenses for the provision of international telecommunications services. The number of licenses increased to 238 as of July 2002 (Appendix B, Table B-1 and Table B-12).

One of the first companies to take advantage of this situation was Call-Net Enterprises Inc. (Sprint Canada). Another addition to this specialized group of companies was 360networks. These companies are currently under financial strain. For example, Teleglobe's net loss for 2001 increased by 80.9 percent while Call-Net's net income loss increased by 198 percent, when compared to 2000 (Table 2-3).

¹⁹ As of October 1, 1998, the distinction between the overseas and the Canada-U.S. telecommunications markets also ended. As of that date, a common set of rules began to apply to international telecommunications services, irrespective of the country involved in the transmission.

Table 2-3

Major Publicly Reporting International Telecommunications Carriers Year-End Financial Results, 2000 and 2001							
	Year	Revenue	Operating Expenses	EBITDA	Dep. & Amort.	Net Income	Capital Exp
<i>Millions of U.S. dollars unless indicated otherwise</i>							
Teleglobe Communications Corporation (TCC)	2000	1,284	1,309	31.0	165.0	(1,084)	641.0
	2001	1,304	1,745	82.0	403.0	(1,961)	1,442
12-month change		1.6%	33.3%	165%	144.2%	(80.9)%	124.9%
Call-Net Enterprises Inc.*	2000	841.8	907.2	(65.4)	155.3	(304.2)	129.5
	2001	599.6	512.5	(625.7)	137.6	(905.1)	41.1
12-month change		(28.8)%	(43.5)%	(857)%	(11.4)%	(198)%	(68.3)%
360networks Inc.**	1999	360	280	80	3	24.0	300.0
	2000	511	677	(166)	56	(355)	2,458
12-month change		41.9%	142%	(308)%	1,767%	(1,579)%	719%
Dep. & Amort.=Depreciation and Amortization Expenses; EBITDA=Earnings Before Interest, Taxes, Depreciation and Amortization; Capital Exp.=Capital Expenditures; n/a=not available or not applicable. * Call-Net data converted to U.S. Dollars using average annual U.S./Canada exchange rate in 2000 (1.4852) and 2001 (1.5484). ** Under restructuring, 360networks Inc. has deferred its 2001 annual results. Source: Public financial statements							

Teleglobe, 360networks and Call-Net have all had to undertake financial restructuring as a result of their financial woes. 360networks and its national and international subsidiaries filed for creditor protection under the respective bankruptcy laws in the country of their incorporation in June 2001, and remain operating under bankruptcy protection. Likewise, Teleglobe filed for bankruptcy protection in May 2002, while it undergoes restructuring. Finally, in early 2002, Call-Net Enterprises underwent a recapitalization of its obligations to reduce its debt by \$2 billion. Call-Net's restructuring ended in April 2002, with the private placement of \$25 million in class B non-voting shares.

Market share, measured as a percentage of outgoing minutes, has fallen for Teleglobe since its monopoly on non-U.S. routes was removed in October 1998. In 2000, Teleglobe's share of the international market was 16 percent, down from 24 percent in 1998 (Table 2-4). Call-Net's market share also decreased, from 18 percent in 1998 to 14 percent in 2000. Conversely, AT&T Canada's market share has risen during this period, surpassing Teleglobe in 1999, and reaching 21 percent in 2000. Since 1999, Bell Canada has maintained the largest share of international traffic, representing 26 percent of the total outgoing minutes, primarily directed to the United States.

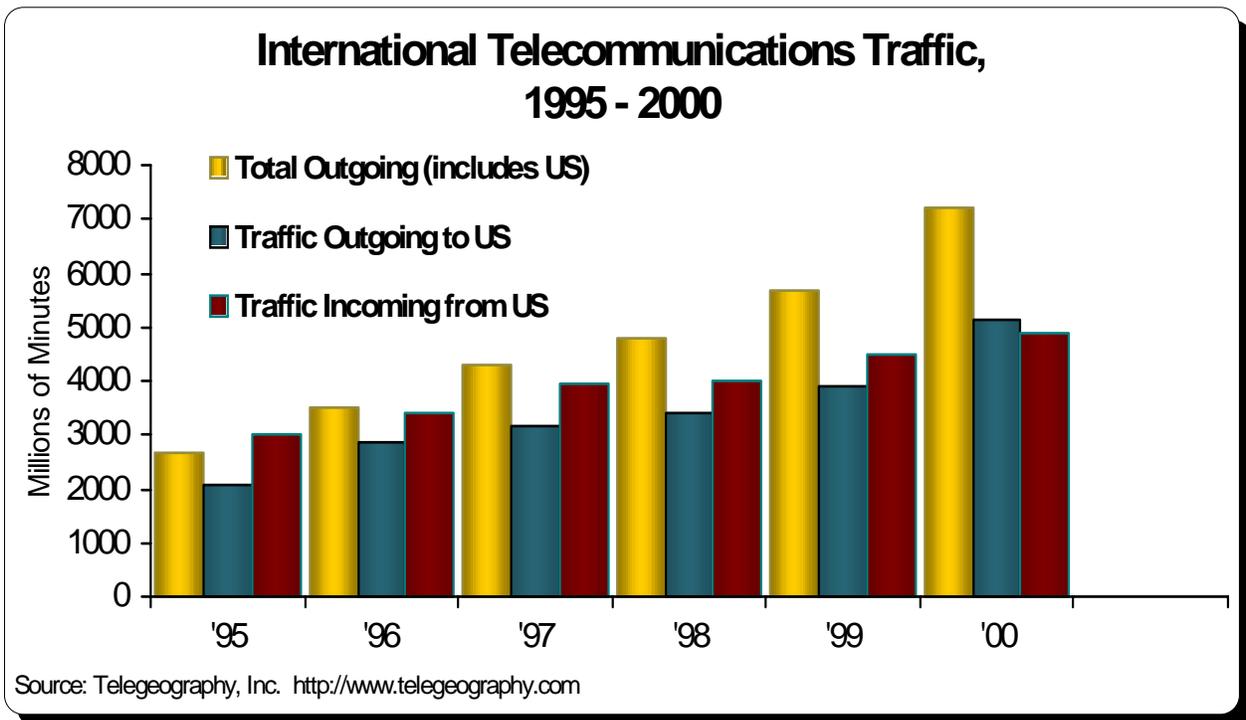
Table 2-4

Market Shares of Canadian International Carriers Percentage of Outgoing Minutes			
	1998	1999	2000
Bell Canada	n/a	27	26
AT&T Canada	14	19	21
Teleglobe	24	17	16
Call-Net (Sprint Canada)	18	19	14
Primus	n/a	9	9
Telus	n/a	6	8
Others	4	3	6

n/a = not available or not applicable
 Data based on outgoing international traffic for the public switched network and International Simple Resale (ISR).
 Source: TeleGeography 2002

Figure 2-19 shows there has been an increase in the level of international telecommunications traffic from 1995 through 2000. Furthermore, the trend of incoming traffic originating from the U.S., being larger than outgoing traffic to the U.S., was reversed in 2000, as outbound minutes surpassed American minutes destined for Canada.

Figure 2-19



Like the long-distance segment, the overseas telecommunications segment has experienced considerable change due primarily to two factors—technological improvement and competition. Technological improvements have made transmission infrastructures more efficient. Competition and industry liberalization have diminished a system where many countries charged high rates in the international segment. The trend has been to gradually decrease these previously high rates. Although competition has allowed for lower international calling rates, it has also come at the expense of profitability for several companies, notably Teleglobe and 360networks.