

TRENDS IN THE U.S. INTERNATIONAL TELECOMMUNICATIONS INDUSTRY

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TRENDS IN THE U.S. INTERNATIONAL TELECOMMUNICATIONS INDUSTRY

This report traces the economic development of the international telecommunications industry since 1980. Although the latest annual traffic data currently available is for 1996, some pricing data is available through early 1998.¹ This report is divided into three sections. The first section presents an overview of economic trends in the industry, focusing on traffic, revenue growth, and rates. The second section examines the industry's changing market structure by presenting market-share data for various services, firms, and geographic markets. The third section presents information on telephone service accounting rates and net settlement payments for selected countries.

Much of the data presented in this report was previously published in the *Statistics of Communications Common Carriers* (SOCC). This report ties together data published in numerous annual editions to describe long-term trends. Most of the international data published in the SOCC were filed by international carriers pursuant to Section 43.61 of the Commission's rules or in the old annual Form M reports. The Section 43.61 data also have been compiled in annual reports titled *Section 43.61 International Telecommunications Data*. Annual volumes of the SOCC and recent editions of the Section 43.61 international traffic report are available in the Common Carrier Bureau Public Reference Room at 2000 M Street, N.W., Room 575, Washington DC, (202) 418-1393. Recent data from these sources also are available on the FCC-State Link computer bulletin board, directly at (202) 418-0241, and from the FCC-State Link internet site at (<http://www.fcc.gov/ccb/stats>) on the Internet's World Wide Web.

I. Service Growth, Facilities and Price Trends

A. Service Growth

Demand for international telecommunications services and the total toll service revenues of U.S. common carriers have grown rapidly since 1950. Table 1 provides a long-term revenue series for international and domestic toll service. The data for international switched services are based on data from the SOCC, and represent billed revenue for U.S. traffic. No adjustments have been made to the international traffic data for years prior to 1980. International traffic data for 1980 to the present include switched service with Canada and Mexico. Traffic to Hawaii, Guam, the U.S. Virgin Islands, and Puerto Rico has been excluded. The total toll revenue figures for 1950 through 1980 are taken from the SOCC and represent telephone service revenues of reporting carriers. The toll figures for 1981 to the present are from the *Long Distance Market Shares* report published by the Industry Analysis Division and include toll revenues of all carriers.

¹ Carriers filed their final 1996 international traffic data on October 31, 1997.

Figure 1 illustrates the changes over time in the relative importance of the international services detailed in Table 1. In 1950, international telegraph service accounted for almost 80% of all international service revenues. Today that service has virtually disappeared. Telex service grew in importance through 1980, but it too is declining. Private line billings increased from \$1.3 million in 1950 to \$649 million in 1996. Private line service grew in relative importance from 1950 through 1965, reaching 18% of international revenues. Private line revenues increased thereafter, but not as rapidly as overall international revenues. Since 1980, private line service has generally represented between 4% and 6% of total international revenues. In contrast to the other three types of international service, international telephone service represented about 20% of international revenues in 1950, but now accounts for 95% of all international service revenues.

Figure 2 uses data from Table 1 to show that international telephone service (international message telephone service or IMTS) represents an increasing percentage of overall toll service revenue. The total toll revenue data shown in Table 1 include telephone and private line revenues for intrastate, interstate, and international service. The international telephone service data used in Figure 2 include facilities-based and resale service billed revenues. Figure 2 shows that international telephone service which accounted for about 1% of all toll revenues in 1950, increased to 19% in 1996. Other international services -- telegraph, telex, private line and miscellaneous -- accounted for 3% of all toll revenues in 1950 but less than 1% today.

The telephone series in Figure 2 shows a break in 1980 because data before then exclude Canada and Mexico, but include some offshore U.S. points. Thus, most of the increase from 1979 to 1980 is caused by a reporting change. International telephone service revenue then declined through 1982. International rates rose in 1980 and then declined significantly in 1981. While most international rates rose again in May 1982, off-peak rates remained significantly lower than they had been in the 1970s and AT&T also reduced the initial calling period from 3 minutes to 1 minute for direct-dialed calls. About half of the jump in international telephone service revenues in 1980, however, is due to the inconsistencies in the data series explained above.

Table 2 shows summary data for five categories of international telecommunications services -- international telephone service, telex, telegraph, private line, and miscellaneous services -- as well as data for Comsat and for resellers. ? shows annual billings for the five categories of international service. Billings by U.S. carriers for services provided over their own facilities reached \$2.6 billion in 1980, \$4.1 billion in 1985 and approximately \$14.9 billion in 1996.

The data in Table 2 are based on the figures reported in the annual volumes of the SOCC. Many significant reporting changes have occurred over the years, and several adjustments have been made to make the time series more consistent. For example, as late as 1985, calls between the U.S. mainland and Alaska, Hawaii and Puerto Rico were classified as overseas calls and were included with international service data. In contrast, from 1968 through 1990, Section 43.61 of the rules did not require carriers to report traffic between the continental U.S. and Mexico or

Canada. Carriers have provided some data on service to Canada and Mexico for prior years, and these data have been incorporated in some tables. Another significant change is that "U.S. traffic" refers to calls originating in the United States up to 1990, and calls billed in the United States thereafter. Similarly, "foreign traffic" refers to calls terminating in the United States up to 1990, and calls billed by foreign carriers thereafter. Some data published in the SOCC differ from comparable data published in *Section 43.61 International Telecommunications Data* as a result of late-filed corrections. The tables in this report use data from both reports and identify specific sources in footnotes. Appendix A summarizes reporting changes and adjustments made to previously published data.

Starting with the 1995 Section 43.61 international traffic data, carriers are required to provide separate traffic data for service provided over facilities that they own and for service provided over facilities that they lease. For the purpose of Section 43.61 reporting, carriers must now classify their international services as either facilities-based, facilities-resale or pure resale. For categorizing traffic, **facilities-based** refers to services provided using international transmission facilities owned in whole or in part by the carrier providing service. Facilities-based carriers use one or more international channels of communications to provide international telecommunications service. An international channel is a wire or radio link that facilitates electronic communications between a United States point and another world point. A facilities-based carrier either owns international channels, has an ownership interest in the channel such as an indefeasible right of use (IRU), or leases the channel from an entity that does not report those circuits in its own Section 43.61 reports. For categorizing traffic, **facilities-resale** refers to services provided by a carrier utilizing international circuits leased from other reporting international carriers. In other contexts, the Commission refers to this method of providing international services as "private line resale." The determination as to whether service is reported as facilities-based or facilities-resale generally is based on the first international link of a circuit. If the carrier has an ownership interest in that link, or leases it from an entity that does not report that link, then service provided over that circuit will be reported as facilities-based. Otherwise, service will be reported as facilities-resale. Carriers provide **pure resale** services by switching traffic to (and reselling the switched services of) other U.S. carriers which actually carry the traffic to the international point. Thus, a carrier's pure resale traffic does not go over international circuits that the carrier owns or leases.

The FCC implemented revised reporting requirements in 1964. Starting that year, the SOCC international telephone service traffic data contain minute counts as well as revenues by international point. Table 3 summarizes minutes, billed revenues and settlements data for 1964 through 1996. In order to have relatively consistent data, traffic with Alaska, Hawaii, Puerto Rico, Canada and Mexico has been removed from totals published in the SOCC. Thus, the data in Table 3 differ from totals shown in other tables. For example, Table 3 shows billed revenue per minute of \$.85 for 1996. As shown in Table 4, the figure would be \$.74 per minute if traffic with Canada and Mexico were included.

U.S. billed minutes increased from 20 million in 1964 to 13 billion in 1996. Annual growth averaged nearly 20% over the whole period. The rate of growth slowed in the late 1980s

but reached 20% again in 1995 and 1996. Foreign billed minutes grew at almost the same rate, increasing from 12 million minutes in 1964 to 4.4 billion minutes in 1996. Foreign billed traffic grew faster than U.S. billed traffic through 1975. U.S. carriers billed 63% of the minutes that they handled in 1964. Although the percentage declined to 57% in 1975, it has since increased to 75% in 1996.

Table 4 provides detailed traffic and revenue information for international telephone service. Unlike Table 3, this table includes traffic with Canada and Mexico. The table includes minutes of traffic, messages, billed revenues, net settlement payments, and an average price per U.S. call. Settlement payments are explained in Section III. Table 5 presents similar data for international telex service, and Table 6 presents similar data for international telegraph service.

Figure 4 shows the minutes of U.S. and foreign international telephone traffic for 1980 through 1996, including traffic for Canada and Mexico. The graph also shows trend lines -- a 16.2% annual growth in U.S. billed minutes compared with a 11.3% annual growth in foreign billed minutes. For the last two decades significant price cuts relative to inflation have fueled the rapid growth in U.S. billed traffic. Some of the growing disparity in traffic growth is also due to new service arrangements. Services such as USA Direct allow U.S. travelers abroad to place calls from foreign points and have the calls billed by the U.S. carrier at comparably lower rates. Call-back arrangements allow foreign customers to take advantage of relatively low U.S. rates. In addition, U.S. carriers offer "reorigination" arrangements that enable some new foreign carriers to provide international service without negotiating extensive accounting rate agreements and to take advantage of relatively low accounting rates negotiated by U.S. carriers. Section III of this report explains in detail how the settlement deficit has continued to grow because the disparity in traffic growth has more than offset the effect of the decline in settlement rates.

Some Americans now use the Internet as a substitute for telephone calls. This is particularly attractive for international communications, as written and voice messages can be sent over the Internet with little or no per-message charges. Internet messages, unlike most voice and facsimile (fax) calls, go over private circuits rather than as international telephone calls. The FCC does not collect data on Internet usage. The relatively smooth and continuous growth rates shown in Figure 4 suggests, however, that Internet usage did not reduce the growth in international telephone service, at least through 1996. The international telecommunications business, however, has a long history of new technologies and services replacing old ones.

Figure 5 shows telegraph revenues and average charge per word for 1980 through 1996. After peaking in the late 1960s, international telegraph revenues began to decline due to competition from both telephone and telex service. The figure charts the decline of telegraph service as carriers raised rates in the face of shrinking demand.

Figure 6 shows the telex revenues and average charge per minute for 1980 through 1996. Telex revenues peaked in the mid 1980s. Much of the decline since then is due to growth in the use of fax machines. A fax message sent using telephone service is often a good substitute for a telex or telegraph message. Fax via telephone service has become relatively less expensive over time, and a growing percentage of customers have access to fax equipment. According to

industry sources, fax traffic has represented a significant percentage of total telephone calls between some countries.

Figure 7 shows the average minutes per call for U.S. and foreign calls. The trend has been for customers to make more frequent, but shorter, calls. In 1980, the average U.S. billed international telephone call lasted 7.9 minutes and cost \$10.53. In 1996, the average call lasted 5.5 minutes and cost \$4.00. The decline in the average length of an international telephone call reflects both changes in rate structures and changes in usage. Since 1980, carriers have gone from a 3-minute initial period to a 1-minute initial period. Thus, many calls that would have been recorded as 3-minute calls in the past are now recorded as 1- and 2- minute calls. Today, some telephone services are billed by thirty-second or six-second increments, further reducing the average number of minutes per call. Another factor contributing to the decline in the average minutes per call is that customers have greatly increased their use of fax via telephone calls. Fax calls tend to be short duration calls. The FCC does not collect any data that separate fax calls or computer modem-originated calls from other customer-dialed message telephone service calls.

Table 7 shows U.S. billed minutes of international telephone service for 34 countries that collectively represent about 80 percent of all U.S. international calling. The table includes the countries with which the United States has the greatest volumes of international traffic, as well as selected countries in each region of the world. Growth rates over the most recent 6-year period have been estimated using log linear regressions. As noted above, growth rates vary over time and have declined somewhat in recent years. For recent years, growth trends have exceeded 10% per year for almost all of the 34 countries in the table. For the most part, traffic has grown steadily, but there are notable exceptions. For example, traffic to Poland grew rapidly between 1982 and 1987. Since then, growth has been more comparable to other countries. Economic and political reform in the former U.S.S.R. and China have led to growth in traffic exceeding 50% for some years. U.S. billed international telephone service minutes to Hong Kong alone increased 70% from 1995 to 1996.

Figure 8 shows U.S. minutes of international telephone service for 5 countries with very different per capital incomes and populations, and the total minutes for all international points. The graph employs a logarithmic scale. Thus, a series that grows by the same percentage each year appears as a straight line. The graph illustrates that in recent years, growth in international traffic has been broadly based.

Figure 9 shows U.S. international telephone service minutes for three groups of countries. The first group -- Canada, Germany, Mexico, and the United Kingdom -- are the countries to which Americans place the most calls. In 1980, 62% of U.S. billed international minutes were reported for those countries. In 1996, minutes to these countries represented only 41% of U.S. billed minutes. The second group consists of the other thirty countries shown in Table 7. The final group consists of all the countries that are not shown separately in Table 7. All three groups show rapid growth in minutes. The second group, however, shows the greatest relative growth, jumping from 23% of the total in 1980 to 39% in 1996. These developments illustrate that the distribution of international calls has been changing.

Table 8 contains international telephone service minutes and revenues by region. Figure 10 shows traffic data by region of the world. The figure illustrates that international telephone minutes have been growing rapidly in the four regions to which Americans place the most calls. International traffic is generally greatest to the countries with which the United States has strong economic ties and countries from which many Americans emigrated. The United States Census Bureau estimated that in 1996, 25 million people -- 9.3% of the population of the United States -- was foreign born. About 4.5 million people immigrated to the United States between 1990 and 1994, compared to 4.8 million during the entire decade of the 1970s. Census data indicate that a large share of new arrivals came from Mexico and various Asian countries. Traffic to Mexico and many Asian countries has grown rapidly in the 1990s.

Table 9 compares U.S. billed minutes of traffic with estimated "outbound" minutes for worldwide telecommunications. U.S. Traffic now represents about 28% of the world total and minutes billed by U.S. carriers have been growing at a faster rate than outbound traffic from the rest of the world. Table 9 also shows minutes data for the three largest U.S. authorized carriers and seven major foreign authorized carriers.

Table 10 shows private line revenues by region of the world. The table shows that U.S. carriers provide the most private line service to regions of the world where they provide the most international telephone service.

B. International Facilities

The growth of international service is explained, in part, by the introduction and expansion of modern transmission facilities. The first modern cable system, TAT-1, was installed in 1956 and was followed by additional cable systems and the introduction and expansion of the global communications satellite system, Intelsat. These advancements improved service reliability and quality, expanded capacity, reduced costs, and led to lower rates. International minutes continue to grow more rapidly than domestic toll minutes.

Table 2 separates Comsat revenues from other carrier revenues because Comsat primarily provides satellite circuits to other carriers. Comsat does this as the U.S. signatory to Intelsat, a consortium that operates a global communications system with 19 satellites that connect more than 200 countries. Starting in 1995, Comsat also provided a small amount of international service that was reportable as Section 43.61 international traffic data. Revenues reported on Table 2 for Comsat, however, were taken from Comsat's annual Form M report to the FCC. The revenues reported are for business from Intelsat and Inmarsat. Comsat revenues show a sharp decline in 1988, when it sold a significant number of earth stations. Figure 11 shows Comsat revenues as well as a trend line. Regression analysis was used to calculate a trend line with a break after 1987. Annual revenues probably fell by about \$150 million per year as a result of the sale of earth stations. In April 1998, the Commission issued an Order declaring Comsat non-dominant in the provision of Intelsat switched voice, private line, and occasional-use video services to markets that the Commission determined were competitive and full time video to all markets. The Order also dropped the requirement that Comsat maintain structural separation

between its Intelsat services and other operations and eliminated rate of return regulation in competitive markets; see IB Docket 98-60, April 24, 1998.

Carriers that provide facilities-based international service to the public file circuit data under Section 43.82 of the Commission's rules. These carriers now file country-by-country information on circuit capacity to international points. Carriers report the amount of activated and idle circuit capacity by broad service categories, measured as 64 kilobit per second (kbps) equivalent circuits. A 64 kbps circuit is also referred to as a voice-equivalent circuit. Detailed circuit capacity data for 1996 are contained in *Report on 1996 Circuit Status for U.S. Facilities-Based International Carriers*, December 2, 1997, International Bureau Reference Room, 2000 M Street, N.W., Room 102, Washington, D.C. 20554.

For 1996, carriers reported about 247 thousand activated 64 kbps equivalent circuits and about 77 thousand idle 64 kbps equivalent circuits. Overall, carriers reported 33% more international circuits in 1996 than they did in 1995. Circuits used for telephone service grew by 8%. Circuits used for private line and other services grew by 67%. Carriers do not report circuits that they themselves use to provide enhanced services. Their private line circuit data does include service sold to operators of internet backbone networks.

Table 11 shows data for international circuits for selected points. The data represent circuits actually in use at year-end. U.S. carriers report separate data for undersea cable, terrestrial and satellite circuits. Virtually all reported terrestrial capacity serves Canada and Mexico. Satellite capacity accounts for about 1/6th of the overall capacity in use, but a much higher percentage for some regions of the world, such as Africa and the Middle East.

Table 11 also shows total U.S. billed and foreign billed minutes of international message telephone service (IMTS) traffic for selected countries and for regions of the world. At year-end, about 60% of activated circuits were used to carry telephone traffic. Dividing year-end telephone circuits by traffic for the whole year gives a crude indicator of the average load for international activated circuits. For 1996, this calculation suggests that the average telephone circuit carried 189 thousand minutes of traffic, which means that the average circuit activated for telephone service continues to be used about 8 hours per day. Countries with the highest volumes of traffic (except for Canada and Mexico) tend to show higher loading rates by this calculation. However, the calculation for any individual country is unreliable because some traffic to or from a particular foreign country may not go directly over a U.S. carrier's circuits to that country, but instead may transit circuits that are reported for a different country. Also, the circuit data represents bearer circuits, which measures physical capacity. Carrier providing switched voice services often use multiplexing equipment to convert a single bearer circuit into several derived circuits. Thus, the actual loadings may be considerably lower than the figures calculated in the table.

In filing Section 43.82 circuit reports, carriers separate international circuit capacity into four categories: telephone service, private line, miscellaneous including telex and telegraph, and idle or reserve circuits. Dividing private line revenues for the whole year shown in Table 8 by private line circuits activated at year-end gives a rough estimate of the average annual revenue

per 64 kbps equivalent circuit. The average annual revenue for each private line circuit for 1996 was about \$7 thousand. In 1996, the average annual revenue for private line circuits to North and Central America was \$3 thousand, \$16 thousand to the Caribbean, \$11 thousand to Oceania and more than \$30 thousand for private line circuits to Eastern Europe. Revenue per circuit dropped for most regions of the world from 1995 to 1996.

Circuit capacity continues to grow and cable cost continues to fall. In early 1996, the TAT-12 and TAT-13 cable systems were considered the newest and most advanced cable transmission facilities connecting the United States with Europe. These cables employed fiber optic technology capable of carrying 5 gigabits (billion bits) per second. Together, TAT-12 and TAT-13 doubled the number of Atlantic circuits at half the investment cost per circuit of cables installed earlier in the 1990s. The astonishing fact is that newer systems are being installed with about six times the capacity and at less than half the investment cost per circuit compared to TAT-12 and TAT-13.

The Commission granted MFS Communications Company, Inc. (MFS) a license to construct a non-common carrier fiber optic cable system (MFS-1 and MFS-2) between the United States and the United Kingdom. These cables, now referred to as Gemini (North and South) consist of 4 pairs of 5 gigabits per second fiber and is the equivalent of 241,920 voice grade circuits. The cost to build the system is projected to be \$520 million. Gemini is the first system to offer end-to-end facilities and services between the United States and the United Kingdom. The Atlantic Crossing system (AC-1), when completed, will consist of 483,840 circuits and cost \$850 million.

AT&T, MCI, Telefonica de Espana SA of Spain, Telecom Italia SA of Italy, and Portugal's Companhia Portuguesa Radio Marconi and other telecommunication carriers have signed an agreement to build a system linking Europe and the United States. The system, Columbus III, will consist of two optical fiber pairs with a total capacity of 10 gigabits per second. When completed, the system will handle far more simultaneous calls than all preceding systems and is estimated to cost between \$270 million and \$310 million. In March 1997, U.S. and Asian carriers signed an agreement to build the first underseas fiber optic cable to directly link the United States and China. The cost of the cable is estimated at \$1.4 billion and the capacity is expected to be 10 gigabits per second.

Table 12 shows the investment cost and the number of usable 64 kbps equivalent bearer circuits for transatlantic cables installed since 1956. The table also shows the annual investment cost per usable circuit and the investment cost per minute of service. For purposes of this comparison, the same cost of capital and utilization rates are assumed for the whole period. The table shows that cable investment related costs per circuit and per toll minute declined 99% between 1956 and 1996. This listing of new cable systems is not exhaustive but is intended to illustrate continued growth in capacity and declines in per-unit investment costs. These developments should continue to result in lower international rates in the future.

C. Price Trends

The review of price trends concentrates on AT&T pricing information because data is available for a long period of time and because AT&T remains the largest provider of international telephone service. Revenue per minute information is presented for selected other carriers. AT&T began offering international service to the United Kingdom and some European points in the late 1920s and to some South American and Asian points in the 1930s. Rates varied depending on where the call originated. Before cable, calls were transmitted over radio facilities located on the coast. Rates were lowest for calls that originated near the coastline, with additional zone charges for states farther inland. In the 1940s, AT&T adopted uniform rates for some countries for calls from any conterminous U.S. point. This practice, however, only became universal for overseas service in 1982. Service to Canada and Mexico continues to be distance-sensitive. AT&T's first international rate schedules offered discount rates for Sunday calls and in some cases for night calls. The discount rate periods changed over time and are now based primarily on peak traffic times of day for each country or region. For example, standard rates to Japan apply to calls placed between 2 PM and 8 PM. The time period with the lowest rates is from 3 AM to 2 PM.

Table 13 provides AT&T rates for calls to six selected countries for 1950 to the present. The table shows basic schedule rates for residential customers for calls lasting 3 minutes during the standard rate period. The table also shows rates for the time period with the greatest discount. The table shows station-to-station operator handled rates for early years and then direct-dial rates starting in the year they were introduced -- either 1978 or 1979 for the countries in the table.

For the countries shown in Table 13, the total decline in basic schedule standard rate period charges from 1950 to the present ranged from 38% to 73%. The rates for the least expensive time periods fell slightly more than the standard period rates. The overall change in international rates has been comparable to declines in domestic long-haul rates. ? compares an unweighted average of the charges shown in Table 13 with AT&T's daytime rate for a 10-minute call from New York to Los Angeles. Both series ignore the significant discounts introduced since 1992. While the total changes from 1950 to the present have been comparable, international rates fell more rapidly before 1984 while domestic rates fell more rapidly after 1984.

Table 14 shows AT&T's residential customer basic schedule charges for direct-dialed calls lasting 7 minutes placed during the standard rate period from the United States to selected countries. AT&T had one rate schedule for both residential and commercial customers through mid-1993. AT&T and most other carriers now charge different rates for residential and commercial customers. Table 15 shows comparable rates available to commercial customers. Commercial rates, weighted by 1996 U.S. billed minutes, are about 30% higher than residential rates, based on AT&T's April 1998 charges for seven-minute calls. Commercial customers, however, tend to make shorter calls than do residential customers. For calls lasting three minutes, basic commercial rates average about 36% higher than basic residential rates.

The rates in Table 14 have been used to construct a Fisher Ideal index for standard period international telephone service rates. Rate information is weighted using U.S. billed minutes data shown in Table 7. The 1998 value reflects rates in effect on April 1, 1998. In Figure 13, the resulting index is compared with the overall rate of inflation as well as with the CPI for interstate message telephone service (MTS). Interstate toll rates fell significantly in the late 1980s, primarily because of decreases in access charges. Access charges account for a much smaller portion of international rates, so the decreases in access costs did not push down international rates as much as domestic toll rates. Like domestic toll rates, basic international service rates rose in recent years while carriers offered discount plans to virtually all their customers. These discounts are reflected in the CPI for interstate telephone service, but not in the international index shown in Figure 13. Basic schedule rates for international service fell about 10% in early 1997 but have risen a little more than 3% since then.

Table 14 shows price indexes that both include and exclude Mexico. Calls to Mexico are priced differently from other international calls. The U.S. carrier charges domestic, distance-sensitive rates to carry the call to the border, and then adds another distance-sensitive charge for carrying the call from the border to the final destination. The charges for the portion of the call from the border to the destination in Mexico accounts for most of the per-call charge shown in Table 14. The volume of traffic to Mexico is so large that changes in rates within that country have an impact on the Table 14 index that includes Mexico.

As noted above, the rates shown in Table 14 represent basic schedule rates. Many residential customers, even those who make just one or two overseas calls per month, would save money by signing up for a carrier discount plan. AT&T, for example, introduced the "Reach Out World" international discount plan in 1990, with reduced rates for selected countries. By 1993, discounts were available for most international points. In addition to offering lower rates, many discount plans offer expanded off-peak periods and cover calls made from Hawaii as well as from the mainland. Some plans, however, have monthly minimums or monthly flat payments. AT&T's Reach Out-Overseas One Rate International Plan, for example, requires a \$3 per month flat payment. Table 16 shows selected AT&T discount rates available to residential customers. The table also contains rate indexes for 1990 through the present. For comparison purposes, a linked index was created using the peak index values through 1990 and the off-peak data thereafter. In calculating the off-peak index values, basic schedule rates were used for countries where AT&T did not offer a discount. The off-peak indexes were linked with the peak indexes in 1993, when AT&T began to offer separate peak and off-peak discount rates. Like the discount plan shown for the early 1990s, the current plan offers a single rate for both peak and off-peak periods.

Figure 14 shows the rate index shown in Table 14 with the comparable rate indexes shown in Table 16. As noted earlier, basic schedule rates rose between 1992 and 1996. The graph illustrates how AT&T increased the peak period discount plan rates in 1993 at the same time it introduced much lower discount plan rates for an off-peak period. Both peak and off-peak discount rates rose from 1993 through 1996, but have fallen significantly since

then. Average billed revenue per minute fell between 1993 and 1996, in part, because many customers switched from relatively high basic rates to discount rate plans.

Revenue per minute data provide a crude indicator of pricing trends. Figure 15 shows telephone revenue per minute, telex revenue per minute, and telegraph revenue per word. These figures represent U.S. billed revenues divided by total U.S. units of traffic. U.S. billed revenue per minute for international telephone service declined in the early 1980s, stayed relatively flat for a decade, and then declined after 1993 because a growing number of customers have subscribed to discount plans. The discount plans have caused some reporting problems, because the discounts are often based on total bills, rather than being rated call by call. As a result, some carriers rate all traffic at their basic rates and then estimate an average amount of discount in order to calculate the billed revenue amounts filed in their Section 43.61 data. It appears that some carriers did not fully reflect discounts in their 1993 data, which means that the published data overstate the decline for 1994. Billed revenue per minute for telex service rose in the late 1980s, and has declined since then. Figure 15 suggests that international telegraph service rates have doubled since 1980.

In 1991 Section 43.61 filings, carriers started reporting the number of minutes and words used for settlement purposes, rather than for billing purposes. The settlement traffic measures are lower than the comparable billing traffic measures since settlements are based on actual holding time while consumers are usually billed in whole minutes. The revenue per minute and revenue per word amounts shown in Figure 15 would be a few percent lower starting in 1991 if the FCC had continued to collect billed amounts of traffic rather than settled amounts of traffic.

Table 17 shows billed revenue and retained revenue per minute calculations for AT&T, MCI, Sprint and WorldCom. Billed revenue per minute has been declining for all carriers. Retained revenue per handled minute represents the amount that carriers get to keep for all minutes that they handle, regardless of whether they or a foreign carrier bills for the calls. Net revenue is calculated as the revenue for calls billed by the U.S. carrier, less settlement outpayments plus settlements due for calls handled by U.S. carrier that were billed by foreign carriers. Retained revenue per minute is net revenue divided by the total of both U.S. billed and foreign billed minutes of traffic. Table 17 shows that AT&T has been able to maintain retained revenue per minute while its largest competitors have not. There are a number of possible explanations, but the most significant probably is that through 1996, AT&T's competitors were more aggressive about cutting prices in order to achieve growth.

Available evidence suggests that price reductions have induced greater than proportionate increases in demand for international telephone service. Figure 16 shows the year-to-year percentage increases in U.S. billed minutes of international telephone traffic. The graph shows that traffic was growing fastest in the late 1970s and early 1980s -- often by more than 25% per year. Increased immigration, growth in travel and growth in world trade account for some telephone traffic growth. Some of the growth was also spurred by the availability of new high quality international telecommunications facilities and the

introduction of international direct-dial service to more countries. Since 1970, however, much of the growth in international calling can be explained by general expansion of the U.S. economy and the decline in the real (after inflation) cost of international telephone service.

Figure 16 shows the percentage changes in minutes (excluding traffic with Canada and Mexico) based on data contained in Table 3 and also as calculated by the following model:

$$\begin{aligned} \% \text{ change minutes} = & .0675 - 1.0514 * \text{change in lagged real revenue per minute} \\ & + 2.1051 * \text{change in lagged real GDP} \end{aligned}$$

U.S. billed revenue per minute (excluding traffic with Canada and Mexico) was used as a surrogate for rates and was deflated by the Consumer Price Index and multiplied by 1 plus the prevailing federal excise tax (FET) rate. (The FET for toll service declined from 10% in 1972 to 1% in 1982 and then 3% thereafter.) The rate and real GDP variables were constructed as weighted averages of values for the current and two prior years -- 50% for the current year, 40% for the prior year, and 10% for two years prior. This lagging and smoothing reflects the fact that demand often lags changes in the economy and changes in rates. The model does not fit the data well before 1970, possibly due to a problem in the minutes data. Minutes growth, based on data in the *Statistics of Communications Common Carriers* (SOCC), looks unexpectedly low in 1968 and unexpectedly high in 1969. For 1970 to 1996 (27 observations), the model has an R squared of .63. The constant has a t statistic of 2.60, the rate variable has a t statistic of -5.91 and the GDP variable has a t statistic of 3.84

This relatively simple formulation ignores, for example, increased telephone penetration in both the United States and abroad, increased immigration, increased importance of imports and exports and increased availability of direct dialing. The constant, which represents an average growth rate for traffic increases not explained by GDP growth and price cuts, acts as a surrogate for these additional factors that have all tended to increase and whose increases probably resulted in traffic growth..

Another limitation of the model is that revenue per minute is a flawed measure of rates. Changes in the composition of traffic accounts for some year-to-year change in average revenue per minute. Revenue per minute would have declined faster if traffic with industrialized countries had grown as rapidly as traffic with developing countries. Also, revenue per minute includes collect calls. Changes in average revenue per minute due to collect calls probably has little effect on the levels of customer dialed international calls. International rates probably fell faster than the revenue per minute series. This would tend to overstate the rate coefficient estimated by the model.

Dr. Lester Taylor presents mixed results about whether or not international telephone calling is price elastic. *Telecommunications Demand in Theory and Practice (1994)*. Regardless of whether or not the elasticity is greater or less than -1, it is clear that the growth in discount plans combined with recent rate decreases could result in calling growth of 20% per year or more for the rest of the 1990s.

II. Market Structure

Today, the four largest toll carriers in the United States are also the four largest providers of international service between the United States and international points. The following chart illustrates that international service represents almost one fourth of the toll revenue billed by the largest toll carriers.

Chart: Toll revenue for 1996		
Carrier	Total toll revenue * (\$billions)	International toll revenue ** (\$billions)
AT&T	\$39.3	\$8.9
MCI	16.4	3.8
Sprint	7.9	1.6
WorldCom, Inc.	4.5	.9
* Source: Long Distance Market Shares		
** Source: Section 43.61 International Telecommunications Data (includes facilities-based, facilities-resale and pure resale U.S. billed revenue for all services.)		

The structure of the international telecommunications industry was very different in 1980. This section of *International Trends* explains how resale has encouraged competition, summarizes some of the major transactions that have shaped the current industry leaders, and presents market share information.

A. Resale

The Commission has a long-standing policy of requiring carriers to permit the resale of their services. This has been critical to the development of international competition because it allowed carriers such as MCI and Sprint to provide service via resale while they negotiated operating agreements with foreign administrations.

Section 43.61 International Telecommunications Data shows that 313 carriers provided \$3.6 billion of pure resale international telephone service in 1996. This compares to 69 carriers reporting \$440 million in 1991. Carriers provide pure resale service by routing calls to an underlying carrier, which carries the traffic over its own facilities and pays settlements on that traffic to the carrier in the country of destination. Under the Commission's proportionate return policy, the underlying carrier gets the lucrative return traffic associated with the resale minutes.

Carriers offer pure resale services when they resell the switched international services of another carrier. The pure resale carrier does not control the circuits used to complete the call or arrange for the calls to terminate in foreign points. The underlying carrier arranges for controls the circuits, arranges for call completion, pays settlements to foreign carriers and receives return traffic. The underlying carriers include traffic carried for pure resellers in the country-by-country data that they file in their 43.61 data reports. Pure resale traffic is reported separately to avoid double counting the minutes.

Pure resale service sometimes is confused with facilities-resale or "International Simple Resale" (ISR) service. Facilities-resale service is simply service that a carrier provides over private line circuits that it obtains from another carrier. With facilities-based service, carriers have an ownership interest in the international circuits they use to provide service. Facilities-resale services are the same, except that some other carrier holds the ownership interest in the international circuits. Carriers can offer switched and private line services to the public on either a facilities basis or a facilities-resale basis. In the case of private line service, the same circuits are reported as facilities-based service by the underlying carrier and facilities-resale service by the reselling carrier. In the case of switched services, the underlying carrier reports facilities-based private line circuits and the reselling carrier reports facilities-resale switched service. Thus, the total minutes of traffic for a country is equal to the sum of the facilities-based and the facilities-resale traffic. In 1996, facilities-resale telephone traffic accounted for \$75 million compared with \$14.1 billion for facilities-based telephone traffic.

ISR or private line resale refers to arrangements under which U.S. and foreign carriers exchange traffic without compensation being bound by existing accounting rate agreements. Proportionate return rules do not apply to ISR traffic and ISR arrangements are authorized to only a small, but increasing number of international points. Initially, the Commission allowed carriers to provide ISR services only over resold private lines. Carriers now are allowed to provide ISR services over circuits that they own.

U.S. carriers can offer pure resale service by reselling either facilities-based or facilities-resale services or either traditionally settled or ISR services of underlying carriers. If a carrier uses a leased international circuit in order to provide a service, however, then it is not providing a pure resale service.

The data on pure resale service are incomplete prior to 1991. Carriers first reported resale international traffic data in 1985. Carriers that provided both pure resale and facilities-based services, however, reported combined data until 1991. Thus, the resale totals shown for years before 1991 were for small carriers that did not provide any facilities-based service. The 1991 reporting change explains more than half of the increase in resale traffic between 1990 and 1991. Billings for pure resale international message telephone service rose from \$440 million in 1991 to \$3.6 billion in 1996. Some of this increase is due to an increase in the number of carriers complying with reporting requirements rather than to growth in pure resale service. Many pure resale carriers, however, have been reporting very strong growth

in international service revenue. Total international minutes, messages and billed revenue by carrier are presented in *Section 43.61 International Telecommunications Data* reports.

The FCC does not require carriers filing pure resale traffic data to identify separately call-back type traffic. A call-back "uncompleted call" signalling arrangement, for example, allows a customer in a foreign country to use foreign facilities to dial a preassigned telephone number in the United States. That call is not completed, but the presence of signalling information triggers a call back to the customer, who receives a dial tone from the U.S. carrier's switch. The customer can then place a call via the U.S. carrier's outbound switched service either to a point in the United States or to another international point. U.S. call-back carriers typically operate as pure resale carriers. The FCC has determined that call-back using uncompleted call signalling does not violate either U.S. domestic or international law. *VIA USA, Ltd., Telegroup, Inc., Discount Call Int'l Co.*, 9 FCC Rcd 2288 (1994); (*Call-Back Order*), aff'd on reconsideration, 10 FCC Rcd 9540 (1995) (*Call-Back Reconsideration*) (together "*Call-Back Proceeding*"). The Commission concluded that call-back is desirable, to the extent that it promotes competition and forces down foreign international rates. Some countries impose value-added taxes (VAT) on call-back and other countries have banned call-back entirely. The Commission ruled, however, that U.S. carriers are not authorized to provide call-back using uncompleted call signalling in countries which have expressly declared that call-back is illegal. The Commission's International Bureau maintains a public information file containing documentation about the legal status of call-back for many countries. The public file is titled *International Call-Back: Foreign Law*, and is available in the International Bureau Reference Room, 2000 M Street, N.W., Room 102, Washington, D.C. 20554. The public file currently also contains an International Telecommunication Union (ITU) survey on international call-back.

Table 18 compares pure resale international message telephone service (IMTS) minutes and revenue data with underlying facilities-based and facilities-resale traffic data. AT&T reported no pure resale traffic. In recent years, MCI used pure resale to carry less than 3% of its minutes. Sprint, however, in 1996, used slightly more than 3% and all other carriers taken together provide about 80% of their minutes on a pure resale basis.

While AT&T, MCI and Sprint provide most of the underlying international telephone service, smaller carriers have made inroads in that part of the market, as well. In 1991, smaller carriers reported 1.6% of the underlying U.S. billed service minutes. These carriers now account for 8.3% of underlying service minutes. Since 1991, these carriers show a 50% annual growth in U.S. billed facilities-based and facilities-resale minutes, compared with 19% annual growth for the three largest carriers.

As noted above, pure resale minutes are reported by both the reselling and the underlying carriers. Dividing pure resale minutes by the total minutes reported as facilities-based and facilities-resale service provides an estimate of the percentage of minutes that the underlying carriers sell to resellers. The estimate is somewhat high, since some resellers are actually reselling the services of other resellers. Table 18 shows that underlying carriers

sold about 6% of their minutes to resellers in 1991. This increased to about 16% in 1995 and 37% in 1996. Some of the increase may be due to better reporting, but most of the growth since 1994 is due to year-to-year increases in traffic reported by carriers that reported in the prior year. Pure resellers typically do not handle collect traffic and some other types of high priced calls, although resellers are beginning to enter this segment of the market. Some pure resellers also are able to selectively market to high volume customers. As a result of these factors, pure resellers report less revenue-per-minute than do facilities based carriers.

Table 19 develops estimates that U.S. carriers provided \$14.6 billion of international telephone service to end-users in 1995 and \$15.1 billion in 1996. Since minutes grew rapidly from 1995 to 1996, it is clear that international rates fell substantially. The table shows that while the four largest carriers collected 98% of facilities-based and facilities-resale revenues in 1996, their share of end user revenues was below 80%. Their share was 90% in 1995. This demonstrates the increasing importance of resale in the international telephone services market.

Resale has not been as important for international private line services as for international telephone service. The 1996 traffic data show that facilities-resale private line circuits accounted for almost \$12 million of revenue compared with approximately \$649 million for facilities-based circuits.

B. Mergers and Acquisitions

The international telecommunications industry has a long history of merger and acquisition activity. Western Union left the international market in 1963 as a result of a restriction placed on it by the Commission when it authorized the merger of Western Union and Postal Telegraph in 1943. The restriction was lifted in the early 1980s. Western Union acquired ITT World Communications in 1987 and created a subsidiary, WU Worldcom, which later sold its international leased channel operations to a company that became known as World Communications. The remaining operations of WU Worldcom were absorbed by Western Union. Western Union accounted for about one-fifth of the revenues in the record service segment in 1990 when it sold its remaining international communications services to AT&T. That year AT&T also acquired control of the ITT subsidiaries All America Cable & Radio and ITT Communications-Virgin Islands. These subsidiaries provide service from Puerto Rico and the U.S. Virgin Islands, respectively.

Western Union International, which was spun off by Western Union in 1963, was acquired by Xerox in 1978 and then sold to MCI in 1982. MCI also acquired RCA Globcom in 1988. British Telecommunications plc (BT) acquired a 20 percent interest in MCI in 1994. In September 1995, MCI acquired the largest cellular reseller in the United States, Nationwide Cellular Services, Inc. In 1996, British Telecommunications announced its proposal to buy MCI Communications. The proposed transaction, however, was never consummated.

Other once-prominent record carriers have also changed hands. McDonnell Douglas acquired FTC Communications in 1985. Two years later the unit was transferred to National Gateway Telecom, which at that time also owned Alascom, and then to TRT. TRT was acquired by UNC Resources in 1985, by ICC Telecommunications in 1988, and by IDB in 1993. Both FTC and TRT recently entered the telephone service market. General Electric acquired RCA Globcom in 1986 but sold it to MCI in 1988.

Since 1972, AT&T and Alascom jointly offered long distance services between the lower forty eight states and Alaska. In 1995, AT&T acquired Alascom from Pacific Telecom (PT) and continues to operate the company as a subsidiary, now called AT&T Alascom.

Prior to 1992, IDB Communications Group, Inc., now a part of LDDS, offered some international services through its subsidiary, CICI Inc. IDB, however, greatly expanded its operations with the December 1992 acquisition of World Communications, Inc. ("WorldCom") and Houston International Teleport ("HIT"), the parent corporation of Satellite Transmission and Reception Specialist Company ("STARS"). The acquisition of WorldCom created a new operating unit called IDB WorldCom which consisted of IDB International, IDB&T and Satellite Transmission and Reception Specialist. IDB acquired TRT Communications, Inc. and associated subsidiaries in 1993.

In 1989, LDDS Communications Inc. (LDDS) barely met the Commission's one hundred million dollar benchmark requirement for financial reporting. Through 1991, LDDS reported international resale services only. In 1992, LDDS acquired ATC as well as Tele-Fibernet Corporation and accordingly reported international facilities-based switched services. In 1993, the company merged with Metromedia Communications Corp. and ComSystems Network Services. On December 30, 1994, LDDS acquired IDB WorldCom and shortly afterwards, on January 5, 1995, acquired WilTel Network Services. The company changed its name in 1995 from LDDS Communications Inc. d/b/a LDDS WorldCom to WorldCom, Inc. d/b/a LDDS WorldCom. In December 1996, WorldCom merged with MFS Communications Co., Inc.. In late 1997, WorldCom announced its intentions to acquire Brooks Fiber. Since 1992, LDDS WorldCom has been the fourth largest interexchange carrier in the United States. The company continues to obtain growth through mergers and acquisitions, e.g., the proposed merger with MCI.

Until December 1992, Telefonica Larga Distancia de Puerto Rico was a public corporation wholly owned by the government of Puerto Rico. In December 1992, the Commission approved the sale of the principal assets of the old island carrier to a company controlled by Telefonica de Espana, S.A., Spain's former monopoly telephone company. Telefonica Larga Distancia de Puerto Rico's common carrier international and domestic fixed earth station licenses and its international fixed public point-to-point telegraph and telephone station license were assigned to an affiliated U.S.-controlled company named Telecomunicaciones Ultramarinas de Puerto Rico (TUPR). TUPR also retained control of the Isla Verde cable station in Puerto Rico.

C. Global Alliances and the WTO Agreement

The preceding section sketches mergers and acquisitions between U.S. carriers. In recent years, U.S. carriers have been developing partnerships with foreign carriers. Alliances between U.S. and foreign carriers have resulted in cooperative joint venture arrangements to provide worldwide services to customers through single points of contact. *Global Communications Alliances: Forms and Characteristics of Emerging Organizations*, published in February 1996 by the FCC's International Bureau, presents detailed information on these emerging partnerships. The report describes three major trends in the global communication alliances: increased private ownership of national carriers; liberalization or the introduction of competition; and increasing participation among major international carriers in global alliances.

In February 1997, 69 member nations of the World Trade Organization (WTO), announced a major global agreement to open telecom markets. This agreement went into effect on February 5, 1998. In many countries, this required elimination of the government monopoly on basic telecom services and also provided opportunities for U.S. carriers to enter and compete. Implementing the agreement is expected to move international toll charges closer to cost. Some countries, such as the United Kingdom, Sweden, Australia, Finland, New Zealand and Chile have already opened their markets. Many Asian and Latin American countries are also moving to deregulate their telecom markets. Japan, for example, now allows carriers to be 100% foreign owned. As a result, U.S. carriers are operating in additional countries. On November 25, 1997 the FCC adopted rules to allow foreign carriers unprecedented access to U.S. markets: *Rules and Policies on Foreign Participation in the U.S. Telecommunications Market, Report and Order and Order on Reconsideration, FCC 97-398* and *Amendment of the Commission's Regulatory Policies to Allow non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Services in the United States, FCC-97-399*. The WTO agreement does not require all countries to liberalize at the same time.

D. Changes in Market Share

For a long time, the international telecommunications industry was divided between providers of voice services and providers of record services. For most destinations, AT&T was the sole telephone supplier from the United States mainland. Other carriers provided service from Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. Many competing carriers provided record services -- initially telegraph service and later telex service. In 1964, the Commission established a regulatory dichotomy between the voice market and the non-voice market with the TAT-4 decision. The Commission, however, eliminated this distinction in the early 1980s, along with many other restrictions, limitations, and entry barriers. These Commission actions helped usher in a period of rapid change, which can be seen in the international market share data presented in this section.

Table 20 shows net revenue data by service for the major carriers for 1980 to the present. For switched services, net revenue is billed revenue less settlement payments plus

settlement receipts. Starting in 1991, the switched services data do not include any pure resale revenues. For private line services, net revenue is equal to billed revenues. The data shown in Table 20 are subject to the types of definition changes summarized in Appendix A. An attempt has been made to remove traffic between Hawaii and the mainland, but no attempt has been made to include traffic with Canada and Mexico before 1991. As a consequence, the industry totals in this table do not match the data in Tables 1 through Table 6. The final section of Table 20 shows total carrier revenues for international services. These totals comprise telephone, telex, telegraph, and private line service, but exclude miscellaneous services.

Table 21 shows data from Table 20 restated as percentages of total. This provides an indicator of the market shares of carriers by major service category, as well as for overall international revenues.

AT&T was the dominant provider of international telephone service in 1980 and accounted for 70% of overall international revenues. With the exception of Hawaiian Telephone, owned by GTE, the other large carriers principally provided record services. AT&T continues to be the largest provider of international services although it is no longer classified as a dominant carrier in the international market. MCI and Sprint together reported 30% of international revenues in 1996. While an increasing number of carriers report facilities-based or facilities-resale international telephone or private line service, the number of firms reporting telex and telegraph services declined as those markets shrank. AT&T, which was barred from providing record services until the Commission eliminated the dichotomy between the voice and record markets in the early 1980s, is now the largest provider of international telex services.

Figure 17 shows net revenues for international telephone service for AT&T, MCI, Sprint, and other carriers. The graph illustrates how the international telephone service market has expanded since 1980. While AT&T's revenues in this market have increased rapidly, MCI and Sprint grew faster through 1995, capturing a significant share of the market. Although MCI and Sprint minutes continued to grow in 1996, their net revenue declined in 1996 because their billed revenue per minute fell significantly.

Figure 18 shows revenues for international private line service for AT&T, for the international record carriers that existed in 1980, and for all other carriers. The international record carriers provided most private line service in 1980. The figure illustrates how these carriers disappeared by the early 1990s, replaced by AT&T and other carriers, principally MCI and WorldCom.

Figure 19 shows AT&T's share of all facilities-based and facilities-resale net international service revenue. The figure also shows the combined share for MCI and Sprint. AT&T received about 70% of the net revenues in 1980. Record carriers received about 23% of the net revenues in 1980 and MCI and Sprint had not yet entered the market. AT&T's share of revenues rose through 1988, primarily reflecting the growth of international telephone service compared with the decline of the telex and telegraph markets. Since that

time, however, MCI and Sprint have become major international carriers and other telephone carriers are vying for market share.

Table 22 shows telephone service market shares for selected countries for 1985 to 1996. Revenue shares are shown separately for traffic billed in the United States and traffic billed in foreign points. The shares for traffic billed in the United States are based on U.S. carrier billings to customers. The shares for traffic billed in foreign countries are based on settlement receipts from foreign carriers. Trends in settlement payments and receipts are discussed in Section III.

Through 1985, AT&T provided most of the international telephone service between the continental U.S. and foreign markets. In 1985, some carriers began to provide international telephone service on a pure resale basis. In order to provide facilities-based service to international points, carriers had to obtain facilities, execute operating agreements with foreign carriers and then attract customers.

An operating agreement is a contract between a U.S. carrier and its foreign correspondent under which the two carriers agree to jointly provide service between the two countries. The agreement contains an accounting rate which governs how much carriers compensate each other for handling traffic for each other. The carrier that bills the customer pays half of a specified amount to its correspondent for each minute of jointly provided service. Under the Commission's International Settlement Policy ("ISP"), the accounting rate is symmetrical, meaning that the foreign carrier pays the U.S. carrier the same amount per minute (the "settlement rate") when the U.S. carrier completes a call for the foreign carrier. In the past, some accounting rates were so high that the U.S. carrier would pay out more to the foreign carrier than it collected from customers. Those high settlement rates, however, meant that return traffic was very profitable.

New carriers could not compete unless they received a share of the return traffic. The FCC adopted a proportionate return policy so that U.S. carriers would each get roughly the same share of foreign billed traffic for any particular country as it had for U.S. billed traffic. Settlement payments are discussed in greater detail below.

Despite the FCC's proportionate return policy, there are several reasons why carriers may have different shares of U.S. billed versus foreign billed traffic. Foreign carriers may only apportion traffic to a U.S. carrier after that carrier reaches a threshold size. Foreign carriers may treat some types of traffic, such as "country-direct" and "country-beyond" calls, differently than other classes of telephone service. (These services are described more fully below in Section III.) In addition, foreign carriers apportion current period traffic based on prior period calling volumes. Furthermore, ISR traffic is not counted for purposes of calculating proportionate return.

The data in Table 22 show that market entry occurred in different geographic markets in different years. Typically, AT&T lost 15% to 20% of the international telephone service market share two or three years after new carriers began providing service to a country.

MCI has the second largest share in most markets while Sprint typically has the third largest share.

III. Accounting Rates and Settlement Payments

Under traditional arrangements, U.S. and foreign carriers jointly provide international services. The foreign carriers are often communications agencies of foreign governments -- generally referred to as post, telephone and telegraph administrations or PTTs. Privatization in many countries is occurring, however, and in some cases the U.S. carrier may be dealing with its own foreign affiliates. Today, most service is provided in accordance with service operating agreements that provide for the negotiation of accounting rates, accounting rate shares, and surcharges for certain switched services. The accounting rate share, often referred to as the settlement rate, provides the basis for determining payments between U.S. authorized carriers and their foreign correspondents. U.S. carriers owe settlement payments for the services that they bill, and are owed payments for the services that the foreign carriers bill. In addition, U.S. carriers are owed payments for switched traffic that transits U.S. points. Because U.S. customers place far more calls than they receive and because U.S. carriers terminate more collect calls which generate surcharges for the originating carrier, U.S. carriers make net settlement payments to most foreign carriers. The total net payment for all U.S. carriers grew from \$0.4 billion in 1980 to \$5.6 billion in 1996. Total U.S. carrier revenue, net of settlement payments, grew from \$2.2 billion to \$9.2 billion over the same period. This section reviews trends in accounting rates and settlement payments.

U.S. carriers and foreign carriers conduct bilateral negotiations to reach operating agreements, which include accounting rates, accounting shares, and other factors that affect settlement amounts. An accounting rate is intended to reimburse each carrier for the cost it incurs to provide a unit of joint service on a specific route. For telephone service, the accounting rates are based on a minute of service and may include surcharges for certain types of traffic, such as collect calls. The Commission's International Settlements Policy requires that the U.S. carrier and its foreign correspondent share the accounting rate on a 50/50 basis. In practice, this means that the carrier that bills the call will owe to the other carrier an amount equal to half the accounting rate times the number of minutes of actual holding time for the call.

The accounting rate agreements between U.S. carriers and foreign carriers also specify the currency units in which payments are made. Many accounting rates are defined in monetary units other than U.S. dollars, such as "special drawing rights" (SDRs) and gold francs (GF). In such cases, changes in the value of the dollar can affect the net settlement amounts. Accounting rates may vary by time of day, by service classification, by the volume of minutes, or even by the locations in which the calls originate and terminate. Under the International Settlement Policy, however, the accounting rate for a country is the same regardless of whether the call originates in the United States or in the foreign point.

Accounting rates that exceed cost distort pricing and in turn distort consumer decisions on long distance telephone usage. They also can result in significant balance of payment outflows. The Commission oversees accounting agreements both to move accounting rates to cost and to protect U.S. carriers from "whipsawing" -- where a foreign

monopoly carrier plays competing U.S. carriers against one another in order to gain unwarranted concessions. For example, in 1996 the Commission concluded that Telintar in Argentina blocked AT&T's circuits to Argentina, imposed discriminatory accounting rates and refused WorldCom adequate facilities to terminate its traffic. *Order*, File No. ISP-96-W-062, DA 96-378, released March 18, 1996. The Commission ordered all U.S. carriers with correspondent agreements with Telintar for direct termination of U.S. traffic to suspend all settlement payments to Telintar for switched voice service until Telintar corrected its practices. The Commission allowed settlement payments (based on the lowest accounting rate then in effect on the U.S.-Argentina route) to resume on March 27, 1996.

Figure 20 shows annual amounts owed by U.S. carriers to foreign carriers, commonly called settlement payments. The figure also shows annual amounts due to U.S. carriers from foreign carriers, commonly called settlement receipts. The graph shows totals for all switched services. Total receipts and payments increased dramatically from 1980 to 1996 due to growth in telephone service. In 1980, telegraph and telex service accounted for almost 20% of total payments and receipts. Since then, the contribution of telegraph and telex services has declined. Telephone service now accounts for virtually all payments and receipts.

Figure 20 shows that the settlement amounts owed by U.S. carriers greatly exceed the amounts due from foreign carriers. The difference is termed the net settlement payment. U.S. carriers make net settlement payments because U.S. carriers bill more minutes than do foreign carriers. As shown in Section I, U.S. traffic has grown faster than foreign traffic in recent years. In addition to other factors, the difference between U.S. and foreign calling reflects relative incomes, emigration patterns, and the fact that U.S. rates are generally lower than foreign rates. The model presented at the end of Section II demonstrates that much of the growth in U.S. billed minutes has been stimulated by the decreases in the inflation-adjusted cost of international service in the United States. Some of the growth, however, is due to new services and new traffic arrangements.

U.S. carriers now offer services, such as country-direct, country-beyond and call-back arrangements, that allow customers in foreign points to place calls to the United States, or through the United States to another foreign point. These services allow a U.S. carrier's customers who are travelling abroad as well as some foreign customers to take advantage of relatively low U.S. service rates. Country-direct calls terminate in the United States; country-beyond calls terminate in another foreign point; and, call-back service can be used to terminate calls in the United States or another international point. Customers typically place country-direct and country-beyond by calling special access numbers either in the foreign country or in the United States. Frequently, these are toll free numbers. Country-direct and country-beyond calls generally are priced below the rates foreign carriers would charge for the same calls. These services also give U.S. customers the convenience of being billed domestically. Call-back services are explained in Section II-A. Some U.S. carriers now offer "hubbing" or "reorigination" services that allow a foreign carrier to complete its customers' calls to countries with which it does not have an accounting rate agreement.

Commission rules permit U.S. carriers to provide hubbing to foreign carriers in specified circumstances. All of these new services and arrangements tend to increase the amount of U.S. billed traffic relative to the amount of foreign billed traffic.

In 1996, U.S. carriers reported billing \$1.6 billion for handling almost 1.2 billion minutes of country direct, country-beyond and hubbed traffic. The resulting increase in U.S. net settlement out-payments does not cause balance of payments concerns. For some of these calls, U.S. carriers received payments from either foreign customers or foreign carriers and these payments exceeded the settlement payouts. For the remaining calls, the settlement payouts were offset by the fact that U.S. customers did not have to pay a foreign carrier for the service. These service arrangements encourage foreign carriers to lower their international rates.

U.S. carriers are now allowed to carry calls between the United States and some selected countries using interconnection arrangements that are outside the normal settlement process. This traffic is referred to as International Simple Resale (ISR) because carriers initially had to offer the services over resold private lines. Carriers are now permitted to carry ISR traffic over circuits that they own. The FCC first approved these arrangements for a handful of countries that offered competitive opportunities to U.S. carriers that were equivalent to the opportunities that the United States afforded foreign carriers. Determining whether a country met this standard was referred to as the Equivalent Competitive Opportunities ("ECO") test.

The FCC now approves ISR arrangements between the United States and other World Trade Organization ("WTO") Members if it finds 50% of the US-billed traffic for the country was settled at or below the benchmark settlement rate for that country adopted in *International Settlement Rates*, FCC 97-280., released August 18, 1997. In cases where the benchmark settlement rate condition is not met, the FCC will authorize the provision of ISR where the WTO Member provides resale opportunities that are equivalent to those available under U.S. law. For non-WTO countries, the Commission will authorize ISR only if both the settlement benchmark and resale opportunities conditions are met.

As of July, 1998, the Commission has authorized ISR between the United States and Canada, the United Kingdom, Sweden, New Zealand, Australia, the Netherlands, Luxembourg, Norway, Denmark, France, Germany, Belgium, Austria, Switzerland and Japan. Some U.S. carriers report ISR traffic to other foreign points. This traffic must be carried over an ISR circuit to an approved country and then refiled as traditionally settled traffic in that country. Commission rules permit US.-authorized carriers to resell the international telephone service of foreign-authorized carriers in countries that have been approved for ISR service. Unless ISR arrangements have been approved for a country, however, U.S. carriers are not permitted to originate or terminate unsettled traffic, either directly or indirectly, for that country.

While carriers do not make settlement payments to carriers that receive ISR traffic, they may make "settlement like" payments or payments that cover the refiling carrier's termination costs, including settlement payments to the country of termination. These "settlement like" payments are included in the aggregate amounts reported as settlements in this report.

The ISR arrangements have helped drive down both accounting rates and prices for calls to ISR approved countries. Having carriers in ISR countries refile traffic for third countries has been attractive to U.S. carriers in situations where the accounting rate between the United States and a third country is higher than the accounting rate between, for example, New Zealand and that third country. These hubbing arrangements also are expected to help lower accounting rates around the world.

Figure 21 shows billed international service revenues before and after settlements. The gap between the two series represents the net settlement payout, which grew to almost \$5.6 billion by 1996.

The average settlement amount owed per minute declined significantly from \$.70 in 1989 to \$.43 in 1996. Currency rate fluctuations, accounting rate reductions, changing traffic patterns, and the growth country-direct and world-direct services have influenced the average settlement payment per minute. In 1996, the international settlement amount represented 58% of international telephone service billed revenue.

Figure 22 shows billed revenue per minute divided into the portion that the U.S. carriers retain and the portion that they owe as settlements. The portion that U.S. carriers owe has been decreasing, reflecting declines in accounting rates. Billed revenue per minute dropped rapidly in the early 1980s as customers began to directly dial calls and as minimum call lengths declined. Average billed revenue per minute is also affected by changes in the distribution of traffic. Billed revenue per minute also reflects rate changes.

Figure 23 presents the same comparison as Figure 22, but for a longer period and excluding traffic with Canada and Mexico. Figure 23 suggests that U.S. carrier international toll rates declined more rapidly than did settlement rates in the early 1980s.

Figure 24 compares the retained revenue per U.S. billed minute with settlement receipts per foreign billed minute. Billed revenue per minute remained near \$1.00 per minute from 1985 through 1993 but dropped to \$.74 in 1996. In 1996, the portion retained by U.S. carriers, was \$.31 per minute. In addition to the \$.31 they retained per U.S. billed minute, U.S. carriers were owed about \$.30 for each minute of foreign billed traffic that they handled. Combining U.S. and foreign traffic, carriers netted an average of \$.30 for each minute of international telephone service that they handled in 1996. This figure drops below \$.28 per minute if country-beyond and hubbing traffic is excluded.

Figure 25 presents the same comparison as Figure 24, but for a longer period and excluding traffic with Canada and Mexico. Retained revenue per U.S. billed minute and

settlement receipts per foreign billed minute were both around \$1.60 in 1965. From 1965 to 1978, U.S. carriers netted about the same amount of revenue per minute for both U.S. billed and foreign billed traffic. That changed significantly in the 1980s. By 1986, U.S. carriers netted more than three times as much for each minute of foreign billed traffic as they did for each minute of U.S. billed traffic. Again, this is a reflection of the fact that U.S. tariff rates declined faster than settlement rates through the mid-1980s. The trend, however, changed again in the late 1980s. Settlement receipts per minute continued to decline while U.S. retained revenue per minute increased through 1993. Excluding traffic with Canada and Mexico, U.S. carriers retained \$.42 for each minute of traffic that they handled in 1996. The figure would be \$.30 per minute if country-beyond and hubbing traffic also is excluded.

U.S. carriers get about a quarter as much revenue for each international minute (excluding Canada and Mexico) that they handle now as compared to three decades ago. Nonetheless, \$.42 per minute is three times the charge for a direct dialed interstate minute. See *Telecommunications Industry Revenue: TRS Fund Worksheet Data*, November 1997, Figure 5. Average retained revenue per international minute had declined from \$1.61 in 1965 to \$.50 in 1984. Retained revenue per minute thus declined about 5% a year at a time when inflation averaged about 6% per year. The figure remained roughly the same from the early 1980s to the early 1990s -- despite the dramatic decreases in circuit costs and domestic access costs. This suggests that carrier profits for international service increased significantly over that period.

Figure 26 compares the average settlement owed per minute of U.S. traffic with the average settlement due per minute of foreign traffic. Even though a single accounting rate applies regardless of where the call originates or is billed, the overall average settlement per minute is higher for U.S. billed traffic than for foreign billed traffic. There are several reasons for this difference. Accounting rates vary among countries, between services, and over time. Moreover, the distribution of traffic by country is different for service to the United States compared with service from the United States. In some cases, accounting rates vary by time of day, by the overall volume of traffic, or even by the origin or destination within a country. Thus, differences in traffic patterns can result in differences in the average amounts owed per minute. For example, a U.S. carrier's average settlement owed per minute could be higher than a foreign carrier's if the U.S. carrier handles a larger share of collect calls, reflecting the fact that collect calls are subject to substantial surcharges.

A significant portion of total net settlement payments are concentrated among a small number of countries. In 1996, 44% of the net settlement payments were made to just 10 countries. Table 23 shows the net telephone service settlement payments to 34 selected countries for 1975 through 1996. The telephone service net settlement payment to these countries totaled almost \$4 billion -- 70% of the total for 1996. The table also shows the percentage of world total payments received by the top 4 and top 10 recipients each year.

Figure 27 shows net settlement payments to three groups of countries -- the four

that received the greatest payments each year, the other 30 countries shown in Table 23, and all other countries of the world. The graph illustrates that settlements have increased dramatically for all three groups of countries.

Figure 28 shows the data represented in Figure 27 expressed as percentages of total net settlement payments. The graph illustrates that net settlement payments are becoming less concentrated. Net payments to the top 4 countries declined from 46% of the total in 1980 to 29% of the total in 1996. Over the same period, net payments to the other 30 countries in the table increased from 34% of the total to 41% of the total. Payments to all other countries increased from 20% to 30% of the total.

Figure 29 illustrates changes in net settlement payments to selected countries. Mexico continues to receive more net settlement payments for international telephone service than any other country. Mexico represented 15% of net settlement payments for 1996. In recent years, however, the rate of growth in settlement payments has been much greater for many other countries, and exceeded 50% per year for Hong Kong and India.

The Bureau of Economic Analysis (BEA), U.S. Department of Commerce, conducts surveys of settlement payments to foreign countries and publishes summaries of their data in the Survey of Current Business. Table 24 shows a comparison of the data published by BEA and data shown in Tables 4, 5, and 6 of this report. The data sources show roughly the same overall trends. Figure 30 shows the growth in net settlement payments by region of the world. Net settlement payment by region was calculated by subtracting receipts from payments using the BEA data.

Appendix A explains how differences between the BEA and FCC data arise from definition differences. The FCC directs carriers to report settlement amounts in the same period that they provided service while the BEA wants data to reflect payments actually made during a calendar year. The BEA focuses on the actual balance of payments while the FCC data track the settlements for regulated services. Thus, the BEA includes payments associated with enhanced services and payments to Intelsat. The BEA, however, excludes settlement payments between some U.S. points. The FCC data include settlement payments between U.S. carriers and their foreign affiliates. The BEA tracks all payments between U.S. carriers and their foreign affiliates, but includes them in other accounts.

Table 25 shows accounting rates for 34 countries. After a period of relative stability, accounting rates began to decline in the mid-1980s. Since 1985, accounting rates have dropped for every country in the table except Nigeria. Rates for 21 of the countries dropped in the first half of 1998. While the decline has been modest in some cases, accounting rates for some countries have declined by 70%. Nonetheless, there is widespread agreement that accounting rates continue to be significantly higher than the costs of providing international telephone services. The table also illustrates the variety of accounting rate arrangements between U.S. carriers and foreign correspondents and differences in the frequency with which accounting rates are renegotiated.

Currently, the United States, the United Kingdom and New Zealand publish their accounting rates to other countries. The FCC released a comparison of accounting rates for these countries on September 24, 1997. *Accounting Rates of the United States, the United Kingdom, and New Zealand*. (<http://www.fcc.gov/ib/td/pf/ukrates.html>) On average, the accounting rates to most countries are about the same for the United States and the United Kingdom. However, there are clear regional variations and many instances where the U.S. accounting rate for a country is less than half or more than twice the rates for the United Kingdom or New Zealand.

In nominal terms, the accounting rates for most countries have declined in recent years. Many accounting rates, however, are expressed in Gold Francs or Special Drawing Rights. Because the value of the dollar changes over time, the dollar payment per minute can change from year to year even if the nominal accounting rate remains the same. Table 26 shows peak and off-peak period accounting rates expressed in dollars. Table 26 also presents a Fisher Ideal index of accounting rates for the countries in the table, weighted by U.S. billed minutes of telephone service traffic. Where off-peak accounting rates exist, the peak rates are weighted 2/3 and the off-peak rates are weighted 1/3. The table shows that accounting rates for the countries in Table 26, on average, are less than half of what they were in 1991.

Figure 31 illustrates the decline in accounting rates. The figure shows the Fisher Ideal index of peak period accounting rates in U.S. dollars from Table 26, as well as accounting rates for Columbia, Germany and Japan, rebased so that 1980 equals 100. While rates are down for all three countries, the timing and magnitude of changes often differ significantly. Although the nominal accounting rate for Germany did not change between 1983 and 1990, the figure shows how the rate expressed in U.S. dollars changed significantly because of currency rate changes.

Figure 32 compares the net settlement payouts for international telephone service (scale shown on the left) with two measures of settlement rates (scale shown on the right). One measure of settlement rates is the average payout per U.S. billed minute for calls to all countries. The other measure is the Fisher Ideal index of accounting rates from Table 26, rebased so that 1990 value is the same as that year's average settlement payout per minute.

Relatively steep drops in the measures of settlement rates are associated with slower growth in settlement payouts. Given that the decreases in settlement rates for 1997 and 1998 are in line with decreases for the rest of the 1990s, it is likely that the deficit grew a significant amount in 1997 and will continue to grow in 1998. The figure also shows that the index for the 34 countries in Table 26 dropped more rapidly than did the average payout per minute. Accounting rate surcharges for collect calls may not have declined as rapidly as accounting rates. Also, the 34 countries used for the index includes many large, more affluent countries and relatively few small, less affluent countries. Accounting rates have gone down faster with larger, more affluent countries but traffic has grown more rapidly with small, less affluent countries.

The Commission continues to push for lower accounting rates. In 1992, the Commission adopted benchmark international settlement rates for Europe, Asia, and other regions. The rates were price ceilings or guidelines to be used by U.S. carriers negotiating accounting rates with foreign administrations, *Benchmark International Settlement Rates*, Second Report and Order and Second Further Notice of Proposed Rulemaking, 7 FCC Rcd 2580 (1992). The International Bureau adopted a *Policy Statement on International Accounting Rate Reform*, 11 FCC Rcd 3146 (1996) which reviewed Commission efforts to reduce international settlement rates. In November 1996, the Commission released its Fourth Report and Order, *Regulation of International Accounting Rates*, CC Docket No. 90-337, FCC 96-459 (Nov. 29, 1996), which gave international carriers greater flexibility in negotiating accounting rates. The Commission modified its policies with respect to flexible settlement arrangements that deviate from the International Settlement Policy in the *Foreign Participation Order*, 12 FCC Rcd 23891 (1997).

In August 1997, the Commission revisited the issue of international settlement rate benchmarks by releasing new lower benchmarks for international settlement rates. *Benchmarks Order*, FCC 97-280 (Aug. 18, 1997). The Commission continues its efforts to promote competition, reduce prices, provide greater service options and spur technological innovation for American consumers.

Appendix A: Notes on the Data

Much of the data presented in this report is based on the figures reported in the annual volumes of *Statistics of Communications Common Carriers* (SOCC). The *Manual for Filing Section 43.61 Data in accordance with the FCC's Rules and Regulations*, June 1995, provides directions for filing international traffic data. Many significant reporting changes have occurred over the years, and several adjustments have been made to make the time series more consistent. The most significant changes stem from the changing focus of the reporting requirements. Prior to 1990, the FCC collected data for overseas telecommunications. At one time, traffic to Alaska, Hawaii and Puerto Rico was classified as reportable overseas traffic, while traffic to foreign points such as Canada and Mexico was not reported. This classification arose from the fact that carriers used radio facilities for overseas traffic while they used terrestrial cable facilities to serve Canada and Mexico.

Since 1985, Hawaii, Alaska, the conterminous U.S. and Puerto Rico have been considered U.S. domestic points for reporting purposes. Carriers need not report data for traffic between any two domestic U.S. points. Starting in 1991, carriers must report all traffic for offshore U.S. points, such as Guam and Midway, and must include traffic between offshore U.S. points and all other U.S. points. Also in 1991, the FCC started systematically collecting traffic data for service to Canada, Mexico, and Saint Pierre and Miquelon. The current data requirements facilitate better tracking of the effects of settlement payments on the national balance of payments.

Several adjustments were made to published data so that the data presented in the report for recent years approximate totals for all international traffic. Traffic reported to Alaska, Hawaii, and Puerto Rico has been removed from the data presented in this publication for the years 1980 through 1984. AT&T voluntarily provided telephone traffic data for Canada and Mexico for 1978 through 1990. All carriers filed data beginning in 1991. Appendix B and Appendix C show the available telephone service traffic data for Canada and Mexico, respectively. Log linear regression analysis with a dummy trend was used to estimate traffic carried by AT&T's competitors for 1985 through 1990. While very approximate, these estimates were used to construct industry total data shown in the report.

In addition to reclassifying international points, the FCC instituted other reporting changes in 1991. Service categories changed. Pure resale traffic was separated from facilities-based traffic to avoid double counting. The Commission changed the definition of minutes for reporting purposes. For facilities-based service, carriers now report the number of minutes upon which settlements are calculated. They formerly reported billing minutes. The settlement process is used by U.S. and foreign carriers to provide compensation for handling traffic for each other. Compensation is based on conversation minutes. Settlement minutes averaged 5% to 6% less than billed minutes for traffic billed in the United States for 1988 through 1990. Because carriers do not make settlement payments for their pure resale traffic, they continue to report resale data based on billing information.

In 1991, the FCC also changed the traffic categories for reporting purposes. Prior to 1991, carriers reported traffic originating in the United States, terminating in the United States and transiting the United States. Since 1991, the reporting categories are U.S. billed, foreign billed, and transiting traffic. U.S. billed traffic is all traffic billed to a customer by the carrier serving the U.S. location covered by the report. Prior to 1991, a collect call placed from a U.S. point could have been classified as originating traffic. Because these calls are billed by a carrier serving an international point, such traffic, however, now must be reported as foreign billed calls. Foreign billed traffic is all traffic billed to customers by foreign carriers. Transiting traffic is traffic that originates from an international point, is routed through the United States, terminates at an international point, and is billed to customers by a foreign carrier. Starting in 1991, the report incorporates some data for transiting traffic. To avoid confusion, this report uses the term "**U.S. traffic**" to refer to traffic originating in the United States through 1990, and traffic billed in the United States thereafter. Similarly, the term "**Foreign traffic**" refers to traffic originating in foreign points through 1990, and traffic billed by foreign carriers thereafter. Prior to 1991, many carriers classified traffic based on billing. Thus, the change in definitions may not have caused any significant changes in the data being reported.

During 1995, the Commission adopted a revised Section 43.61 international traffic data reporting manual. Starting with 1995 data, carriers provided both the actual number of private lines and the number of voice equivalent private lines. Carriers separated facilities-resale traffic from facilities-based traffic. Carriers also separately identified U.S. billed traffic originated in a foreign point via country-direct and country-beyond type services. Finally, the revised manual clarified the treatment of discounts for reporting purposes.

Figure A-1 summarizes changes in reporting definitions over time. These changes may account for some of the year-to-year changes in the reported data. In addition, the data may contain reporting errors. For example, the 1987 SOCC contains inaccurate data for traffic to the United Kingdom because AT&T's Section 43.61 filing omitted foreign traffic for November and December. Corrected figures have been used in Table 23, which shows net settlement payments for telephone service to selected countries. The FCC's reporting requirements incorporate a threshold below which corrections need not be made. In addition, the complexity of the settlements process guarantees that some errors are only discovered or correctable after the carriers file their final Section 43.61 report for the year. While the data cannot be used to calculate precise year-to-year changes, the data provide a good indicator of industry trends. To compensate for changes in reporting over time, this report uses regression analysis to calculate growth rates. This ensures that data from the whole period, rather than just the end points, are considered in estimating trend growth rates. In addition, regression analysis permits the data to be divided into periods to evaluate whether trends have changed over time.

Complete technical information on current reporting requirements is contained in the *Manual for Filing Section 43.61 Data in accordance with the FCC's Rules and Regulations*,

June 1995. Additional information on 1996 data is contained in the *Section 43.61 International Telecommunications Data* report for 1996.

Figure A-1

Reporting and Definition Changes Affecting SOCC International Traffic Statistics	
1.	The treatment of Hawaii and Puerto Rico traffic changed over time. Prior to 1985, Hawaii and Puerto Rico were classified as overseas points. Generally, traffic between the continental U.S. and Hawaii and Puerto Rico were included in SOCC tables through 1984. Where possible, these amounts have been removed from tables.
2.	The treatment of Alaska traffic changed over time. Alaska traffic was included for some years before 1968, and for 1981 through 1984. Where possible, Alaska data for 1981 through 1984 have been removed from tables.
3.	Starting in 1991, the international tables include traffic for all domestic U.S. points, including Alaska, Hawaii and Puerto Rico. (International traffic for offshore U.S. points is contained in the Section 43.61 International Telecommunications Data report.)
4.	Carriers did not report data for Saint Pierre and Miquelon, Canada or Mexico for 1968 through 1990. The 1980 through 1990 SOCC data presented in Table 1 and Table 2 have been adjusted to include estimates for telephone traffic with Canada and Mexico.
5.	U.S. traffic with the U.S. Virgin Islands was included in the international tables for 1980 through 1984, and then excluded for 1985 through 1990. U.S. traffic to other offshore U.S. points, such as Guam and Wake Island was included for 1980 through 1985, and then excluded from the country-by-country table for 1986 through 1990. Beginning with 1991, the traffic with non-domestic offshore U.S. points has been included in the statistical tables. Such traffic currently represents less than 1% of all international traffic for the United States.
6.	Maritime traffic was not explicitly included in some years through 1990. Starting in 1991, the SOCC tables include maritime traffic.
7.	Before divestiture, interexchange carriers such as MCI and Sprint did not provide international telephone service. Through 1984, the tables containing country-by-country international telephone traffic represented AT&T only.

8.	Prior to 1991, some switched service revenues, such as telephone service from offshore U.S. points, was classified as miscellaneous. In addition, some minor services, such as packet switching, were reported as miscellaneous. Carriers, however, were not required to report any data for some minor services.
9.	From 1985 through 1990, switched services data included both facilities-based and pure resale service. Starting in 1991, carriers must separate international facilities-based traffic from international pure resale traffic. Starting in 1995, carriers must also separate private line circuits offered over resold circuits (facilities-resale) from those offered over the carriers own circuits (facilities-based).
10.	Through 1984, carriers reported transiting traffic both by points of origin and destination. Thus, each transiting call would be counted twice.
11.	Through 1990, carriers were instructed to categorize traffic data by point of origin. Starting in 1991, carriers are instructed to categorize traffic based on where each call is billed. This may not represent a significant change, because many carriers reported traffic based on billing prior to 1991. In this report, the term "U.S. traffic" refers to traffic reported as originating in the U.S. through 1990, and traffic reported as billed in the U.S. thereafter. Similarly, the term "foreign traffic" refers to traffic reported as originating in foreign points through 1990, and traffic reported as billed to foreign points thereafter.
12.	Through 1990, carriers were instructed to report the number of billing minutes or billing words. Starting in 1991, facilities-based carriers report the number of minutes or words used for settlement purposes. Pure resale carriers continue to report the number of minutes used for billing purposes.
13.	Starting with 1995 filings, carriers were required to separate facilities-based data from facilities-resale data for switched services. This distinction was intended to separate International Simple Resale (ISR) traffic from settled traffic. In 1996, the Commission allowed carriers to offer ISR traffic using their own facilities. As a result, the Commission dropped the facilities-based / facilities-resale distinction for switched services in 1997, and instead required that carriers separate traffic by settlement arrangement: traffic settled under traditional arrangements; under approved alternative settlement arranges; and, under other arrangements including international simple resale (ISR).
14.	Starting with 1995 filings, carriers were required to separate country-beyond and hubbing (reorigination) traffic from other types of traffic in non-public filings.

Both the Bureau of Economic Analysis (BEA), U.S. Department of Commerce and the Federal Communications Commission (FCC) collect data on settlement payments and receipts. The FCC figures are used to monitor U.S. carriers, while the BEA data are used to monitor the balance of payments. As a result, there are significant differences in the reporting requirements imposed by these agencies.

In recent years, the Section 43.61 reports have shown greater U.S. carrier payments to foreign entities than do the BEA estimates. The BEA figures, however, show greater U.S. carrier receipts. It is not clear whether reporting differences explain most or all of the differences in reported data. Some factors would tend to make the FCC figures higher. For example, carrier's settlement receipts and payments lag the date when traffic is actually provided. The FCC requests payments and receipts when accrued -- that is, at the time service was provided. The BEA requests that carriers file actual payments and receipts made during the calendar year. Because settlement payments are often made long after the calls were made, and because traffic has been growing rapidly, the settlements owed during a year tend to be greater than the settlements made during the year. This means that carriers would tend to report higher settlement receipts and payments in their Section 43.61 annual reports than in their BEA annual reports. Also, Section 43.61 reports include settlement payments between U.S. carriers and their foreign affiliates. The BEA statistics exclude such payments. Other reporting differences, however, would tend to make the BEA figures higher. For example, the carrier reports to BEA include inter-carrier payments for private line, enhanced service, and support service receipts. U.S. carrier payments to Intelsat are also included. All of these types of payments would not be included in Section 43.61 reports. In 1991, the last benchmark survey, enhanced services represented 2.8% of settlement receipts and 0.3% of payments.

The timing differences explained above and the fact that the BEA excludes payments to affiliates may be responsible for this difference. The BEA figures, however, include some payments, such as payments to Intelsat, which should offset some or all of the difference. The data differences are summarized in Figure A-2 below:

Figure A-2

Differences Between Section 43.61 Data and BEA International Data	
Section 43.61 International Traffic Data	BEA Telecommunications Payments and Receipts
Messages, minutes, billed revenues, and settlement payments and receipts.	Settlement payments and receipts.

<p>Covers basic telecommunications services (telephone, telex, telegraph, private line and miscellaneous).</p>	<p>Covers basic telecommunications service, enhanced or value added services, and telecommunications support services (such as maintaining earth stations located in foreign points).</p>
<p>Includes payments between U.S. carriers and their foreign affiliates.</p>	<p>Excludes payments between U.S. carriers and their foreign affiliates, although these can be estimated from other data filed with BEA.</p>
<p>Carriers are asked to report payments and receipts when accrued -- that is, at the time service was provided, regardless of when the settlements were actually made.</p>	<p>Carriers are asked to file settlement payments and receipts actually made during the year, regardless of whether or not the service was provided during the year.</p>
<p>Includes payments and receipts for traffic that transits a U.S. point, but excludes receipts or payments for exclusively foreign services such as circuit capacity provided to foreign carriers.</p>	<p>Includes payments and receipts for traffic that transits U.S. points and also payments and receipts for foreign service.</p>
<p>U.S. carriers report the private line revenue billed on their behalf as revenue, rather than as settlement receipts. They do not report the revenue that they bill on behalf of foreign carriers as either revenue or settlement payments.</p>	<p>U.S. carriers report both the private line revenue they bill on behalf of foreign carriers and payments to Intelsat as payments. They report private line revenue billed on their behalf by foreign carriers as settlement receipts.</p>
<p>U.S. carriers report their billings to foreign addresses as U.S. billed revenue.</p>	<p>Carriers are asked to report their billings to foreign addresses as settlement receipts.</p>
<p>All carriers with revenue in the reporting year are required to file preliminary data on the following July 31 and final traffic data on October 31.</p>	<p>All carriers with payments or receipts greater than \$500,000 are required to file data on March 31 of the following year for publication in June. Revisions are typically made the following June.</p>

<p>Includes payments and receipts for traffic that transits a U.S. point, but excludes receipts or payments for exclusively foreign services such as circuit capacity provided to foreign carriers.</p>	<p>Includes payments and receipts for traffic that transits U.S. points and also payments and receipts for foreign service.</p>
<p>U.S. carriers report the private line revenue billed on their behalf as revenue, rather than as settlement receipts. They do not report the revenue that they bill on behalf of foreign carriers as either revenue or settlement payments.</p>	<p>U.S. carriers report both the private line revenue they bill on behalf of foreign carriers and payments to Intelsat as payments. They report private line revenue billed on their behalf by foreign carriers as settlement receipts.</p>
<p>U.S. carriers report their billings to foreign addresses as U.S. billed revenue.</p>	<p>Carriers are asked to report their billings to foreign addresses as settlement receipts.</p>
<p>All carriers with revenue in the reporting year are required to file preliminary data on the following July 31 and final traffic data on October 31.</p>	<p>All carriers with payments or receipts greater than \$500,000 are required to file data on March 31 of the following year for publication in June. Revisions are typically made the following June.</p>

Appendix B: International Telephone Traffic with Canada

AT&T Traffic with Canada
(All figures are shown in thousands)

	U.S. Traffic					Foreign Traffic			Transiting Traffic			Total Retained Revenue
	Number of Messages	Number of Minutes	AT&T Billed Revenue	Payout to PTT	Retained Revenue	Number of Messages	Number of Minutes	Receipts from PTT	Receipts from PTT	Payout to PTT	Retained Revenue	
1978	71,564	479,479 <u>1/</u>	\$222,432	\$86,835	\$135,597	67,143	447,172 <u>1/</u>	\$84,790				\$220,387
1979	78,277	524,456 <u>1/</u>	245,409	95,710	149,699	75,420	502,297 <u>1/</u>	95,878				245,577
1980	85,198	570,827 <u>1/</u>	270,986	105,685	165,301	85,475	569,264 <u>1/</u>	109,393				274,694
1981	96,712	647,970 <u>1/</u>	321,221	125,402	195,819	94,483	629,257 <u>1/</u>	126,486				322,306
1982	101,708	681,444 <u>1/</u>	346,511	171,547	174,964	95,830	638,228 <u>1/</u>	152,594				327,558
1983	113,098	757,757 <u>1/</u>	394,002	195,031	198,971	108,880	725,141	163,674				362,645
1984	122,202	814,035	386,207	191,199	195,008	116,160	775,990	168,775				363,783
1985	128,220	832,857	374,915	185,583	189,332	127,870	845,430	177,490				366,822
1986	141,667	881,737	394,510	195,302	199,208	146,099	941,172	194,040				393,248
1987	146,465	874,797	404,183	215,057	189,126	157,682	932,211	234,375				423,500
1988	145,136	859,975	422,241	216,044	206,197	149,805	838,726	216,320				422,517
1989	159,444	943,550	485,209	237,882	247,327	159,130	893,821	233,197				480,524
1990	168,198	1,115,719	481,973	201,257	280,716	167,399	953,624	200,839				481,554
1991 <u>3/</u>	244,046	1,295,006	539,774	207,384	332,390	188,101	1,048,330	141,045	192	33	159	473,594
1992 <u>3/</u>	268,798	1,394,018	523,953	209,494	314,459	195,770	1,113,680	154,256	502	62	439	469,154
1993 <u>3/</u>	292,569	1,426,374	592,024	220,455	371,569	196,975	1,040,509	165,421	581	121	460	537,450
1994 <u>3/</u>	332,920	1,569,970	593,412	214,647	378,765	203,123	1,024,155	142,993	164	13	151	521,910
1995 <u>3/</u>	351,558	1,639,955	624,460	188,557	435,903	231,141	1,135,739	138,450	541	125	417	574,770
1996 <u>3/</u>	385,290	1,775,125	620,973	179,836	441,137	274,410	1,213,454	129,228	819	260	559	570,924

All Reporting U.S. Carriers Traffic with Canada
(All figures are shown in thousands)

	U.S. Traffic					Foreign Traffic			Transiting Traffic			Total Retained Revenue
	Number of Messages	Number of Minutes	Total Billed Revenue	Payout to PTT	Retained Revenue	Number of Messages	Number of Minutes	Receipts from PTT	Receipts from PTT	Payout to PTT	Retained Revenue	
1985 <u>2/</u>	141,101	916,525	412,578	204,226	208,352	127,870	845,430	177,490				385,842
1986 <u>2/</u>	170,392	1,060,522	474,503	234,902	239,600	146,099	941,172	194,040				433,640
1987 <u>2/</u>	194,470	1,161,519	536,657	285,544	251,113	172,109	1,017,503	255,818				506,932
1988 <u>2/</u>	214,163	1,268,981	623,060	318,795	304,265	181,567	1,016,554	262,184				566,449
1989 <u>2/</u>	251,935	1,490,894	766,674	375,875	390,799	208,668	1,172,073	305,792				696,591
1990 <u>2/</u>	274,274	1,819,362	785,936	328,183	457,753	235,379	1,340,888	282,399				740,152
1991 <u>3/</u>	397,515	1,950,892	799,700	303,742	495,958	256,996	1,420,585	190,664	193	33	160	686,782
1992 <u>3/</u>	482,780	2,226,372	871,459	329,361	542,098	269,419	1,512,091	207,846	995	62	933	750,877
1993 <u>3/</u>	570,345	2,493,082	1,026,218	372,936	653,283	309,134	1,604,887	241,726	1,085	121	964	895,963
1994 <u>3/</u>	644,101	2,786,577	990,991	378,475	612,515	362,609	1,800,084	241,392	468	19	450	854,357
1995 <u>3/</u>	720,920	3,049,270	1,039,776	349,090	690,686	409,702	2,067,288	223,056	783	125	658	914,400
1996 <u>3/</u>	800,139	3,462,490	1,018,774	345,873	672,900	637,468	2,845,791	244,920	1,597	260	1,337	919,157

1/ For 1978 through 1983, U.S. and foreign minutes for Canada were estimated as 6.7 times the number of messages.

2/ For 1985 through 1990 traffic for other carriers was estimated by fitting a log linear trend to 1978 through 1992 minutes data, with a dummy trend representing traffic carried by non-reporting competitors. Messages and revenues were estimated by using per minute ratios derived from AT&T data.

3/ Starting with 1991, data for AT&T are taken from annual editions of *Section 43.61 International Telecommunications Data* and data for all carriers are taken from annual volumes of *Statistics of Communications Common Carriers*.

Appendix C: International Telephone Traffic with Mexico

AT&T Traffic with Mexico
(All figures are shown in thousands)

	U.S. Traffic					Foreign Traffic			Transiting Traffic			Total Retained Revenue
	Number of Messages	Number of Minutes	AT&T Billed Revenue	Payout to PTT	Retained Revenue	Number of Messages	Number of Minutes	Receipts from PTT	Receipts from PTT	Payout to PTT	Retained Revenue	
1978	17,049	122,751	112,149	85,081	27,068	10,745	62,320	25,012				52,080
1979	21,629	155,729	186,243	115,623	70,620	14,303	82,956	32,909				103,529
1980	26,067	187,682	220,700	123,800	96,900	18,441	106,955	39,270				136,170
1981	29,795	214,523	294,685	212,222	82,463	22,410	129,977	53,250				135,712
1982	36,397	251,849	317,039	244,997	72,042	25,833	155,623	53,102				125,144
1983	39,333	294,297	334,522	246,248	88,274	26,680	144,462	44,818				133,092
1984	41,722	307,022	361,378	268,204	93,174	24,916	147,083	49,819				142,993
1985	45,644	336,117	381,354	276,185	105,169	30,351	170,015	54,096				159,265
1986	52,230	392,755	442,383	301,728	140,655	34,134	185,656	54,584				195,239
1987	59,510	450,713	499,511	372,726	126,785	36,633	188,675	60,176				186,961
1988	77,024	561,937	639,361	480,107	159,254	47,701	239,364	69,242				228,496
1989	97,440	702,468	762,037	626,633	135,404	60,794	306,412	92,736				228,140
1990	114,362	823,553	837,517	680,084	157,433	72,466	361,706	106,554				263,987
1991	105,284	788,544	803,038	590,895	212,144	77,208	375,169	105,439	2,664	1,384	1,280	318,863
1992	133,989	940,340	901,752	633,519	268,233	98,654	440,351	116,900	3,772	2,021	1,751	386,883
1993	144,640	960,035	989,944	653,779	336,165	107,371	476,210	127,207	8,889	2,944	5,942	469,314
1994	158,505	1,061,620	1,066,290	686,249	380,041	118,955	517,944	137,911	7,623	7,231	392	518,344
1995	173,458	1,292,895	1,141,095	723,917	417,179	122,402	527,604	155,418	5,966	2,615	3,351	575,948
1996	201,866	1,489,546	1,217,264	739,351	477,913	144,038	589,922	193,993	3,299	1,218	2,081	673,987

All Reporting U.S. Carriers Traffic with Mexico
(All figures are shown in thousands)

	U.S. Traffic					Foreign Traffic			Transiting Traffic			Total Retained Revenue
	Number of Messages	Number of Minutes	Total Billed Revenue	Payout to PTT	Retained Revenue	Number of Messages	Number of Minutes	Receipts from PTT	Receipts from PTT	Payout to PTT	Retained Revenue	
1985	47,415	349,157	396,149	286,900	109,249	32,631	182,785	58,159				167,408
1986	56,236	422,878	476,313	324,870	151,443	39,386	214,226	62,983				214,426
1987	66,402	502,907	557,356	415,889	141,467	45,945	236,633	75,472				216,939
1988	88,043	642,332	730,833	548,795	182,038	61,967	310,948	89,950				271,988
1989	110,537	796,889	864,464	710,860	153,604	77,198	389,093	117,760				271,364
1990	129,761	934,446	950,290	771,658	178,632	91,599	457,204	134,686				313,318
1991	147,144	1,038,226	1,024,086	743,223	280,863	93,437	468,266	128,671	2,741	1,384	1,357	410,891
1992	190,045	1,277,226	1,216,942	835,517	381,426	137,362	608,649	156,494	4,121	2,021	2,100	540,020
1993	217,361	1,398,807	1,399,855	903,602	496,253	148,407	676,214	177,217	9,308	2,944	6,364	679,834
1994	253,475	1,656,171	1,547,714	1,014,704	533,010	173,613	748,753	195,115	7,962	7,231	731	728,856
1995	290,151	2,012,183	1,700,765	1,124,339	576,426	195,107	835,660	248,653	7,904	3,937	3,967	829,046
1996	333,163	2,380,830	1,772,136	1,194,686	577,451	230,470	948,077	316,435	4,502	1,218	3,284	897,170

- 1/ For 1978 through 1981, U.S. minutes for Mexico were estimated as 6.2 times messages, while foreign minutes were estimated as 5.8 times messages.
- 2/ For 1985 through 1990 traffic for other carriers was estimated by fitting a log linear trend to 1979 through 1992 minutes data, with a dummy trend representing traffic carried by non-reporting competitors. Messages and revenues were estimated by using per minute ratios derived from AT&T data.
- 3/ Starting with 1991, data for AT&T are taken from annual editions of *Section 43.61 International Telecommunications Data* and data for all carriers are taken from annual volumes of *Statistics of Communications Common Carriers*.

APPENDIX D Sources of Additional Information

This report can be downloaded from the **FCC-State Link** internet site at <http://www.fcc.gov.ccb/stats> on the World Wide Web. The report can also be downloaded from the **FCC-State Link** electronic bulletin board by calling 202-418-0241. The FCC-State Link also contains information on the domestic telecommunications industry.

Printed copies of statistical reports are available for reference in the Common Carrier Bureau's Public Reference Room (Room 575 at 2000 M Street, N.W., 202-418-1370) and from the Commission's duplicating contractor (International Transcription Services, Inc. (ITS), 202-857-3800).

Additional information on accounting rates, settlement payments, international circuit capacity and international policies can be obtained from the FCC's International Bureau (202-418-1460) and on the World Wide Web at <http://www.fcc.gov/ib>. A comparison of accounting rates for U.S., United Kingdom and New Zealand carriers is provided at <http://www.fcc.gov/ib/td/pf/ukrates.html>.

Information from the Bureau of Economic Analysis (202-606-9700) can be found on the World Wide Web at <http://www.bea.doc.gov>.

Information from the United States Census Bureau (301-457-4100) can be found on the World Wide Web at <http://www.census.gov>.

Additional information on consumer price indexes can be obtained from the U.S. Department of Labor, Bureau of Labor Statistics (202-606-7102) and on the World Wide Web at <http://stats.bls.gov>.

Figure 1: Individual International Service Revenues as a Percentage of Total International Revenues

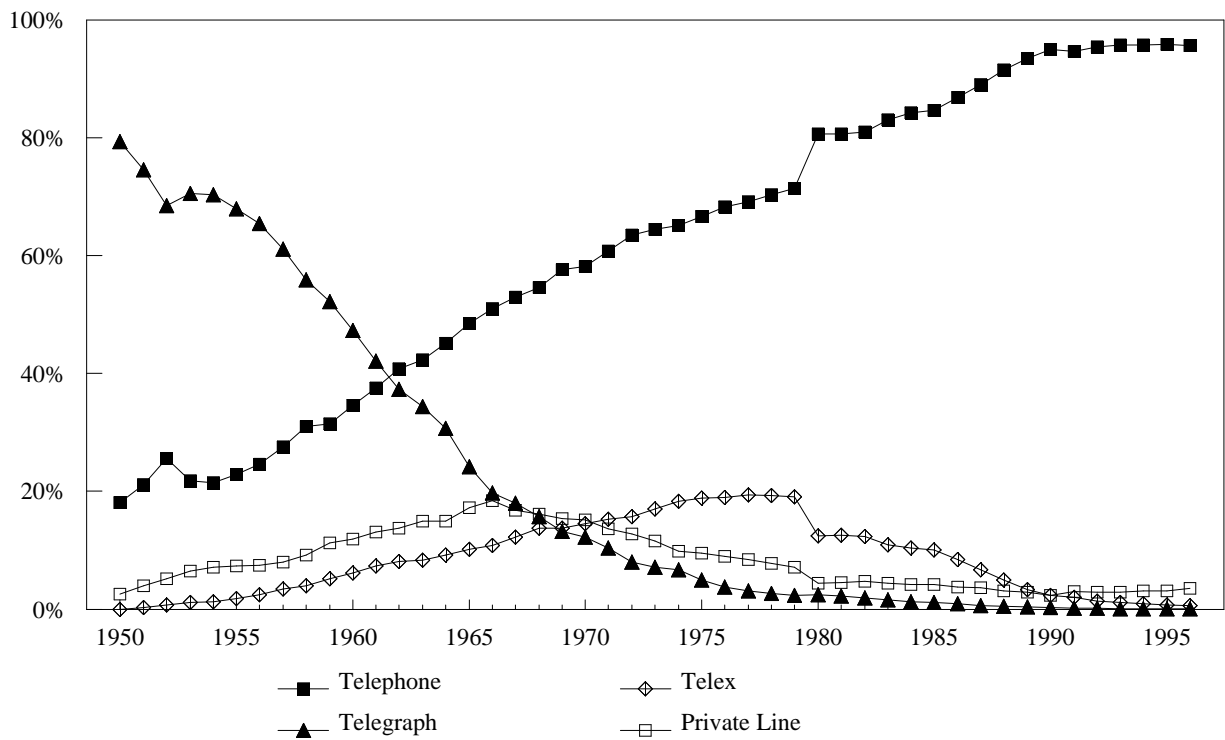


Figure 2: International Service Net Revenues as Percentages of Total Domestic and International Toll Revenues

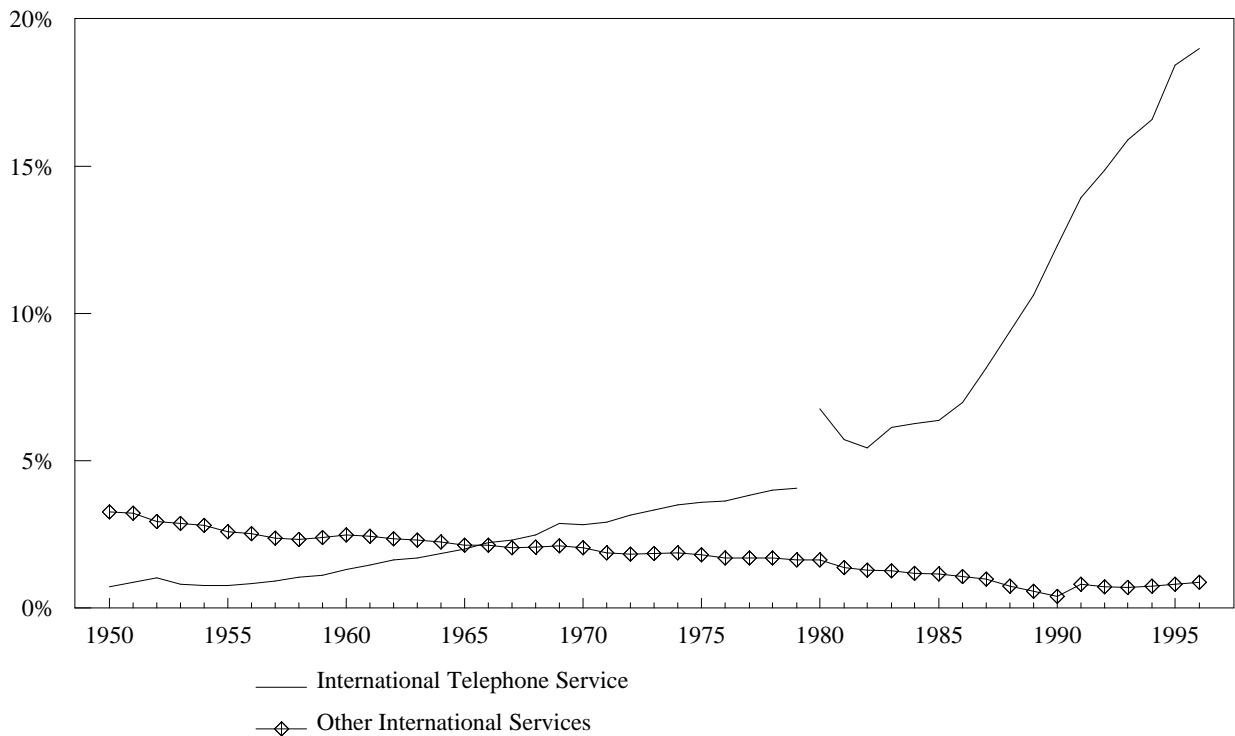


Figure 3: U.S. Carrier Billed Revenues by Service

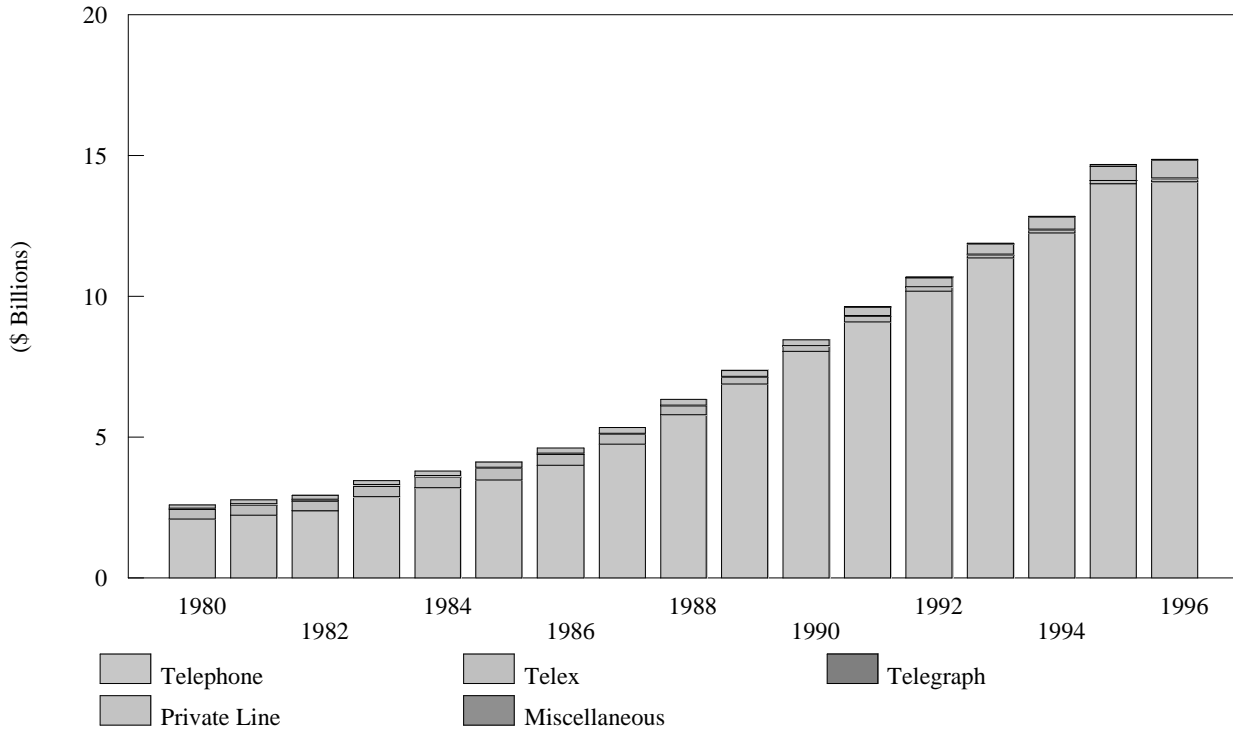


Figure 4: International Telephone Service U.S. Billed and Foreign Billed Minutes of Service

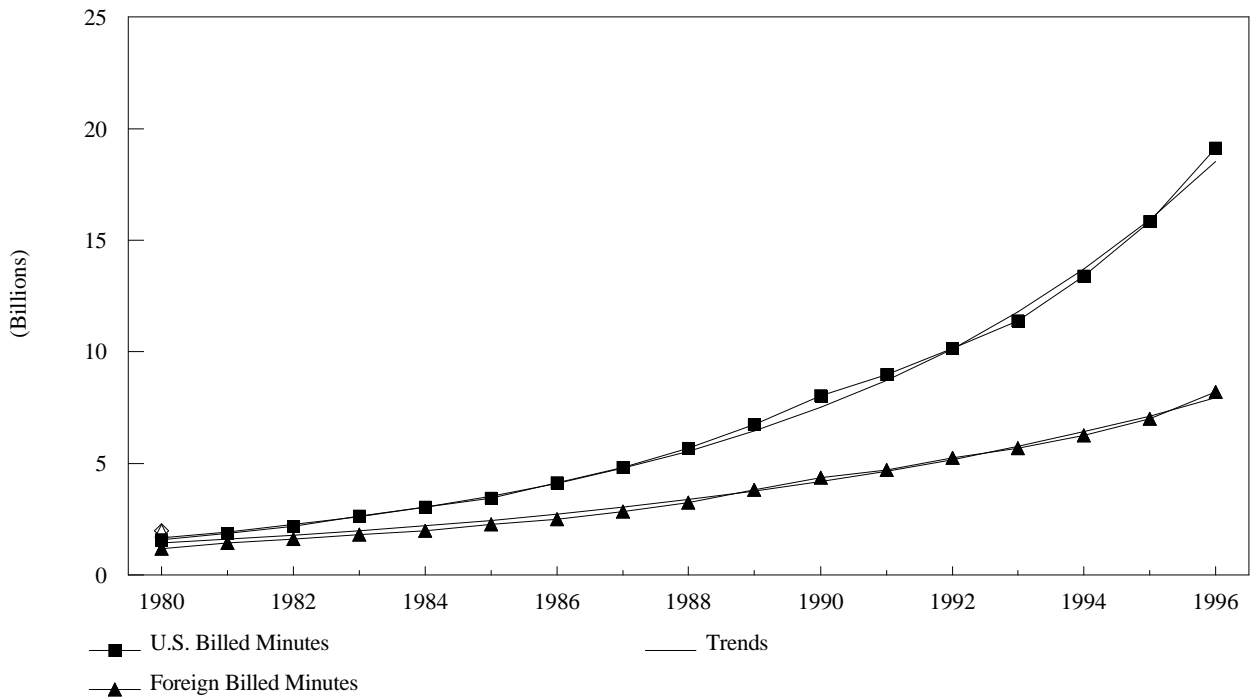


Figure 5: International Telegraph Service Traffic Data

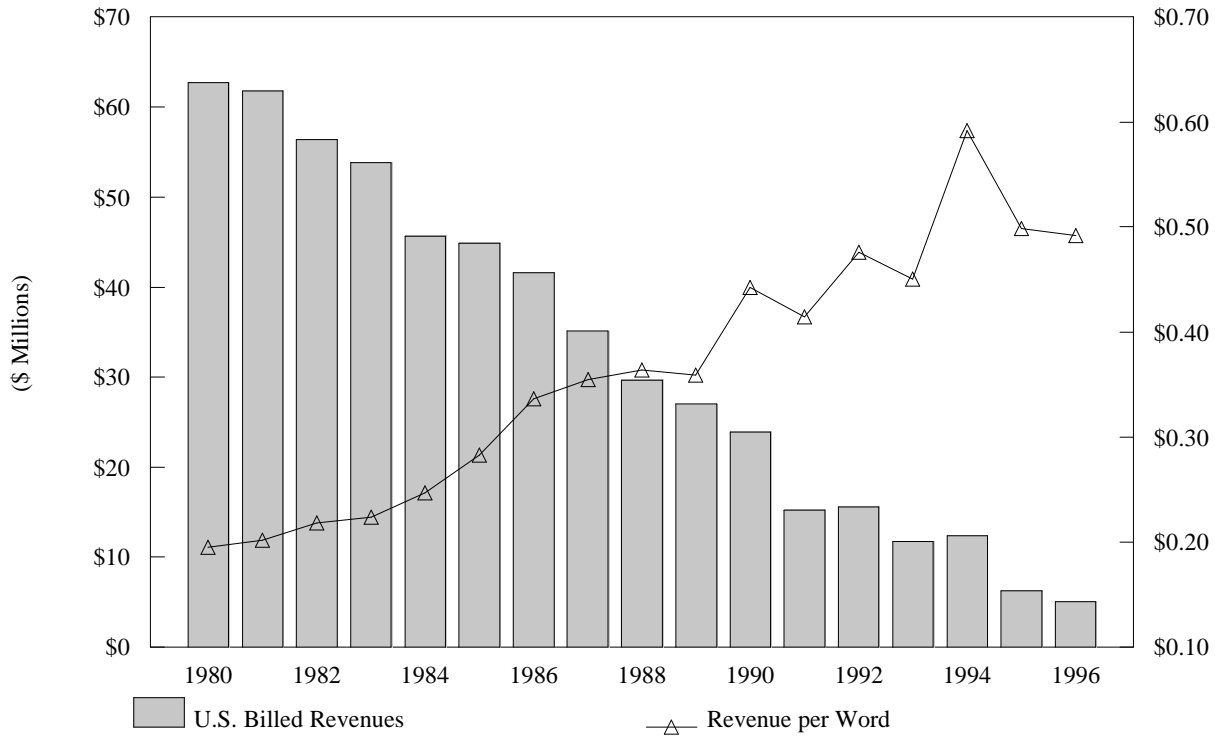


Figure 6: International Telex Service Traffic Data

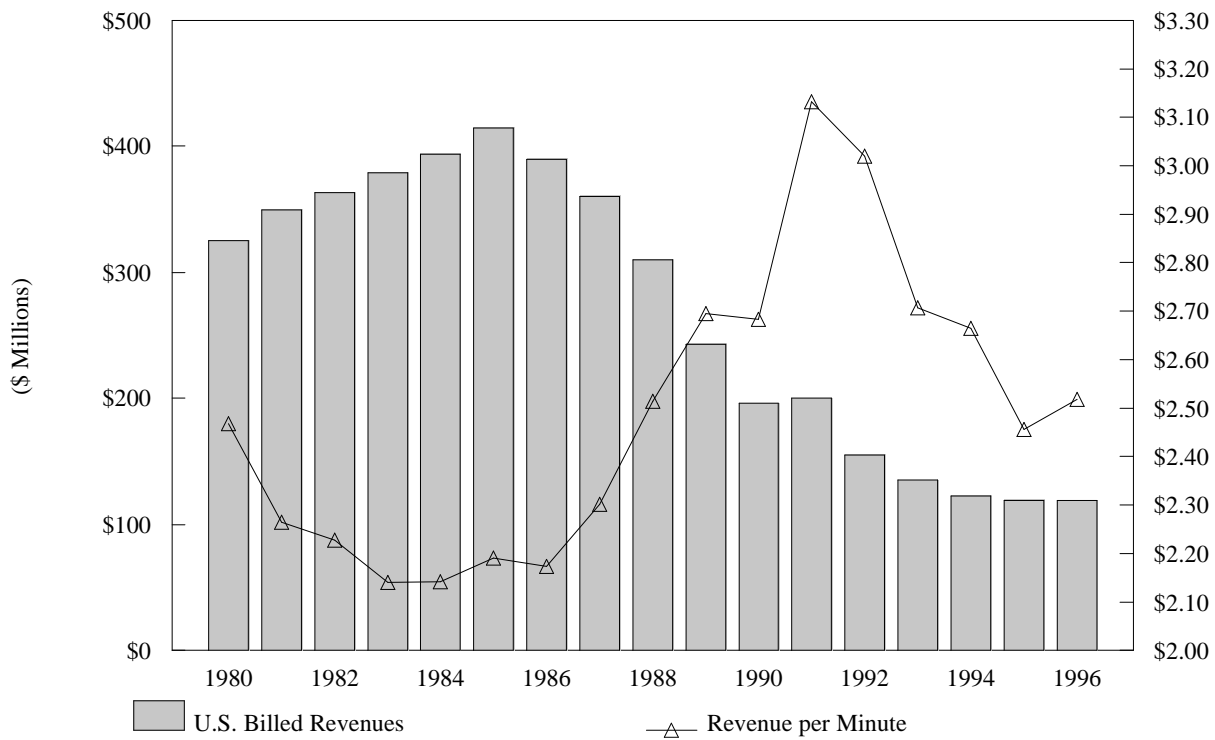


Figure 7: Average Length of an International Telephone Call

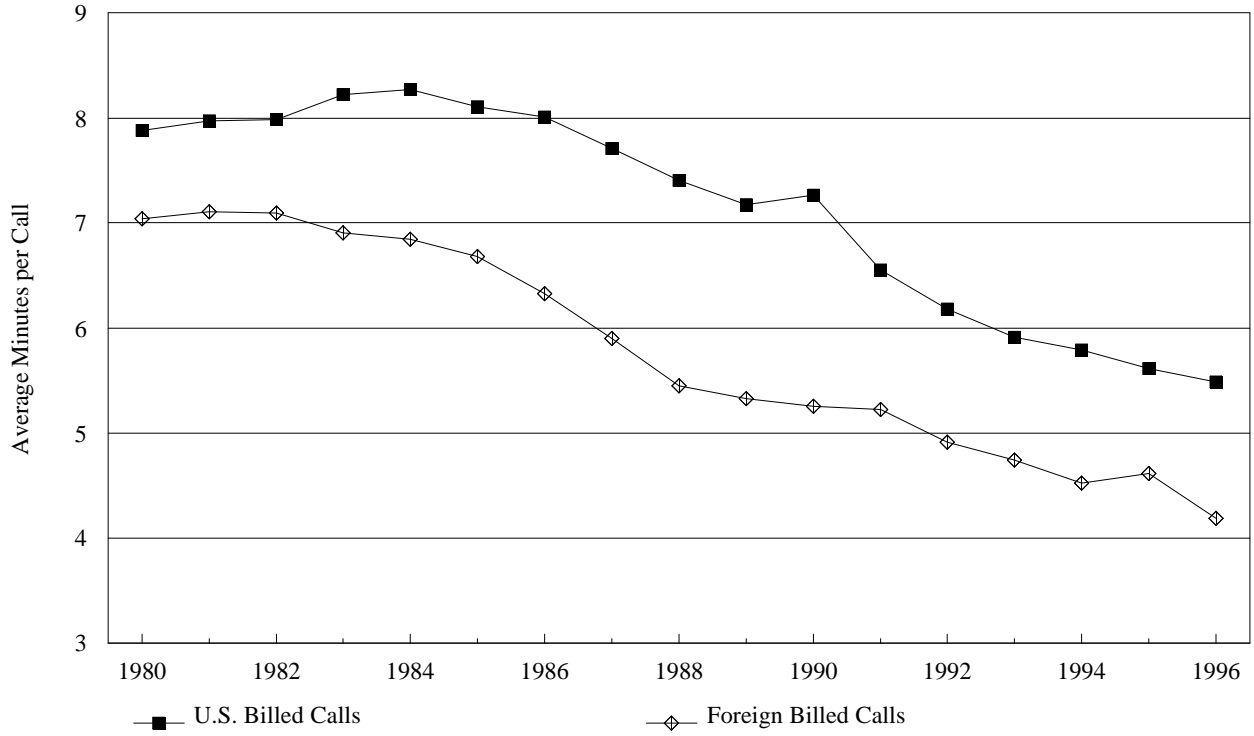


Figure 8: U.S. Billed Telephone Service Minutes by Country

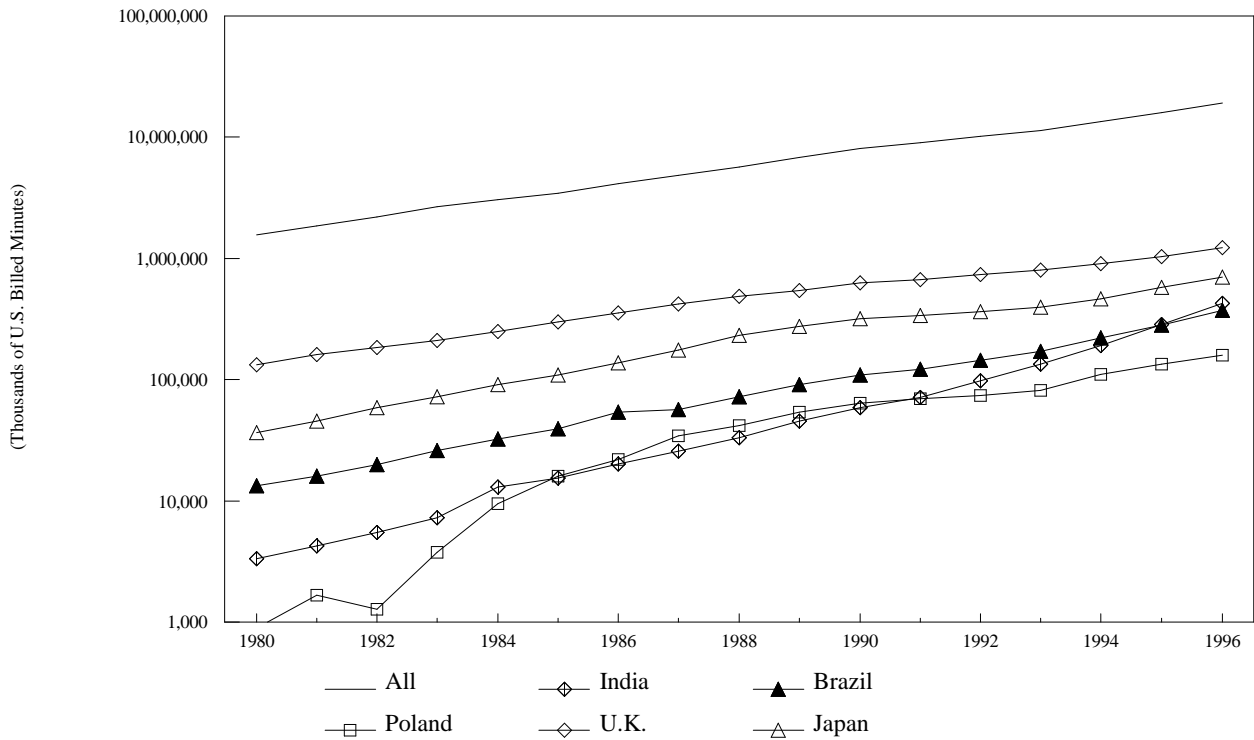


Figure 9: U.S. Billed Telephone Service Minutes by Groups of Countries

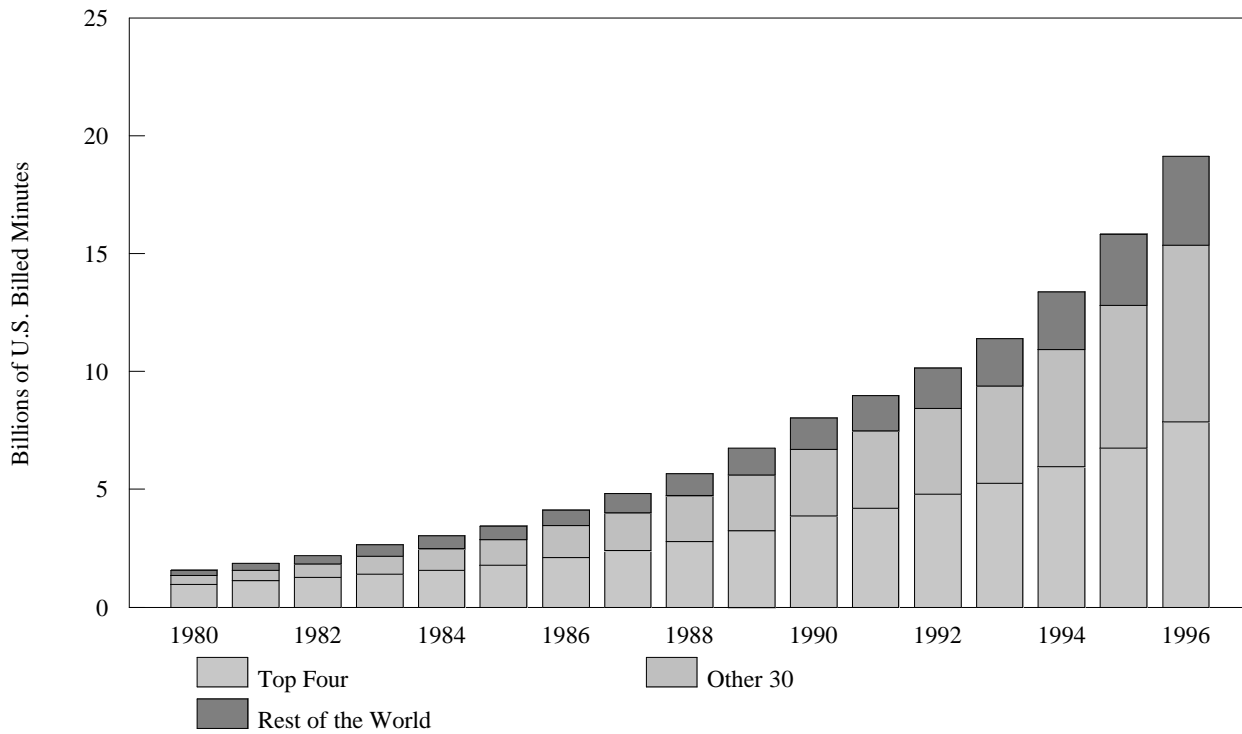


Figure 10: U.S. Billed Telephone Service Minutes by Region

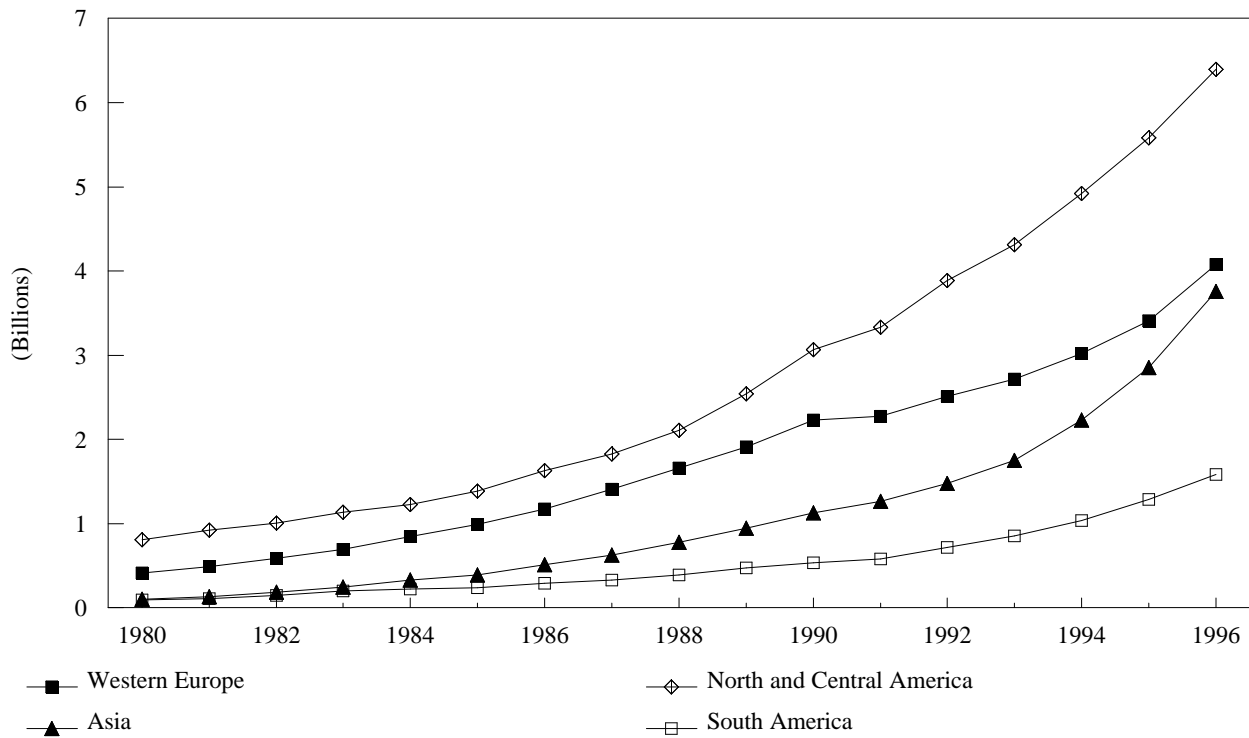


Figure 11: COMSAT International Service Revenues

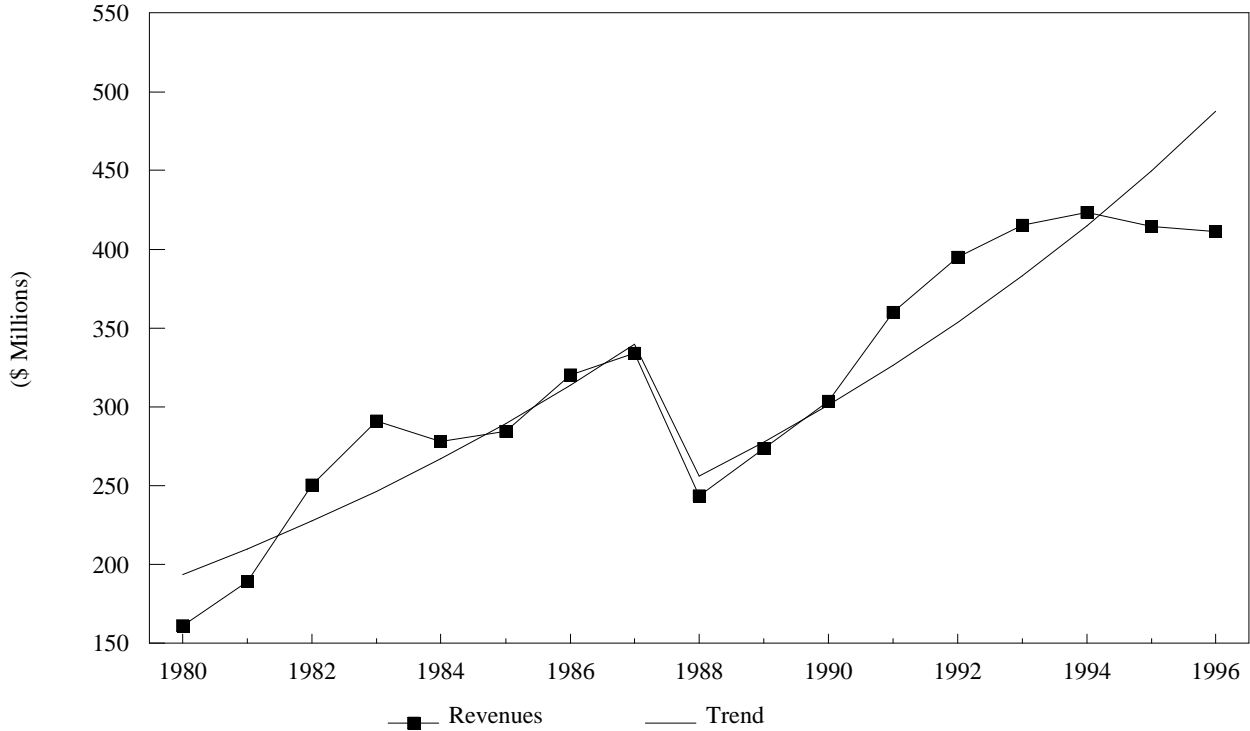


Figure 12: International Rates Compared with Long-Haul Domestic Rates

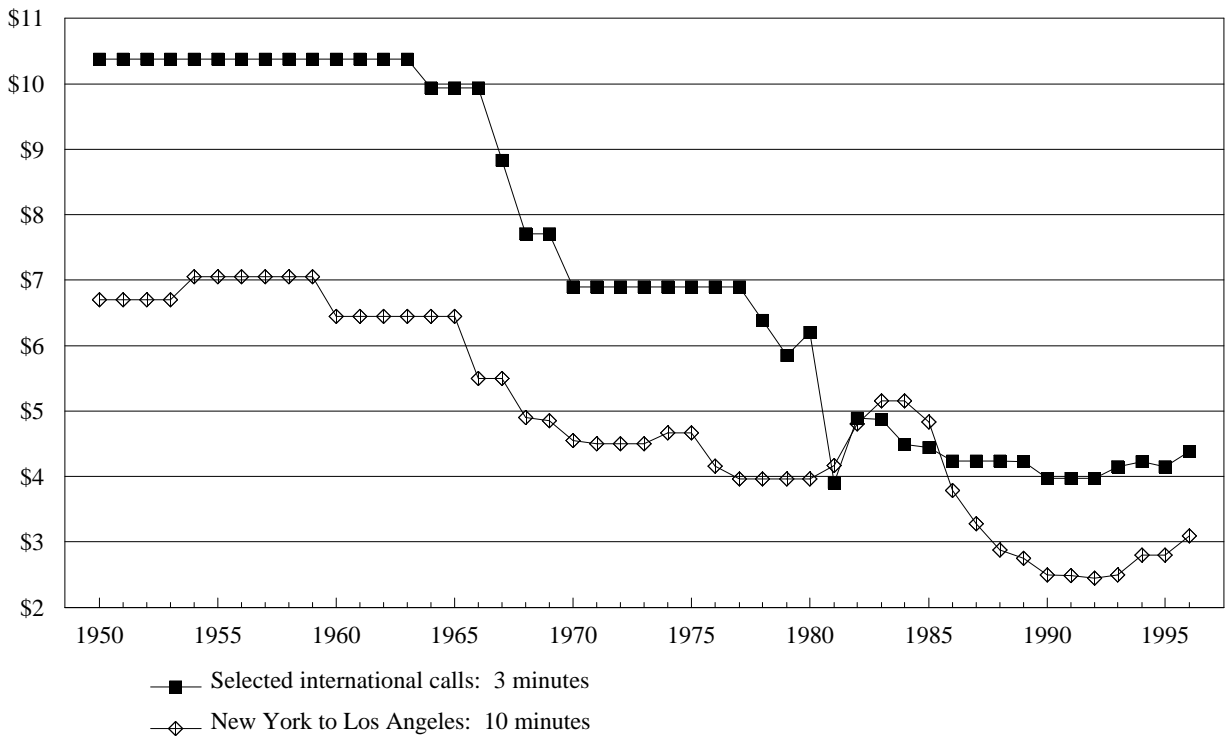


Figure 13: International Rates Compared with Overall Inflation and the CPI for Interstate MTS

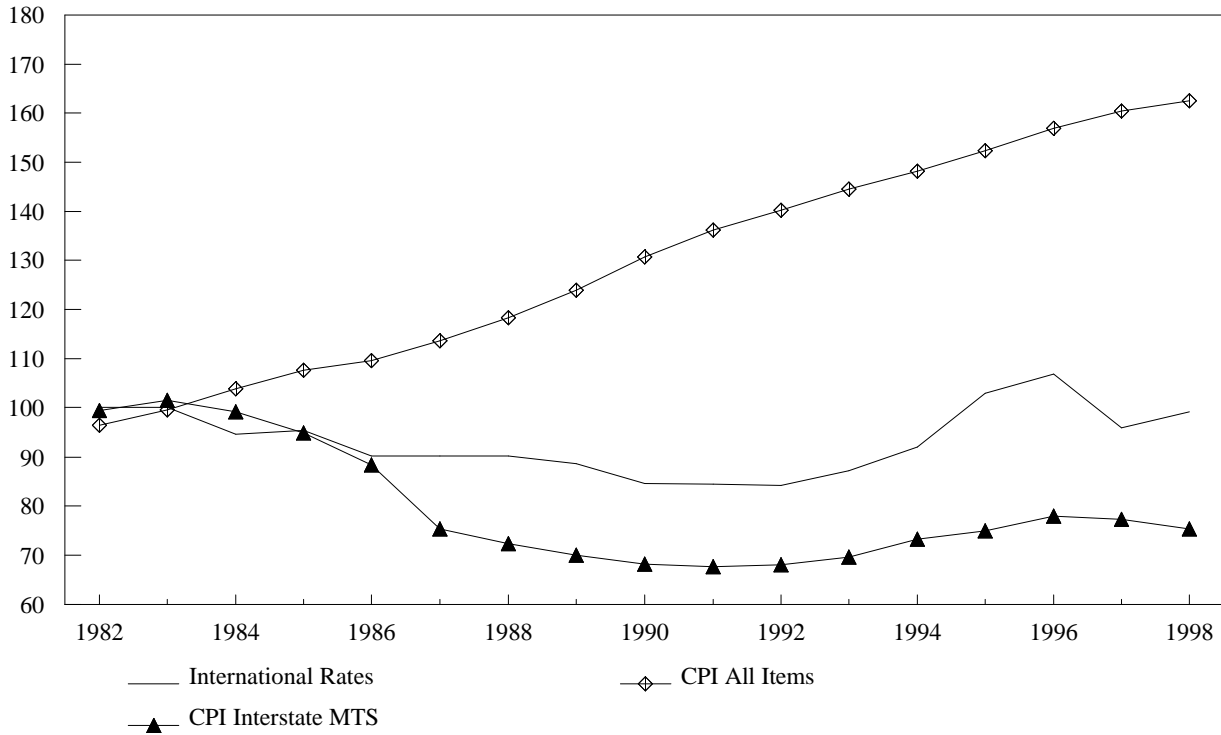


Figure 14: Rate Indexes of Basic Standard Period Rates and Discount Plan Rates

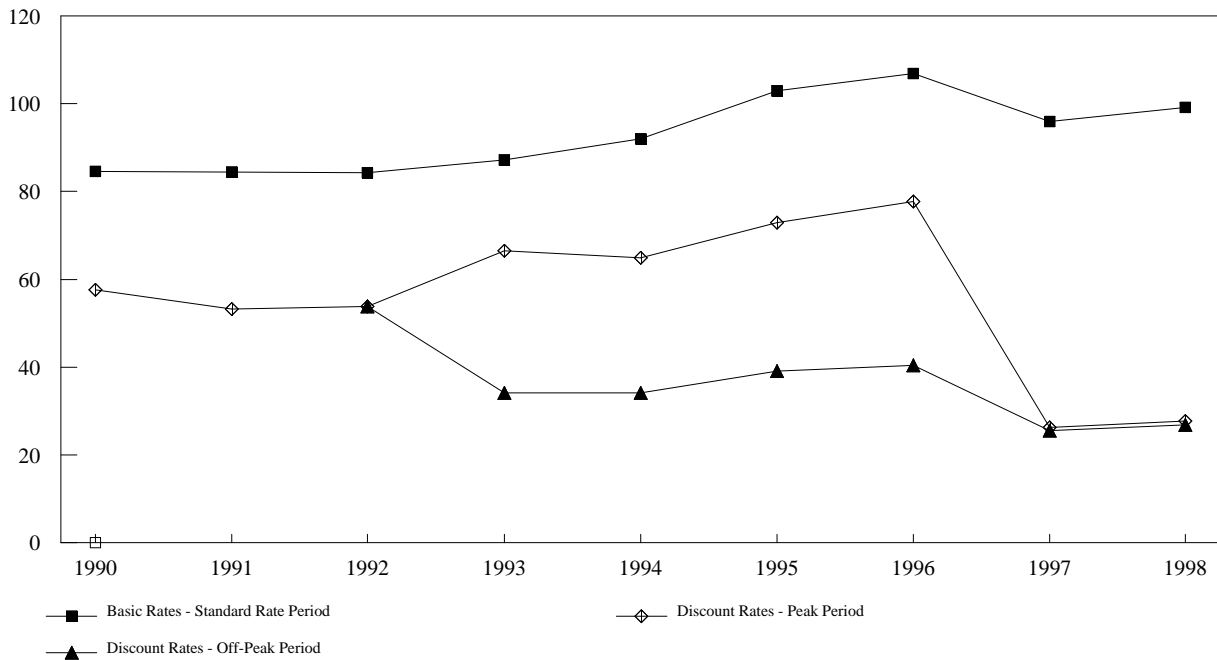


Figure 15: Billings per Unit of U.S. Traffic by Service

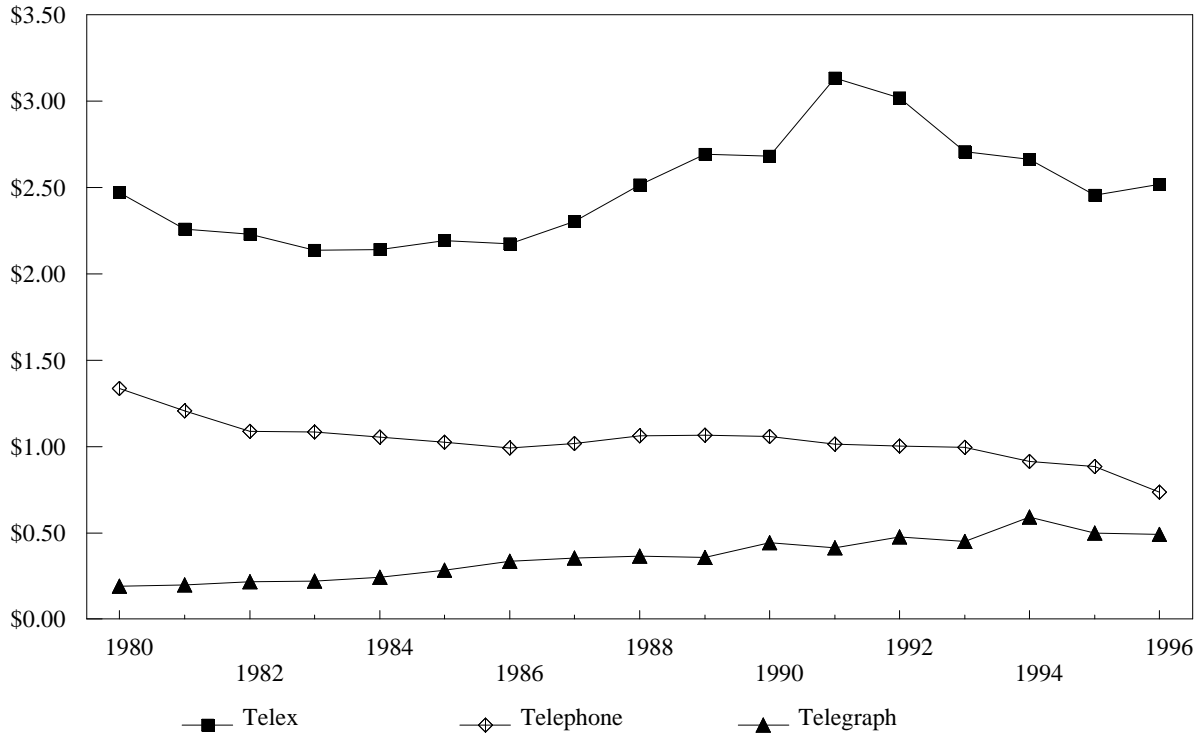


Figure 16: Year-to-Year Percent Increases in U.S. Billed Minutes

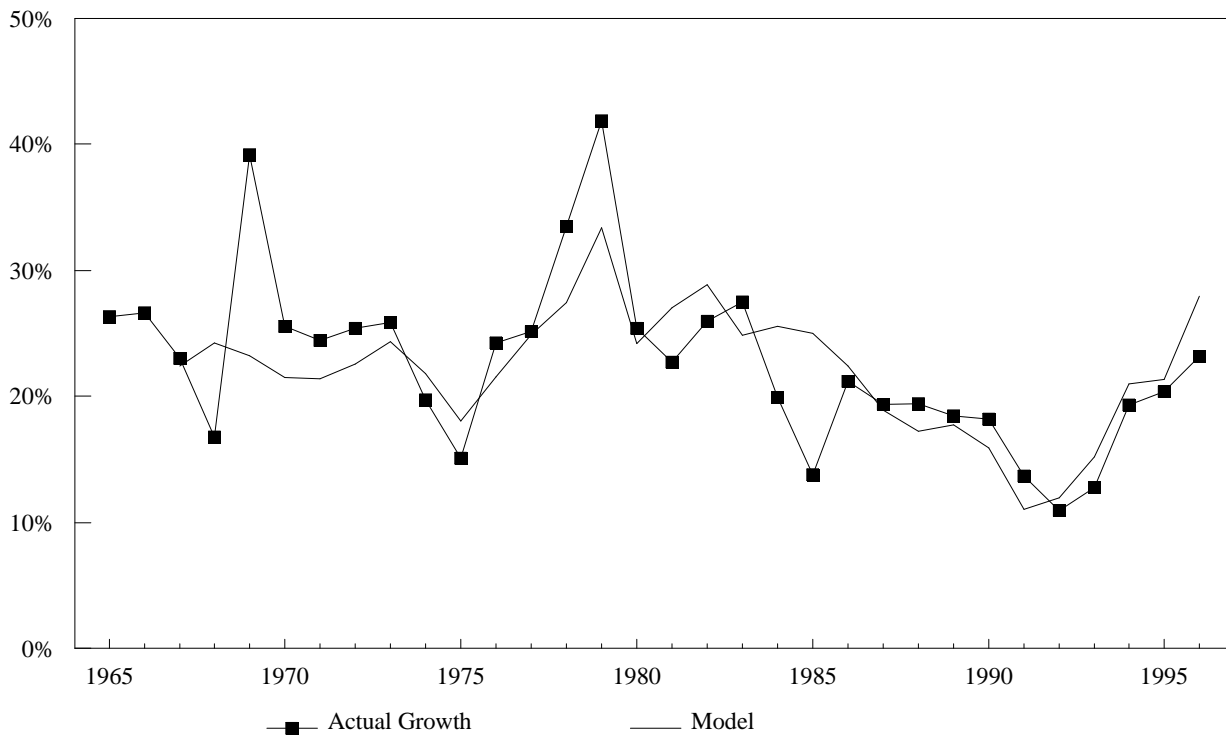


Figure 17: Net Revenues for International Telephone Service by Carrier

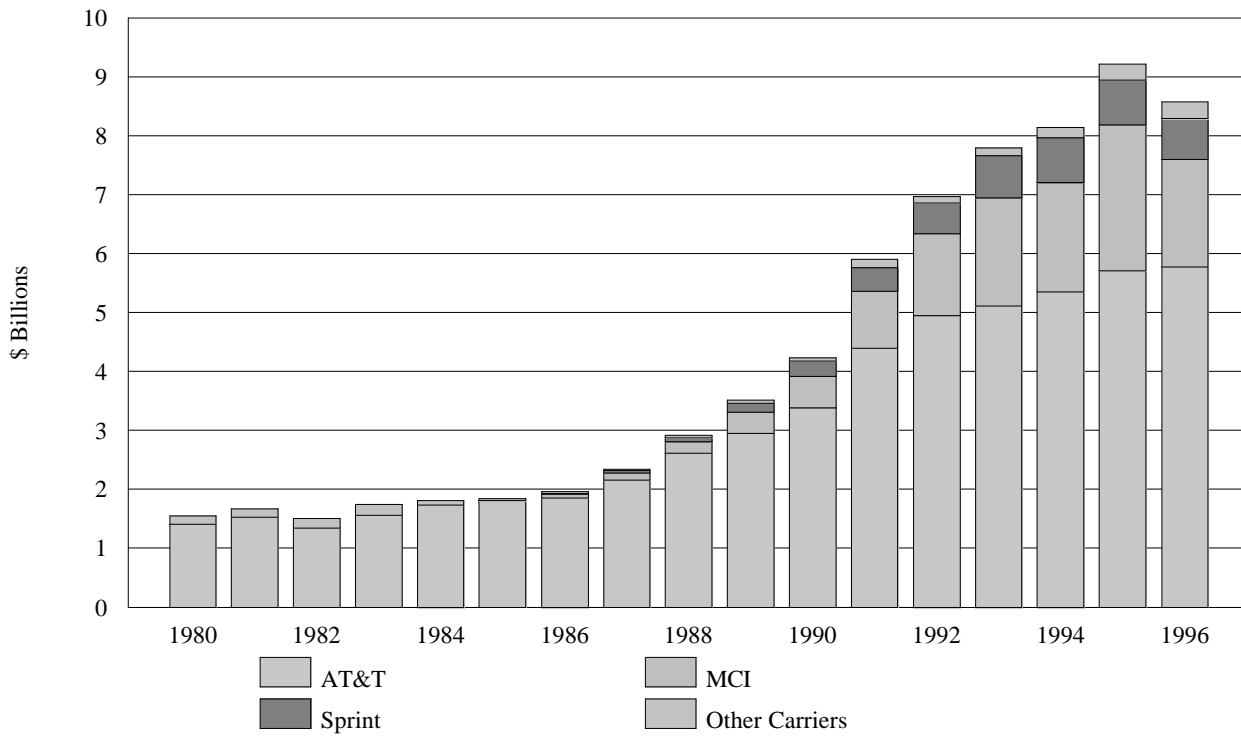


Figure 18: Net Revenues for International Private Line Service by Carrier

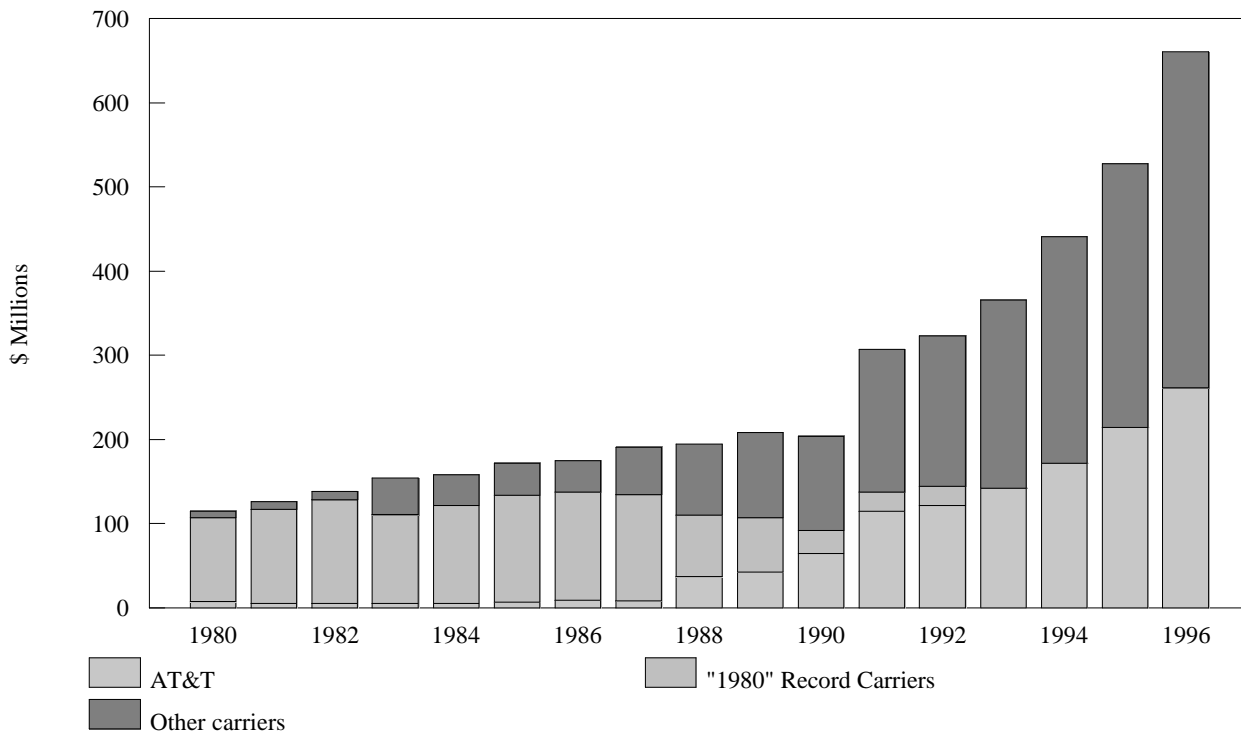


Figure 19: Market Shares for the Total International Services Market

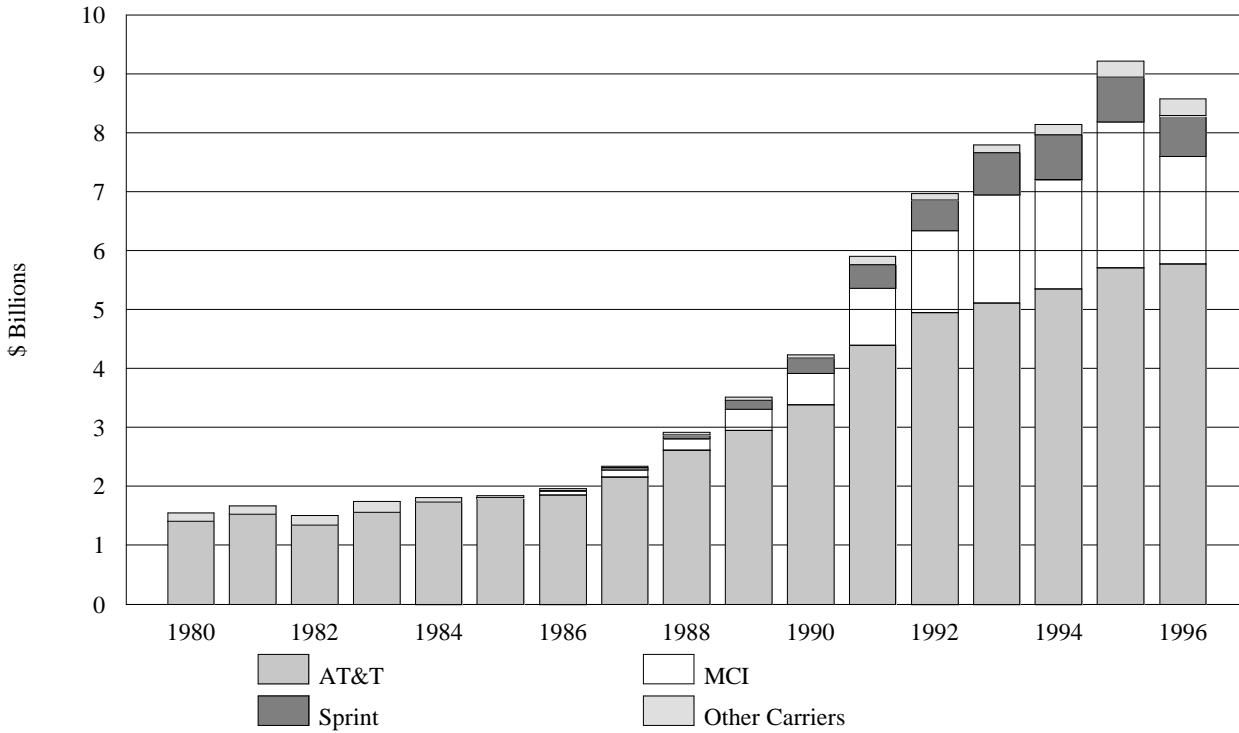


Figure 20: Gross Settlement Amounts - Settlement Payments and Settlement Receipts

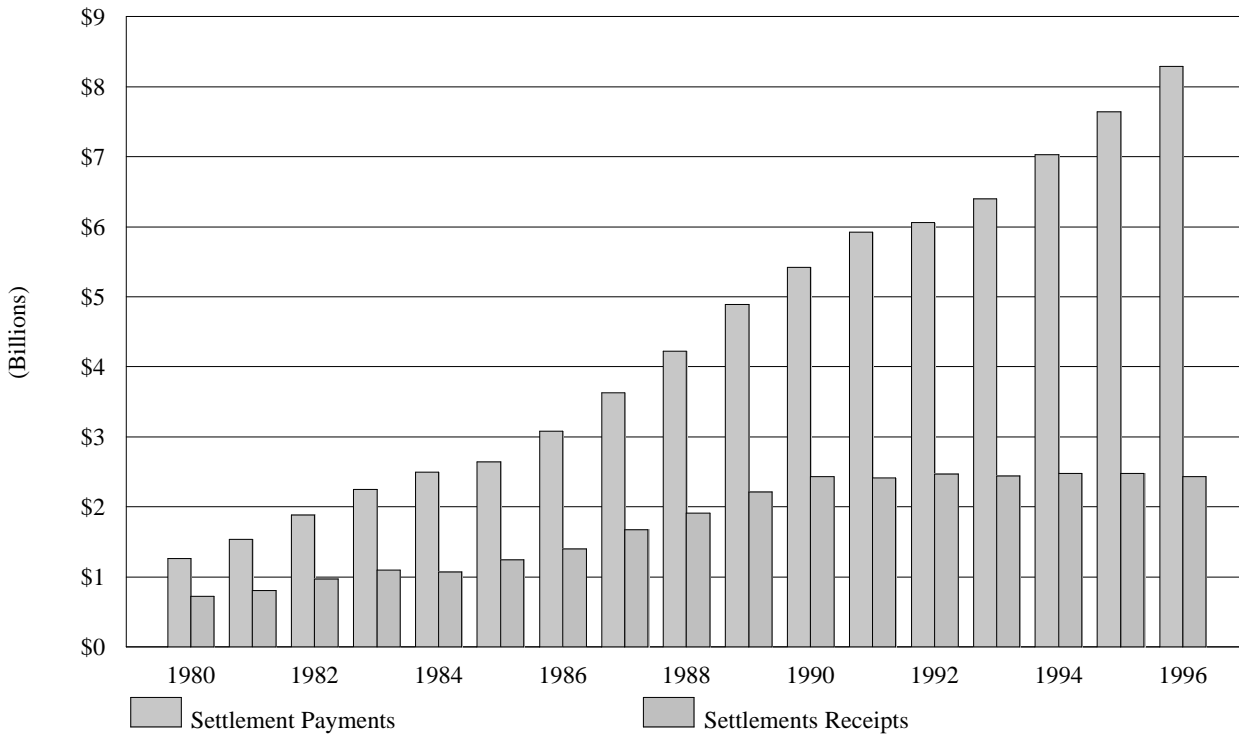


Figure 21: U.S. Carrier Billed Revenues Before and After Settlements

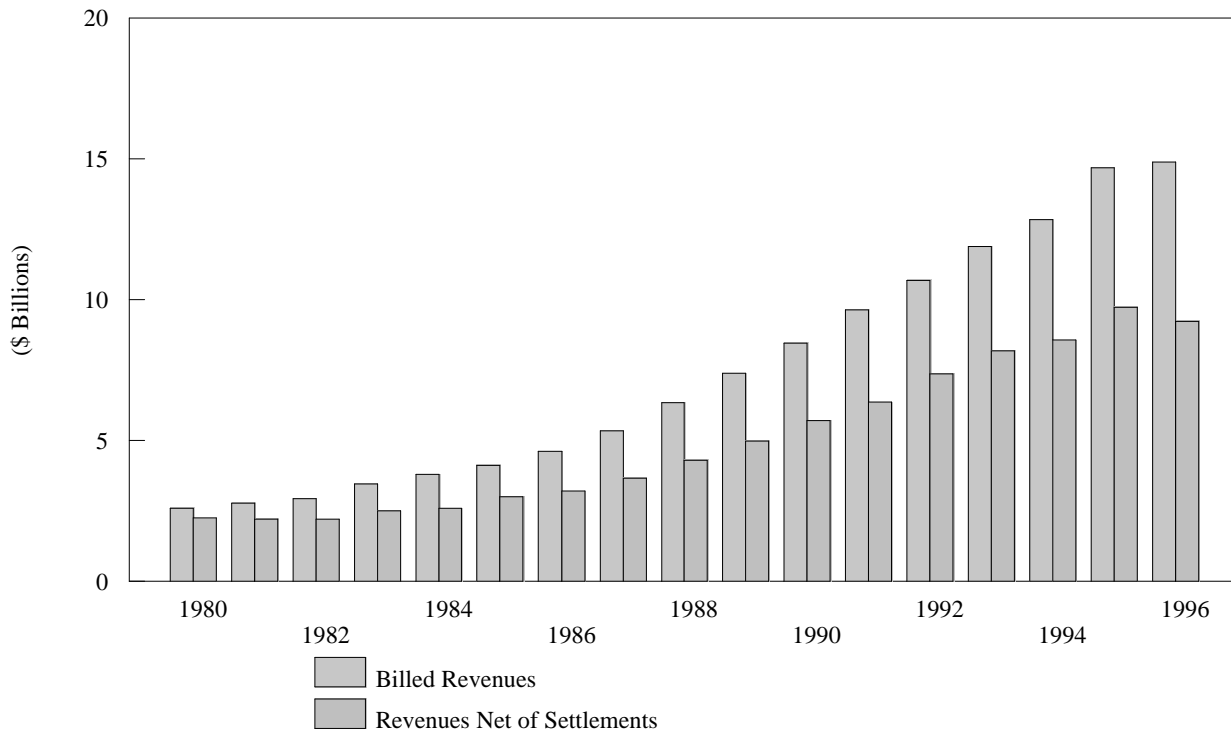


Figure 22: Billed Revenue per Minute Divided to Show U.S. Retained Revenue and Settlement Payments

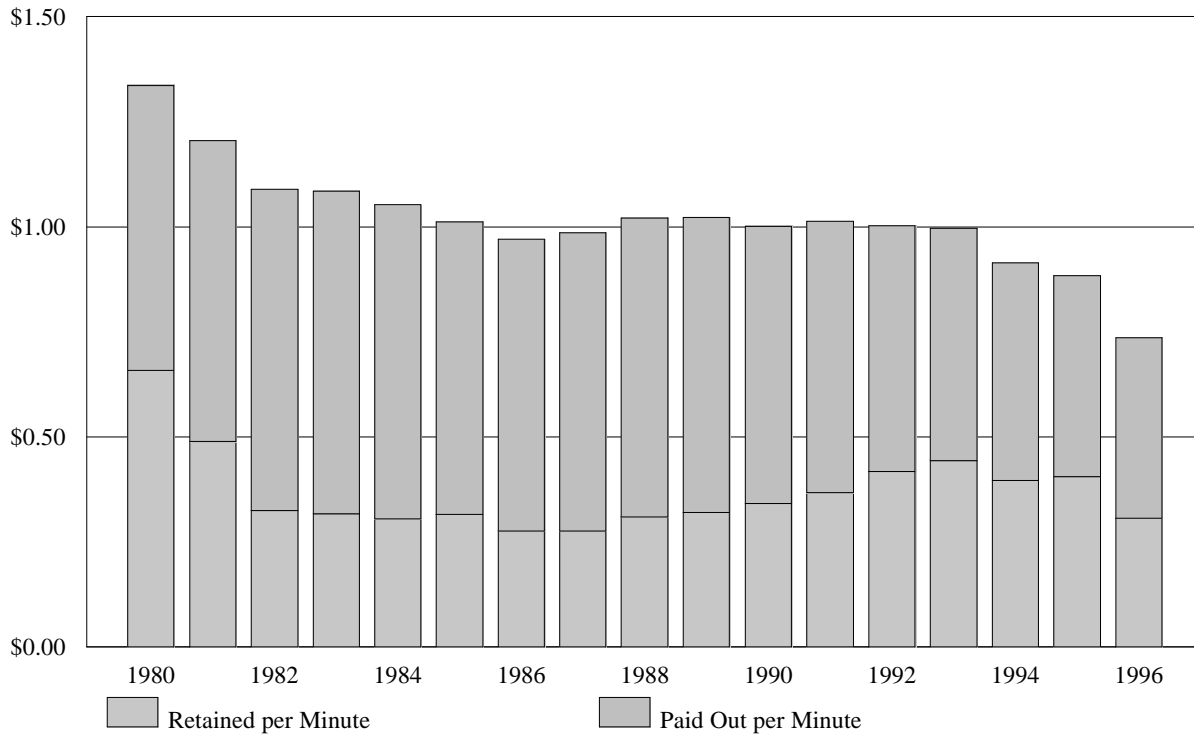


Figure 23: Billed Revenue per Minute Divided to Show U.S. Retained Revenue and Settlement Payments (excluding Canada and Mexico)

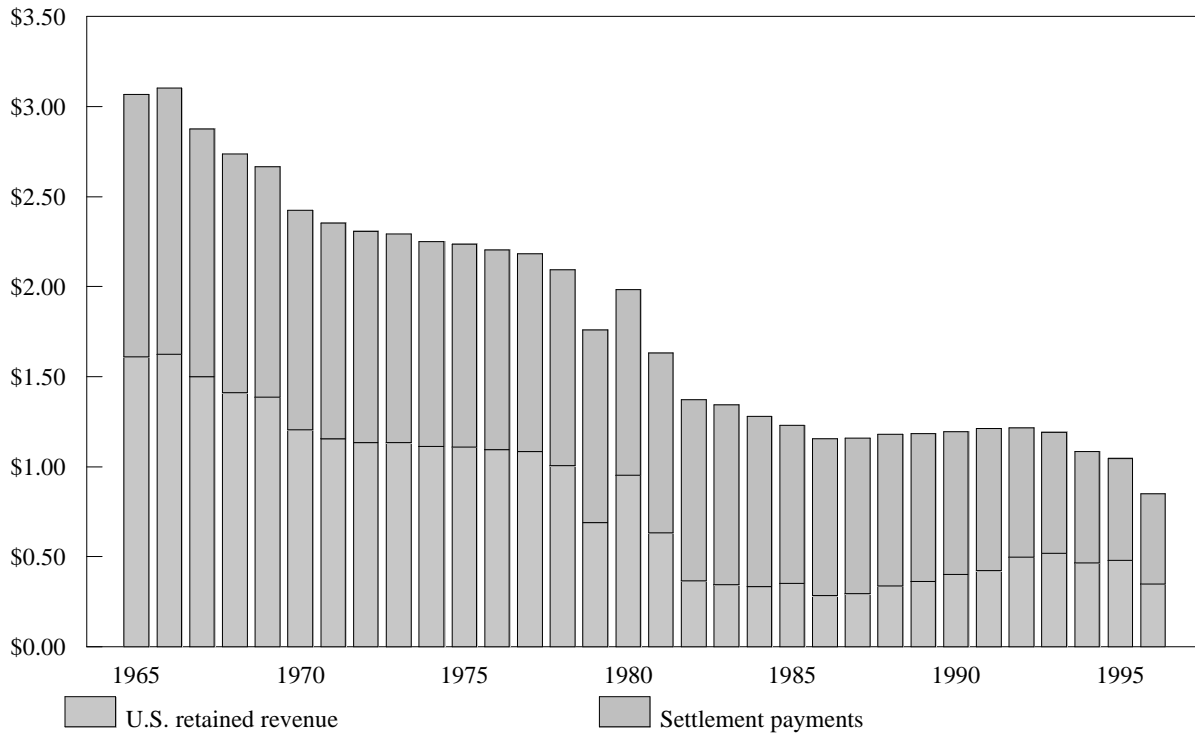


Figure 24: U.S. Retained Revenue per Minute from U.S. Billed and Foreign Billed Traffic

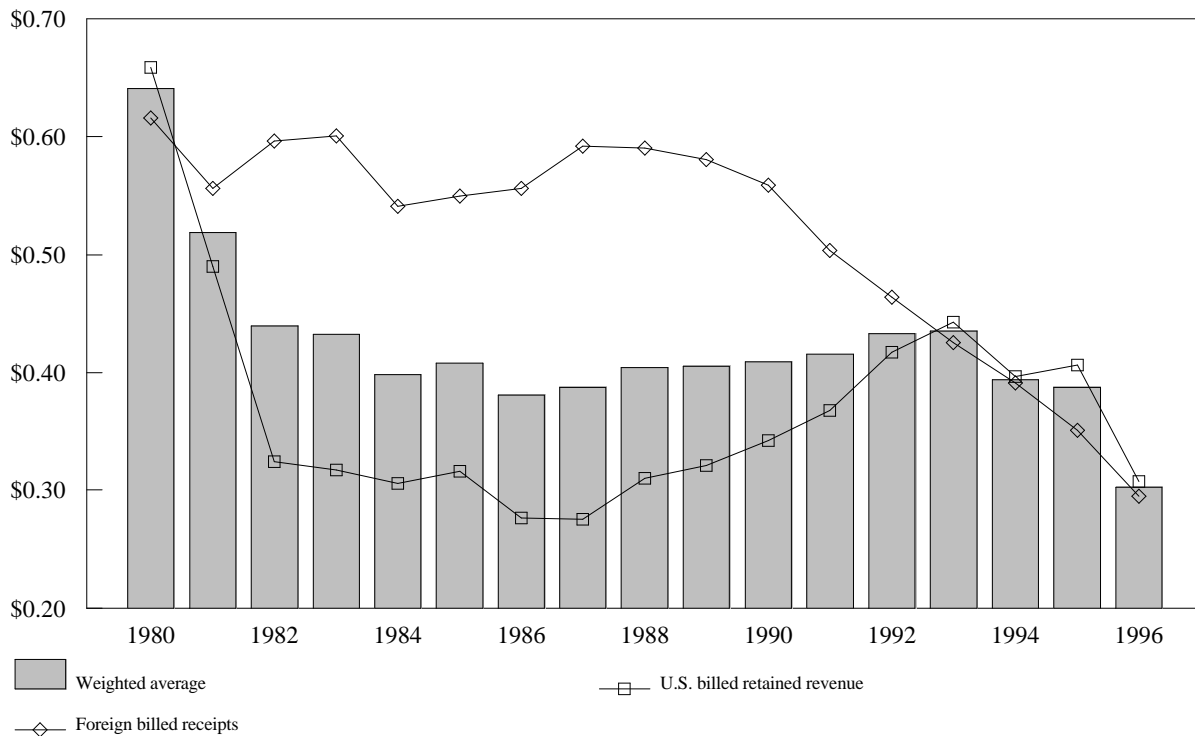


Figure 25: U.S. Retained Revenue per Minute from U.S. Billed and Foreign Billed Traffic (excluding Canada and Mexico)

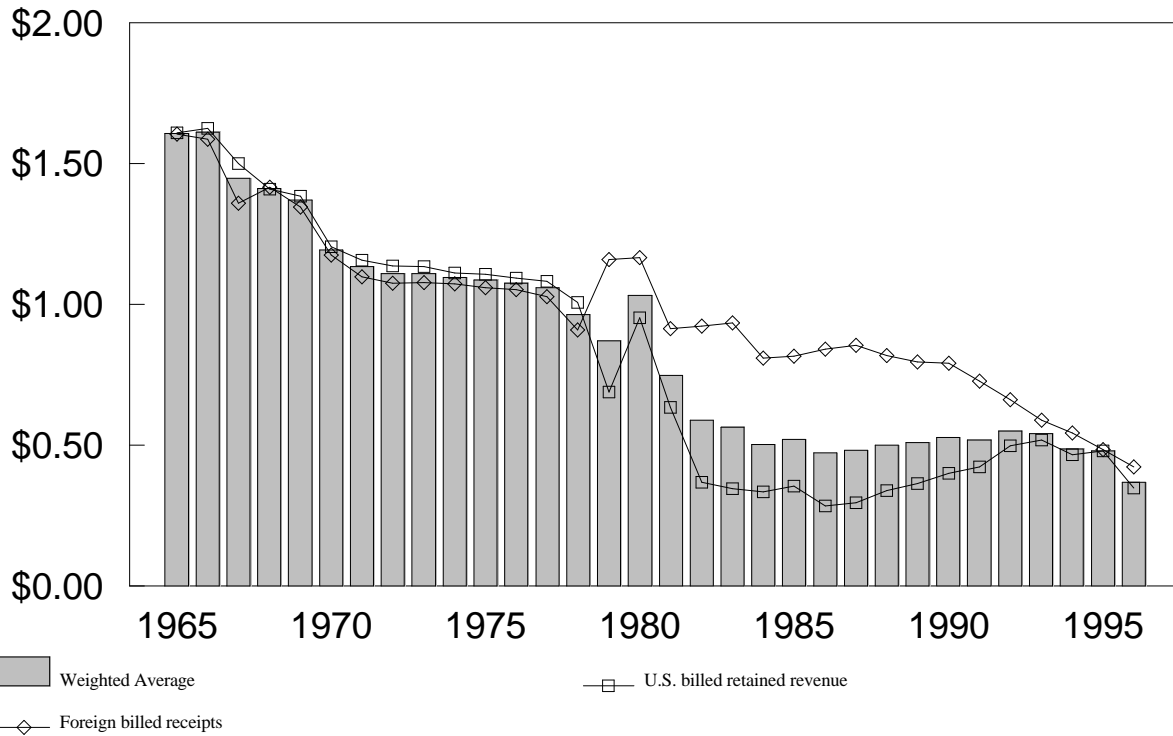


Figure 26: U.S. versus Foreign Settlement Amounts per Minute

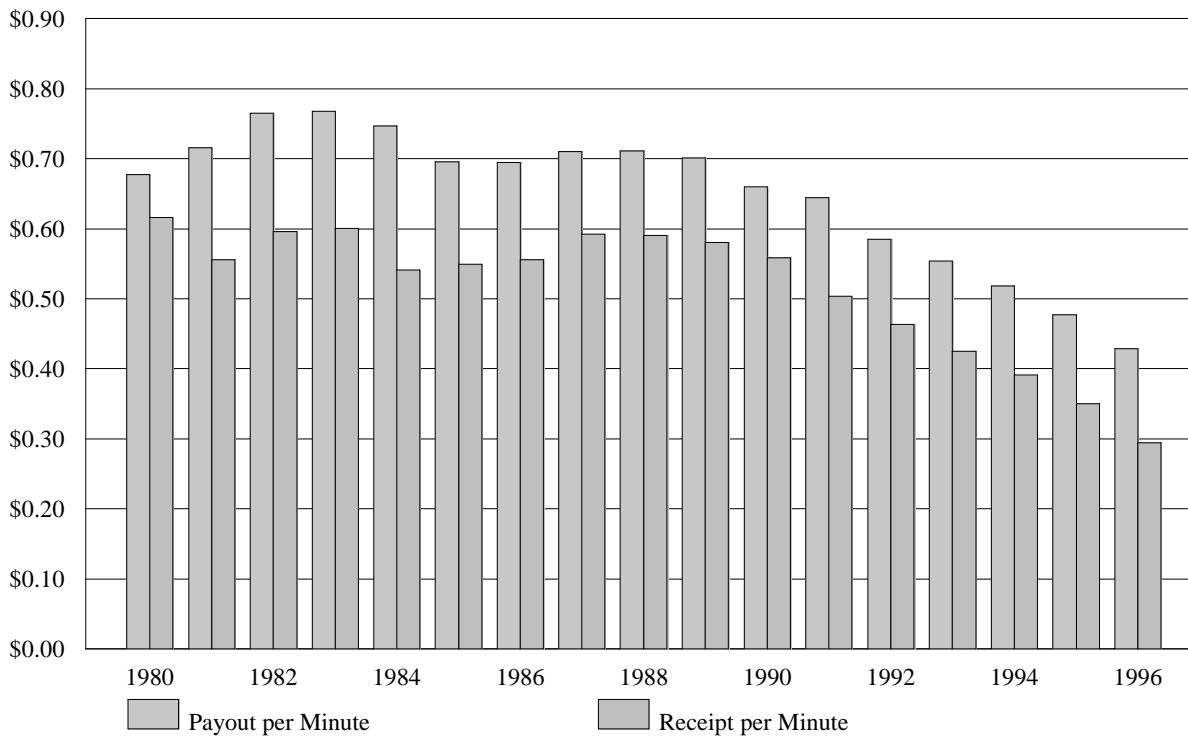


Figure 27: Net Settlement Payments by Groups of Countries

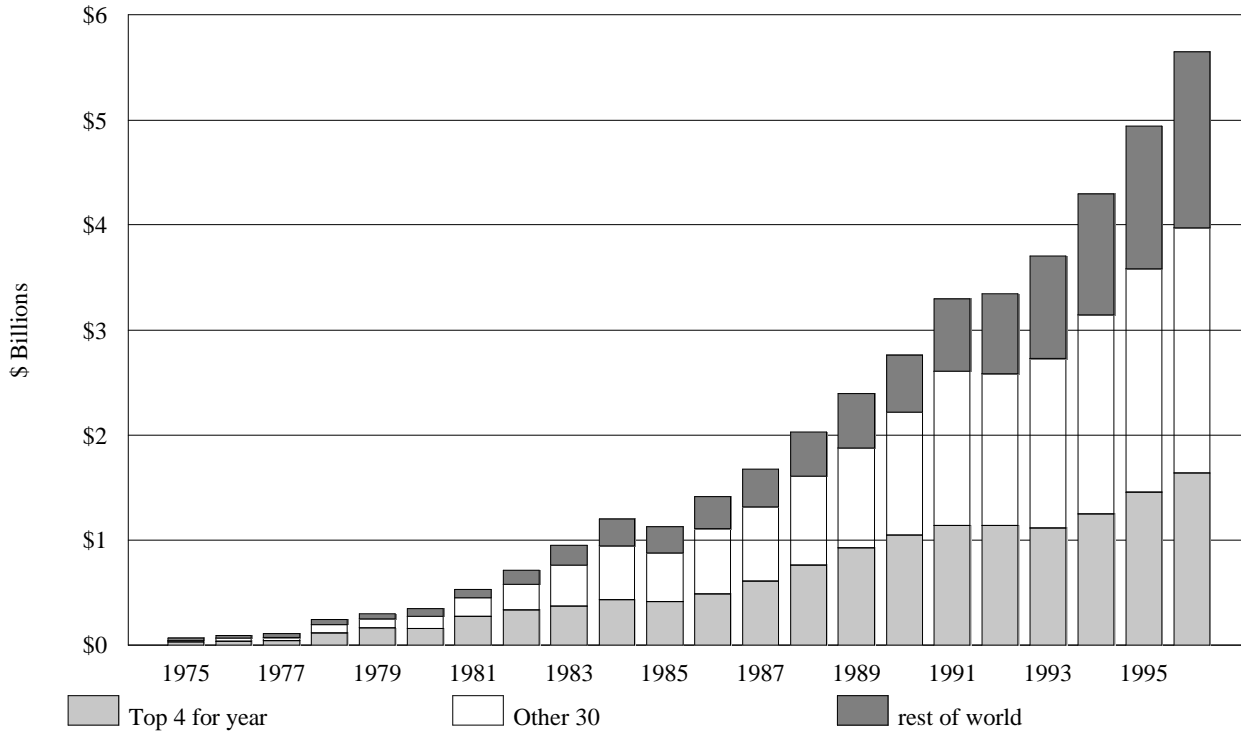


Figure 28: Percentages of Net Settlement Payments by Groups of Countries

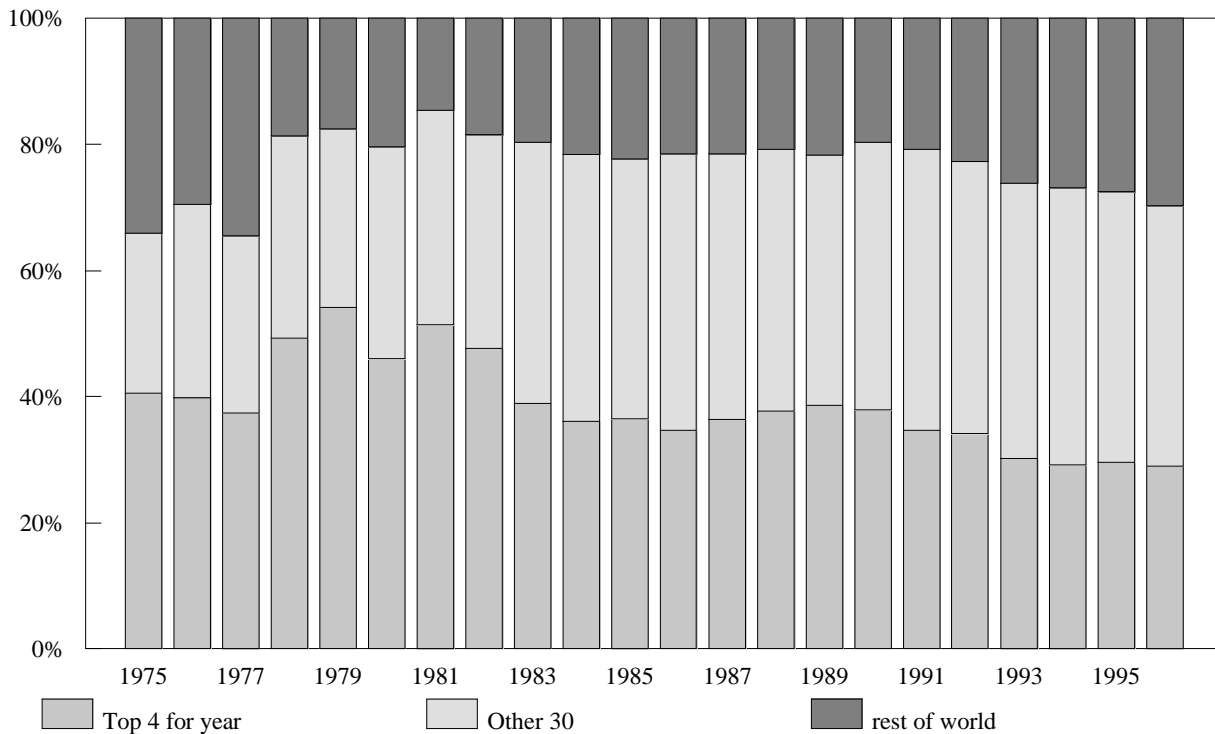


Figure 29: Net Settlement Payments to Mexico, Germany, the Philippines, and Canada

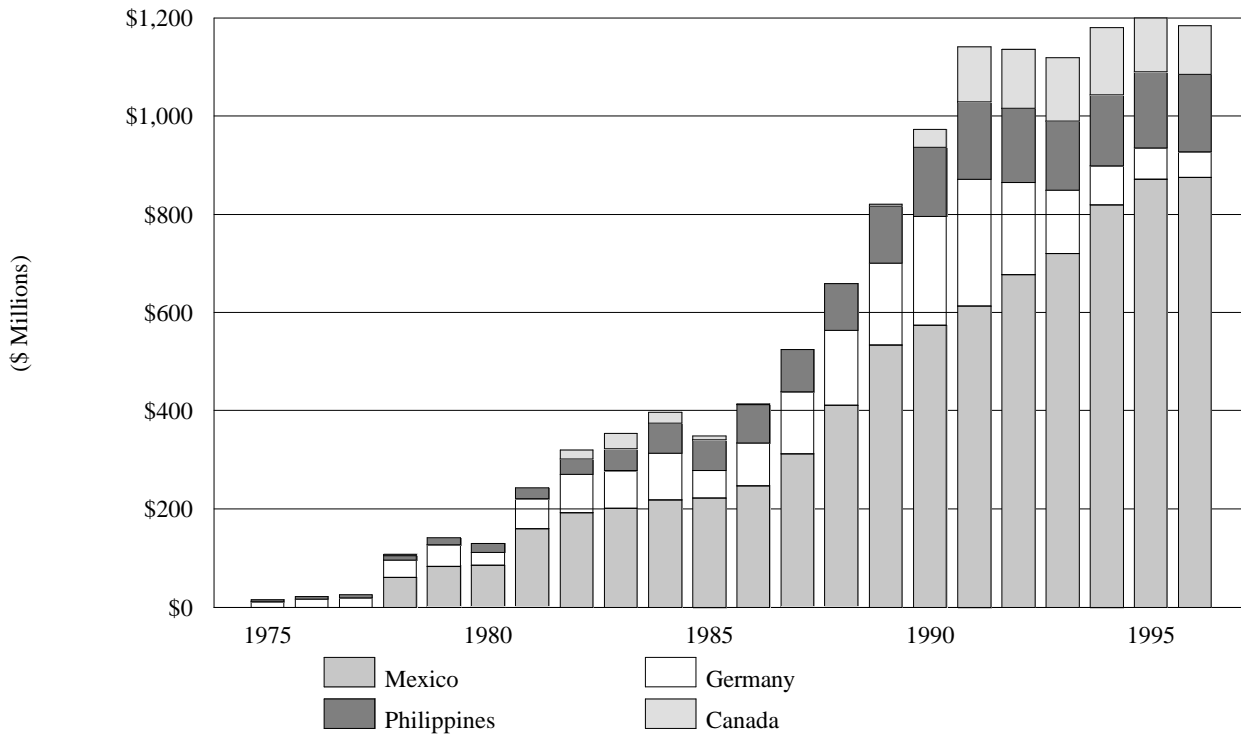


Figure 30: Net Settlement Payments by Region of the World

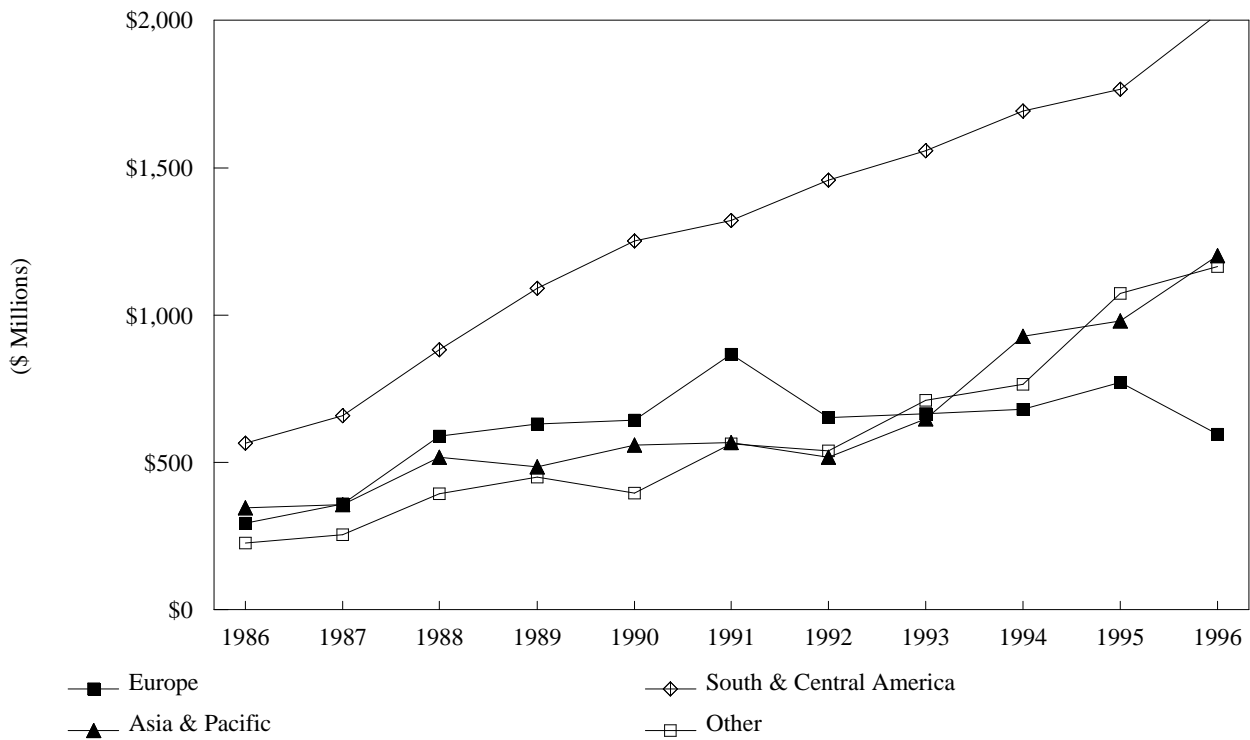


Figure 31: Decline in Accounting Rates

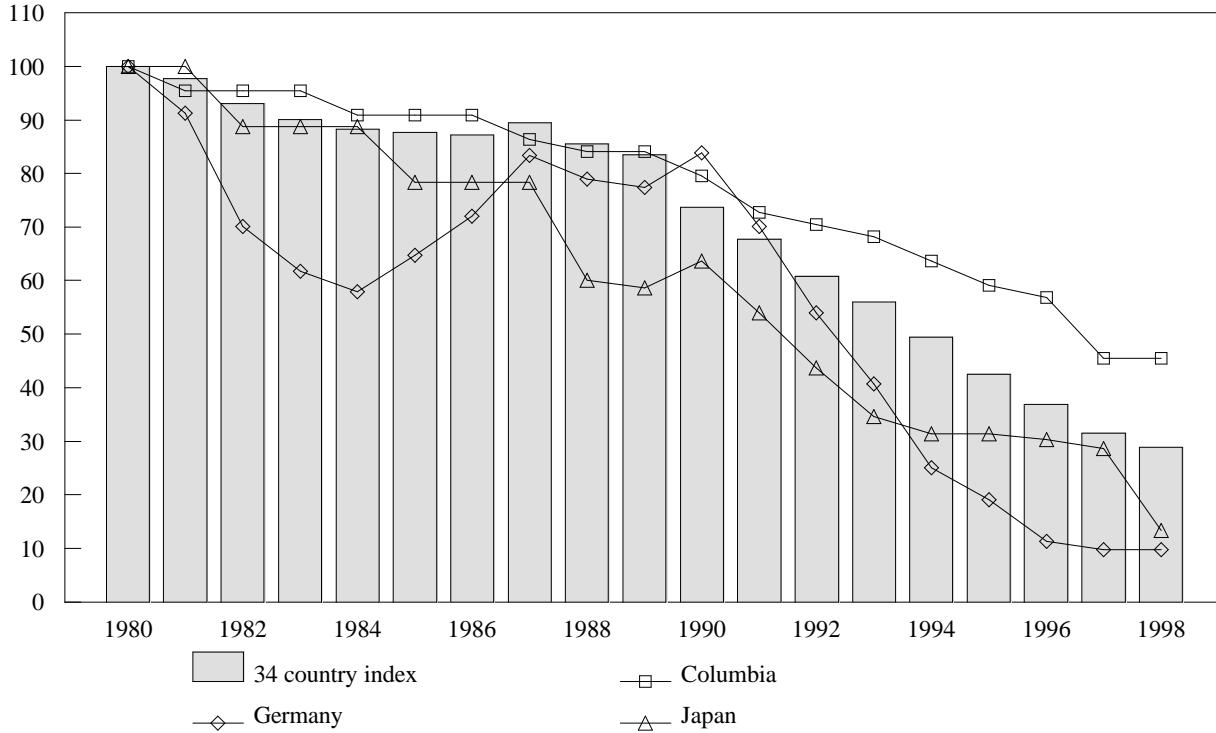


Figure 32: Net Settlement Payouts Compared with Settlement Rates

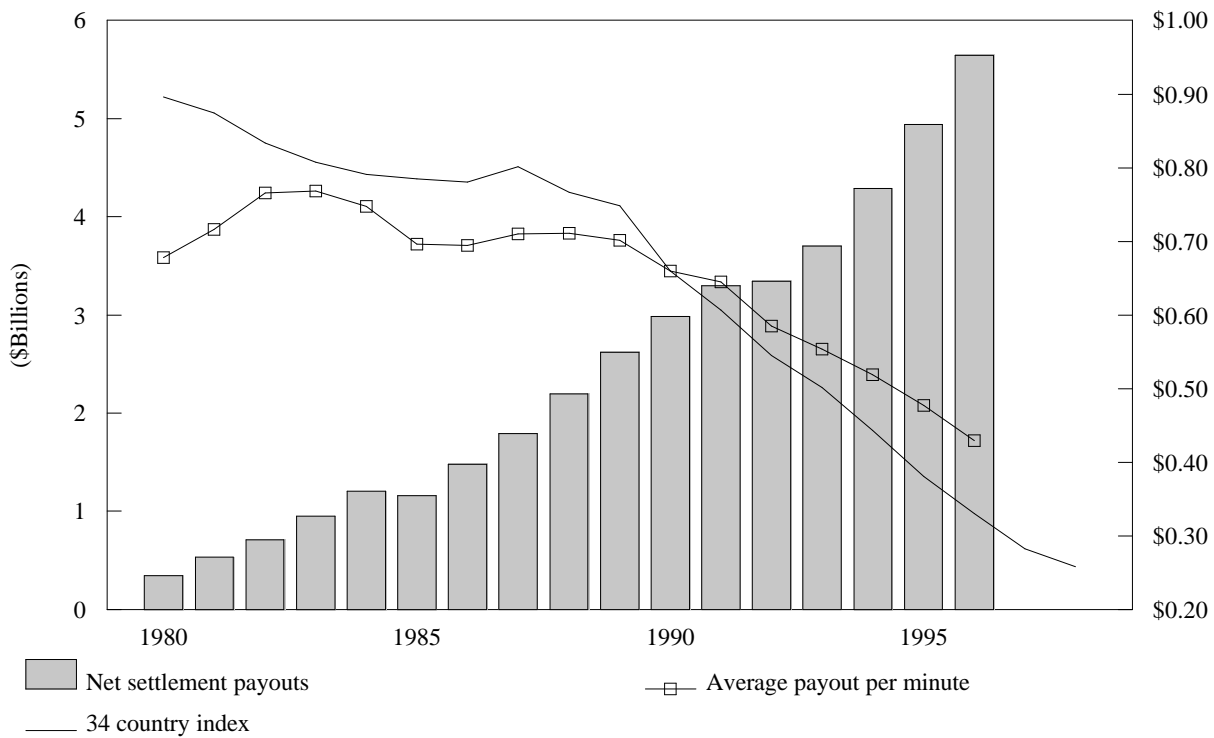


Table 1. International and Domestic Toll Service Revenues, 1950 to 1996
(Revenue in millions)

	International Service <u>1/</u>							Total Domestic	Total Toll <u>3/</u>	Total International as % of Total Toll	
	Telephone	Telex	Telegraph	Private Line		Miscellaneous	Resale <u>2/</u>				Total International
				Telephone	Record						
1950	\$9.0	\$39.3		\$0.2	\$1.1			\$49.5	\$1,195	\$1,245	4.0 %
1951	12.1	\$0.2	\$42.6	0.3	1.9			57.2	1,346	1,403	4.1
1952	15.4	0.4	41.3	0.3	2.8			60.3	1,475	1,535	3.9
1953	13.1	0.7	42.5	0.3	3.7			60.2	1,582	1,642	3.7
1954	13.7	0.8	45.0	0.2	4.3			64.0	1,732	1,796	3.6
1955	15.7	1.2	46.6	0.2	4.8			68.6	1,980	2,049	3.3
1956	18.7	1.9	49.8	0.3	5.3			76.0	2,201	2,277	3.3
1957	22.7	2.8	50.3	0.6	6.0			82.4	2,443	2,525	3.3
1958	27.8	3.6	50.2	1.4	6.8			89.8	2,590	2,680	3.4
1959	33.1	5.4	55.0	3.4	8.4			105.3	2,903	3,008	3.5
1960	42.3	7.5	57.9	7.1	7.5			122.3	3,121	3,243	3.8
1961	50.9	10.0	57.1	9.1	8.6			135.7	3,359	3,495	3.9
1962	61.4	12.2	56.2	11.1	9.5			150.3	3,636	3,786	4.0
1963	69.4	13.7	56.3	12.4	12.1			163.9	3,931	4,095	4.0
1964	85.3	17.2	58.0	13.6	14.6			188.7	4,426	4,615	4.1
1965	101.5	21.3	50.6	15.9	20.2			209.5	4,883	5,092	4.1
1966	128.6	27.3	49.7	17.6	29.0			252.2	5,591	5,843	4.3
1967	146.3	33.7	49.8	15.1	31.3			276.1	6,099	6,375	4.3
1968	176.3	44.3	50.5	15.4	36.6			323.1	6,803	7,126	4.5
1969	234.7	56.0	53.8	16.8	45.4			406.7	7,825	8,232	4.9
1970	252.2	63.1	53.1	15.5	49.9			433.8	8,522	8,956	4.8
1971	289.1	72.5	49.2	12.7	52.0			475.6	9,486	9,962	4.8
1972	357.1	88.3	44.8	14.2	57.7			562.2	10,761	11,323	5.0
1973	436.4	115.0	47.7	15.1	62.8			677.0	12,449	13,126	5.2
1974	508.9	142.7	52.3	12.9	64.1			781.0	13,801	14,582	5.4
1975	576.3	163.4	42.5	13.2	69.2			864.6	15,233	16,098	5.4
1976	677.7	188.0	37.3	14.1	74.8			991.9	17,688	18,680	5.3
1977	806.4	225.2	35.5	13.8	84.4			1,165.3	19,994	21,159	5.5
1978	975.5	267.3	37.1	14.0	93.3			1,387.3	23,039	24,426	5.7
1979	1,120.7	299.4	37.7	14.7	96.0			1,568.4	26,031	27,599	5.7
1980	2,097.2	324.9	62.6	14.8	100.0			2,599.5	28,402	31,001	8.4
1981	2,239.4	349.6	61.8	14.1	111.9			2,776.7	36,403	39,180	7.1
1982	2,382.1	363.3	56.4	14.3	123.7			2,939.8	40,979	43,919	6.7
1983	2,876.1	378.6	53.8	15.1	138.9			3,462.6	43,507	46,970	7.4
1984	3,197.0	393.8	45.6	7.2	150.4			3,794.0	47,362	51,156	7.4
1985	3,487.4	414.7	44.9	8.5	163.4			4,118.8	50,696	54,815	7.5
1986	4,004.4	389.6	41.6	10.7	164.2			4,610.5	52,857	57,468	8.0
1987	4,749.6	360.1	35.1	26.8	164.1		\$14.1	5,335.8	53,183	58,519	9.1
1988	5,799.8	310.1	29.7		194.2		65.3	6,333.8	56,266	62,600	10.1
1989	6,901.1	243.1	27.0		208.0		112.9	7,379.2	58,645	66,024	11.2
1990	8,042.3	196.1	23.9		201.4		166.9	8,463.8	58,328	66,792	12.7
1991	9,095.9	200.0	15.2		303.4	\$22.7	440.7	10,078.0	58,480	68,558	14.7
1992	10,178.9	155.4	15.6		313.4	24.1	511.4	11,198.8	60,784	71,983	15.6
1993	11,352.6	135.1	11.8		355.7	23.4	591.7	12,470.2	62,820	75,290	16.6
1994	12,254.9	122.7	12.4		431.8	25.3	1,120.6	13,967.7	66,758	80,726	17.3
1995	13,990.3	119.3	6.3		505.7	47.9	1,756.0	16,425.5	69,050	85,475	19.2
1996	14,078.7	118.9	5.0		649.2	26.1	3,637.0	18,515.0	74,766	93,281	19.8

1/ For 1950 through 1979, international service revenue data are taken directly from *Statistics of Communications Common Carriers*. The telephone data are based on Form M filings for AT&T, Hawaiian Telephone, Cuban American Telephone and Telegraph, and domestic ITT subsidiaries. The record data (telegraph, telex, and record private line) are based on Form O/R filings. International data for 1980 through 1996 are taken from Tables 4, 5, and 6 herein, and are based on 43.61 data reported in the SOCC. Traffic to Canada and Mexico are first included in 1980, which explains the jump in traffic shown for that year. For switched services, the data represent billed revenue for service from the domestic United States to foreign points.

2/ Includes pure resale revenue for all switched services. Virtually all of the revenue is for pure resale of IMTS. Before 1991, the resale revenues are also included in data for telephone service, and therefore are not added separately in Total International.

3/ The data for total domestic and international toll revenues for 1950 through 1980 are taken from Table 6.5 of the latest SOCC, and represent message telephone, WATS, private line and other toll service revenues (accounts 510 through 516) reported in the annual Form M filings. For 1981 through 1996, the total toll figures are from *Long Distance Market Shares*, and include toll revenues of all local and interexchange carriers.

Note: Some data for prior years have been revised.

Table 2. International Revenue and Operating Statistics
(Revenue and settlement amounts in millions)

Category	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
U.S. Billed Revenues ^{1/}																	
Telephone	\$2,097	\$2,239	\$2,382	\$2,876	\$3,197	\$3,487	\$4,004	\$4,750	\$5,800	\$6,901	\$8,042	\$9,096	\$10,179	\$11,353	\$12,255	\$13,990	\$14,079
Telex	\$325	\$350	\$363	\$379	\$394	\$415	\$390	\$360	\$310	\$243	\$196	\$200	\$155	\$135	\$123	\$119	\$119
Telegraph	\$63	\$62	\$56	\$54	\$46	\$45	\$42	\$35	\$30	\$27	\$24	\$15	\$16	\$12	\$12	\$6	\$5
Private Line	\$115	\$126	\$138	\$154	\$158	\$172	\$175	\$191	\$194	\$208	\$201	\$303	\$313	\$356	\$440	\$506	\$649
Miscellaneous												\$23	\$24	\$23	\$25	\$48	\$26
Total Billed Revenues	\$2,599	\$2,777	\$2,940	\$3,463	\$3,794	\$4,119	\$4,611	\$5,336	\$6,334	\$7,379	\$8,464	\$9,637	\$10,687	\$11,878	\$12,855	\$14,669	\$14,878
Net Settlements ^{2/}																	
Telephone	(\$347)	(\$531)	(\$712)	(\$950)	(\$1,203)	(\$1,130)	(\$1,414)	(\$1,675)	(\$2,028)	(\$2,398)	(\$2,762)	(\$3,298)	(\$3,344)	(\$3,704)	(\$4,289)	(\$4,937)	(\$5,645)
Telex	\$13	\$1	\$8	\$6	\$23	\$21	\$11	\$9	\$3	\$5	\$1	\$2	\$8	(\$4)	(\$4)	(\$7)	(\$9)
Telegraph	(\$30)	(\$31)	(\$29)	(\$28)	(\$22)	(\$18)	(\$13)	(\$10)	(\$8)	(\$6)	(\$4)	\$0	\$0	\$0	\$0	\$1	\$1
Miscellaneous												\$17	\$11	\$14	\$9	\$2	\$10
Total Net Settlements	(\$365)	(\$561)	(\$733)	(\$972)	(\$1,201)	(\$1,127)	(\$1,416)	(\$1,676)	(\$2,033)	(\$2,400)	(\$2,765)	(\$3,279)	(\$3,325)	(\$3,693)	(\$4,284)	(\$4,941)	(\$5,645)
Net Revenues																	
Telephone	\$1,750	\$1,708	\$1,670	\$1,926	\$1,994	\$2,358	\$2,590	\$3,074	\$3,772	\$4,503	\$5,280	\$5,798	\$6,835	\$7,649	\$7,966	\$9,053	\$8,433
Telex	\$338	\$350	\$371	\$385	\$417	\$436	\$401	\$370	\$313	\$248	\$197	\$202	\$163	\$131	\$118	\$112	\$110
Telegraph	\$32	\$31	\$28	\$26	\$24	\$27	\$29	\$25	\$22	\$21	\$20	\$16	\$15	\$12	\$12	\$7	\$6
Private Line	\$115	\$126	\$138	\$154	\$158	\$172	\$175	\$191	\$194	\$208	\$201	\$303	\$313	\$356	\$432	\$506	\$649
Miscellaneous												\$40	\$35	\$37	\$34	\$50	\$36
Total Net Revenue	\$2,235	\$2,216	\$2,207	\$2,491	\$2,593	\$2,992	\$3,195	\$3,659	\$4,301	\$4,979	\$5,699	\$6,358	\$7,362	\$8,185	\$8,563	\$9,729	\$9,234
Billed Revenue per Unit																	
Telephone per Minute	\$1.34	\$1.21	\$1.09	\$1.09	\$1.05	\$1.03	\$0.99	\$1.02	\$1.06	\$1.07	\$1.06	\$1.01	\$1.00	\$1.00	\$0.92	\$0.88	\$0.74
Telex per Minute	\$2.47	\$2.26	\$2.23	\$2.14	\$2.14	\$2.19	\$2.17	\$2.30	\$2.51	\$2.69	\$2.68	\$3.13	\$3.02	\$2.71	\$2.66	\$2.46	\$2.52
Telegraph per Word	\$0.19	\$0.20	\$0.22	\$0.22	\$0.25	\$0.28	\$0.34	\$0.35	\$0.36	\$0.36	\$0.44	\$0.41	\$0.48	\$0.45	\$0.59	\$0.50	\$0.49
Satellite Service																	
Comsat ^{3/}	\$161	\$189	\$250	\$291	\$278	\$285	\$320	\$334	\$244	\$273	\$303	\$360	\$395	\$415	\$423	\$414	\$411
Resale of																	
Telephone Service ^{4/}							\$1	\$14	\$65	\$113	\$167	\$440	\$511	\$591	\$1,120	\$1,754	\$3,636

^{1/} U.S. billed revenues are the amounts billed by U.S. carriers. The amounts billed by foreign carriers are not known. The data in this table are derived from the annual publication *Statistics of Communications Common Carriers*. See Appendix A for information on reporting changes over time and adjustments made to published figures.

^{2/} Net settlements represents settlement receipts from foreign telephone companies minus settlement payments to foreign telephone companies. Starting with 1985, settlements include transiting traffic. There are no settlement payments associated with private line services.

^{3/} Comsat information includes business from Intelsat and Inmarsat.

^{4/} Carriers began reporting pure resale traffic separately from facilities-based traffic in 1991. The amounts shown for 1986 through 1990 are included in the billed revenue data presented above. Resale revenue for those years does not include the resale revenue of carriers that also provided facilities-based international telephone service. Pure resale international telephone service figures are from Section 43.61 International Telecommunications Data reports.

Table 3. International Telephone Service Excluding Canada and Mexico 1/
(Total revenues and minutes in millions)

	U.S. Billed				Foreign Billed		Per Minute				Weighted average U.S. retained & foreign receipts
	Number of Minutes	Billed Revenue	Payout To PTT	Retained Revenue	Number of Minutes	Receipts from PTT	Billed Revenue	Payout To PTT	Retained Revenue	Receipts from PTT	
1964 <u>2/</u>	20	\$63	\$30	\$33	12	\$20	\$3.11	\$1.50	\$1.62	\$1.63	\$1.62
1965 <u>2/</u>	26	78	37	41	15	25	3.07	1.46	1.61	1.60	1.61
1966 <u>2/</u>	32	100	48	53	19	30	3.10	1.47	1.63	1.59	1.61
1967 <u>2/</u>	40	114	55	60	23	32	2.88	1.38	1.50	1.36	1.45
1968	46	127	62	65	28	40	2.73	1.33	1.41	1.42	1.41
1969	65	172	83	89	38	52	2.66	1.28	1.38	1.35	1.37
1970	81	197	99	98	51	60	2.43	1.22	1.21	1.17	1.19
1971	101	237	121	117	68	75	2.35	1.20	1.16	1.10	1.13
1972	127	292	148	144	92	99	2.31	1.17	1.14	1.08	1.11
1973	159	365	184	180	112	120	2.29	1.16	1.13	1.08	1.11
1974	191	429	217	212	142	152	2.25	1.14	1.11	1.07	1.09
1975	219	490	247	243	167	177	2.23	1.13	1.11	1.06	1.09
1976	273	601	303	298	197	207	2.20	1.11	1.09	1.05	1.08
1977	341	744	375	369	253	260	2.18	1.10	1.08	1.03	1.06
1978	456	954	496	458	346	315	2.09	1.09	1.01	0.91	0.96
1979	646	1,138	693	445	410	475	1.76	1.07	0.69	1.16	0.87
1980	811	1,605	834	772	486	567	1.98	1.03	0.95	1.17	1.03
1981	995	1,623	992	632	677	619	1.63	1.00	0.63	0.91	0.75
1982	1,253	1,719	1,257	461	819	756	1.37	1.00	0.37	0.92	0.59
1983	1,598	2,148	1,594	553	939	877	1.34	1.00	0.35	0.93	0.56
1984	1,916	2,449	1,809	640	1,047	847	1.28	0.94	0.33	0.81	0.50
1985	2,181	2,679	1,907	772	1,234	1,007	1.23	0.87	0.35	0.82	0.52
1986	2,643	3,054	2,305	749	1,356	1,139	1.16	0.87	0.28	0.84	0.47
1987	3,155	3,656	2,721	934	1,569	1,339	1.16	0.86	0.30	0.85	0.48
1988	3,768	4,446	3,171	1,274	1,901	1,554	1.18	0.84	0.34	0.82	0.50
1989	4,463	5,270	3,649	1,621	2,249	1,789	1.18	0.82	0.36	0.80	0.51
1990	5,276	6,306	4,198	2,109	2,543	2,009	1.20	0.80	0.40	0.79	0.53
1991	5,997	7,272	4,745	2,527	2,818	2,049	1.21	0.79	0.42	0.73	0.52
1992	6,653	8,091	4,780	3,311	3,128	2,069	1.22	0.72	0.50	0.66	0.55
1993	7,501	8,927	5,031	3,894	3,397	1,997	1.19	0.67	0.52	0.59	0.54
1994	8,950	9,716	5,554	4,161	3,698	2,006	1.09	0.62	0.46	0.54	0.49
1995	10,776	11,159	6,086	5,165	4,102	1,983	1.04	0.56	0.48	0.48	0.48
1996	13,276	11,287	6,665	4,623	4,401	1,857	0.85	0.50	0.35	0.42	0.37

1/ Data in this table differ from data in other tables in this report because Canada and Mexico traffic have been removed. Data from *Statistics of Communications Common Carriers* have been adjusted to remove traffic between the conterminous U.S. and Alaska, Hawaii and Puerto Rico for 1964 through 1984. Data before 1985 include AT&T traffic, only.

2/ Both U.S. billed and foreign billed traffic include transiting traffic for 1964 through 1967.

Table 4. International Telephone Service Traffic Data ^{1/}
(Message, minute and revenue amounts in millions)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Recent annual rate of growth ^{4/}
U.S. Minutes	1,569	1,857	2,187	2,650	3,037	3,446	4,126	4,819	5,679	6,751	8,030	8,986	10,156	11,393	13,393	15,837	19,119	16.2%
Foreign Minutes ^{2/}	1,162	1,437	1,613	1,808	1,971	2,263	2,511	2,823	3,228	3,810	4,341	4,707	5,248	5,678	6,247	7,005	8,195	11.3%
Transiting Minutes												271	398	503	581	521	560	
Total Minutes	2,732	3,294	3,799	4,458	5,008	5,709	6,637	7,642	8,908	10,561	12,371	13,963	15,803	17,574	20,220	23,363	27,874	14.6%
U.S. Messages	199	233	274	322	367	411	482	570	687	835	984	1,371	1,643	1,926	2,313	2,821	3,485	20.3%
Foreign Messages	165	202	227	262	288	336	425	455	547	649	739	901	1,067	1,197	1,380	1,517	1,957	15.6%
Total Messages	364	435	501	584	655	747	907	1,025	1,233	1,485	1,723	2,272	2,710	3,124	3,694	4,338	5,442	18.5%
Average Minutes per Message																		
U.S. Calls	7.9	8.0	8.0	8.2	8.3	8.1	8.0	7.7	7.4	7.2	7.3	6.6	6.2	5.9	5.8	5.6	5.5	
Foreign Calls	7.0	7.1	7.1	6.9	6.8	6.7	6.3	5.9	5.4	5.3	5.3	5.2	4.9	4.7	4.5	4.6	4.2	
All Telephone Calls	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.5	7.2	7.1	7.2	6.1	5.8	5.6	5.5	5.4	5.1	
Billed Revenues	\$2,097	\$2,239	\$2,382	\$2,876	\$3,197	\$3,487	\$4,004	\$4,750	\$5,800	\$6,901	\$8,042	\$9,096	\$10,179	\$11,353	\$12,255	\$13,990	\$14,079	9.6%
Settlement Payments	\$1,063	\$1,330	\$1,674	\$2,036	\$2,269	\$2,398	\$2,865	\$3,423	\$4,039	\$4,735	\$5,297	\$5,792	\$5,945	\$6,308	\$6,947	\$7,559	\$8,206	7.6%
Retained Billed Revenue	\$1,034	\$910	\$708	\$841	\$928	\$1,089	\$1,140	\$1,327	\$1,761	\$2,166	\$2,745	\$3,304	\$4,234	\$5,044	\$5,307	\$6,432	\$5,873	12.7%
Settlement Receipts	\$716	\$799	\$861	\$1,086	\$1,066	\$1,243	\$1,396	\$1,671	\$1,906	\$2,213	\$2,426	\$2,369	\$2,434	\$2,416	\$2,443	\$2,455	\$2,418	0.4%
Transiting Traffic Payments												\$281	\$366	\$447	\$492	\$564	\$367	
Net Settlement Payments												\$156	\$199	\$258	\$276	\$397	\$225	
Net Revenue ^{3/}	(\$347)	\$1,708	\$1,670	(\$950)	\$1,926	\$2,328	(\$1,477)	(\$1,789)	(\$2,199)	\$4,281	(\$2,981)	(\$3,298)	(\$3,344)	(\$3,704)	(\$4,289)	(\$4,937)	(\$5,645)	12.1%
Per Minute of U.S. Traffic:																		
U.S. Billings	\$1.34	\$1.21	\$1.09	\$1.09	\$1.05	\$1.01	\$0.97	\$0.99	\$1.02	\$1.02	\$1.00	\$1.01	\$1.00	\$1.00	\$0.92	\$0.88	\$0.74	
Settlement Payments	\$0.68	\$0.72	\$0.77	\$0.77	\$0.75	\$0.70	\$0.69	\$0.71	\$0.71	\$0.70	\$0.66	\$0.64	\$0.59	\$0.55	\$0.52	\$0.48	\$0.43	
Retained Revenue	\$0.66	\$0.49	\$0.32	\$0.32	\$0.31	\$0.32	\$0.28	\$0.28	\$0.31	\$0.32	\$0.34	\$0.37	\$0.42	\$0.44	\$0.40	\$0.41	\$0.31	
Per Minute of Foreign Traffic:																		
Settlement Receipts	\$0.62	\$0.56	\$0.60	\$0.60	\$0.54	\$0.55	\$0.56	\$0.59	\$0.59	\$0.58	\$0.56	\$0.50	\$0.46	\$0.43	\$0.39	\$0.35	\$0.30	
Per Transiting Minute - Revenue	\$0.64	\$0.52	\$0.44	\$0.43	\$0.40	\$0.41	\$0.38	\$0.39	\$0.40	\$0.41	\$0.41	\$0.42	\$0.42	\$0.37	\$0.37	\$0.32	\$0.25	
Net Revenue per Minute	50.7%	59.4%	70.3%	70.8%	71.0%	68.8%	71.5%	72.1%	69.6%	68.6%	65.9%	63.7%	58.4%	55.6%	56.7%	54.0%	58.3%	
Percent Billings for Settlements	\$10.53	\$9.61	\$8.70	\$8.92	\$8.71	\$8.20	\$7.77	\$7.60	\$7.56	\$7.34	\$7.28	\$6.63	\$6.20	\$5.89	\$5.30	\$4.96	\$4.04	
Average Price for a U.S. call																		

^{1/} The data in this table are derived from the annual FCC publication *Statistics of Communications Common Carriers (SOCC)*. The SOCC includes data for Canada and Mexico starting in 1991. Data for Canada and Mexico have been added to the SOCC data for 1980 through 1990. In addition, the SOCC data for 1980 through 1984 were adjusted to remove data for calls between the contiguous US and Alaska, Hawaii, and Puerto Rico. Starting in 1990, the SOCC includes international calls to and from Alaska and Hawaii. Starting in 1991, the SOCC shows totals with and without non-domestic traffic between U.S. points. The table uses the totals for foreign points, which exclude non-domestic traffic between U.S. points. Appendix A summarizes known inconsistencies in the data. Appendix B and Appendix C provide selected traffic data for service with Canada and Mexico, respectively. Transiting traffic was first published in the SOCC for 1991.

^{2/} Many countries charge for service on the basis of metered pulses, rather than by call minutes as in the United States. The pulses are converted to minutes to facilitate settlements. U.S. carriers report these amounts as foreign billed minutes.

^{3/} U.S. traffic generally exceeds foreign traffic. Since settlements payments are based on traffic, there is usually a net settlement payment by U.S. carriers, shown as a negative amount in the table. Net revenue is the retained revenue from U.S. billed calls plus the settlement amount from foreign billed calls. U.S. carriers report both settlement receipts and settlement payments for transiting calls in cases where the operating agreements have cascade billing arrangements. In a cascade billing arrangement, the U.S. carrier collects from the originating foreign carrier both the transit fee and the settlement amount that the originating foreign carrier will owe to the terminating foreign carrier. The U.S. carrier then makes the settlement payment.

^{4/} The annual rates of growth were estimated by fitting a log linear regression to data for 1991 through 1996.

Table 5. International Telex Service Traffic Data 1/
(Message, minute, and revenue amounts in millions)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Recent annual rate of growth <u>3/</u>
U.S. Minutes	132	154	163	177	184	189	179	156	123	90	73	64	51	50	46	49	47	-4.9%
Foreign Minutes	149	168	179	191	211	208	196	179	137	107	84	71	59	48	41	34	29	-16.4%
Transiting Minutes																		
Total Minutes	281	322	342	368	395	397	376	335	260	197	157	164	135	121	107	99	93	-10.5%
U.S. Messages	51	59	64	69	74	72	69	61	47	33	25	21	15	15	13	13	13	-7.7%
Foreign Messages	50	56	60	65	72	73	69	62	46	35	25	21	18	15	12	10	9	-16.0%
Total Messages	101	115	124	134	146	145	138	124	93	68	51	42	33	29	25	23	22	-11.6%
Average Minutes per Message																		
U.S. Messages	2.6	2.6	2.6	2.6	2.5	2.6	2.6	2.5	2.6	2.7	2.9	3.1	3.3	3.4	3.5	3.7	3.6	
Foreign Messages	3.0	3.0	3.0	3.0	2.9	2.9	2.8	2.9	3.0	3.1	3.3	3.4	3.3	3.3	3.3	3.3	3.2	
All Telex Messages	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.8	2.9	3.1	3.9	4.1	4.1	4.2	4.3	4.2	
Billed Revenues	\$325	\$350	\$363	\$379	\$394	\$415	\$390	\$360	\$310	\$243	\$196	\$200	\$155	\$135	\$123	\$119	\$119	-9.5%
Settlement Payments	\$170	\$181	\$189	\$196	\$196	\$198	\$190	\$172	\$136	\$101	\$82	\$72	\$51	\$49	\$43	\$38	\$34	-12.8%
Retained Billed Revenue	\$155	\$169	\$174	\$183	\$197	\$217	\$199	\$188	\$174	\$142	\$114	\$128	\$105	\$86	\$79	\$82	\$85	-7.8%
Settlement Receipts	\$182	\$181	\$197	\$202	\$220	\$219	\$202	\$181	\$139	\$106	\$83	\$68	\$52	\$39	\$33	\$26	\$21	-21.1%
Transiting Traffic Payments												\$41	\$34	\$30	\$28	\$23	\$19	
Net Settlement Payments												\$35	\$28	\$24	\$22	\$18	\$16	
Net Revenue <u>2/</u>	\$13	\$1	\$8	\$6	\$23	\$21	\$11	\$9	\$3	\$5	\$1	\$2	\$8	(\$4)	(\$4)	(\$7)	(\$9)	24.2%
	\$338	\$350	\$371	\$385	\$417	\$436	\$401	\$370	\$313	\$248	\$197	\$202	\$163	\$131	\$118	\$112	\$110	-11.5%
Per Minute of U.S. Traffic:																		
U.S. Billings	\$2.47	\$2.26	\$2.23	\$2.14	\$2.14	\$2.19	\$2.17	\$2.30	\$2.51	\$2.69	\$2.68	\$3.13	\$3.02	\$2.71	\$2.66	\$2.46	\$2.52	
Settlement Payments	\$1.29	\$1.17	\$1.16	\$1.11	\$1.07	\$1.04	\$1.06	\$1.10	\$1.10	\$1.12	\$1.12	\$1.13	\$0.98	\$0.99	\$0.94	\$0.78	\$0.72	
Retained Revenue	\$1.18	\$1.09	\$1.07	\$1.03	\$1.07	\$1.15	\$1.11	\$1.20	\$1.41	\$1.57	\$1.56	\$2.00	\$2.04	\$1.72	\$1.73	\$1.68	\$1.80	
Per Minute of Foreign Traffic:																		
Settlement Receipts	\$1.22	\$1.08	\$1.10	\$1.06	\$1.04	\$1.05	\$1.03	\$1.01	\$1.01	\$0.99	\$0.99	\$0.95	\$0.89	\$0.82	\$0.80	\$0.76	\$0.70	
Per Transiting Minute - Revenue	\$1.20	\$1.09	\$1.08	\$1.05	\$1.06	\$1.10	\$1.07	\$1.10	\$1.20	\$1.26	\$1.26	\$0.22	\$0.25	\$0.26	\$0.30	\$0.29	\$0.24	
Net Revenue per Minute	\$2.2%	\$1.7%	\$2.0%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	\$1.7%	
Percent Billings for Settlements	\$6.38	\$5.89	\$5.71	\$5.47	\$5.34	\$5.77	\$5.66	\$5.86	\$6.61	\$7.37	\$7.73	\$9.67	\$10.10	\$9.19	\$9.35	\$8.99	\$9.01	
Average Price for a U.S. Message																		

1/ The data in this table are derived from the annual FCC publication *Statistics of Communications Common Carriers (SOCC)*. The SOCC includes data for Canada and Mexico starting in 1991. The SOCC data for 1980 through 1984 were adjusted to remove data for Alaska, Hawaii, and Puerto Rico. Starting in 1991, the SOCC shows totals with and without non-domestic traffic between U.S. points. The table uses the totals for foreign points, which exclude non-domestic traffic between U.S. points. Appendix A summarizes known inconsistencies in the data. Transiting traffic was first published in the SOCC for 1991.

2/ Net revenue is the retained revenue from U.S. billed calls plus the settlement amount from foreign billed calls. U.S. carriers report both settlement receipts and settlement payments for transiting calls in cases where the operating agreements have cascade billing arrangements. In a cascade billing arrangement, the U.S. carrier collects from the originating foreign carrier both the transit fee and the settlement amount that the originating foreign carrier will owe to the terminating foreign carrier. The U.S. carrier then makes the settlement payment.

3/ The annual rates of growth were estimated by fitting a log linear regression to data for 1991 through 1996.

Table 6. International Telegraph Service Traffic Data 1/
(Message, word, and revenue amounts in millions)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Recent annual rate of growth ^{3/}
U.S. Words	321	306	258	240	185	158	124	99	82	75	54	37	33	26	21	13	10	-23.7%
Foreign Words	181	167	142	120	105	91	78	61	50	42	33	29	20	16	15	13	11	-16.7%
Transiting Words													9	10	11	7	6	
Total Words	502	473	400	361	290	249	202	160	132	117	87	78	62	52	47	33	27	-19.0%
U.S. Messages	7	6	5	5	3	3	2	2	2	1	1	1	1	1	1	0	0	-22.1%
Foreign Messages	5	5	4	3	3	2	2	2	1	1	1	1	1	1	1	0	0	-15.9%
Total Messages	12	11	9	8	6	5	4	3	3	2	2	2	2	2	1	1	1	-18.5%
Average Words per Message																		
U.S. Messages	47.5	49.5	50.4	49.6	53.8	56.3	55.4	54.0	46.6	52.6	44.7	42.5	39.8	36.7	23.4	26.7	51.3	
Foreign Messages	35.9	36.5	35.9	36.3	36.9	37.9	36.7	37.5	36.7	42.1	34.6	29.8	29.6	29.4	28.5	28.3	28.8	
All Telegraph Messages	42.6	44.0	44.1	44.2	46.1	47.9	46.3	46.3	42.2	48.3	40.2	42.6	41.3	41.3	33.1	35.3	46.8	
Billed Revenues	\$63	\$62	\$56	\$54	\$46	\$45	\$42	\$35	\$30	\$27	\$24	\$15	\$16	\$12	\$12	\$6	\$5	-20.9%
Settlement Payments	\$44	\$43	\$39	\$38	\$32	\$28	\$21	\$18	\$14	\$13	\$9	\$6	\$5	\$4	\$4	\$2	\$2	-20.4%
Retained Billed Revenue	\$19	\$19	\$18	\$16	\$14	\$17	\$20	\$17	\$16	\$14	\$14	\$9	\$10	\$8	\$8	\$4	\$3	-21.1%
Settlement Receipts	\$14	\$12	\$10	\$10	\$10	\$9	\$9	\$8	\$6	\$6	\$6	\$5	\$4	\$3	\$3	\$2	\$2	-17.0%
Transiting Traffic Receipts																		
Net Settlement Payments	(\$30)	(\$31)	(\$29)	(\$28)	(\$22)	(\$18)	(\$13)	(\$10)	(\$8)	(\$6)	(\$4)	\$0	(\$0)	\$0	\$0	\$1	\$1	Not Meaningful
Net Revenue ^{2/}	\$32	\$31	\$28	\$26	\$24	\$27	\$29	\$25	\$22	\$21	\$20	\$16	\$15	\$12	\$12	\$7	\$6	-19.1%
Per Word of U.S. Traffic:																		
U.S. Billings	\$0.19	\$0.20	\$0.22	\$0.22	\$0.25	\$0.28	\$0.34	\$0.35	\$0.36	\$0.36	\$0.44	\$0.41	\$0.48	\$0.45	\$0.59	\$0.50	\$0.49	
Settlement Payments	\$0.14	\$0.14	\$0.15	\$0.16	\$0.17	\$0.17	\$0.17	\$0.18	\$0.17	\$0.17	\$0.18	\$0.16	\$0.16	\$0.14	\$0.20	\$0.18	\$0.19	
Retained Revenue	\$0.06	\$0.06	\$0.07	\$0.07	\$0.08	\$0.11	\$0.16	\$0.17	\$0.20	\$0.19	\$0.27	\$0.25	\$0.32	\$0.31	\$0.39	\$0.32	\$0.30	
Per Word of Foreign Traffic:																		
Settlement Receipts	\$0.08	\$0.07	\$0.07	\$0.09	\$0.10	\$0.10	\$0.11	\$0.12	\$0.11	\$0.15	\$0.18	\$0.17	\$0.18	\$0.18	\$0.20	\$0.17	\$0.17	
Per Transiting Word - Revenue																		
Net Revenue per Word	\$0.06	\$0.07	\$0.07	\$0.07	\$0.08	\$0.11	\$0.14	\$0.15	\$0.17	\$0.18	\$0.23	\$0.20	\$0.25	\$0.23	\$0.27	\$0.22	\$0.21	
Percent Billings for Settlements	70.2%	69.9%	68.8%	70.9%	69.3%	61.4%	51.6%	50.9%	46.0%	46.8%	39.7%	39.6%	32.8%	31.2%	33.4%	36.6%	38.0%	
Average Price for a U.S. Message	\$9.27	\$10.01	\$11.01	\$11.11	\$13.30	\$15.95	\$18.66	\$19.15	\$16.94	\$18.86	\$19.82	\$17.62	\$18.94	\$16.54	\$13.82	\$13.30	\$25.20	

^{1/} The data in this table are derived from the annual FCC publication *Statistics of Communications Common Carriers (SOCC)*. The SOCC includes data for Canada and Mexico starting in 1991. The SOCC data for 1980 through 1984 were adjusted to remove data for Alaska, Hawaii, and Puerto Rico. Starting in 1991, the SOCC shows totals with and without non-domestic traffic between U.S. points. The table uses the totals for foreign points, which exclude non-domestic traffic between U.S. points. Appendix A summarizes known inconsistencies in the data. Transiting traffic was first published in the SOCC for 1991.

^{2/} U.S. traffic generally exceeds foreign traffic. Since settlements payments are based on traffic, there is usually a net settlement payment by U.S. carriers, shown as a negative amount in the table. Net revenue is the retained revenue from U.S. billed calls plus the settlement amount from foreign billed calls. U.S. carriers report both settlement receipts and settlement payments for transiting calls in cases where the operating agreements have cascade billing arrangements. In a cascade billing arrangement, the U.S. carrier collects from the originating foreign carrier both the transit fee and the settlement amount that the originating foreign carrier will owe to the terminating foreign carrier. The U.S. carrier then makes the settlement payment.

^{3/} The annual rates of growth were estimated by fitting a log linear regression to data for 1991 through 1996.

Table 7. U.S. Minutes of International Telephone Service for Selected International Points
(In thousands)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Annual Growth Rate Since 1991 ^{1/}
Australia	10,610	13,639	17,114	21,817	26,444	32,396	41,074	55,123	68,855	82,225	93,632	99,107	113,213	126,113	156,656	201,269	282,048	22.7%
Brazil	13,413	15,992	20,041	25,984	32,654	39,501	53,573	56,311	71,805	90,603	108,755	122,458	144,691	171,414	221,824	282,946	372,780	25.1%
Canada ^{2/}	576,740	654,662	687,265	742,234	814,035	916,525	1,060,523	1,161,519	1,268,981	1,490,894	1,819,383	1,950,892	2,226,372	2,493,082	2,786,577	3,049,270	3,462,490	11.9%
China	840	961	1,207	1,495	2,123	3,242	5,266	10,283	17,006	25,847	32,774	47,320	68,424	110,128	169,295	230,937	298,054	46.1%
Colombia	17,885	24,926	36,068	55,868	64,351	66,053	81,963	95,375	108,033	121,078	132,505	150,362	172,431	200,185	231,098	256,463	284,827	13.8%
Dominican Rep.	17,135	20,700	24,473	49,670	41,563	51,450	78,350	89,800	118,548	146,502	165,016	217,888	249,403	253,347	309,695	410,483	415,726	15.1%
Egypt	2,208	3,253	4,738	9,736	12,828	15,401	17,841	20,267	23,119	27,749	30,562	38,077	43,905	49,004	56,919	68,649	89,734	17.9%
El Salvador	10,878	13,858	17,927	20,276	27,420	32,408	38,250	44,039	53,891	68,574	84,090	89,105	99,880	106,978	120,755	135,655	141,343	10.0%
France	35,359	41,258	50,196	61,798	74,360	86,954	99,511	119,030	145,407	172,071	201,571	210,390	239,790	263,575	304,864	362,832	442,041	15.7%
Germany ^{3/}	86,001	105,038	136,104	161,926	191,626	219,547	257,125	308,663	367,405	416,844	494,331	561,026	652,891	752,449	803,926	962,213	1,171,639	6.5%
Greece	13,574	16,254	20,486	26,289	30,228	34,179	40,229	43,534	48,225	52,429	57,927	61,054	69,961	75,532	82,130	86,475	90,547	8.0%
Guatemala	7,824	9,320	11,424	13,815	17,681	23,026	29,092	34,322	40,290	57,265	70,460	80,582	87,962	93,833	105,361	115,092	127,741	9.7%
Hong Kong	9,395	11,672	15,521	20,942	27,245	32,039	47,008	54,178	64,399	76,376	85,439	95,196	113,884	142,780	213,420	315,806	538,952	41.4%
India	3,355	4,289	5,462	7,300	13,089	15,524	20,187	25,818	33,456	45,435	58,848	71,345	97,788	134,140	191,513	285,662	423,843	42.8%
Israel	14,480	19,022	26,085	33,952	41,617	47,708	56,288	68,625	77,094	91,160	107,021	129,809	137,626	162,591	195,617	214,337	238,509	13.9%
Italy	32,885	38,578	47,179	57,051	69,212	81,061	93,283	111,603	127,803	145,860	169,174	178,264	207,212	229,594	250,782	279,385	333,969	12.5%
Jamaica	12,624	17,607	17,741	21,472	24,382	38,434	51,656	64,998	72,964	78,671	96,798	103,799	124,310	144,849	167,384	186,684	219,169	15.7%
Japan	13,411	45,568	58,542	72,250	91,374	109,117	137,916	175,739	231,757	272,927	319,754	335,721	362,989	397,230	465,717	576,246	698,566	16.0%
Korea, Rep. of	179,862	205,586	251,849	294,297	307,022	349,157	422,877	502,907	642,333	796,889	934,425	1,038,226	1,277,226	1,398,807	1,656,171	2,012,183	2,380,830	17.6%
Mexico ^{2/}	15,851	16,434	19,199	22,190	25,699	29,552	34,961	41,575	52,755	62,116	70,964	78,090	92,709	107,258	130,420	163,595	207,026	21.4%
Netherlands	1,158	1,314	1,449	1,642	1,842	2,129	2,496	2,961	3,519	4,195	4,967	5,827	6,787	7,854	9,039	10,353	11,807	9.4%
Nigeria	987	2,621	3,826	8,098	12,234	11,643	16,949	23,795	27,852	35,573	42,906	55,301	64,251	68,664	84,134	107,244	133,582	19.2%
Pakistan	7,196	9,236	12,063	17,296	20,318	24,543	29,229	34,687	41,196	54,309	64,394	67,472	80,103	89,649	105,751	121,753	144,198	16.1%
Peru	17,552	21,474	29,248	40,067	53,874	61,395	75,771	88,899	105,602	130,285	165,042	185,686	195,233	219,532	258,822	295,671	346,487	13.8%
Philippines	843	1,670	1,287	3,752	9,523	16,032	21,825	34,225	42,181	53,739	64,264	69,185	73,869	81,568	110,312	133,351	160,410	19.6%
Poland	732	1,454	1,449	1,042	1,595	1,858	2,206	3,063	4,944	7,795	13,409	22,129	41,155	45,585	63,649	78,422	99,920	32.3%
Russia ^{4/}	10,148	15,063	24,247	34,970	36,901	33,225	32,494	30,027	30,943	32,677	68,194	187,506	61,525	77,516	88,230	101,150	101,150	13.2%
Saudi Arabia	3,454	4,495	5,898	7,481	9,370	10,817	12,555	14,763	17,306	19,383	22,409	24,278	29,143	36,317	53,685	73,821	97,429	33.6%
South Africa	15,597	13,042	16,571	19,597	23,237	27,490	32,232	39,376	48,738	57,348	69,000	84,772	105,557	109,459	119,366	130,320	147,228	10.5%
Spain	23,239	20,726	24,295	29,252	34,650	38,973	45,019	53,807	61,214	69,928	77,553	83,567	93,460	104,370	115,354	135,572	180,944	15.6%
Switzerland	8,248	11,027	17,591	26,723	36,002	45,223	61,229	73,100	86,141	100,519	120,170	127,984	162,534	184,310	225,592	271,604	321,021	19.9%
Taiwan	2,896	3,574	5,350	8,147	11,010	13,963	19,941	21,110	25,256	31,404	38,427	43,943	53,118	62,830	78,302	92,331	114,408	21.0%
Thailand	132,712	162,407	185,082	210,570	250,094	299,311	354,726	420,142	485,418	543,964	627,434	662,889	733,377	799,805	905,959	1,025,044	1,225,859	12.8%
United Kingdom	1,335,809	1,566,326	1,825,917	2,168,759	2,489,611	2,875,468	3,455,414	4,019,789	4,744,915	5,611,630	6,687,671	7,485,295	8,426,627	9,378,415	10,939,965	12,820,968	15,357,691	15.4%
Sum of above countries	1,569,150	1,857,207	2,186,565	2,649,683	3,037,022	3,446,265	4,126,061	4,819,218	5,679,412	6,750,673	8,029,739	8,985,797	10,156,212	11,392,816	13,393,191	15,837,132	19,119,052	16.2%
Total For All Countries	85.1%	84.3%	83.5%	81.8%	82.0%	83.4%	83.7%	83.4%	83.5%	83.1%	83.3%	83.3%	83.0%	82.3%	81.7%	81.0%	80.3%	
Selected as percent of total	62.2%	60.7%	57.6%	53.2%	51.5%	51.8%	50.8%	49.6%	48.7%	48.1%	48.3%	46.9%	47.3%	46.2%	44.4%	42.6%	41.1%	

^{1/} The annual rates of growth were estimated by fitting a log linear regression to traffic data for 1991 through 1996, except for Saudi Arabia, which is based on data for 1992 through 1996.

^{2/} Most data have been taken from annual volumes of *Statistics of Communications Common Carriers*. Data for Canada and Mexico are taken from Appendix B and Appendix C, respectively.

^{3/} Data for the USSR through 1991.

^{4/} The 1992 figure includes traffic for the former Soviet republics.

Table 8. International Telephone Service by Region

US Billed Minutes (in thousands) ^{1/}

Year	Western Europe	Africa	Middle East	Caribbean	N. and Central America	South America	Asia	Oceania	E. Europe	Antarctica & Maritime	Total
1980	408,823	11,190	44,215	98,387	803,076	86,728	99,186	17,544	<u>2/</u>	1	1,569,150
1981	481,598	17,098	57,533	123,080	919,224	108,378	128,124	22,171	<u>2/</u>	1	1,857,207
1982	582,579	24,349	82,724	143,787	1,003,628	145,102	176,717	27,677	<u>2/</u>	2	2,186,565
1983	694,985	36,265	121,939	191,536	1,135,563	193,266	241,546	34,582	<u>2/</u>	1	2,649,683
1984	840,358	45,902	136,539	205,588	1,224,101	216,446	325,591	42,495	<u>2/</u>	1	3,037,022
1985	992,183	54,367	134,923	211,521	1,381,581	232,223	389,001	50,464	<u>2/</u>	1	3,446,264
1986	1,172,136	62,354	147,807	273,737	1,623,497	286,470	505,057	55,000	<u>2/</u>	2	4,126,060
1987	1,406,047	74,331	168,998	324,737	1,827,508	326,413	617,945	73,237	<u>2/</u>	2	4,819,217
1988	1,655,338	90,253	178,574	396,705	2,105,751	387,251	775,394	90,142	<u>2/</u>	3	5,679,412
1989	1,903,188	113,122	213,521	463,909	2,542,156	465,831	939,636	109,310	<u>2/</u>	3	6,750,675
1990	2,227,075	139,730	284,846	530,267	3,062,478	534,269	1,126,524	124,547	<u>2/</u>	4	8,029,740
1991	2,273,028	174,210	461,787	610,967	3,326,063	580,745	1,262,571	129,045	164,112	3,268	8,985,796
1992	2,506,566	204,900	347,902	681,267	3,882,931	715,660	1,473,809	146,942	192,533	3,701	10,156,211
1993	2,713,102	235,272	400,363	716,139	4,308,664	849,390	1,745,312	165,900	246,782	11,892	11,392,816
1994	3,017,507	303,369	474,164	870,610	4,918,310	1,028,605	2,226,637	206,223	337,457	10,308	13,393,190
1995	3,408,026	408,084	555,730	1,075,390	5,577,100	1,282,233	2,850,979	261,952	408,769	8,869	15,837,132
1996	4,073,314	522,324	654,529	1,221,275	6,399,135	1,582,822	3,756,276	370,367	534,644	4,365	19,119,051
Annual rate of growth since 1991 ^{3/}	11.9%	25.0%	9.9%	15.4%	13.7%	22.0%	24.5%	22.9%	27.4%	11.9%	16.2%

^{1/} International MTS data are derived from the annual FCC publication *Statistics of Communications Common Carriers* (SOCC). The SOCC includes data for Canada and Mexico starting in 1991. AT&T data for Canada and Mexico have been added to the SOCC data for 1980 through 1990. In addition, the SOCC data for 1980 through 1984 were adjusted to remove data for Alaska, Hawaii, and Puerto Rico. Starting in 1991, the SOCC shows totals with and without non-domestic traffic between U.S. points. This table uses the totals for foreign points, which exclude non-domestic traffic between U.S. points. Appendix A summarizes known inconsistencies in the data. Appendix B and Appendix C provide selected traffic data for service with Canada and Mexico, respectively.

^{2/} Data for countries in Eastern Europe and Western Europe were published together through 1990. The combined data are shown in the table as Western Europe data for those years.

^{3/} The annual rates of growth were estimated by fitting a log linear regression to traffic data for 1991 through 1996.

Table 8. International Telephone Service by Region
(continued)

US Billed Revenues (in thousands) 1/

Year	Western Europe	Africa	Middle East	Caribbean	N. and Central America	South America	Asia	Oceania	E. Europe	Antarctica & Maritime	Total
1980	\$777,666	\$31,877	\$112,596	\$131,274	\$558,637	\$178,890	\$262,770	\$43,472	2/	\$2	\$2,097,184
1981	744,293	39,656	121,468	139,525	685,473	181,728	280,894	46,331	2/	2	2,239,371
1982	754,194	44,250	129,850	159,433	743,786	184,243	316,467	49,821	2/	6	2,382,050
1983	887,262	53,443	176,552	229,246	828,241	236,701	404,105	60,515	2/	3	2,876,069
1984	1,021,319	64,509	186,473	221,965	864,745	250,689	515,986	71,303	2/	3	3,196,992
1985	1,153,741	70,541	175,663	229,490	935,406	252,353	592,710	77,482	2/	4	3,487,392
1986	1,220,713	75,483	185,327	283,003	1,103,013	319,736	736,464	80,681	2/	4	4,004,425
1987	1,457,256	89,569	214,318	333,133	1,270,785	369,117	906,487	108,970	2/	5	4,749,641
1988	1,726,891	114,246	238,964	404,335	1,564,156	443,542	1,172,619	135,012	2/	7	5,799,773
1989	1,989,172	147,044	285,960	467,181	1,903,171	528,787	1,413,740	166,000	2/	7	6,901,061
1990	2,349,186	194,193	383,542	559,125	2,078,364	611,218	1,687,642	179,031	2/	9	8,042,312
1991	2,382,364	235,781	633,175	628,946	2,204,162	669,482	1,917,754	183,054	209,868	31,336	9,095,922
1992	2,590,865	304,180	476,396	691,624	2,531,751	822,559	2,255,814	204,336	263,865	37,530	10,178,920
1993	2,697,595	323,594	543,652	739,550	2,915,253	927,401	2,517,017	220,925	345,662	121,941	11,352,590
1994	2,762,071	405,676	578,152	843,791	3,076,379	1,055,078	2,766,842	241,460	439,199	86,285	12,254,933
1995	2,916,294	524,472	685,819	1,055,663	3,333,864	1,306,419	3,346,146	286,334	496,558	38,756	13,990,325
1996	2,718,856	563,183	691,814	1,041,685	3,388,491	1,346,394	3,447,761	353,410	496,716	30,368	14,078,678
Annual rate of growth since 1991 2/	3.0%	19.4%	4.7%	11.9%	9.0%	15.4%	12.8%	13.4%	20.2%	-1.2%	9.6%

1/ International MTS data are derived from the annual FCC publication *Statistics of Communications Common Carriers* (SOCC). The SOCC includes data for Canada and Mexico starting in 1991. AT&T data for Canada and Mexico have been added to the SOCC data for 1980 through 1990. In addition, the SOCC data for 1980 through 1984 were adjusted to remove data for Alaska, Hawaii, and Puerto Rico. Starting in 1991, the SOCC shows totals with and without non-domestic traffic between U.S. points. This table uses the totals for foreign points, which exclude non-domestic traffic between U.S. points. Appendix A summarizes known inconsistencies in the data. Appendix B and Appendix C provide selected traffic data for service with Canada and Mexico, respectively.

2/ Data for countries in Eastern Europe and Western Europe were published together through 1990. The combined data are shown in the table as Western Europe data for those years.

3/ The annual rates of growth were estimated by fitting a log linear regression to traffic data for 1991 through 1996.

Table 9. U.S. Traffic Compared with World Traffic
(Minutes shown in millions)

Message Telephone Service Measured in Minutes <u>1/</u>	1991	1992	1993	1994	1995	1996	Growth 1991 to 1996 <u>2/</u>
Total United States	8,986	10,156	11,393	13,393	15,837	19,119	16.2%
Total World	37,900	43,000	48,200	53,900	60,300	67,500	12.1%
U.S. as a percent of World	23.7%	23.6%	23.6%	24.8%	26.3%	28.3%	
AT&T	6,596	7,039	7,201	8,040	8,831	9,546	7.8%
MCI	1,600	2,101	2,857	3,529	4,486	5,372	27.6%
Sprint	728	946	1,181	1,490	1,772	2,745	28.4%
BT	2,105	2,188	2,310	2,489	2,909	3,158	8.8%
Deutsche Telekom <u>3/</u>	3,605	4,087	4,680	5,147	5,244	5,100	7.6%
France Telecom	2,295	2,449	2,576	2,603	2,805	3,116	5.7%
HongKong Telecom	913	1,137	1,377	1,578	1,692	1,739	13.9%
Stentor	1,425	1,520	1,552	1,525	1,467	1,650	1.8%
Swiss PTT	1,429	1,551	1,572	1,649	1,778	1,936	5.8%
Telecom Italia	1,220	1,473	1,610	1,708	1,908	2,124	10.9%

1/ U.S. data are taken from 43.61 International Traffic Data reports and represents U.S. billed minutes of telephone service for all international points. Estimates for World Total and for selected foreign carriers are taken from TeleGeography, Inc. (www.telegeography.com).

2/ Estimated using log linear regressions.

3/ DBP Telecom in 1991

Table 10. International Private Line by Region

US Billed Revenues (in thousands) ^{1/}

Year	Western Europe	Africa	Middle East	Caribbean	N. and Central America	South America	Asia	Oceania	E. Europe	Antarctica & Maritime	Total
1991	\$91,381	\$2,443	\$7,997	\$8,329	\$109,245	\$21,448	\$52,253	\$7,820	\$2,532	\$0	\$303,448
1992	122,490	2,872	7,251	8,148	60,913	21,219	73,077	12,502	4,597	337	313,406
1993	135,958	8,269	7,153	7,113	62,194	22,259	93,359	17,221	1,944	232	355,702
1994	158,292	4,397	7,527	9,423	82,349	28,689	109,495	21,962	8,815	852	431,801
1995	186,400	4,715	9,062	13,903	96,867	34,148	125,449	25,304	9,625	234	505,707
1996	232,335	6,920	13,573	23,941	101,242	49,969	169,016	28,973	16,626	6,614	649,209
Annual rate of growth since 1991 ^{3/}	19.0%	18.9%	10.1%	22.7%	3.8%	18.4%	24.4%	29.0%	45.6%	n.a.	16.8%

^{1/} International private line revenue by region data for 1991 through 1996 are taken directly from SOCC Tables 4.4. Until 1991, carriers were not required to file country-by-country private line service information.

^{2/} The annual rates of growth were estimated by fitting a log linear regression to traffic data for 1991 through 1996.

Table 11. International Circuit Data for Selected Countries

For 1996

	Activated Circuits for All International Services by Type of Facility <u>1/</u>			Activated Circuits for International Message Telephone Service			IMTS Circuits as Percent of Total Activated Circuits
	Cable & Terrestrial Circuits	Satellite Circuits	Total	Cable Terrestrial & Satellite <u>1/</u>	Minutes <u>2/</u> (000)	Minutes per Circuit (000)	
Australia	4,416	291	4,707	2,247	438,249	195	47.7%
Brazil	2,119	645	2,764	1,530	496,341	324	55.4%
Canada	65,440	647	66,087	41,869	6,309,329	151	63.4%
China	744	852	1,596	1,290	356,618	276	80.8%
Colombia	1,166	400	1,566	1,178	346,287	294	75.2%
Dominican Republic	1,464	971	2,435	1,661	541,438	326	68.2%
Egypt	63	199	262	203	99,375	490	77.5%
El Salvador	0	408	408	359	151,218	421	88.0%
France	5,351	345	5,696	2,810	645,781	230	49.3%
Germany	8,449	75	8,524	3,835	1,094,778	285	45.0%
Greece	278	201	479	330	123,553	374	68.9%
Guatemala	0	415	415	365	139,521	382	88.0%
Hong Kong	2,581	356	2,937	1,007	635,750	631	34.3%
India	1,041	862	1,903	1,358	474,045	349	71.4%
Israel	863	483	1,346	860	317,525	369	63.9%
Italy	2,254	318	2,572	1,772	448,473	253	68.9%
Jamaica	263	431	694	620	269,433	435	89.3%
Japan	12,786	1,171	13,957	5,629	1,049,561	186	40.3%
Korea, South	2,379	640	3,019	1,492	541,646	363	49.4%
Mexico	41,059	74	41,133	27,812	3,329,007	120	67.6%
Netherlands	2,985	43	3,028	1,073	292,669	273	35.4%
Nigeria	30	185	215	208	84,128	404	96.7%
Pakistan	32	339	371	329	143,631	437	88.7%
Peru	0	528	528	343	169,688	495	65.0%
Philippines	2,265	137	2,402	2,003	406,263	203	83.4%
Poland	580	259	839	744	187,554	252	88.7%
Russia	659	694	1,353	1,052	130,932	124	77.8%
Saudi Arabia	150	365	515	378	128,364	340	73.4%
South Africa	357	278	635	382	126,755	332	60.2%
Spain	1,353	102	1,455	1,209	208,791	173	83.1%
Switzerland	1,553	116	1,669	952	272,905	287	57.0%
Taiwan	1,825	148	1,973	1,377	433,860	315	69.8%
Thailand	256	400	656	357	144,210	404	54.4%
United Kingdom	32,034	441	32,475	13,149	1,964,109	149	40.5%
Total for countries shown above	196,795	13,819	210,614	121,783	22,501,786	185	57.8%
Other international points	20,484	15,453	35,937	24,325	5,060,329	208	67.7%
Countries shown as percent of total	90.6%	47.2%	85.4%	83.4%	81.6%		
Countries shown other than Canada & Mexico	90,296	13,098	103,394	52,102	12,863,450	247	50.4%
Western Europe	62,402	2,526	64,928	30,850	6,045,983	196	47.5%
Africa	629	2,326	2,955	2,439	610,625	250	82.5%
Middle East	1,166	2,588	3,754	2,841	832,267	293	75.7%
Caribbean	6,056	2,953	9,009	7,501	1,623,177	216	83.3%
North and Central America	106,659	2,929	109,588	71,403	10,328,084	145	65.2%
South America	5,613	4,531	10,144	6,626	1,971,664	298	65.3%
Asia	26,840	6,149	32,989	17,290	4,800,666	278	52.4%
Oceania <u>3/</u>	5,915	1,241	7,156	3,703	680,008	184	51.7%
Eastern Europe	1,999	2,262	4,261	3,455	659,953	191	81.1%
Antarctica & Maritime	0	1,767	1,767	"n.a.	9,687	"n.a.	"n.a.
Total for all international points	217,279	29,272	246,551	146,108	27,562,115	189	59.3%

1/ Section 43.82 International Circuit Status Report, December 1997. Data reflect 4 Khz or 64 kbps equivalent circuits. Data shown represent activated circuits. Carriers reported an additional 76,779 Idle circuits.

2/ Section 43.61 International Traffic Data, January 1998.

3/ Data for carriers serving miscellaneous U.S. points are included.

Table 11. International Circuit Data for Selected Countries

(continued)

For 1995

	Activated Circuits for All International Services by Type of Facility <u>1/</u>			Activated Circuits for International Message Telephone Service			IMTS Circuits as Percent of Total Activated Circuits
	Cable & Terrestrial Circuits	Satellite Circuits	Total	Cable Terrestrial & Satellite <u>1/</u>	Minutes <u>2/</u> (000)	Minutes per Circuit (000)	
Australia	2,874	293	3,167	2,310	352,212	152	72.9%
Brazil	1,264	633	1,897	1,430	384,687	269	75.4%
Canada	51,223	1,272	52,495	44,384	5,117,953	115	84.5%
China	409	705	1,114	1,058	283,665	268	95.0%
Colombia	914	346	1,260	1,026	316,224	308	81.4%
Dominican Republic	1,477	683	2,160	1,555	509,032	327	72.0%
Egypt	30	210	240	235	77,846	331	97.9%
El Salvador	120	237	357	338	144,248	427	94.7%
France	2,622	300	2,922	2,143	544,141	254	73.3%
Germany	3,532	455	3,987	2,706	953,253	352	67.9%
Greece	142	198	340	314	117,131	373	92.4%
Guatemala	0	338	338	308	129,361	420	91.1%
Hong Kong	1,406	275	1,681	779	419,113	538	46.3%
India	608	690	1,298	1,004	337,592	336	77.3%
Israel	528	300	828	676	284,798	421	81.6%
Italy	1,534	177	1,711	1,545	383,477	248	90.3%
Jamaica	273	374	647	587	231,135	394	90.7%
Japan	6,435	1,393	7,828	4,888	907,067	186	62.4%
Korea, South	1,105	534	1,639	1,143	463,767	406	69.7%
Mexico	24,860	78	24,938	23,270	2,847,936	122	93.3%
Netherlands	1,808	91	1,899	1,224	246,369	201	64.5%
Nigeria	0	242	242	232	71,032	306	95.9%
Pakistan	0	269	269	268	116,464	435	99.6%
Peru	0	344	344	277	145,810	526	80.5%
Philippines	1,804	206	2,010	1,856	345,647	186	92.3%
Poland	347	224	571	554	164,855	298	97.0%
Russia	677	613	1,290	1,108	105,052	95	85.9%
Saudi Arabia	90	317	407	319	112,405	352	78.4%
South Africa	174	169	343	259	100,557	388	75.5%
Spain	1,136	61	1,197	1,120	176,602	158	93.6%
Switzerland	1,156	176	1,332	927	212,980	230	69.6%
Taiwan	1,058	171	1,229	1,070	380,937	356	87.1%
Thailand	140	286	426	342	118,783	347	80.3%
United Kingdom	14,952	1,229	16,181	8,530	1,716,757	201	52.7%
Total for countries shown above	124,698	13,889	138,587	109,785	18,818,887	171	79.2%
Other international points	13,815	12,016	25,831	21,937	4,358,910	199	84.9%
Countries shown as percent of total	90.0%	53.6%	84.3%	83.3%	81.2%		
Countries shown other than Canada & Mexico	48,615	12,539	61,154	42,131	10,852,998	258	68.9%
Western Europe	31,600	3,496	35,096	23,287	5,221,854	224	66.4%
Africa	284	1,992	2,276	2,051	497,814	243	90.1%
Middle East	650	2,421	3,071	2,560	723,843	283	83.4%
Caribbean	6,348	2,771	9,119	8,016	1,460,701	182	87.9%
North and Central America	76,325	3,008	79,333	69,208	8,701,408	126	87.2%
South America	3,648	4,036	7,684	5,908	1,637,159	277	76.9%
Asia	14,069	5,621	19,690	13,856	3,835,041	277	70.4%
Oceania	3,791	1,026	4,817	3,749	522,669	139	77.8%
Eastern Europe	1,738	1,534	3,272	3,027	528,468	175	92.5%
Antarctica & Maritime	60	0	60	60	10,394	173	100.0%
Total for all international points	138,513	25,905	164,418	131,722	23,177,796	176	80.1%

1/ Section 43.82 International Circuit Status Report, December 1996. Data reflect 4 Khz or 64 kbps equivalent circuits.

Data shown represent activated circuits. Carriers reported an additional 129,399 Idle circuits.

2/ Section 43.61 International Traffic Data, February 1997.

Table 12. Transatlantic Cable Systems
Including Systems Removed from Service and Planned Systems

System	Year	Techology	Estimated Cost (\$ million)	Total 64 kbps Circuits	Usable 64 kbps Circuits <u>1/</u>	Annual Investment Cost per Usable Ckt <u>2/</u>	Investment Cost per Minute <u>3/</u>
TAT-1	1956	Coax Cable	\$49.6	44.5	40.1	\$213,996	\$2.443
TAT-2	1959	Coax Cable	42.7	49.0	44.1	167,308	1.910
TAT-3	1963	Coax Cable	50.6	87.5	78.8	111,027	1.267
TAT-4	1965	Coax Cable	50.4	69.0	62.1	140,238	1.601
TAT-5	1970	Coax Cable	70.4	720.0	648.0	18,773	0.214
TAT-6	1976	Coax Cable	197.0	4,000.0	3,200.0	10,638	0.121
TAT-7	1983	Coax Cable	180.0	4,246.0	3,821.4	8,139	0.093
TAT-8	1988	Fiber Optic	360.0	7,560.0	6,048.0	10,285	0.117
TAT-9	1992	Fiber Optic	406.0	15,120.0	10,584.0	6,628	0.076
TAT-10	1992	Fiber Optic	300.0	22,680.0	18,144.0	2,857	0.033
TAT-11	1993	Fiber Optic	280.0	22,680.0	18,144.0	2,667	0.030
TAT-12	1996	Fiber Optic	378.0	60,480.0	60,480.0	1,080	0.012
TAT-13	1996	Fiber Optic	378.0	60,480.0	60,480.0	1,080	0.012
Gemini	1998	Fiber Optic	520.0	241,920.0	241,920.0	371	0.004
AC-1	1998	Fiber Optic	850.0	483,840.0	483,840.0	304	0.003

1/ With allowance for redundance, restoration, etc.

2/ The annual investment cost per usable circuit is the annual payment rate for the life of the asset that produces a present value equal to the initial investment cost. This calculation assumes a 25 year cable life and a discount rate equal to the average cost of capital for the firm. For purposes of comparison, the discount rate is based on 40% debt at an embedded cost of debt of 9% and 60% equity at a 14% rate of return, with the latter increased to reflect a 37% income tax rate. These assumptions translate to a discount rate of 16.9333%

3/ The investment cost per minute assumes that average activated circuits are used 8 hours per day for 365 days each year and that 50% of circuits are idle (not activated). These assumptions are consistent with the current utilization rates shown in Table 11, but probably overstate the utilization rates for early cable systems. This calculation is intended to illustrate relative costs of new versus old cable capacity. The Gemini and AC-1 systems are designed primarily to handle private line circuits.

Table 13. AT&T Residential Rates for Calls Lasting 3 Minutes
to Selected International Points, 1950 - 1997 ^{1/}

	United Kingdom		Germany		Japan		Philippines		Colombia ^{2/}		Israel	
	Standard	Economy	Standard	Economy	Standard	Economy	Standard	Economy	Standard	Economy	Standard	Economy
1950	\$12.00	\$9.00	\$12.00	\$9.00	\$12.00	\$9.00	\$12.00	\$9.00	\$9.00	\$7.50	\$12.00	\$12.00
1951	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1952	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1953	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1954	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1955	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1956	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1957	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1958	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1959	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1960	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1961	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1962	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1963	12.00	9.00	12.00	9.00	12.00	9.00	12.00	9.00	9.00	7.50	12.00	12.00
1964	12.00	9.00	12.00	9.00	9.00	6.75	12.00	9.00	9.00	7.50	12.00	12.00
1965	12.00	9.00	12.00	9.00	9.00	6.75	12.00	9.00	9.00	7.50	12.00	12.00
1966	12.00	9.00	12.00	9.00	9.00	6.75	12.00	9.00	9.00	7.50	12.00	12.00
1967	7.50	5.70	9.00	6.50	9.00	6.75	12.00	9.00	9.00	7.50	12.00	12.00
1968	7.50	5.70	9.00	6.50	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1969	7.50	5.70	9.00	6.50	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1970	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1971	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1972	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1973	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1974	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1975	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1976	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1977	3.60	3.60	6.75	5.10	9.00	6.75	9.00	6.75	9.00	7.50	9.00	6.75
1978	4.50	3.60	6.00	4.80	7.80	5.85	9.00	6.75	7.05	5.55	9.00	6.75
1979	4.50	3.60	6.00	4.80	7.35	5.55	7.35	5.55	7.05	5.55	7.35	5.55
1980	4.80	3.75	6.30	5.10	7.80	5.85	7.80	5.85	7.80	5.70	7.80	5.85
1981	3.00	2.40	4.05	3.15	4.95	3.75	4.95	3.75	4.50	3.60	4.95	3.75
1982	4.60	2.77	5.03	3.02	7.38	4.43	7.38	4.43	5.13	4.43	6.34	3.81
1983	4.60	2.77	5.03	3.02	7.38	4.43	7.38	4.43	5.13	4.43	6.34	3.58
1984	4.31	2.59	4.73	2.83	6.92	4.16	6.92	4.16	4.82	2.90	5.96	3.58
1985	4.17	2.51	4.61	2.76	6.78	4.07	6.92	4.16	4.82	2.90	5.96	3.58
1986	3.63	2.19	4.12	2.46	6.32	3.79	6.92	4.16	4.82	2.90	5.96	3.58
1987	3.63	2.19	4.12	2.46	6.32	3.79	6.92	4.16	4.82	2.90	5.96	3.58
1988	3.63	2.19	4.12	2.46	6.32	3.79	6.92	4.16	4.82	2.90	5.96	3.58
1989	3.49	2.18	4.12	2.46	6.32	3.79	6.92	4.16	4.82	2.90	5.96	3.58
1990	3.32	2.18	3.95	2.45	5.53	3.78	6.05	4.00	4.61	2.89	5.38	3.58
1991	3.32	2.18	3.95	2.45	5.53	3.78	6.05	4.00	4.61	2.89	5.38	3.58
1992	3.32	2.18	3.95	2.45	5.53	3.78	6.05	4.00	4.61	2.89	5.38	3.58
1993	3.36	2.22	3.95	2.53	5.53	3.78	6.47	4.30	5.07	3.31	5.66	3.68
1994	3.36	2.22	3.95	2.66	5.35	3.10	6.79	3.74	5.21	3.72	6.76	3.87
1995	3.55	2.33	4.11	2.44	5.31	3.08	6.57	3.75	5.75	3.47	6.12	3.38
1996	3.73	2.49	4.17	2.60	5.59	3.30	6.91	4.02	6.05	3.71	6.44	3.62
1997	3.27	2.37	3.75	2.46	4.35	3.15	6.51	4.38	5.58	4.08	5.91	3.96
Percent Change	-73%	-74%	-69%	-73%	-64%	-65%	-46%	-51%	-38%	-46%	-51%	-67%

^{1/} The table shows rates in effect on December 31. Direct-dial rates are shown starting when offered which was either 1978 or 1979. Station-to-station rates are shown for early years. Rates do not reflect discount plans.

^{2/} Through 1981, the rates reflect a call from New York City to any point in Colombia.

Table 14. AT&T Basic Schedule Rates for Residential Customers 1/

		Rates for 7-minute peak period calls as of December 31																Apr. 1	
		1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 <u>5/</u>	1995	1996	1997	1998	
Australia		\$13.70	\$13.70	\$12.84	\$12.58	\$11.72	\$11.72	\$11.72	\$11.12	\$10.60	\$10.60	\$10.60	\$10.96	\$10.96	\$12.19	\$13.03	\$10.57	\$11.13	
Brazil		\$9.85	\$9.85	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$8.74	\$8.74	\$8.74	\$9.34	\$10.42	\$12.68	\$13.52	\$12.88	\$13.51	
Canada <u>2/</u>		\$4.77	\$4.77	\$4.48	\$4.76	\$4.48	\$4.48	\$4.48	\$4.28	\$4.07	\$4.07	\$4.07	\$4.28	\$4.83	\$4.83	\$4.83	\$3.99	\$3.99	
China		n.o.	n.o.	n.o.	n.o.	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46	\$15.36	\$17.27	\$17.27	\$18.41	\$18.20	\$19.11	\$19.11	
Colombia		\$9.85	\$9.85	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.05	\$9.05	\$9.05	\$9.53	\$10.85	\$13.11	\$14.01	\$13.02	\$13.65	
Dominican Rep.		\$8.46	\$8.46	\$7.94	\$7.94	\$7.94	\$7.94	\$7.94	\$7.94	\$7.81	\$7.81	\$7.81	\$7.81	\$9.47	\$9.98	\$10.64	\$11.06	\$11.62	
Egypt		\$11.77	\$11.77	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.47	\$12.67	\$14.85	\$15.87	\$15.96	\$15.96	
El Salvador		\$9.40	\$9.40	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.61	\$8.61	\$8.61	\$8.91	\$10.55	\$11.10	\$11.82	\$12.18	\$12.81	
France		\$10.35	\$10.35	\$9.73	\$9.49	\$8.48	\$8.48	\$8.48	\$8.48	\$8.07	\$8.07	\$8.07	\$8.07	\$8.07	\$9.90	\$10.56	\$12.31	\$9.80	\$9.17
Germany <u>3/</u>		\$10.35	\$10.35	\$9.73	\$9.49	\$8.48	\$8.48	\$8.48	\$8.48	\$8.31	\$8.31	\$8.31	\$8.31	\$8.31	\$9.55	\$9.73	\$8.75	\$9.17	\$9.17
Greece		\$10.35	\$10.35	\$9.73	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$10.69	\$11.77	\$14.47	\$15.43	\$13.65	\$14.35	\$14.35
Guatemala		\$9.40	\$9.40	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.61	\$8.61	\$8.61	\$8.91	\$10.30	\$12.08	\$12.32	\$12.95	\$13.51	\$13.51
Hong Kong		\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$12.75	\$13.59	\$12.88	\$13.51	\$13.51
India		n.o.	\$26.94	\$25.31	\$24.54	\$21.52	\$21.52	\$21.52	\$16.44	\$16.44	\$16.44	\$16.44	\$15.53	\$13.41	\$17.00	\$18.14	\$18.48	\$19.39	\$19.39
Israel		\$10.35	\$10.35	\$10.96	\$10.96	\$10.96	\$10.96	\$10.96	\$10.96	\$10.18	\$10.18	\$10.18	\$10.42	\$13.44	\$13.96	\$14.92	\$13.79	\$14.49	\$14.49
Italy		\$13.70	\$13.70	\$12.84	\$12.84	\$11.72	\$11.72	\$11.72	\$8.48	\$8.12	\$8.12	\$8.12	\$8.72	\$9.38	\$10.79	\$11.51	\$10.50	\$11.06	\$11.06
Japan		\$8.46	\$8.46	\$7.94	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.72	\$9.25	\$11.00	\$12.95	\$10.15	\$10.64	\$10.64
Jamaica		\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$11.90	\$11.90	\$11.90	\$11.90	\$13.22	\$13.61	\$14.51	\$12.74	\$13.37	\$13.37
Korea, Rep. of		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	\$10.23	\$10.09	\$9.88	\$10.35	\$10.64	\$11.69	\$11.69	\$11.29	\$10.71	\$10.71
Mexico <u>2/</u>		\$10.35	\$10.35	\$9.55	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.00	\$8.00	\$8.00	\$8.12	\$8.12	\$9.61	\$10.27	\$9.17	\$9.66	\$9.66
Netherlands		\$11.77	\$11.77	\$11.05	\$10.57	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$9.69	\$9.69	\$10.23	\$10.47	\$13.21	\$14.11	\$13.72	\$14.42	\$14.42
Nigeria		n.o.	\$18.24	\$17.14	\$17.14	\$17.14	\$17.14	\$17.14	\$17.14	\$16.69	\$16.69	\$16.69	\$17.89	\$20.96	\$27.12	\$28.92	\$28.91	\$30.38	\$30.38
Pakistan		\$9.85	\$9.85	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.05	\$9.05	\$9.05	\$9.53	\$11.30	\$13.82	\$14.78	\$13.93	\$14.63	\$14.63
Peru		\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$11.65	\$11.65	\$11.65	\$12.07	\$14.55	\$14.97	\$15.99	\$15.19	\$15.96	\$15.96
Philippines		n.o.	\$10.35	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$11.18	\$11.96	\$10.99	\$11.55	\$11.55
Poland		n.o.	n.o.	n.o.	n.o.	n.o.	n.o.	n.o.	n.o.	\$14.31	\$14.31	\$14.31	\$14.31	\$14.97	\$16.09	\$17.17	\$17.15	\$17.99	\$17.99
Russia <u>4/</u>		\$11.66	\$11.66	\$10.96	\$10.78	\$10.09	\$10.09	\$10.09	\$10.09	\$10.09	\$10.09	\$10.09	\$10.93	\$13.32	\$14.25	\$15.21	\$14.70	\$15.47	\$15.47
Saudi Arabia		\$11.77	\$11.77	\$11.05	\$10.57	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$9.38	\$10.34	\$11.52	\$12.30	\$12.25	\$12.88	\$12.88
South Africa		\$10.35	\$10.35	\$9.55	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$9.14	\$11.34	\$12.11	\$12.95	\$11.34	\$11.90	\$11.90
Spain		\$10.35	\$10.35	\$9.55	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.90	\$8.90	\$10.68	\$11.40	\$9.87	\$10.36	\$10.36
Switzerland		\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.19	\$12.19	\$12.19	\$12.19	\$12.19	\$13.81	\$14.77	\$13.93	\$14.63	\$14.63
Taiwan		\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$14.74	\$14.68	\$15.64	\$14.07	\$14.77	\$14.77
Thailand		\$9.64	\$9.64	\$9.03	\$8.73	\$7.59	\$7.59	\$7.59	\$7.45	\$7.08	\$7.08	\$7.08	\$7.20	\$7.20	\$8.03	\$8.57	\$7.63	\$7.98	\$7.98
United Kingdom		100.0	100.0	94.6	95.4	90.2	90.2	90.2	88.6	84.6	84.5	84.2	87.2	92.0	102.9	107.0	95.9	99.2	99.2
Fisher Ideal Rate Index		0.0%	0.0%	-5.4%	0.8%	-5.4%	0.0%	0.0%	-1.8%	-4.5%	-0.2%	-0.3%	3.5%	5.5%	11.9%	3.9%	-10.4%	3.5%	3.5%
% changes from prior rate		100.0	100.0	93.8	94.7	88.8	88.8	88.8	87.0	83.6	83.6	83.6	86.4	91.5	102.8	107.5	95.1	100.0	100.0
Index without Mexico		0.0%	0.0%	-6.2%	0.9%	-6.2%	0.0%	0.0%	-2.1%	-3.9%	0.0%	0.0%	3.3%	6.0%	12.3%	4.6%	-11.6%	5.1%	5.1%
% changes from prior rate																			

NOTE: "n.o." is shown if direct-dialed service was not offered at that time. "n.a." indicates rate not available.

1/ Tariff rates do not include taxes or surcharges. Year-end rates are shown for 1980 through 1997. April 1 rates are shown for 1998.

2/ Tariff rates for traffic to Canada and Mexico are distance sensitive. The rates shown for Canada are for 1000 mile calls. A "sum of local rates" pricing scheme is used for service to Mexico. For a call to Mexico, AT&T charges its standard domestic rates for the distance to the Mexican border, and also bills the customer for the amount that the Mexican telephone company charges from the border crossing to the destination. This table shows total charges to customers for calls from Washington D.C. to Mexico City.

3/ Rates for West Germany through 1990.

4/ Rates shown are for service to Moscow.

5/ In March 1994 AT&T introduced a rate schedule specifically for residential customers. Until then, the same rate schedule applied to residential and commercial calls.

Table 15. AT&T Basic Schedule Rates for Commercial Customers 1/

		Rates for 7-minute peak period calls as of December 31																Apr. 1
		1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 <u>5/</u>	1995	1996	1997	1998
Australia	\$13.70	\$13.70	\$12.84	\$12.58	\$11.72	\$11.72	\$11.72	\$11.12	\$10.60	\$10.60	\$10.60	\$10.96	\$12.71	\$13.62	\$14.98	\$18.41	\$18.41	
Brazil	\$9.85	\$9.85	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$8.74	\$8.74	\$8.74	\$9.34	\$10.43	\$11.19	\$12.35	\$15.05	\$15.05	
Canada <u>2/</u>	\$4.77	\$4.77	\$4.48	\$4.76	\$4.48	\$4.48	\$4.48	\$4.28	\$4.07	\$4.07	\$4.07	\$4.28	\$4.88	\$4.98	\$5.54	\$6.09	\$6.09	
China	n.o.	n.o.	n.o.	n.o.	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46	\$15.36	\$18.38	\$19.34	\$21.24	\$25.55	\$25.55	
Colombia	\$9.85	\$9.85	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.05	\$9.05	\$9.05	\$9.53	\$10.78	\$11.58	\$12.72	\$14.63	\$14.63	
Dominican Rep.	\$8.46	\$8.46	\$7.94	\$7.94	\$7.94	\$7.94	\$7.94	\$7.94	\$7.81	\$7.81	\$7.81	\$7.81	\$9.36	\$9.86	\$10.88	\$12.25	\$12.25	
Egypt	\$11.77	\$11.77	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.05	\$11.47	\$13.75	\$14.53	\$15.95	\$17.36	\$17.36	
El Salvador	\$9.40	\$9.40	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.61	\$8.61	\$8.61	\$8.91	\$10.62	\$11.23	\$12.35	\$14.14	\$14.14	
France	\$10.35	\$10.35	\$9.73	\$9.49	\$8.82	\$8.48	\$8.48	\$8.48	\$8.07	\$8.07	\$8.07	\$8.07	\$9.67	\$10.31	\$11.37	\$13.09	\$13.09	
Germany <u>3/</u>	\$10.35	\$10.35	\$9.73	\$9.49	\$8.48	\$8.48	\$8.48	\$8.48	\$8.31	\$8.31	\$8.31	\$8.31	\$9.92	\$10.44	\$11.50	\$13.30	\$13.30	
Greece	\$10.35	\$10.35	\$9.73	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$10.69	\$11.35	\$12.20	\$13.44	\$14.84	\$14.84	
Guatemala	\$9.40	\$9.40	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.82	\$8.61	\$8.61	\$8.61	\$8.91	\$10.62	\$11.23	\$12.35	\$13.09	\$13.09	
Hong Kong	\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$13.99	\$14.76	\$16.30	\$22.33	\$22.33	
India	n.o.	\$26.94	\$25.31	\$24.54	\$21.52	\$21.52	\$16.44	\$16.44	\$16.44	\$16.44	\$16.44	\$15.53	\$18.63	\$19.60	\$21.54	\$23.94	\$23.94	
Israel	\$11.66	\$11.66	\$10.96	\$10.96	\$10.96	\$10.96	\$10.96	\$10.96	\$10.18	\$10.18	\$10.18	\$10.42	\$12.21	\$13.11	\$14.45	\$16.73	\$16.73	
Italy	\$10.35	\$10.35	\$9.73	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.12	\$8.12	\$8.12	\$8.72	\$9.69	\$9.99	\$10.95	\$19.39	\$19.39	
Japan	\$13.70	\$13.70	\$12.84	\$12.84	\$11.72	\$11.72	\$11.72	\$11.72	\$10.49	\$10.49	\$10.49	\$10.49	\$12.59	\$12.94	\$14.28	\$17.50	\$17.50	
Jamaica	\$8.46	\$8.46	\$7.94	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.42	\$7.72	\$9.21	\$9.72	\$10.74	\$11.83	\$11.83	
Korea, Rep. of	\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$11.90	\$11.90	\$11.90	\$11.90	\$14.24	\$15.01	\$16.55	\$22.68	\$22.68	
Mexico <u>2/</u>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	\$11.07	\$11.07	\$10.23	\$10.09	\$9.88	\$10.35	\$13.23	\$13.86	\$15.26	\$13.37	\$13.37	
Netherlands	\$10.35	\$10.35	\$9.55	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.00	\$8.00	\$8.00	\$8.12	\$9.60	\$9.65	\$11.12	\$12.88	\$12.88	
Nigeria	\$11.77	\$11.77	\$11.05	\$10.57	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$9.69	\$9.69	\$10.23	\$11.58	\$12.26	\$13.52	\$14.70	\$14.70	
Pakistan	n.o.	\$18.24	\$17.14	\$17.14	\$17.14	\$17.14	\$17.14	\$17.14	\$16.69	\$16.69	\$16.69	\$17.89	\$19.96	\$21.44	\$23.56	\$24.92	\$24.92	
Peru	\$9.85	\$9.85	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.26	\$9.05	\$9.05	\$9.05	\$9.53	\$10.78	\$11.58	\$12.72	\$13.86	\$13.86	
Philippines	\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$11.65	\$11.65	\$11.65	\$12.07	\$13.91	\$14.89	\$16.38	\$18.34	\$18.34	
Poland	n.o.	\$10.35	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$9.73	\$11.67	\$12.29	\$13.53	\$14.56	\$14.56	
Russia <u>4/</u>	n.o.	n.o.	n.o.	n.o.	n.o.	n.o.	n.o.	n.o.	\$14.31	\$14.31	\$14.31	\$14.31	\$17.16	\$18.07	\$19.91	\$21.84	\$21.84	
Saudi Arabia	\$11.66	\$11.66	\$10.96	\$10.78	\$10.09	\$10.09	\$10.09	\$10.09	\$10.09	\$10.09	\$10.09	\$10.93	\$12.63	\$13.55	\$14.91	\$17.43	\$17.43	
South Africa	\$11.77	\$11.77	\$11.05	\$10.57	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$8.66	\$9.38	\$10.69	\$11.48	\$12.58	\$14.77	\$14.77	
Spain	\$10.35	\$10.35	\$9.55	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$9.14	\$10.13	\$10.84	\$11.92	\$13.93	\$13.93	
Switzerland	\$10.35	\$10.35	\$9.55	\$9.37	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$8.48	\$9.00	\$10.13	\$10.84	\$11.92	\$13.93	\$13.93	
Taiwan	\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.19	\$12.19	\$12.19	\$12.19	\$14.63	\$15.39	\$16.92	\$20.79	\$20.79	
Thailand	\$13.70	\$13.70	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$12.84	\$15.35	\$16.20	\$17.78	\$22.19	\$22.19	
United Kingdom	\$9.64	\$9.64	\$9.03	\$8.73	\$7.59	\$7.59	\$7.45	\$7.45	\$7.08	\$7.08	\$7.08	\$7.20	\$8.51	\$8.73	\$9.63	\$11.06	\$11.06	
Fisher Ideal Rate Index	100.0	100.0	94.6	95.4	90.2	90.2	88.6	88.6	84.6	84.5	84.2	87.2	102.6	107.4	118.6	132.0	132.0	
% changes from prior rate		0.0%	-5.4%	0.8%	-4.4%	0.0%	-1.8%	-1.8%	-4.5%	-0.2%	-0.3%	3.5%	17.7%	4.6%	10.5%	11.3%	0.0%	
Index without Mexico	100.0	100.0	93.8	94.7	88.8	88.8	87.0	87.0	83.6	83.6	83.6	86.4	100.2	104.8	115.8	134.7	134.7	
% changes from prior rate		0.0%	-6.2%	0.9%	-6.2%	0.0%	-2.1%	-2.1%	-3.9%	0.0%	0.0%	3.3%	16.0%	4.6%	10.5%	16.3%	0.0%	

NOTE: "n.o." is shown if direct-dialed service was not offered at that time. "n.a." indicates rate not available.

1/ Tariff rates do not include taxes or surcharges. Year-end rates are shown for 1980 through 1997. April 1 rates are shown for 1998.

2/ Tariff rates for traffic to Canada and Mexico are distance sensitive. The rates shown for Canada are for 1000 mile calls. A "sum of local rates" pricing scheme is used for service to Mexico. For a call to Mexico, AT&T charges its standard domestic rates for the distance to the Mexican border, and also bills the customer for the amount that the Mexican telephone company charges from the border crossing to the destination. This table shows total charges to customers for calls from Washington D.C. to Mexico City.

3/ Rates for West Germany through 1990.

4/ Rates shown are for service to Moscow.

5/ In March 1994 AT&T introduced a rate schedule specifically for commercial customers. Until then, the same rate schedule applied to residential and commercial calls.

Table 16. AT&T Discount Rates 1/

	Peak period rates								
	Reach Out World			TrueWorld Savings				One Rate	
	1990	1991	1992	1993	1994	1995	1996	1997	1998 (Apr. 1)
Australia	\$5.81	\$5.60	\$5.46	\$8.21	\$9.46	\$9.46	\$10.08	\$3.09	\$3.29
Brazil	\$5.46	\$4.62	\$4.62	\$7.68	\$8.01	\$9.30	\$9.91	\$4.30	\$4.48
Canada	\$2.66	\$2.66	\$2.80	\$3.33	\$3.14	\$3.30	\$3.53	\$0.84	\$0.91
China				\$10.12	\$9.52	\$13.55	\$14.45	\$8.33	\$9.17
Colombia		\$4.62	\$4.62	\$7.68	\$8.40	\$9.74	\$10.42	\$5.27	\$5.46
Dominican Rep.				\$6.49	\$6.38	\$8.23	\$8.79	\$3.78	\$3.99
Egypt				\$8.81	\$9.46	\$10.98	\$11.70	\$6.20	\$6.37
El Salvador				\$7.20	\$7.00	\$8.46	\$9.02	\$5.55	\$5.74
France	\$4.34	\$4.34	\$4.34	\$6.37	\$5.99	\$7.34	\$7.84	\$2.45	\$2.59
Germany	\$4.34	\$4.34	\$4.34	\$6.49	\$6.10	\$7.17	\$7.67	\$2.45	\$2.59
Greece		\$4.34	\$4.34	\$8.45	\$9.24	\$10.75	\$11.48	\$2.45	\$2.59
Guatemala				\$7.20	\$7.00	\$9.02	\$9.63	\$5.10	\$5.25
Hong Kong	\$5.81	\$5.46	\$5.46	\$8.81	\$8.29	\$9.52	\$10.14	\$4.20	\$4.62
India		\$11.41	\$10.92	\$12.67	\$10.47	\$11.98	\$12.77	\$7.79	\$8.54
Israel	\$6.23	\$5.18	\$5.18	\$8.45	\$9.02	\$10.58	\$11.31	\$4.31	\$4.48
Italy	\$4.34	\$4.34	\$4.48	\$6.78	\$7.00	\$7.84	\$8.34	\$2.45	\$2.59
Japan	\$5.81	\$5.46	\$5.46	\$8.45	\$8.29	\$9.24	\$9.86	\$3.30	\$3.50
Jamaica		\$4.13	\$4.13	\$6.72	\$7.34	\$8.34	\$8.90	\$5.12	\$5.32
Korea, Rep. of	\$5.81	\$5.60	\$5.60	\$9.52	\$9.80	\$10.42	\$11.09	\$4.13	\$4.55
Mexico <u>2/</u>	\$10.23	\$10.09	\$9.88	\$8.39	\$8.12	\$8.90	\$9.52	\$4.55	\$4.13
Netherlands	\$4.34	\$4.34	\$4.34	\$6.25	\$5.88	\$7.11	\$7.56	\$2.45	\$2.59
Nigeria				\$7.08	\$6.66	\$8.57	\$9.13	\$5.14	\$5.32
Pakistan	\$14.21	\$8.47	\$8.82	\$14.70	\$16.41	\$19.94	\$21.28	\$9.10	\$9.24
Peru	\$5.81	\$4.62	\$4.62	\$7.91	\$8.46	\$9.91	\$10.58	\$5.21	\$5.39
Philippines	\$7.63	\$5.60	\$5.60	\$9.04	\$9.58	\$11.31	\$12.04	\$4.90	\$5.39
Poland				\$7.62	\$7.56	\$8.23	\$8.79	\$4.10	\$3.92
Russia				\$11.60	\$10.92	\$11.48	\$12.26	\$7.96	\$8.75
Saudi Arabia				\$8.81	\$8.96	\$10.47	\$11.14	\$7.59	\$7.77
South Africa				\$7.38	\$7.22	\$8.23	\$8.79	\$3.49	\$3.71
Spain	\$4.34	\$4.34	\$4.34	\$7.20	\$7.34	\$9.07	\$9.69	\$2.45	\$2.59
Switzerland	\$4.34	\$4.34	\$4.34	\$6.90	\$6.89	\$8.06	\$8.62	\$2.45	\$2.59
Taiwan	\$5.81	\$5.46	\$5.46	\$9.52	\$8.96	\$10.36	\$11.03	\$4.14	\$4.55
Thailand	\$5.81	\$5.60	\$5.60	\$9.58	\$9.02	\$11.14	\$11.87	\$5.21	\$5.74
United Kingdom	\$4.13	\$4.13	\$4.13	\$5.65	\$5.32	\$5.82	\$6.22	\$0.84	\$1.05
Fisher Ideal Rate Index (1982=100)	57.6	53.2	53.8	66.5	64.8	72.8	77.8	26.3	27.7
% changes		-7.7%	1.1%	23.6%	-2.5%	12.3%	6.7%	-66.2%	5.5%
Index without Mexico	54.5	49.8	50.6	66.8	65.3	73.6	78.6	25.0	27.1
% changes		-8.6%	1.7%	32.1%	-2.3%	12.8%	6.7%	-68.1%	8.4%

1/ Rates are shown for 7-minute direct dialed calls placed by residential customers. Tariff rates do not include taxes or surcharges. Year-end rates except as indicated. The AT&T "Reach Out World" rates did not offer discounts to all countries for the years shown. AT&T's "TrueWorld (sm) Savings" rates, including "Reach Out World" discounts, are shown for 1993 to 1996. Customers of this plan as well as the "Reach Out-Overseas One Rate" plan must pay a fixed charge of \$3 per month.

2/ Tariff rates for traffic to Mexico are distance sensitive. A "sum of local rates" pricing scheme is used for service to Mexico. For a call to Mexico, AT&T charges its standard domestic rates for the distance to the Mexican border, and also bills the customer for the amount that the Mexican telephone company charges from the border crossing to the destination. The table shows total charges to customers for calls from Washington D.C. to Mexico City.

Table 16. AT&T Discount Rates 1/
(continued)

	Off-peak period rates								
	Reach Out World			TrueWorld Savings				One Rate	
	1990	1991	1992	1993	1994	1995	1996	1997	1998 (Apr. 1)
Australia	\$5.81	\$5.60	\$5.46	\$4.64	\$4.87	\$4.87	\$5.21	\$3.09	\$3.29
Brazil	\$5.46	\$4.62	\$4.62	\$4.28	\$4.70	\$5.60	\$5.99	\$4.30	\$4.48
Canada	\$2.66	\$2.66	\$2.80	\$1.13	\$1.18	\$1.34	\$1.23	\$0.84	\$0.91
China				\$6.96	\$6.89	\$9.13	\$9.74	\$8.33	\$9.17
Colombia		\$4.62	\$4.62	\$4.34	\$4.82	\$5.66	\$6.05	\$5.27	\$5.46
Dominican Rep.				\$4.76	\$4.70	\$5.60	\$5.99	\$3.78	\$3.99
Egypt				\$6.13	\$6.05	\$7.22	\$7.73	\$6.20	\$6.37
El Salvador				\$5.12	\$5.04	\$5.94	\$6.33	\$5.55	\$5.74
France	\$4.34	\$4.34	\$4.34	\$3.69	\$3.47	\$3.86	\$4.03	\$2.45	\$2.59
Germany	\$4.34	\$4.34	\$4.34	\$3.69	\$3.47	\$3.75	\$4.03	\$2.45	\$2.59
Greece		\$4.34	\$4.34	\$3.87	\$4.54	\$5.43	\$5.77	\$2.45	\$2.59
Guatemala				\$5.12	\$5.04	\$5.94	\$6.33	\$5.10	\$5.25
Hong Kong	\$5.81	\$5.46	\$5.46	\$4.64	\$4.54	\$5.21	\$5.54	\$4.20	\$4.62
India		\$11.41	\$10.92	\$9.28	\$7.84	\$8.12	\$9.24	\$7.79	\$8.54
Israel	\$6.23	\$5.18	\$5.18	\$4.40	\$4.70	\$5.66	\$6.05	\$4.31	\$4.48
Italy	\$4.34	\$4.34	\$4.48	\$4.05	\$4.31	\$4.93	\$5.26	\$2.45	\$2.59
Japan	\$5.81	\$5.46	\$5.46	\$4.64	\$4.54	\$5.21	\$5.54	\$3.30	\$3.50
Jamaica		\$4.13	\$4.13	\$4.11	\$4.65	\$5.49	\$5.88	\$5.12	\$5.32
Korea, Rep. of	\$5.81	\$5.60	\$5.60	\$4.76	\$4.48	\$4.93	\$5.26	\$4.13	\$4.55
Mexico <u>2/</u>	\$6.30	\$6.30	\$6.30	\$5.36	\$4.98	\$5.60	\$5.99	\$4.55	\$4.13
Netherlands	\$4.34	\$4.34	\$4.34	\$3.69	\$3.47	\$4.14	\$4.42	\$2.45	\$2.59
Nigeria				\$5.89	\$5.54	\$6.61	\$7.06	\$5.14	\$5.32
Pakistan	\$14.21	\$8.47	\$8.82	\$7.79	\$8.40	\$10.47	\$11.14	\$9.10	\$9.24
Peru	\$5.81	\$4.62	\$4.62	\$4.22	\$4.82	\$5.66	\$6.05	\$5.21	\$5.39
Philippines	\$7.63	\$5.60	\$5.60	\$4.82	\$5.43	\$6.05	\$6.44	\$4.90	\$5.39
Poland				\$4.40	\$4.59	\$5.43	\$5.77	\$4.10	\$3.92
Russia				\$7.91	\$7.73	\$8.01	\$8.57	\$7.96	\$8.75
Saudi Arabia				\$5.53	\$5.43	\$6.89	\$7.34	\$7.59	\$7.77
South Africa				\$4.52	\$4.54	\$5.43	\$5.77	\$3.49	\$3.71
Spain	\$4.34	\$4.34	\$4.34	\$4.22	\$4.59	\$5.43	\$5.77	\$2.45	\$2.59
Switzerland	\$4.34	\$4.34	\$4.34	\$3.69	\$3.64	\$4.31	\$4.59	\$2.45	\$2.59
Taiwan	\$5.81	\$5.46	\$5.46	\$4.64	\$4.37	\$4.87	\$5.21	\$4.14	\$4.55
Thailand	\$5.81	\$5.60	\$5.60	\$4.76	\$4.48	\$5.43	\$5.77	\$5.21	\$5.74
United Kingdom	\$4.13	\$4.13	\$4.13	\$3.51	\$3.30	\$3.81	\$4.03	\$0.84	\$1.05
Fisher Ideal Rate Index (1982=100)	57.6	53.2	53.8	34.2	34.2	39.1	40.3	25.5	26.9
% changes		-7.7%	1.1%	-36.4%	0.0%	14.4%	3.1%	-36.9%	5.5%
Index without Mexico	54.5	49.8	50.6	33.0	33.5	38.4	39.3	24.1	26.1
% changes		-8.6%	1.7%	-34.7%	1.3%	14.7%	2.5%	-38.8%	8.4%

1/ Rates are shown for 7-minute direct dialed calls placed by residential customers. Tariff rates do not include taxes or surcharges. Year-end rates except as indicated. The AT&T "Reach Out World" rates did not offer discounts to all countries for the years shown. AT&T's "TrueWorld (sm) Savings" rates, including "Reach Out World" discounts, are shown for 1993 to 1996. Customers of this plan as well as the "Reach Out-Overseas One Rate" plan must pay a fixed charge of \$3 per month.

2/ Tariff rates for traffic to Mexico are distance sensitive. A "sum of local rates" pricing scheme is used for service to Mexico. For a call to Mexico, AT&T charges its standard domestic rates for the distance to the Mexican border, and also bills the customer for the amount that the Mexican telephone company charges from the border crossing to the destination. The table shows total charges to customers for calls from Washington D.C. to Mexico City.

Table 17. Revenue Per Minute for Selected Carriers

	U.S. Billed Traffic <u>1/</u>			All Traffic that Originates or Terminates in the U.S. <u>1/</u>		
	Number of Minutes (000,000)	U.S. Carrier Revenue (\$000,000)	Billed Revenue per minute	Number of Minutes (000,000)	U.S. Carrier Retained Revenue (\$000,000)	Retained Revenue per minute
AT&T						
1991	6,596	\$6,962	\$1.06	10,020	\$4,279	\$0.43
1992	7,039	\$7,314	\$1.04	10,741	\$4,814	\$0.45
1993	7,201	\$7,482	\$1.04	10,938	\$4,979	\$0.46
1994	8,040	\$7,984	\$0.99	11,807	\$5,229	\$0.44
1995	8,831	\$8,425	\$0.95	12,778	\$5,634	\$0.44
1996	9,546	\$8,559	\$0.90	13,563	\$5,705	\$0.42
Annual Rate of Growth 1991 to 1996 <u>2/</u>	7.8%			6.2%		
MCI						
1991	1,600	\$1,487	\$0.93	2,450	\$958	\$0.39
1992	2,101	\$2,065	\$0.98	3,163	\$1,360	\$0.43
1993	2,857	\$2,779	\$0.97	4,175	\$1,789	\$0.43
1994	3,529	\$2,952	\$0.84	5,206	\$1,790	\$0.34
1995	4,486	\$3,968	\$0.88	6,350	\$2,402	\$0.38
1996	5,372	\$3,550	\$0.66	7,496	\$1,772	\$0.24
Annual Rate of Growth 1991 to 1996 <u>2/</u>	27.6%			25.3%		
Sprint						
1991	728	\$604	\$0.83	1,139	\$407	\$0.36
1992	946	\$786	\$0.83	1,424	\$520	\$0.37
1993	1,181	\$1,048	\$0.89	1,730	\$706	\$0.41
1994	1,490	\$1,229	\$0.82	2,140	\$742	\$0.35
1995	1,772	\$1,289	\$0.73	2,480	\$741	\$0.30
1996	2,745	\$1,493	\$0.54	4,060	\$672	\$0.17
Annual Rate of Growth 1991 to 1996 <u>2/</u>	28.4%			26.5%		
WorldCom						
1991	3	\$2	\$0.52	4	\$1	\$0.26
1992	12	\$10	\$0.82	21	\$6	\$0.29
1993	92	\$64	\$0.70	132	\$27	\$0.21
1994	278	\$124	\$0.45	362	\$38	\$0.10
1995	544	\$291	\$0.53	798	\$144	\$0.18
1996	846	\$364	\$0.43	1,137	\$100	\$0.09
Annual Rate of Growth 1993 to 1996 <u>2/</u>	107.9%			106.4%		

1/ Does not include pure resale traffic.

2/ Annual rates of growth estimated using log linear regression.

Table 18. Pure Resale Compared with Facilities Based International Telephone Service 1/
(Revenue and minutes shown in thousands)

Company	1991	1992	1993	1994	1995	1996
AT&T						
Facilities-Based and Facilities-Resale						
U.S. Minutes	6,596,014	7,038,969	7,200,907	8,039,868	8,831,143	9,546,094
U.S. Billed Revenue	\$6,962,147	\$7,313,799	\$7,482,250	\$7,984,452	\$8,424,874	\$8,558,833
MCI						
Facilities-Based and Facilities-Resale						
U.S. Minutes	1,599,786	2,101,422	2,856,890	3,529,197	4,485,504	5,371,998
U.S. Billed Revenue	\$1,486,972	\$2,065,113	\$2,779,355	\$2,952,375	\$3,967,807	\$3,549,540
Pure Resale						
U.S. Minutes	64,013	37,142	30,745	28,637	50,559	45,958
U.S. Billed Revenue	\$65,366	\$47,967	\$34,307	\$55,757	\$51,553	\$42,140
Percent Minutes Handled by Pure Resale	3.8%	1.7%	1.1%	0.8%	1.1%	0.8%
SPRINT						
Facilities-Based and Facilities-Resale						
U.S. Minutes	728,442	946,173	1,181,074	1,489,696	1,772,347	2,744,892
U.S. Billed Revenue	\$603,785	\$785,940	\$1,047,749	\$1,228,667	\$1,288,845	\$1,493,416
Pure Resale						
U.S. Minutes	72,861	42,326	32,441	32,880	38,425	97,141
U.S. Billed Revenue	\$88,149	\$63,438	\$28,110	\$56,685	\$68,222	\$87,178
Percent Minutes Handled by Pure Resale	9.1%	4.3%	2.7%	2.2%	2.1%	3.4%
Carriers Other than AT&T, MCI and Sprint						
Facilities-Based and Facilities-Resale						
U.S. Minutes	147,616	207,352	274,404	556,885	968,075	1,605,975
U.S. Billed Revenue	\$166,267	\$166,637	\$195,192	\$265,361	\$478,265	\$632,293
Pure Resale						
U.S. Minutes	358,087	485,257	665,119	1,260,389	2,452,755	6,981,704
U.S. Billed Revenue	\$286,925	\$399,660	\$528,686	\$1,007,750	\$1,634,614	\$3,506,753
Percent Minutes Handled by Pure Resale	70.8%	70.1%	70.8%	69.4%	71.7%	81.3%
Combined Totals						
Facilities-Based and Facilities-Resale						
U.S. Minutes	9,071,858	10,293,916	11,513,275	13,615,646	16,057,069	19,268,959
U.S. Billed Revenue	\$9,219,171	\$10,331,489	\$11,504,546	\$12,430,855	\$14,159,791	\$14,234,082
Revenue Per Minute	\$1.02	\$1.00	\$1.00	\$0.91	\$0.88	\$0.74
Carriers Other Than AT&T, MCI, and Sprint as a % of Total Facilities-Based and Facilities-Resale Traffic						
U.S. Minutes	1.6%	2.0%	2.4%	4.1%	6.0%	8.3%
U.S. Billed Revenue	1.8%	1.6%	1.7%	2.1%	3.4%	4.4%
Pure Resale						
# of Reporting Carriers	69	86	130	180	230	313
U.S. Minutes	494,961	564,725	728,305	1,321,906	2,541,739	7,124,803
U.S. Billed Revenue	\$440,440	\$511,065	\$591,103	\$1,120,192	\$1,754,389	\$3,636,071
Revenue Per Minute	\$0.89	\$0.90	\$0.81	\$0.85	\$0.69	\$0.51
Pure Resale Minutes as % of Facilities-Based and Facilities-Resale Minutes	5.5%	5.5%	6.3%	9.7%	15.8%	37.0%

1/ Carriers handle pure resale traffic by routing calls to other carriers and reselling those carrier's switched services. Facilities-based calls are carried over international circuits in which the carrier has an ownership interest. Facilities-resale calls are carried over international circuits that the carrier leases from other carriers. The data in this table were taken from Section 43.61 Traffic Data reports. The figures are world totals for international message telephone service and include international traffic between domestic and offshore U.S. points.

Table 19. Shares of End-user Revenue

1995
(Dollar amounts shown in millions)

	U.S. Billed Service Revenue						Estimated End-user Revenue <u>1/</u> <u>2/</u> Share	
	Facilities-based & Facilities Resale Share		Pure Resale Share		All International Share			
<u>International MTS</u>								
AT&T	\$8,425	59.5 %	\$0	0.0 %	\$8,425	52.9 %		
MCI	3,968	28.0	52	3.0	4,020	25.3		
Sprint	1,289	9.1	68	3.9	1,357	8.5		
WorldCom	291	2.1	188	10.7	479	3.0		
Total 4 largest	13,973	98.7	308	17.6	14,281	89.7	13,097	89.7 %
Other Carriers	187	1.3	1,446	82.4	1,633	10.3	1,501	10.3
Total all carriers	14,160	100.0	1,754	100.0	15,914	100.0	14,599	100.0

- 1/ Carriers do not report 43.61 traffic data separately for service sold to other carriers vs. service sold to end-users. Estimates are made by using two assumptions: that toll resellers purchase 90% of service from the four largest carriers versus 10% from other facilities-based and resale carriers; and, that pure resellers pay underlying carriers 75 cents out of each dollar of revenue.
- 2/ This figure would be different from the amount that carriers would have reported as end-user revenue on Form 457 Universal Service Worksheets for several reasons: Carriers do not include in their contribution bases revenues from traffic that both originates and terminates outside the United States. Also, a carrier is not required to contribute to Universal Service support mechanisms if neither it nor any affiliates offer any domestic interstate services. Form 457, however, requires carriers to report private line and other international services as well as international telephone service.

Table 19. Shares of End-user Revenue

(Continued)

1996

(Dollar amounts shown in millions)

	U.S. Billed Service Revenue						Estimated End-user Revenue <u>1/</u> <u>2/</u> Share	
	Facilities-based & Facilities Resale Share		Pure Resale Share		All International Share			
<u>International MTS</u>								
AT&T	\$8,559	60.1 %	\$0	0.0 %	\$8,559	47.9 %		
MCI	3,550	24.9	42	1.2	3,592	20.1		
Sprint	1,493	10.5	87	2.4	1,580	8.8		
WorldCom	364	2.6	411	11.3	775	4.3		
Total 4 largest	13,966	98.1	540	14.9	14,506	81.2	12,052	79.6 %
Other Carriers	269	1.9	3,096	85.1	3,365	18.8	3,092	20.4
Total all carriers	14,235	100.0	3,636	100.0	17,871	100.0	15,144	100.0

1/ Carriers do not report 43.61 traffic data separately for service sold to other carriers vs. service sold to end-users. Estimates are made by using two assumptions: that toll resellers purchase 90% of service from the four largest carriers versus 10% from other facilities-based and resale carriers; and, that pure resellers pay underlying carriers 75 cents out of each dollar of revenue.

2/ This figure would be different from the amount that carriers would have reported as end-user revenue on Form 457 Universal Service Worksheets for several reasons: Carriers do not include in their contribution bases revenues from traffic that both originates and terminates outside the United States. Also, a carrier is not required to contribute to Universal Service support mechanisms if neither it nor any affiliates offer any domestic interstate services. Form 457, however, requires carriers to report private line and other international services as well as international telephone service.

Table 20. Net Revenue from International Services by Carrier 1/

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
(In millions)																	
Telephone																	
Alascom ^{2/}	\$1.6	\$1.9	\$2.8	\$3.6	\$4.0	\$3.3	\$4.5	\$5.0	\$5.5	\$4.9	\$2.8	\$5.6	\$6.3	\$6.6	\$6.6	\$4.3	
All America Cable & Radio	\$14.1	\$15.0	\$20.8	\$24.7	\$27.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$4,956.4	\$5,110.6	\$5,348.1	\$5,714.8	\$5,773.5
AT&T Corp.	\$1,402.7	\$1,526.7	\$1,338.1	\$1,562.6	\$1,728.9	\$1,795.7	\$1,852.1	\$2,160.2	\$2,617.6	\$2,945.8	\$3,385.5	\$4,388.9	\$4,956.4	\$5,110.6	\$5,348.1	\$5,714.8	\$5,773.5
Cuban American	\$3.5	\$4.6	\$4.5	\$5.0	\$4.8	N/A	N/A	\$9.2	\$5.2	\$6.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTC Communications																	
GTE / Hawaiian Telephone	\$117.4	\$116.7	\$126.2	\$123.3	\$28.7	\$28.5	\$25.5	\$10.0	\$19.1	\$27.8	\$33.7	\$26.2	\$31.6	\$30.8	\$30.9	\$31.3	\$35.2
IDB WorldCom Svcs., Inc. ^{3/}																	
ITT Communications-V.I.	\$9.6	\$8.7	\$10.0	\$17.8	\$12.0	N/A	N/A	N/A	N/A								
MCI / WUI ^{4/}																	
Sprint																	
TRT Telecommunications																	
WorldCom, Inc. d/b/a LDDSS WorldCom ^{5/}																	
Other Carriers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$90.0	\$65.5	\$76.5	\$91.0	\$95.4	\$150.1
Total	\$1,549.0	\$1,673.6	\$1,502.3	\$1,737.0	\$1,805.5	\$1,843.2	\$1,957.8	\$2,336.6	\$2,915.5	\$3,513.4	\$4,235.7	\$5,902.4	\$6,974.2	\$7,799.6	\$8,140.0	\$9,217.3	\$8,575.7
Telex																	
AT&T	\$2.9	\$3.8	\$4.3	\$5.1	\$7.5	\$9.4	\$10.6	\$9.8	\$8.2	\$9.5		\$63.6	\$52.0	\$42.4	\$54.6	\$57.0	\$65.4
FTC Communications																	
IDB WorldCom Svcs., Inc. ^{3/}																	
ITT Worldcom	\$113.4	\$121.0	\$129.8	\$121.5	\$120.1	\$113.2	\$108.0	\$102.0						\$22.5			
MCI / WUI ^{4/}																	
RCA Globcom	\$106.0	\$104.6	\$100.5	\$107.5	\$117.8	\$117.3	\$109.2	\$100.1	\$80.2	\$74.2	\$101.6	\$90.8	\$77.1	\$66.4	\$50.9	\$43.8	\$35.4
Sprint																	
TRT Telecommunications	\$24.0	\$32.4	\$37.9	\$38.1	\$46.9	\$52.6	\$55.3	\$60.4	\$49.8	\$45.1	\$50.5	\$47.6	\$34.2	\$0.7	\$1.3	\$1.7	\$1.1
Western Union																	
Western Union International	\$77.0	\$89.3	\$91.6		\$28.5	\$33.1	\$38.0	\$34.8	\$107.9	\$86.2	\$59.5						
WorldCom, Inc. d/b/a LDDSS WorldCom ^{5/}																	
Other Carriers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0.3	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1
Total	\$323.3	\$351.2	\$364.1	\$357.3	\$408.0	\$404.8	\$394.2	\$369.3	\$299.9	\$274.0	\$211.6	\$202.9	\$164.2	\$132.0	\$118.9	\$112.7	\$109.8
Telegraph																	
AT&T	\$0.7	\$0.9	\$0.8	\$0.8	\$1.1	\$1.2	\$1.2	\$1.1	\$0.9	\$0.9		\$4.8	\$7.2	\$6.5	\$5.9	\$3.0	\$2.2
FTC Communications																	
IDB WorldCom Svcs., Inc. ^{3/}																	
ITT Worldcom	\$10.8	\$9.7	\$8.8	\$7.1	\$4.8	\$5.2	\$5.7	\$5.0						\$1.2			
MCI / WUI ^{4/}																	
RCA Globcom	\$10.8	\$9.7	\$8.1	\$6.6	\$5.7	\$7.1	\$7.1	\$4.3	\$3.0	\$3.4	\$7.6	\$6.8	\$5.6	\$4.5	\$3.5	\$3.1	\$2.8
TRT Telecommunications	\$3.9	\$4.0	\$4.1	\$3.3	\$2.8	\$3.4	\$3.9	\$3.4	\$3.2	\$2.8	\$5.6	\$4.0	\$2.7				
U.S.-Liberia	\$0.1	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0						
Western Union																	
Western Union International	\$11.7	\$11.1	\$8.1		\$2.7	\$5.6	\$7.8	\$6.5	\$10.5	\$10.3	\$11.5						
WorldCom, Inc. d/b/a LDDSS WorldCom ^{5/}																	
Other Carriers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0.0	\$0.0	\$0.0	\$3.1	\$1.2	\$0.6
Total	\$37.9	\$35.5	\$30.1	\$23.6	\$21.3	\$26.7	\$30.5	\$24.6	\$21.0	\$20.3	\$24.7	\$15.7	\$15.5	\$12.2	\$12.5	\$7.2	\$5.6

See notes on final page of table.

Table 20. Net Revenue from International Services by Carrier 1/
(In millions)
(continued)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Private Line																	
All America Cable & Radio	\$0.3	\$0.9	\$0.4	\$0.4	\$0.7	N/A	N/A	N/A	N/A	N/A	\$64.6	\$114.4	\$121.7	\$141.5	\$171.9	\$213.9	\$261.5
AT&T	\$7.4	\$5.1	\$4.8	\$5.0	\$4.9	\$6.7	\$8.9	\$8.4	\$37.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cuban American	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTC Communications	\$2.4	\$4.1	\$5.4	\$6.5	\$8.8	\$10.1	\$12.7	\$13.1	\$12.6	\$12.9	\$1.3	\$1.6	\$1.6	\$2.2	\$2.0	\$1.6	\$2.3
GTE / Hawaiian Telephone	\$6.4	\$7.6	\$8.4	\$9.3	\$1.2	\$1.4	\$1.3	\$17.8	\$9.7	\$8.9	\$1.3	\$30.3	\$42.2	\$85.9			
IDB WorldCom Svcs., Inc. ^{3/}																	
ITT Worldcom	\$0.6	\$0.5	\$0.5	\$0.3	\$0.4	N/A	N/A	N/A	N/A	N/A							
MCI / WUI ^{4/}	\$34.3	\$36.0	\$39.6	\$45.7	\$48.9	\$53.1	\$51.9	\$52.1	\$39.7	\$50.3	\$69.6	\$76.7	\$81.8	\$94.3	\$125.5	\$147.9	\$189.6
RCA Globcom	\$36.5	\$40.3	\$42.9	\$47.4	\$51.8	\$54.9	\$54.0	\$50.1	\$46.9	\$38.2	\$2.4	\$6.2	\$1.3	\$23.8	\$38.7	\$41.7	\$59.6
Sprint																	
TRT Telecommunications	\$3.6	\$4.6	\$5.4	\$6.1	\$7.1	\$8.8	\$9.6	\$10.6	\$12.8	\$13.3	\$27.3	\$22.7	\$22.5				
Western Union					\$1.3	\$2.0	\$1.9	\$2.5	\$35.0	\$6.5	\$0.0						
World Communications	\$23.2	\$26.9	\$30.4														
WorldCom, Inc. d/b/a LDDS WorldCom ^{5/}																	
Other Carriers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$13.6	\$17.8	\$18.3	\$13.0	\$37.9	\$43.1
Total	\$114.8	\$126.0	\$138.0	\$154.0	\$157.6	\$171.9	\$174.9	\$190.9	\$194.2	\$208.0	\$203.8	\$307.1	\$323.4	\$366.1	\$440.9	\$527.7	\$660.7
Total Telephone, Telex, Telegraph and Private Line																	
Alascom ^{2/}	\$1.6	\$1.9	\$2.8	\$3.6	\$4.0	\$3.3	\$4.5	\$5.0	\$5.5	\$4.9	\$2.8	\$5.6	\$6.3	\$6.6	\$6.6	\$4.3	
All America Cable & Radio	\$14.4	\$15.8	\$21.2	\$25.1	\$27.7												
AT&T	\$1,410.1	\$1,531.8	\$1,342.9	\$1,567.6	\$1,733.8	\$1,802.4	\$1,861.0	\$2,168.5	\$2,655.1	\$2,988.3	\$3,450.1	\$4,571.7	\$5,137.3	\$5,300.9	\$5,580.5	\$5,988.7	\$6,102.6
Cuban American	\$3.6	\$4.7	\$4.6	\$5.1	\$4.8												
FTC Communications	\$6.0	\$8.8	\$10.6	\$12.4	\$17.3	\$20.7	\$24.4	\$33.2	\$27.0	\$29.7							
GTE / Hawaiian Telephone	\$123.8	\$124.3	\$134.6	\$132.6	\$29.8	\$29.9	\$26.8	\$27.8	\$28.8	\$36.8	\$35.0	\$27.9	\$33.2	\$33.0	\$33.0	\$32.9	\$37.5
IDB WorldCom Svcs., Inc. ^{3/}																	
ITT Communications-V.I.																	
ITT Worldcom	\$10.2	\$9.2	\$10.5	\$18.2	\$12.4												
MCI / WUI ^{4/}	\$158.4	\$166.8	\$178.2	\$174.3	\$173.8	\$171.4	\$165.6	\$159.1	\$285.7	\$474.8	\$706.5	\$1,145.3	\$1,543.9	\$1,999.2	\$2,034.4	\$2,667.0	\$2,056.1
RCA Globcom	\$153.3	\$154.6	\$151.5	\$161.5	\$175.3	\$179.3	\$170.4	\$154.5	\$130.4	\$115.2							
Sprint						\$1.8	\$15.3	\$39.0	\$73.2	\$155.4	\$270.0	\$415.2	\$527.7	\$738.2	\$810.8	\$798.1	\$749.2
TRT Telecommunications	\$31.4	\$41.0	\$47.4	\$47.4	\$56.8	\$64.8	\$68.8	\$75.5	\$71.4	\$72.0	\$101.9	\$86.8	\$68.7				
U.S.-Liberia	\$0.1	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Western Union																	
World Communications	\$111.9	\$127.2	\$130.1		\$32.4	\$40.7	\$47.8	\$43.9	\$153.4	\$103.0	\$71.0						
WorldCom, Inc. d/b/a LDDS WorldCom ^{5/}																	
Other Carriers																	
Total	\$2,024.9	\$2,186.2	\$2,034.5	\$2,271.9	\$2,392.4	\$2,446.5	\$2,557.4	\$2,921.4	\$3,430.7	\$4,015.7	\$4,675.8	\$6,428.1	\$7,477.2	\$8,215.1	\$8,712.2	\$9,864.9	\$9,351.8

1/ For switched services, net revenues equals billed revenues minus settlement payouts plus settlement receipts.

For private line services, net revenues equals billed revenues.

2/ Alascom was sold to AT&T in August of 1995. The information reported for Alascom is for January through July of 1995.

AT&T Alascom is included with AT&T for August through December of 1995.

3/ IDB WorldCom Services, Inc. figures consist also of TRT Telecommunications, World Communications, and CICI, Inc.

4/ MCI/WUI figures consist of MCI International, Inc. and Western Union International, Inc.

5/ LDDS Communications, Inc. acquired IDB WorldCom Svcs., Inc. in 1994. The company changed its name in 1995 from LDDS Communications Inc. d/b/a LDDS WorldCom to WorldCom, Inc. d/b/a LDDS WorldCom.

Table 21. Market Shares Based on Net Revenue from International Services by Carrier

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Telephone																	
Alascom_2/	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	----
All America Cable & Radio	0.9%	0.9%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
AT&T Corp.	90.6%	91.2%	89.1%	90.0%	95.8%	97.4%	94.6%	92.4%	89.8%	83.8%	79.9%	74.4%	71.1%	65.5%	65.7%	62.0%	67.3%
Cuban American	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.2%	0.2%	0.8%	0.4%	0.5%	0.4%	0.4%	0.3%	0.4%
FTC Communications	----	----	----	7.1%	1.6%	1.5%	1.3%	0.4%	0.7%	0.8%	0.8%	0.4%	0.5%	0.4%	0.4%	0.3%	0.4%
GTE /Hawaiian Telephone	7.6%	7.0%	8.4%	7.1%	1.6%	1.5%	1.3%	0.4%	0.7%	0.8%	0.8%	0.4%	0.5%	0.4%	0.4%	0.3%	0.4%
IDB WorldCom Svcs., Inc._3/	0.6%	0.5%	0.7%	1.0%	0.7%	0.8%	3.1%	4.8%	6.5%	10.3%	12.5%	16.5%	19.8%	23.5%	22.8%	26.8%	21.3%
ITT Communications-V.I.	----	----	----	----	----	0.1%	0.8%	1.7%	2.5%	4.4%	6.3%	6.9%	7.5%	9.1%	9.5%	8.2%	8.0%
MCI / WUI_4/	----	----	----	----	----	----	0.0%	0.0%	0.2%	0.3%	0.4%	0.2%	0.1%	0.1%	0.5%	1.6%	1.2%
Sprint	----	----	----	----	----	----	----	----	----	----	----	1.5%	0.9%	1.0%	1.1%	1.0%	1.8%
TRT Telecommunications	----	----	----	----	----	----	----	----	----	----	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
WorldCom, Inc. d/b/a LDDS WorldCom_5/	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Other Carriers	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Telex																	
AT&T	----	1.1%	1.2%	1.4%	1.8%	2.3%	2.7%	2.7%	2.7%	3.5%	----	31.3%	31.7%	32.1%	45.9%	50.6%	59.6%
FTC Communications	0.9%	34.5%	35.6%	34.0%	29.4%	28.0%	27.4%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	17.0%	----	----	----
IDB WorldCom Svcs., Inc._3/	35.1%	----	----	23.8%	21.4%	19.6%	18.5%	16.8%	17.9%	21.5%	48.0%	44.7%	46.9%	50.3%	42.8%	38.8%	32.2%
ITT Worldcom	32.8%	29.8%	27.6%	30.1%	28.9%	29.0%	27.7%	27.1%	26.7%	27.1%	----	0.4%	0.4%	0.5%	1.1%	1.5%	1.0%
MCI / WUI_4/	7.4%	9.2%	10.4%	10.7%	11.5%	13.0%	14.0%	16.3%	16.6%	16.5%	23.9%	23.5%	20.8%	----	----	----	----
RCA Globcom	----	----	----	----	7.0%	8.2%	9.7%	9.4%	36.0%	31.5%	28.1%	----	----	----	----	----	----
Sprint	23.8%	25.4%	25.2%	----	----	----	----	----	----	----	----	----	----	----	10.2%	9.0%	7.1%
Western Union	----	----	----	----	----	----	----	----	----	----	----	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%
Western Union International	----	----	----	----	----	----	----	----	----	----	----	----	----	100.0%	100.0%	100.0%	100.0%
WorldCom, Inc. d/b/a LDDS WorldCom_5/	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other Carriers	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Telegraph																	
AT&T	1.9%	2.4%	2.8%	3.3%	5.2%	4.5%	3.8%	4.3%	4.5%	4.4%	----	30.9%	46.3%	52.9%	47.0%	40.8%	40.2%
FTC Communications	28.4%	27.3%	29.3%	30.2%	22.5%	19.4%	18.5%	20.5%	14.5%	16.8%	30.7%	43.7%	36.4%	37.0%	28.4%	43.1%	49.3%
IDB WorldCom Svcs., Inc._3/	28.5%	27.2%	27.0%	28.0%	26.7%	26.7%	23.4%	17.5%	15.5%	14.1%	22.7%	25.3%	17.3%	----	----	----	----
ITT Worldcom	10.2%	11.4%	13.6%	13.9%	13.1%	12.6%	12.6%	13.8%	15.3%	13.7%	0.1%	0.1%	0.2%	----	----	----	----
MCI / WUI_4/	0.3%	0.5%	0.5%	0.5%	0.6%	0.4%	0.4%	0.4%	49.8%	50.8%	46.4%	----	----	----	----	----	----
RCA Globcom	30.7%	31.2%	26.9%	----	----	21.0%	25.6%	26.5%	----	----	----	0.0%	0.0%	0.0%	24.6%	16.1%	10.5%
TRT Telecommunications	----	----	----	----	----	----	----	----	----	----	----	----	----	----	0.0%	0.0%	0.0%
U.S.-Liberia	----	----	----	----	----	----	----	----	----	----	----	----	----	----	100.0%	100.0%	100.0%
Western Union	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Western Union International	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WorldCom, Inc. d/b/a LDDS WorldCom_5/	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other Carriers	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

See notes on final page of table.

Table 21. Market Shares Based on Net Revenue from International Services by Carrier

	(continued)																
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Private Line																	
All America Cable & Radio	0.3%	0.7%	0.3%	0.3%	0.4%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
AT&T	6.5%	4.0%	3.5%	3.2%	3.1%	3.1%	3.9%	5.1%	4.4%	19.3%	20.4%	31.7%	37.3%	37.6%	39.0%	40.5%	39.6%
Cuban American	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	6.9%	6.5%	6.2%	6.2%	0.6%	0.5%	0.5%	0.5%	0.3%	0.3%
FTC Communications	2.1%	3.2%	3.9%	4.2%	5.6%	0.8%	0.7%	9.3%	5.0%	4.3%	4.3%	0.6%	0.5%	0.6%	0.5%	0.3%	0.3%
GTE / Hawaiian Telephone	5.6%	6.1%	6.1%	6.1%	0.7%	0.8%	0.7%	9.3%	5.0%	4.3%	4.3%	0.6%	0.5%	0.6%	0.5%	0.3%	0.3%
IDB WorldCom Svcs., Inc. ^{3/}	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ITT Communications-V.I.	0.5%	0.4%	0.4%	0.2%	0.3%	0.5%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
ITT Worldcom	29.9%	28.6%	28.7%	29.7%	31.1%	30.9%	29.7%	27.3%	20.4%	24.2%	34.2%	25.0%	25.3%	25.8%	28.5%	28.0%	28.7%
MCI / WUI ^{4/}	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RCA Globcom	31.8%	32.0%	31.1%	30.8%	32.9%	31.9%	30.9%	26.2%	24.2%	18.4%	18.4%	1.2%	0.4%	6.5%	8.8%	7.9%	9.0%
TRT Telecommunications	3.1%	3.6%	3.9%	4.0%	4.5%	5.1%	5.5%	5.6%	6.6%	6.4%	6.4%	7.4%	7.0%	---	---	---	---
Western Union	---	---	---	---	0.8%	1.2%	1.1%	1.3%	18.0%	3.1%	0.0%	---	---	---	---	---	---
Western Union International	20.2%	21.3%	22.1%	---	---	---	---	---	---	---	---	---	---	---	---	---	---
World Communications	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WorldCom, Inc. d/b/a LDDS WorldCom ^{5/}	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Other Carriers	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Telephone, Telex, Telegraph and Private Line																	
Alascom ^{2/}	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	---
All America Cable & Radio	0.7%	0.7%	1.0%	1.1%	1.2%	---	---	---	---	---	---	---	---	---	---	---	---
AT&T	69.6%	70.1%	66.0%	69.0%	72.5%	73.7%	72.8%	74.2%	77.4%	74.4%	73.8%	71.1%	68.7%	64.5%	64.1%	60.7%	65.3%
Cuban American	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	1.1%	0.8%	0.7%	0.7%	0.4%	0.4%	0.4%	0.4%	0.3%	0.4%
FTC Communications	0.3%	0.4%	0.5%	0.5%	0.7%	0.8%	1.0%	1.0%	0.8%	0.9%	0.9%	0.4%	0.4%	0.4%	0.4%	0.3%	0.4%
GTE / Hawaiian Telephone	6.1%	5.7%	6.6%	5.8%	1.2%	1.2%	1.0%	1.0%	0.8%	0.8%	0.9%	0.5%	0.6%	0.5%	0.4%	0.3%	0.4%
IDB WorldCom Svcs., Inc. ^{3/}	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ITT Communications-V.I.	0.5%	0.4%	0.5%	0.8%	0.5%	0.5%	0.5%	5.4%	---	---	---	---	---	---	---	---	---
ITT Worldcom	7.8%	7.6%	8.8%	7.7%	7.3%	7.0%	6.5%	5.4%	---	---	---	---	---	---	---	---	---
MCI / WUI ^{4/}	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RCA Globcom	7.6%	7.1%	7.4%	7.1%	7.3%	7.3%	6.7%	5.3%	8.3%	11.8%	15.1%	17.8%	20.6%	24.3%	23.4%	27.0%	22.0%
Sprint	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TRT Telecommunications	1.6%	1.9%	2.3%	2.1%	2.4%	0.1%	0.6%	1.3%	2.1%	3.9%	5.8%	6.5%	7.1%	9.0%	9.3%	8.1%	8.0%
U.S.-Liberia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	1.8%	2.2%	1.4%	0.9%	---	---	---	---
Western Union	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Western Union International	5.5%	5.8%	6.4%	---	---	---	1.9%	1.5%	4.5%	2.6%	1.5%	---	---	---	---	---	---
World Communications	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WorldCom, Inc. d/b/a LDDS WorldCom ^{5/}	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Other Carriers	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{1/} For switched services, net revenues equals billed revenues minus settlement payouts plus settlement receipts.

^{2/} For private line services, net revenues equals billed revenues.

^{3/} Alascom was sold to AT&T in August of 1995. The information reported for Alascom is for January through July of 1995.

^{4/} AT&T Alascom is included with AT&T for August through December of 1995.

^{5/} IDB WorldCom Svcs., Inc. figures consist also of TRT Telecommunications, World Communications, and CICI, Inc.

^{6/} MCI/WUI figures consist of MCI International, Inc. and Western Union International, Inc.

^{7/} LDDS Communications, Inc. acquired IDB WorldCom Svcs., Inc. in 1994. The company changed its name in 1995 from LDDS Communications Inc. d/b/a LDDS WorldCom to WorldCom, Inc. d/b/a LDDS WorldCom.

Table 22. Carrier Shares of International Telephone Service Revenues for Selected Markets
for Selected Countries

Country	Based on Billed Revenues for Continental U.S. Traffic													
	1985			1986			1987				1988			
	AT&T	MCI	Sprint	AT&T	MCI	Sprint	AT&T	MCI	Sprint	Others	AT&T	MCI	Sprint	Others
Australia	94.4%	3.6%	2.0%	87.0%	8.4%	4.6%	83.2%	9.5%	7.2%	0.1%	80.2%	12.2%	6.7%	0.8%
Brazil	90.6%	9.4%	0.0%	80.6%	19.4%	0.0%	90.8%	9.2%	0.0%	0.0%	87.1%	12.6%	0.0%	0.3%
Canada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
China	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Colombia	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	94.3%	4.6%	0.0%	1.0%
Dominican Rep.	100.0%	0.0%	0.0%	97.3%	0.0%	2.7%	96.5%	0.0%	3.5%	0.0%	98.6%	0.0%	1.4%	0.0%
Egypt	88.0%	8.3%	3.8%	89.3%	7.5%	3.3%	91.2%	8.8%	0.0%	0.0%	86.0%	13.2%	0.0%	0.8%
El Salvador	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
France	100.0%	0.0%	0.0%	93.9%	6.1%	0.0%	82.1%	10.8%	0.9%	6.2%	79.9%	13.7%	5.2%	0.0%
Germany 1/	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	92.3%	5.0%	2.6%	0.3%
Greece	92.4%	7.6%	0.0%	83.4%	16.6%	0.0%	89.3%	10.7%	0.0%	0.0%	86.3%	11.9%	1.9%	0.0%
Guatemala	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Hong Kong	98.5%	0.0%	1.5%	81.2%	8.5%	10.3%	81.3%	11.4%	7.2%	0.0%	79.5%	13.4%	6.5%	0.6%
India	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.1%	98.4%	0.0%	0.1%	1.5%
Israel	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	98.4%	1.6%	0.0%	0.0%	88.5%	8.8%	2.8%	0.0%
Italy	100.0%	0.0%	0.0%	98.3%	1.7%	0.0%	91.0%	6.2%	2.8%	0.0%	86.8%	9.3%	3.8%	0.0%
Jamaica	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Japan	100.0%	0.0%	0.0%	97.7%	1.5%	0.8%	88.8%	6.2%	5.0%	0.0%	83.6%	9.7%	6.7%	0.0%
Korea, Rep. of	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	99.4%	0.5%	0.1%	0.0%
Mexico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	100.0%	0.0%	0.0%	98.8%	1.2%	0.0%	92.3%	7.7%	0.0%	0.0%	84.5%	11.8%	3.7%	0.0%
Nigeria	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Pakistan	100.0%	0.0%	0.0%	99.8%	0.2%	0.0%	88.6%	11.4%	0.0%	0.0%	89.3%	10.7%	0.0%	0.0%
Peru	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	98.6%	0.0%	1.4%	0.0%	98.0%	0.0%	2.0%	0.0%
Philippines	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Poland	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Russia	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Saudi Arabia	94.6%	5.4%	0.0%	82.3%	17.7%	0.0%	89.3%	10.7%	0.0%	0.0%	85.6%	14.4%	0.0%	0.0%
South Africa	94.2%	5.8%	0.0%	92.3%	7.7%	0.0%	89.7%	10.3%	0.0%	0.0%	90.3%	9.7%	0.0%	0.0%
Spain	100.0%	0.0%	0.0%	97.4%	2.6%	0.0%	90.8%	6.7%	2.5%	0.0%	86.4%	9.7%	3.9%	0.0%
Switzerland	100.0%	0.0%	0.0%	99.8%	0.2%	0.0%	93.7%	6.3%	0.0%	0.0%	83.9%	12.4%	3.7%	0.0%
Taiwan	97.3%	1.7%	1.0%	83.4%	8.6%	8.0%	80.4%	12.7%	6.8%	0.0%	77.9%	14.3%	7.7%	0.2%
Thailand	93.9%	5.7%	0.4%	74.7%	11.0%	14.3%	86.8%	8.4%	4.8%	0.0%	82.4%	11.8%	5.8%	0.0%
United Kingdom	95.1%	3.6%	1.4%	87.5%	9.1%	3.4%	84.5%	9.9%	5.1%	0.0%	81.3%	11.8%	5.8%	1.0%

Country	Based on Settlement Receipts for Foreign Traffic to the Continental U.S.													
	1985			1986			1987				1988			
	AT&T	MCI	Sprint	AT&T	MCI	Sprint	AT&T	MCI	Sprint	Others	AT&T	MCI	Sprint	Others
Australia	97.2%	1.6%	1.2%	71.4%	17.9%	10.7%	78.3%	12.2%	9.5%	0.0%	78.6%	12.7%	8.6%	0.0%
Brazil	98.4%	1.6%	0.0%	77.7%	22.3%	0.0%	89.5%	10.5%	0.0%	0.0%	89.0%	11.0%	0.0%	0.0%
Canada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
China	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Colombia	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	97.2%	2.3%	0.0%	0.5%
Dominican Rep.	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	98.9%	0.0%	1.1%	0.0%	97.5%	0.0%	2.5%	0.0%
Egypt	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	90.5%	9.5%	0.0%	0.0%
El Salvador	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
France	100.0%	0.0%	0.0%	98.0%	2.0%	0.0%	82.9%	9.0%	1.1%	7.1%	75.4%	14.2%	4.8%	5.6%
Germany 1/	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	98.6%	1.1%	0.3%	0.3%
Greece	93.1%	6.5%	0.0%	72.9%	27.1%	0.0%	82.8%	17.2%	0.0%	0.0%	83.6%	15.6%	0.7%	0.0%
Guatemala	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Hong Kong	84.2%	9.7%	6.0%	84.3%	9.7%	6.0%	81.1%	13.0%	5.9%	0.0%	74.5%	17.8%	6.7%	1.0%
India	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Israel	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	98.2%	1.8%	0.0%	0.0%	91.3%	5.3%	3.4%	0.0%
Italy	100.0%	0.0%	0.0%	99.7%	0.3%	0.0%	81.8%	12.8%	5.3%	0.0%	78.6%	12.8%	8.6%	0.0%
Jamaica	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Japan	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	91.6%	4.4%	4.0%	0.0%	81.9%	11.5%	6.6%	0.0%
Korea, Rep. of	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	99.5%	0.5%	0.0%	0.0%
Mexico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	93.4%	6.6%	0.0%	0.0%	86.3%	11.2%	2.4%	0.0%
Nigeria	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Pakistan	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Peru	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Philippines	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Poland	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Russia	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Saudi Arabia	97.8%	2.2%	0.0%	80.2%	19.8%	0.0%	79.1%	20.9%	0.0%	0.0%	77.3%	27.0%	0.0%	0.0%
South Africa	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Spain	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	96.5%	3.5%	0.0%	0.0%	90.5%	7.6%	1.9%	0.0%
Switzerland	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	96.6%	3.4%	0.0%	0.0%	87.2%	9.3%	3.5%	0.0%
Taiwan	100.0%	0.0%	0.0%	96.6%	3.4%	0.0%	85.9%	9.1%	5.0%	0.0%	82.4%	10.1%	7.5%	0.0%
Thailand	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	95.8%	4.2%	0.0%	0.0%	86.6%	9.0%	4.4%	0.0%
United Kingdom	96.8%	2.7%	0.5%	85.8%	11.1%	3.1%	83.5%	10.3%	5.8%	0.4%	81.2%	10.2%	7.2%	1.4%

Note: n.a. - not available. Figures may not add to 100% due to rounding.

1/ West Germany through 1990.

Table 22. Carrier Shares of International Telephone Service Revenues for Selected Markets
for Selected Countries
(continued)

Country	Based on Billed Revenues for Continental U.S. Traffic															
	1989				1990				1991				1992			
	AT&T	MCI	Sprint	Others	AT&T	MCI	Sprint	Others	AT&T	MCI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others
Australia	76.1%	14.0%	8.2%	1.7%	70.6%	18.9%	9.6%	0.9%	70.2%	19.9%	9.1%	0.7%	67.2%	21.6%	10.2%	1.0%
Brazil	79.2%	14.6%	5.5%	0.6%	77.6%	16.6%	5.5%	0.2%	77.1%	17.2%	5.6%	0.1%	71.9%	20.8%	6.3%	1.0%
Canada	NA	NA	NA	NA	NA	NA	NA	NA	67.8%	19.9%	11.8%	0.4%	60.3%	22.7%	16.5%	0.5%
China	92.7%	1.3%	6.0%	0.0%	89.1%	2.9%	8.0%	0.0%	86.7%	9.6%	3.7%	0.0%	61.6%	30.3%	8.1%	0.0%
Colombia	85.9%	9.2%	3.2%	1.6%	80.9%	13.2%	5.4%	0.6%	79.7%	13.7%	5.8%	0.7%	78.8%	15.0%	4.8%	1.4%
Dominican Rep.	89.9%	7.6%	2.5%	0.0%	84.3%	11.4%	4.2%	0.0%	82.9%	11.4%	5.7%	0.0%	80.3%	13.1%	4.6%	2.0%
Egypt	83.0%	15.4%	0.0%	1.6%	76.4%	17.4%	5.3%	0.9%	74.3%	20.0%	5.0%	0.7%	76.8%	19.4%	3.3%	0.5%
El Salvador	99.9%	0.0%	0.0%	0.1%	92.7%	6.4%	0.7%	0.2%	86.0%	8.3%	5.7%	0.0%	82.6%	10.5%	6.6%	0.2%
France	76.2%	14.7%	6.6%	2.4%	72.0%	17.6%	7.8%	2.6%	70.6%	19.0%	8.6%	1.8%	68.4%	21.1%	8.8%	1.7%
Germany 1/	84.6%	9.8%	5.6%	0.0%	81.3%	12.5%	6.2%	0.0%	80.8%	13.2%	5.9%	0.0%	76.6%	16.5%	6.6%	0.3%
Greece	81.4%	13.0%	5.6%	0.0%	76.5%	18.3%	5.1%	0.1%	76.0%	19.5%	4.6%	0.0%	73.0%	22.3%	4.8%	0.0%
Guatemala	92.9%	4.4%	2.1%	0.6%	85.7%	9.8%	3.9%	0.6%	83.7%	10.6%	5.2%	0.5%	82.3%	11.3%	6.0%	0.3%
Hong Kong	73.8%	17.1%	8.1%	1.0%	68.0%	22.5%	8.6%	0.8%	66.1%	25.4%	7.9%	0.7%	60.7%	30.4%	8.0%	0.9%
India	83.0%	11.5%	4.1%	1.4%	83.3%	14.9%	1.4%	0.4%	76.9%	19.7%	3.2%	0.1%	66.2%	26.9%	6.5%	0.4%
Israel	80.6%	13.4%	6.0%	0.0%	76.4%	15.7%	8.0%	0.0%	76.7%	16.3%	7.0%	0.0%	70.9%	19.9%	9.3%	0.0%
Italy	83.2%	11.5%	5.3%	0.0%	79.2%	14.6%	6.3%	0.0%	78.1%	16.2%	5.7%	0.0%	74.5%	19.3%	6.2%	0.0%
Jamaica	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	93.5%	6.5%	0.0%	0.0%	86.4%	11.2%	2.4%	0.0%
Japan	78.5%	12.4%	9.1%	0.0%	73.0%	17.4%	9.6%	0.1%	71.5%	19.9%	8.4%	0.3%	67.5%	23.2%	8.6%	0.8%
Korea, Rep. of	88.0%	8.1%	3.9%	0.1%	81.7%	16.1%	2.1%	0.1%	74.0%	20.9%	4.8%	0.2%	66.3%	28.0%	5.4%	0.3%
Mexico	NA	NA	NA	NA	NA	NA	NA	NA	78.5%	12.7%	8.7%	0.1%	74.2%	17.0%	8.6%	0.1%
Netherlands	72.7%	18.8%	8.4%	0.1%	74.1%	18.5%	7.3%	0.1%	72.1%	19.9%	7.9%	0.1%	68.5%	21.9%	8.9%	0.6%
Nigeria	100.0%	0.0%	0.0%	0.0%	97.0%	0.3%	0.0%	0.0%	74.9%	24.8%	0.3%	0.0%	61.9%	27.6%	10.5%	0.0%
Pakistan	84.2%	10.0%	5.8%	0.0%	83.8%	11.9%	4.2%	0.1%	81.2%	15.7%	3.0%	0.2%	79.4%	16.7%	3.6%	0.3%
Peru	87.6%	8.8%	2.4%	1.2%	79.5%	15.0%	4.5%	1.0%	77.5%	16.9%	4.8%	0.8%	78.8%	16.3%	4.0%	0.8%
Philippines	100.0%	0.0%	0.0%	0.0%	98.2%	0.7%	0.0%	1.1%	84.3%	10.8%	5.0%	0.0%	76.5%	18.6%	4.9%	0.0%
Poland	96.7%	3.3%	0.0%	0.0%	94.7%	5.2%	0.0%	0.1%	90.4%	7.4%	2.2%	0.0%	78.8%	14.8%	6.4%	0.0%
Russia	100.0%	0.0%	0.0%	0.0%	96.1%	3.3%	0.0%	0.6%	91.1%	8.9%	0.0%	0.0%	84.5%	9.1%	0.2%	6.2%
Saudi Arabia	82.0%	18.0%	0.0%	0.0%	82.5%	17.5%	0.0%	0.0%	72.9%	14.2%	0.1%	12.9%	68.9%	24.3%	6.7%	0.0%
South Africa	83.0%	17.0%	0.0%	0.0%	79.9%	19.9%	0.0%	0.2%	74.7%	21.4%	3.9%	0.0%	69.9%	22.0%	8.1%	0.0%
Spain	82.9%	11.9%	5.2%	0.0%	77.8%	16.0%	6.2%	0.0%	75.8%	18.1%	6.1%	0.0%	72.0%	20.5%	7.4%	0.0%
Switzerland	76.4%	14.3%	9.3%	0.0%	74.3%	17.9%	7.6%	0.2%	71.3%	19.0%	8.0%	1.6%	67.4%	21.5%	8.8%	2.2%
Taiwan	72.7%	17.0%	9.3%	0.9%	62.4%	27.9%	9.5%	0.2%	57.8%	35.1%	6.9%	0.2%	52.6%	40.6%	6.5%	0.3%
Thailand	78.4%	13.8%	7.8%	0.0%	68.2%	24.0%	7.3%	0.5%	62.6%	31.7%	5.8%	0.0%	55.9%	38.6%	5.5%	0.0%
United Kingdom	76.5%	14.8%	7.2%	1.5%	73.2%	17.0%	9.0%	0.8%	70.3%	19.8%	9.1%	0.7%	68.7%	20.8%	9.5%	1.0%

Country	Based on Settlement Receipts for Foreign Traffic to the Continental U.S.															
	1989				1990				1991				1992			
	AT&T	MCI	Sprint	Others	AT&T	MCI	Sprint	Others	AT&T	MCI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others
Australia	71.6%	16.2%	11.6%	0.7%	69.5%	18.6%	10.6%	1.3%	68.3%	19.5%	10.6%	1.6%	65.5%	21.2%	11.6%	1.7%
Brazil	82.5%	16.7%	0.8%	0.0%	73.4%	18.7%	7.8%	0.0%	73.6%	21.3%	5.1%	0.0%	71.9%	20.8%	6.3%	1.0%
Canada	NA	NA	NA	NA	NA	NA	NA	NA	74.4%	15.6%	10.0%	0.0%	76.8%	17.0%	6.2%	0.0%
China	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	98.5%	0.8%	0.6%	0.1%	71.4%	22.4%	6.2%	0.0%
Colombia	85.1%	11.7%	1.4%	1.8%	84.1%	9.5%	5.7%	0.7%	69.2%	21.6%	8.3%	0.9%	81.5%	10.6%	5.1%	2.8%
Dominican Rep.	86.1%	11.7%	2.2%	0.0%	81.6%	14.4%	4.0%	0.0%	78.3%	16.1%	5.6%	0.0%	77.5%	12.7%	5.9%	3.9%
Egypt	77.9%	21.2%	0.0%	0.9%	68.5%	23.7%	0.0%	7.8%	63.1%	32.6%	0.0%	4.4%	63.0%	34.3%	0.3%	4.3%
El Salvador	100.0%	0.0%	0.0%	0.0%	79.9%	18.7%	1.4%	0.0%	83.3%	8.0%	8.6%	0.0%	89.9%	5.5%	4.6%	0.0%
France	68.1%	15.6%	10.5%	5.8%	64.4%	21.3%	8.1%	6.2%	67.2%	19.9%	9.2%	3.7%	66.2%	22.1%	8.5%	3.2%
Germany 1/	79.9%	14.3%	5.8%	0.0%	67.3%	20.3%	12.4%	0.0%	57.4%	32.7%	9.9%	0.0%	54.0%	31.1%	14.9%	0.0%
Greece	78.2%	17.2%	4.6%	0.0%	78.0%	16.0%	5.9%	0.1%	76.8%	14.7%	8.5%	0.0%	76.9%	19.3%	3.8%	0.0%
Guatemala	88.8%	6.2%	4.9%	0.0%	82.5%	14.5%	2.3%	0.7%	72.0%	18.9%	6.6%	2.5%	70.6%	18.9%	9.2%	1.3%
Hong Kong	69.1%	19.7%	9.8%	1.4%	67.0%	21.5%	10.2%	1.4%	63.0%	26.3%	9.3%	1.4%	60.8%	29.3%	8.7%	1.2%
India	94.9%	5.1%	0.0%	0.0%	90.3%	9.6%	0.0%	0.1%	87.6%	11.6%	0.8%	0.0%	63.7%	29.3%	7.0%	0.0%
Israel	86.8%	9.8%	3.4%	0.0%	75.5%	17.2%	7.3%	0.0%	78.1%	14.5%	7.4%	0.0%	71.0%	19.6%	9.3%	0.0%
Italy	72.0%	17.5%	10.4%	0.0%	65.0%	17.8%	17.2%	0.0%	68.3%	19.0%	12.7%	0.0%	72.4%	23.9%	3.7%	0.0%
Jamaica	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	98.5%	1.5%	0.0%	0.0%	92.5%	7.5%	0.0%	0.0%
Japan	77.2%	13.8%	9.0%	0.0%	76.4%	10.6%	13.0%	0.0%	68.8%	18.8%	12.4%	0.0%	67.7%	23.4%	8.8%	0.1%
Korea, Rep. of	87.3%	10.4%	2.3%	0.0%	77.5%	14.8%	7.1%	0.7%	67.8%	23.4%	7.9%	0.9%	72.4%	22.1%	5.2%	0.3%
Mexico	NA	NA	NA	NA	NA	NA	NA	NA	81.9%	10.5%	7.6%	0.0%	74.7%	13.8%	11.5%	0.0%
Netherlands	80.4%	14.9%	4.7%	0.0%	76.9%	17.0%	6.1%	0.0%	64.3%	24.0%	11.7%	0.0%	60.3%	29.3%	10.4%	0.0%
Nigeria	100.0%	0.0%	0.0%	0.0%	96.2%	3.8%	0.0%	0.0%	58.2%	41.8%	0.0%	0.0%	67.4%	25.0%	7.5%	0.0%
Pakistan	99.4%	0.6%	0.0%	0.0%	96.1%	3.9%	0.0%	0.0%	83.2%	16.8%	0.0%	0.0%	69.4%	30.6%	0.0%	0.0%
Peru	82.3%	14.3%	0.0%	3.4%	72.4%	23.9%	0.0%	3.7%	79.2%	16.1%	3.3%	1.4%	69.4%	20.1%	7.6%	3.0%
Philippines	100.0%	0.0%	0.0%	0.0%	86.1%	0.0%	1.0%	12.9%	95.3%	1.8%	2.9%	0.0%	77.1%	17.7%	4.6%	0.5%
Poland	100.0%	0.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.1%	92.8%	4.2%	2.9%	0.0%	62.2%	37.8%	0.0%	0.0%
Russia	100.0%	0.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.1%	100.0%	0.0%	0.0%	0.0%	99.2%	0.0%	0.0%	0.8%
Saudi Arabia	85.0%	15.0%	0.0%	0.0%	73.5%	26.5%	0.0%	0.0%	30.9%	69.1%	0.0%	0.0%	68.7%	25.2%	6.0%	0.0%
South Africa	100.0%	0.0%	0.0%	0.0%	99.8%	0.0%	0.0%	0.2%	93.3%	6.7%	0.0%	0.0%	68.2%	22.8%	9.0%	0.0%
Spain	91.4%	6.8%	1.8%	0.0%	85.8%	11.4%	2.8%	0.0%	77.3%	17.8%	4.9%	0.0%	65.7%	23.8%	10.6%	0.0%
Switzerland	73.8%	18.4%	7.8%	0.0%	71.7%	22.4%	6.0%	0.0%	67.6%	20.5%	9.8%	2.1%	59.6%	24.9%	10.0%	5.6%
Taiwan	75.5%	14.1%	10.4%	0.0%	69.2%	19.5%	11.3%	0.0%	60.1%	30.2%	9.7%	0.0%	54.2%	37.6%	8.2%	0.0%
Thailand	78.2%	11.9%	9.9%	0.0%	81.4%	7.8%	8.7%	2.1%	68.5%	22.8%	8.7%	0.0%	55.4%	38.4%	6.2%	0.0%
United Kingdom	73.2%	15.8%	8.2%	2.7%	65.5%	20.4%	11.6%	2.4%	66.5%	21.3%	11.3%	0.9%	65.0%	21.7%	11.2%	2.1%

Note: n.a. - not available. Figures may not add to 100% due to rounding.

1/ West Germany through 1990.

Table 22. Carrier Shares of International Telephone Service Revenues for Selected Markets
for Selected Countries
(continued)

Country	Based on Billed Revenues for Continental U.S. Traffic															
	1993				1994				1995				1996			
	AT&T	MCI/WUI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others
Australia	64.6%	21.8%	12.2%	1.3%	64.2%	20.7%	13.4%	1.7%	55.4%	21.2%	14.1%	9.3%	59.2%	22.1%	11.3%	7.4%
Brazil	65.2%	25.8%	8.8%	0.1%	65.3%	22.6%	10.0%	2.1%	61.6%	24.6%	8.0%	5.9%	57.3%	32.1%	9.4%	1.3%
Canada	57.8%	25.4%	15.8%	1.0%	60.0%	26.5%	11.5%	2.0%	60.3%	26.6%	10.0%	3.1%	61.4%	24.0%	12.4%	2.3%
China	48.3%	38.5%	13.2%	0.0%	49.9%	34.2%	15.9%	0.0%	49.3%	37.0%	10.9%	2.8%	56.2%	27.0%	11.1%	5.6%
Colombia	70.1%	21.1%	7.1%	1.7%	67.7%	22.0%	7.8%	2.5%	56.5%	34.1%	6.2%	3.2%	56.4%	23.2%	7.9%	12.6%
Dominican Rep.	69.9%	20.3%	7.2%	2.6%	80.3%	13.1%	4.6%	2.0%	51.8%	36.6%	4.8%	6.8%	44.4%	28.7%	5.6%	21.2%
Egypt	69.7%	23.3%	6.4%	0.7%	65.4%	25.4%	8.0%	1.2%	61.7%	27.1%	8.6%	2.6%	59.0%	20.5%	12.6%	7.9%
El Salvador	78.9%	15.4%	5.6%	0.0%	76.2%	16.7%	7.1%	0.0%	69.6%	24.1%	6.3%	0.0%	68.2%	23.0%	8.8%	0.0%
France	65.4%	22.6%	10.0%	2.0%	61.2%	21.7%	11.7%	5.4%	58.0%	27.6%	10.7%	3.7%	62.0%	21.4%	10.8%	5.7%
Germany 1/	72.4%	19.2%	8.5%	0.0%	70.8%	19.2%	9.9%	0.1%	65.2%	23.1%	10.0%	1.7%	69.1%	21.5%	7.7%	1.7%
Greece	66.8%	27.9%	5.4%	0.0%	68.1%	24.9%	7.0%	0.0%	67.1%	25.6%	6.6%	0.8%	66.7%	22.5%	7.8%	3.0%
Guatemala	76.7%	17.0%	5.7%	0.5%	72.8%	18.4%	7.8%	1.0%	67.5%	23.6%	7.2%	1.8%	63.7%	20.0%	12.6%	3.7%
Hong Kong	53.2%	33.8%	11.2%	1.8%	52.0%	34.1%	11.9%	2.0%	40.4%	36.7%	19.5%	3.3%	34.0%	37.1%	27.0%	1.9%
India	51.9%	38.4%	9.0%	0.8%	54.1%	33.9%	11.0%	1.0%	47.3%	44.8%	6.8%	1.2%	49.0%	38.8%	10.4%	1.8%
Israel	57.4%	27.0%	15.0%	0.6%	57.7%	25.7%	14.3%	2.3%	55.1%	29.6%	12.6%	2.7%	62.2%	22.6%	10.2%	5.0%
Italy	71.0%	22.0%	6.9%	0.0%	70.6%	21.2%	8.1%	0.1%	67.1%	20.1%	9.9%	2.9%	70.9%	16.0%	10.9%	2.2%
Jamaica	80.9%	13.6%	5.5%	0.0%	78.6%	16.1%	5.4%	0.0%	69.3%	24.7%	6.0%	0.0%	56.1%	31.7%	12.2%	0.0%
Japan	61.0%	26.9%	10.9%	1.3%	62.8%	23.1%	12.6%	1.4%	54.6%	31.8%	10.0%	3.6%	56.2%	28.7%	11.1%	4.0%
Korea, Rep. of	56.0%	34.5%	8.9%	0.7%	58.8%	29.6%	10.7%	0.9%	56.8%	30.2%	10.4%	2.5%	57.1%	28.1%	11.3%	3.4%
Mexico	70.8%	20.3%	8.8%	0.2%	69.0%	21.4%	8.3%	1.3%	67.2%	22.5%	8.0%	2.5%	68.7%	20.2%	8.7%	2.4%
Netherlands	67.5%	22.9%	9.5%	0.0%	62.5%	21.7%	13.3%	2.6%	57.0%	22.1%	13.1%	7.9%	61.6%	18.5%	12.1%	7.7%
Nigeria	56.9%	32.6%	10.5%	0.0%	59.1%	28.6%	12.3%	0.0%	51.1%	38.4%	10.5%	0.0%	48.5%	30.2%	21.3%	0.1%
Pakistan	66.8%	28.6%	4.6%	0.0%	67.1%	25.2%	7.6%	0.1%	60.4%	32.8%	6.7%	0.0%	55.5%	36.4%	7.2%	0.8%
Peru	69.6%	24.4%	5.1%	0.9%	66.9%	25.0%	6.3%	1.8%	63.7%	28.5%	5.5%	2.4%	62.8%	29.0%	6.7%	1.5%
Philippines	64.8%	29.7%	5.6%	0.0%	65.2%	27.1%	7.5%	0.2%	62.8%	29.2%	7.2%	0.8%	64.3%	27.3%	7.8%	0.7%
Poland	73.6%	17.8%	8.5%	0.0%	71.4%	16.8%	11.8%	0.0%	68.8%	20.3%	10.9%	0.0%	68.5%	21.4%	8.1%	1.9%
Russia	60.5%	20.0%	6.5%	13.0%	59.8%	22.8%	12.4%	5.0%	57.8%	28.1%	11.1%	3.0%	53.4%	22.3%	16.1%	8.2%
Saudi Arabia	63.9%	28.9%	7.2%	0.0%	61.6%	29.8%	8.6%	0.0%	59.0%	31.2%	9.5%	0.3%	59.3%	25.4%	15.2%	0.1%
South Africa	56.3%	33.0%	10.6%	0.0%	52.2%	27.8%	20.0%	0.0%	45.2%	39.5%	15.3%	0.1%	53.7%	24.9%	19.9%	1.6%
Spain	63.7%	28.6%	7.6%	0.0%	66.5%	22.1%	9.7%	1.8%	63.9%	20.6%	10.7%	4.8%	67.3%	16.4%	10.2%	6.2%
Switzerland	65.2%	21.0%	10.9%	2.9%	63.3%	21.9%	11.5%	3.2%	59.3%	23.4%	13.1%	4.2%	61.3%	16.9%	12.5%	9.2%
Taiwan	39.9%	46.6%	13.2%	0.3%	43.3%	40.3%	15.6%	0.8%	41.5%	45.0%	11.4%	2.1%	44.6%	37.2%	14.2%	3.9%
Thailand	45.1%	48.9%	6.0%	0.0%	47.4%	43.1%	9.6%	0.0%	43.0%	47.1%	9.4%	0.5%	49.4%	35.6%	14.8%	0.1%
United Kingdom	66.3%	21.7%	10.9%	1.2%	66.3%	22.3%	10.2%	1.2%	63.2%	23.8%	9.6%	3.4%	68.2%	15.8%	9.9%	6.1%

Based on Settlement Receipts for Foreign Traffic to the Continental U.S.

Country	Based on Settlement Receipts for Foreign Traffic to the Continental U.S.															
	1993				1994				1995				1996			
	AT&T	MCI/WUI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others	AT&T	MCI/WUI	Sprint	Others
Australia	62.7%	24.4%	11.4%	1.6%	59.0%	23.9%	11.6%	5.5%	52.5%	23.1%	14.9%	9.5%	43.9%	19.3%	20.3%	16.5%
Brazil	77.0%	17.6%	5.4%	0.0%	66.7%	24.8%	7.7%	0.8%	62.6%	22.1%	9.3%	6.1%	58.0%	21.7%	10.6%	9.7%
Canada	68.9%	18.6%	9.6%	2.9%	59.6%	24.3%	9.6%	6.5%	62.3%	25.8%	9.0%	2.9%	52.8%	23.7%	19.6%	3.9%
China	60.1%	32.3%	7.6%	0.0%	56.0%	33.2%	10.8%	0.0%	49.1%	36.8%	12.2%	1.8%	49.7%	35.1%	10.0%	5.2%
Colombia	70.3%	21.6%	6.6%	1.5%	65.3%	25.2%	7.7%	1.8%	57.5%	30.2%	6.1%	6.2%	42.7%	35.4%	10.1%	11.8%
Dominican Rep.	80.6%	11.1%	4.2%	4.0%	69.2%	22.9%	6.0%	1.9%	67.5%	23.7%	5.6%	3.2%	44.4%	37.8%	4.6%	13.2%
Egypt	74.7%	20.6%	3.9%	0.8%	62.9%	29.6%	6.2%	1.3%	49.3%	31.6%	13.1%	6.0%	42.2%	28.7%	17.1%	12.0%
El Salvador	90.0%	5.4%	4.6%	0.0%	87.8%	7.2%	5.0%	0.0%	75.1%	17.2%	7.8%	0.0%	67.3%	27.6%	5.0%	0.0%
France	63.4%	20.6%	12.4%	3.7%	55.5%	26.6%	12.7%	5.2%	51.9%	25.8%	13.5%	8.7%	45.3%	32.5%	14.9%	7.4%
Germany 1/	66.9%	22.0%	11.1%	0.0%	65.6%	24.5%	9.9%	0.0%	56.4%	28.5%	13.1%	2.0%	49.8%	32.6%	11.5%	6.2%
Greece	60.4%	34.2%	5.4%	0.0%	49.3%	49.0%	1.7%	0.0%	61.7%	26.9%	11.4%	0.0%	59.9%	33.3%	6.8%	0.0%
Guatemala	64.8%	24.2%	9.3%	1.6%	51.7%	33.3%	11.3%	3.6%	37.9%	37.9%	12.5%	11.7%	43.0%	37.8%	3.5%	15.6%
Hong Kong	51.8%	36.2%	9.7%	2.2%	44.4%	38.8%	12.5%	4.3%	38.8%	37.0%	15.9%	8.2%	21.5%	34.5%	40.9%	3.1%
India	54.4%	39.0%	6.6%	0.0%	52.7%	36.6%	10.3%	0.4%	45.5%	46.5%	6.6%	1.4%	44.2%	44.6%	9.4%	1.8%
Israel	55.8%	29.5%	14.4%	0.3%	59.0%	24.5%	16.5%	0.0%	53.5%	25.2%	14.9%	6.4%	54.1%	27.3%	13.7%	4.8%
Italy	64.2%	22.8%	13.0%	0.0%	69.8%	21.8%	8.4%	0.0%	62.0%	22.5%	12.6%	2.8%	52.7%	23.5%	18.3%	5.4%
Jamaica	78.6%	17.7%	3.7%	0.0%	70.4%	21.2%	8.4%	0.0%	73.9%	18.9%	7.2%	0.0%	58.2%	35.7%	6.2%	0.0%
Japan	64.7%	23.9%	10.3%	1.1%	59.4%	26.1%	12.0%	2.5%	54.1%	28.3%	12.1%	5.5%	44.3%	35.3%	12.6%	7.8%
Korea, Rep. of	61.6%	30.3%	7.6%	0.4%	57.4%	31.2%	10.1%	1.3%	56.0%	30.8%	10.0%	3.2%	52.9%	30.2%	13.1%	3.8%
Mexico	71.7%	18.1%	10.1%	0.0%	70.9%	19.6%	8.5%	1.1%	62.7%	26.3%	7.7%	3.4%	61.4%	24.6%	10.1%	3.9%
Netherlands	68.1%	22.8%	9.0%	0.0%	63.7%	23.1%	11.2%	2.1%	58.8%	25.8%	15.3%	0.1%	55.7%	23.4%	13.9%	7.0%
Nigeria	65.7%	26.0%	8.3%	0.0%	51.3%	36.4%	12.3%	0.0%	55.4%	36.8%	7.8%	0.0%	48.0%	41.3%	10.7%	0.0%
Pakistan	69.9%	25.6%	4.6%	0.0%	70.0%	22.6%	7.4%	0.0%	64.1%	27.1%	8.8%	0.0%	41.5%	52.1%	6.4%	0.0%
Peru	69.0%	19.0%	8.8%	3.1%	63.1%	23.8%	8.9%	4.2%	58.8%	28.3%	8.0%	4.9%	53.6%	34.0%	8.9%	3.5%
Philippines	59.4%	35.5%	4.7%	0.5%	56.3%	36.2%	6.6%	0.9%	60.7%	30.4%	8.1%	0.8%	63.1%	28.8%	7.4%	0.8%
Poland	78.0%	15.1%	6.9%	0.0%	60.3%	32.9%	6.7%	0.1%	58.6%	30.3%	11.1%	0.0%	69.5%	21.1%	9.4%	0.0%
Russia	79.4%	13.5%	5.2%	1.8%	45.0%	43.4%	9.3%	2.3%	53.0%	27.5%	15.2%	4.4%	50.4%	29.7%	14.9%	5.0%
Saudi Arabia	72.0%	20.8%	7.2%	0.0%	60.3%	32.7%	7.0%	0.0%	56.7%	37.0%	6.3%	0.0%	52.4%	37.5%	10.1%	0.0%
South Africa	62.0%	28.1%	9.9%	0.0%	54.7%	33.8%	11.5%	0.0%	43.9%	38.3%	17.8%	0.0%	38.4%	46.2%	15.4%	0.0%
Spain	65.3%	25.1%	9.6%	0.0%	59.8%	29.8%	8.0%	2.4%	55.6%	30.1%	11.1%	3.2%	55.0%	26.8%	11.9%	6.3%
Switzerland	65.7%	24.1%	10.3%	0.0%	92.3%	7.7%	0.0%	0.0%	46.3%	29.6%	14.2%	9.9%	39.8%	26.7%	14.8%	18.7%
Taiwan	45.3%	46.0%	8.7%	0.0%	40.6%	43.6%	15.8%	0.0%	41.5%	40.9%	13.9%	3.6%	41.5%	38.2%	14.5%	5.8%
Thailand	43.2%	51.3%	5.5%	0.0%	44.7%	48.1%	7.1%	0.1%	42.3%	47.9%	9.8%	0.0%	38.3%	54.9%	6.8%	0.0%
United Kingdom	61.8%	24.8%	11.4%	2.0%	56.5%	29.0%	11.2%	3.3%	49.4%	26.5%	12.0%	12.0%	50.3%	23.1%	13.0%	13.7%

Note: n.a. - not available. Figures may not add to 100% due to rounding.

1/ West Germany through 1990.

Table 23. Net Settlement Payments for Telephone Service to Selected Countries 1/

(Amounts shown in millions of dollars)

Country	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Trend growth 2/	
Australia 3/	\$0.3	\$0.2	(\$0.5)	\$0.0	\$0.6	(\$0.9)	(\$1.4)	(\$1.7)	(\$1.3)	\$0.2	(\$3.9)	(\$1.7)	\$1.8	\$2.8	\$0.7	\$0.9	(\$1.4)	(\$0.8)	(\$6.2)	(\$19.0)	\$8.7	\$21.9	n.a.	
Brazil	1.2	0.3	1.2	2.6	(10.6)	1.9	2.4	7.2	16.4	19.3	21.4	30.9	25.4	36.7	43.6	51.4	50.1	70.8	90.7	104.2	102.6	131.9	14.7%	
Canada	NA	NA	NA	2.0	(0.2)	(3.7)	(1.1)	19.0	31.4	22.4	8.1	1.3	(19.3)	(0.3)	4.7	36.2	112.8	120.6	130.3	136.6	125.3	99.7	99.7	-4.1%
China	0.1	0.1	0.2	0.3	1.5	1.5	1.6	2.0	2.4	3.1	3.6	5.3	11.5	19.1	26.3	30.9	45.7	62.7	77.4	151.9	231.1	262.9	48.5%	
Colombia	2.2	2.6	3.3	6.5	12.3	11.6	17.0	25.0	39.9	46.4	37.3	47.7	57.8	63.3	70.9	77.6	88.4	95.8	111.7	122.9	131.9	139.2	9.5%	
Dominican Rep.	1.6	3.0	3.0	5.2	8.2	10.7	10.9	13.1	32.2	21.6	23.9	44.7	48.0	61.9	75.3	80.8	114.2	125.8	119.2	125.0	125.5	110.8	110.8	-2.6%
Egypt	0.2	0.4	0.5	0.7	1.0	2.2	3.8	4.4	9.3	11.9	14.6	16.1	16.6	18.2	21.4	22.7	27.7	33.4	33.3	37.0	41.7	58.8	58.8	13.1%
El Salvador	0.5	0.3	1.2	2.6	3.3	5.9	7.1	10.9	12.6	16.7	17.7	22.2	26.7	33.0	42.6	52.8	60.3	64.0	65.0	69.6	77.1	74.9	74.9	5.0%
France	(5.2)	2.3	(3.5)	2.2	1.3	0.4	7.7	10.9	12.9	26.7	16.1	27.2	26.4	31.4	32.9	42.8	38.9	38.7	40.7	41.5	44.3	45.2	45.2	4.0%
Germany 4/	10.2	15.9	18.6	36.3	44.5	26.5	62.7	79.2	76.1	95.2	55.4	87.7	126.1	153.1	167.2	222.5	257.5	187.6	129.5	79.4	64.2	53.0	53.0	-27.6%
Greece	(1.6)	(1.6)	(0.6)	(1.7)	(1.2)	(23.0)	3.7	7.2	12.1	13.4	15.6	22.3	26.5	28.4	30.2	35.8	43.3	39.6	38.6	36.0	34.0	26.9	26.9	-8.6%
Guatemala	1.0	1.8	1.8	2.2	2.4	2.1	3.4	5.1	6.8	8.0	9.9	12.5	19.1	22.9	32.3	40.2	47.8	47.5	52.1	56.7	58.7	63.9	63.9	7.4%
Hong Kong	1.4	1.6	2.0	3.1	4.2	6.2	4.9	7.8	9.2	12.3	11.4	19.6	17.8	14.0	14.1	15.7	19.5	24.8	33.9	56.7	106.2	207.9	207.9	71.5%
India	0.4	1.1	1.5	2.0	3.2	4.6	5.2	5.4	9.6	15.2	15.7	14.9	7.9	8.1	13.8	20.0	27.6	31.9	58.1	109.3	202.9	298.0	298.0	76.4%
Israel	2.5	2.8	3.0	7.3	6.8	4.0	11.5	18.2	24.1	35.1	39.9	43.9	44.4	47.4	57.5	67.9	93.2	93.3	104.9	128.4	119.0	103.3	103.3	3.2%
Italy	6.8	8.7	10.8	14.1	14.9	17.7	9.1	17.4	22.9	28.8	30.1	40.8	51.5	59.6	69.5	77.9	84.2	59.8	85.1	72.2	65.9	51.7	51.7	-5.4%
Jamaica	1.1	0.9	2.5	3.5	5.6	6.8	1.2	2.9	12.5	17.4	16.0	13.9	24.9	30.3	32.6	47.5	56.2	64.3	78.3	93.0	99.5	115.3	115.3	15.1%
Japan	2.9	2.9	3.4	9.6	20.5	29.5	29.1	38.0	46.6	59.4	52.9	62.4	76.4	91.4	78.5	72.5	45.3	38.5	52.0	76.7	119.2	169.3	169.3	46.1%
Korea, Rep. of	3.4	4.8	6.3	8.2	10.8	17.3	18.8	30.4	43.1	60.1	72.0	76.7	85.2	106.2	111.7	110.6	99.3	92.2	103.0	110.9	118.7	122.6	122.6	7.4%
Mexico	NA	NA	NA	60.1	82.7	84.5	159.0	191.7	201.4	218.4	222.1	247.1	312.6	410.9	533.9	573.5	613.2	676.9	720.0	818.9	871.7	875.0	875.0	7.3%
Netherlands	-0.2	-0.7	-1.9	1.4	1.0	-2.9	4.2	0.2	1.2	1.9	-0.3	-2.2	5.1	7.6	7.0	10.6	10.2	10.2	8.1	10.8	22.2	22.9	22.9	29.5%
Nigeria	0	-0.2	-0.1	0	-0.6	-0.4	-1.6	-0.1	-1.5	2.2	5.2	5.7	6.9	5.0	3.5	3.1	10.9	17.0	18.8	9.5	8.5	41.7	41.7	10.4%
Pakistan	0.3	0.3	0.4	0.4	0.7	1.2	3.6	4.5	9.1	14.4	12.9	19.0	28.2	32.0	40.1	43.0	58.3	63.8	67.7	88.0	107.3	127.6	127.6	19.8%
Peru	0.6	0.7	1.7	2.6	4.3	7.0	7.6	11.4	19.4	21.9	20.1	22.3	24.9	29.8	40.0	51.1	56.6	54.2	53.4	58.7	62.1	72.2	72.2	7.5%
Philippines	5.2	5.6	6.4	9.3	13.9	18.6	21.1	30.7	45.4	60.8	63.2	78.2	86.0	94.7	114.8	140.5	158.2	151.4	140.1	145.5	154.2	156.6	156.6	1.6%
Poland	0.3	0.3	0.3	0.3	0.3	0.7	1.6	1.4	3.8	9.8	15.8	19.3	27.7	32.2	36.2	46.4	44.9	32.4	31.8	42.1	52.4	57.9	57.9	18.0%
Russia	-0.5	-0.5	-0.5	0.1	0	0.3	1.1	1.4	1.0	1.8	1.8	2.1	2.8	3.7	3.5	6.5	16.0	39.3	20.8	39.0	60.6	67.2	67.2	22.8%
Saudi Arabia	0.3	1.5	2.8	3.7	10.1	9.5	17.9	(7.3)	6.4	15.0	7.2	11.6	9.7	9.8	11.2	39.0	114.2	30.6	37.7	50.2	66.9	77.6	77.6	27.6%
South Africa 5/	0	-1	-1.9	-1.8	-4.9	-2.6	-3.1	-2.6	-2.4	-0.6	1.0	1.7	2.8	3.9	6.2	6.8	8.0	9.1	13.0	18.1	27.0	36.7	36.7	41.3%
Spain	1.4	1.7	1.9	2.9	1.8	1.2	3.5	6.7	9.2	11.5	11.6	16.2	18.8	24.1	23.0	30.3	41.1	48.0	54.9	55.7	52.9	36.6	36.6	-6.1%
Switzerland	1.1	1.9	2.0	5.2	2.0	9.5	9.3	7.9	10.5	11.2	6.4	10.0	10.4	11.4	10.5	8.2	13.9	13.4	15.6	17.9	19.1	22.7	22.7	13.4%
Taiwan	0.9	1.0	1.4	2.5	2.3	5.7	5.5	11.9	20.1	26.8	28.7	36.1	39.5	43.9	45.0	48.1	36.0	43.5	48.8	79.0	95.0	118.5	118.5	30.5%
Thailand	1.7	0.9	1.1	1.6	2.7	3.5	4.0	6.9	9.1	12.4	15.7	23.2	22.8	25.9	30.2	31.4	32.0	32.7	36.2	44.8	50.7	64.2	64.2	18.2%
United Kingdom	6.4	8.0	7.3	3.2	2.1	19.3	22.4	13.5	11.3	22.6	8.5	32.6	41.5	44.5	46.2	74.8	88.3	72.1	67.3	77.1	55.2	41.1	41.1	-12.8%
Sum of the above countries	46.5	67.6	75.6	198.2	247.5	276.3	453.7	580.7	762.9	943.3	877.7	1,111.3	1,316.4	1,606.9	1,877.0	2,219.8	2,612.4	2,585.1	2,733.9	3,144.4	3,582.3	3,971.7	3,971.7	11.8%
Four highest for year	28.6	38.2	43.1	120.1	162.6	159.8	273.2	339.7	369.5	434.5	412.7	489.7	609.9	764.9	927.6	1,047.1	1,143.1	1,141.7	1,119.8	1,252.9	1,459.9	1,636.6	1,636.6	6.2%
Ten highest for year	42.9	56.6	64.9	161.8	224.7	245.2	370.4	463.2	563.2	657.7	625.6	765.3	931.5	1,133.0	1,325.5	1,498.4	1,739.3	1,686.5	1,734.5	1,953.6	2,199.5	2,482.2	2,482.2	6.7%
Total for all countries	\$70.5	\$95.9	\$115.3	\$243.6	\$300.1	\$347.2	\$530.9	\$712.2	\$949.7	\$1,203.0	\$1,129.8	\$1,414.3	\$1,675.4	\$2,027.9	\$2,398.1	\$2,762.3	\$3,298.2	\$3,343.8	\$3,703.8	\$4,296.1	\$4,937.7	\$5,647.9	\$5,647.9	14.2%
Selected as percent of total	66.0%	70.5%	65.6%	81.4%	82.5%	79.6%	85.4%	81.5%	80.3%	78.4%	77.7%	78.6%	78.6%	79.2%	78.3%	80.4%	79.2%	77.3%	73.8%	73.2%	72.5%	70.3%	70.3%	70.3%
Four highest as percent of total	40.6%	39.8%	37.4%	49.3%	54.2%	46.0%	51.4%	47.7%	38.9%	36.1%	36.5%	34.6%	36.4%	37.7%	38.7%	37.9%	34.7%	34.1%	30.2%	29.2%	29.6%	29.0%	29.0%	29.0%
Ten highest as percent of total	60.9%	59.0%	56.3%	66.4%	74.9%	70.6%	69.8%	65.0%	59.3%	54.7%	55.4%	54.1%	55.6%	55.9%	55.3%	54.2%	52.7%	50.4%	46.8%	45.5%	44.5%	43.9%	43.9%	43.9%

1/ Net payout is the settlement payouts less the settlement receipts based on data in "Statistics of Communications Common Carriers." Prior to 1985, the data are for AT&T only. Beginning in 1991, the data include settlements arising from transiting traffic. See Appendix A for a list of other reporting changes over time.

2/ Estimated by log linear regression using data from 1992 through 1996.

3/ Australia data include Nauru Island through 1980.

4/ Data for Federal Republic of Germany (West Germany) through 1990.

5/ South Africa includes Southwest Africa (now Namibia) through 1984.

Table 24. Measures of the International Settlements Deficit
(Amounts shown in millions of dollars)

43.61 Settlements Data ^{1/}		BEA Estimate of International Sales and Purchases of Private Services ^{2/}														
Receipts		Payments			Deficit											
		Europe	South & Central America	Asia & Pacific	Other	All Countries	Europe	South & Central America	Asia & Pacific	Other	All Countries	Europe	South & Central America	Asia & Pacific	Other	All Countries
1980	\$912	\$653	\$356	\$388	\$430	\$1,827	\$946	\$920	\$732	\$655	\$3,253	\$1,426	\$1,064	824	726	3,736
1981	992	763	407	468	473	2,111	1,122	1,064	824	726	3,736	1,625	1,064	824	726	3,736
1982	1,168	822	400	519	455	2,196	1,410	1,283	1,035	848	4,576	2,380	1,283	1,035	848	4,576
1983	1,298	911	449	643	516	2,519	1,540	1,539	1,127	966	5,172	2,653	1,539	1,127	966	5,172
1984	1,296	973	531	687	544	2,735	1,616	1,783	1,245	939	5,583	2,848	1,783	1,245	939	5,583
1985	1,471	1,093	651	956	591	3,291	1,960	1,971	1,523	1,154	6,608	3,317	1,971	1,523	1,154	6,608
1986	1,606	1,007	569	776	533	2,885	1,660	2,028	1,293	1,071	6,052	3,167	2,028	1,293	1,071	6,052
1987	1,859	928	589	756	512	2,785	1,593	2,146	1,404	1,222	6,365	3,580	2,146	1,404	1,222	6,365
1988	2,051	924	669	756	516	2,865	1,603	2,361	1,684	1,280	6,928	4,063	2,361	1,684	1,280	6,928
1989	2,325	955	770	896	562	3,183	1,726	2,536	1,877	1,634	7,773	4,590	2,536	1,877	1,634	7,773
1990	2,515	882	898	1,004	621	3,405	1,478	2,917	2,205	1,785	8,385	4,980	2,917	2,205	1,785	8,385
1991	2,767															
1992	2,892															
1993	2,938															
1994	3,003															
1995	3,073															
1996	2,829															

^{1/} The totals include settlement payments and settlement receipts for MTS (Table 4), telex (Table 5), and telegraph (Table 6). Settlements associated with transiting traffic are first included for 1991.

^{2/} 1996 data from the *Survey of Current Business*, October 1997, Table 5.4, pages 126-127. Data for some prior years were revised.

Table 25. Telephone Service Accounting Rates for Selected Countries

	Peak Period Accounting Rates																			
	Year End Data																June 1			
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Australia	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	1.5 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	0.8 SDR	0.68 SDR	0.6 SDR	0.55 SDR	0.4 SDR	0.4 SDR	0.308 SDR	0.308 SDR	0.22 SDR	
Brazil	\$3.00	\$3.00	\$3.00	\$3.00	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$1.60	\$1.50	\$1.40	\$1.30	\$1.14	\$1.03	\$0.85	\$0.85	
Canada 1/	N/A	N/A	N/A	N/A	N/A	\$0.42	\$0.42	\$0.42	\$0.42	\$0.42	\$0.28	\$0.28	\$0.28	\$0.28	\$0.26	\$0.24	\$0.22	\$0.20	\$0.20	
China	N/A	N/A	N/A	N/A	N/A	9.0 GF	9.0 GF	9.0 GF	9.0 GF	8.0 GF	8.0 GF	7.5 GF	7.5 GF	6.5 GF	6.0 GF	5.5 GF	4.5 GF	3.8 GF	3.4 GF	
Colombia	\$2.20	\$2.10	\$2.10	\$2.10	\$2.00	\$2.00	\$2.00	\$1.90	\$1.85	\$1.85	\$1.75	\$1.60	\$1.55	\$1.50	\$1.40	\$1.30	\$1.25	\$1.00	\$1.00	
Dominican Republic 1/	N/A	N/A	N/A	N/A	N/A	\$2.10	\$2.00	\$1.45	\$1.45	\$1.45	\$1.42	\$1.39	\$1.36	\$1.29	\$1.30	\$1.10	\$0.90	\$0.80	\$0.80	
Egypt	N/A	N/A	N/A	N/A	N/A	\$2.10	\$2.00	\$2.00	\$2.00	\$1.95	\$1.90	\$1.80	\$1.70	\$1.60	\$1.50	\$1.40	\$1.40	\$1.30	\$1.20	
El Salvador	N/A	N/A	N/A	N/A	N/A	\$1.55	\$1.55	\$1.50	\$1.50	\$1.50	\$1.50	\$1.40	\$1.30	\$1.25	\$1.20	\$1.20	\$1.10	\$0.88	\$0.88	
France 1/	1.6 SDR	1.6 SDR	1.6 SDR	1.6 SDR	1.6 SDR	1.6 SDR	1.4 SDR	1.4 SDR	1.4 SDR	1.2 SDR	1.2 SDR	1.0 SDR	0.7 SDR	0.7 SDR	0.42 SDR	0.36 SDR	0.24 SDR	0.19 SDR	0.15 SDR	
Germany	1.6 SDR	1.6 SDR	1.3 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.0 SDR	0.8 SDR	0.6 SDR	0.34 SDR	0.26 SDR	0.16 SDR	0.15 SDR	0.15 SDR	
Greece	N/A	N/A	N/A	N/A	N/A	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	1.53 SDR	1.21 SDR	1.12 SDR	.85 SDR	.7 SDR	0.63 SDR	0.55 SDR	0.55 SDR	
Guatemala	N/A	N/A	N/A	N/A	N/A	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.40	\$1.30	\$1.20	\$1.18	\$1.00	\$0.90	\$0.84	
Hong Kong	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$2.60	\$2.50	\$2.50	\$2.50	\$2.35	\$2.20	\$1.90	\$1.60	\$1.20	\$1.00	\$1.00	.65 SDR	.58 SDR	.52 SDR	
India	N/A	N/A	N/A	N/A	N/A	\$2.70	\$2.50	\$2.50	\$2.25	\$2.25	\$2.25	\$2.25	\$2.00	\$1.90	\$1.80	\$1.80	\$1.60	\$1.58	\$1.58	
Israel 1/	\$3.00	\$3.00	\$2.50	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.28	\$2.16	\$2.16	\$1.90	\$1.18	\$0.70	\$0.59	
Italy	5.5 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	5.0 GF	4.6 GF	4.38 GF	1.2 SDR	1.1 SDR	0.82 SDR	0.48 SDR	0.36 SDR	0.24 SDR	0.24 SDR	
Jamaica	N/A	N/A	N/A	N/A	N/A	\$1.75	\$1.75	\$1.75	\$1.75	\$1.75	\$1.65	\$1.60	\$1.55	\$1.50	\$1.40	\$1.40	\$1.30	\$1.25	\$1.25	
Japan 1/	\$3.00	\$3.00	\$2.66	\$2.66	\$2.66	\$2.35	\$2.35	\$2.35	\$2.35	1.34 SDR	1.34 SDR	1.13 SDR	0.95 SDR	0.63 SDR	0.63 SDR	0.63 SDR	0.63 SDR	0.63 SDR	0.3 SDR	
Korea, Rep.	\$3.00	\$3.00	\$3.00	\$3.00	\$2.80	\$2.80	\$2.80	\$2.52	\$2.44	\$2.36	\$2.10	\$1.90	\$1.60	\$1.44	0.95 SDR	0.85 SDR	0.85 SDR	0.72 SDR	\$0.85	
Mexico 2/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1.45	\$1.32	\$1.16	\$1.10	\$1.00	\$0.91	\$0.67	\$0.68	\$0.70	\$0.70	
Netherlands	1.6 SDR	1.6 SDR	1.6 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.2 SDR	1.1 SDR	1.1 SDR	0.9 SDR	0.5 SDR	0.5 SDR	0.4 SDR	0.25 SDR	0.25 SDR	0.2 SDR	0.16 SDR	
Nigeria	N/A	N/A	N/A	N/A	N/A	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50
Pakistan	N/A	N/A	N/A	N/A	N/A	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.20	\$2.00	\$1.80	
Peru	N/A	N/A	N/A	N/A	N/A	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.50	\$1.40	\$1.30	\$1.30	\$1.23	\$1.00	\$0.95	
Philippines	\$2.70	\$2.70	\$2.70	\$2.70	\$2.50	\$2.30	\$2.30	\$2.15	\$2.00	\$1.98	\$1.92	\$1.85	\$1.68	\$1.68	\$1.34	\$1.23	\$1.00	\$1.00	\$0.82	
Poland	N/A	N/A	N/A	N/A	N/A	\$2.00	\$1.75	\$1.75	\$1.65	\$1.50	\$1.50	\$1.35	\$1.30	\$1.25	\$1.20	\$1.15	\$0.95	\$0.70	\$0.70	
Russia	N/A	N/A	N/A	N/A	N/A	\$9.00	\$9.00	\$9.00	\$9.00	\$3.00	\$3.00	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	
Saudia Arabia	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	1.5 SDR	1.5 SDR	
South Africa	N/A	N/A	N/A	N/A	N/A	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.80	\$1.80	\$1.50	\$1.20	\$1.20	\$1.00	\$1.00	\$0.80	
Spain 1/	5.3 GF	5.3 GF	5.3 GF	5.3 GF	5.3 GF	5.3 GF	5.3 GF	5.3 GF	5.3 GF	1.6 SDR	1.6 SDR	1.5 SDR	1.5 SDR	1.3 SDR	1.0 SDR	.44 SDR	.35 SDR	.25 SDR	.25 SDR	
Switzerland	5.5 GF	1.6 SDR	1.6 SDR	1.6 SDR	1.6 SDR	1.6 SDR	1.4 SDR	1.4 SDR	1.25 SDR	1.12 SDR	1.12 SDR	.808 SDR	.808 SDR	.61 SDR	.61 SDR	.35 SDR	.35 SDR	.25 SDR	.22 SDR	
Taiwan	\$2.25	\$2.25	\$2.25	\$2.25	\$2.25	\$2.00	\$2.00	\$2.00	\$2.00	\$1.90	\$1.80	\$1.60	\$1.40	\$1.20	\$1.20	\$1.20	\$1.20	\$1.14	\$1.00	
Thailand	N/A	N/A	N/A	N/A	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.30	\$2.30	\$2.00	\$1.75	\$1.60	\$1.60	\$1.55	\$1.50	\$1.40	\$1.05	
United Kingdom 1/	\$1.20	\$1.20	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	.68 SDR	.54 SDR	0.44 SDR	0.33 SDR	0.25 SDR	0.25 SDR	0.15 SDR	0.15 SDR	

See notes at end of table.

Table 25. Telephone Service Accounting Rates for Selected Countries
(Continued)

	Off-Peak Period Accounting Rates																			
	Year End Data															June 1				
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Australia							0.6 SDR	0.6 SDR	0.6 SDR	0.6 SDR	\$1.20									
Brazil							\$1.50	\$1.50	\$1.20	\$1.20										
Canada							\$0.38	\$0.38	\$0.38	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24	\$0.22	\$0.20	\$0.14	\$0.12	\$0.12	\$0.12
China																				
Colombia							\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60				
Dominican Republic										1.0 SDR	0.8 SDR									
Egypt																				
El Salvador																				
France																				
Germany																				
Greece																				
Guatemala																				
Hong Kong																				
India																				
Israel	\$2.25	\$2.25				\$2.10	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.63	\$1.40	\$1.40	\$1.40	\$1.23				
Italy							3.67GF	3.67GF	3.67GF	3.67GF	3.67GF	0.8 SDR	0.55 SDR							
Jamaica							\$0.74	\$1.40	\$1.40	\$1.40	\$1.40	\$1.40	\$1.40	\$1.40						
Japan																				
Korea, Rep.																				
Mexico																				
Netherlands																				
Nigeria																				
Pakistan																				
Peru							\$1.50	\$1.35	\$1.20	\$1.20	\$1.20	\$1.20	\$1.25	\$1.25						
Philippines																				
Poland																				
Russia						\$6.75	\$6.75	\$6.75	\$2.25	\$2.25	\$2.25									
Saudia Arabia																				
South Africa																				
Spain								1.2 SDR	1.2 SDR	1.2 SDR	1.0 SDR	1.0 SDR	0.8 SDR	0.8 SDR	0.7 SDR	0.66 SDR				
Switzerland																				
Taiwan																				
Thailand																				
United Kingdom				\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	.48 SDR	.38 SDR	.35 SDR	.15 SDR	.15 SDR	0.1 SDR	0.1 SDR	0.1 SDR	0.1 SDR

1/ Where more than one PTT connects with U.S. carriers, the table shows rates for the first carrier providing service. These include Korea Telecom in Korea, Kokusai Denshin Denwa in Japan, PLDT in the Philippines, CODETEL in the Dominican Republic, and British Telecom in the United Kingdom. Accounting rates may vary by time of day, or by volume of traffic.

2/ Accounting rates for service between Mexico and the United States vary by service classification and the originating or terminating locations. Each rate shown in the table represents a simple average for all accounting rates in effect for service between the United States and Mexico.

Table 26. Accounting Rates for Selected Countries in U.S. Dollars

	Peak Period Accounting Rates																		
	Year End Data															June 1 1998			
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994		1995	1996	1997
Australia	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.65	\$1.47	\$1.70	\$1.61	\$1.58	\$1.14	\$0.97	\$0.83	\$0.76	\$0.59	\$0.59	\$0.45	\$0.42	\$0.29
Brazil	\$3.00	\$3.00	\$3.00	\$3.00	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$1.60	\$1.50	\$1.40	\$1.30	\$1.14	\$1.03	\$0.85	\$0.85
Canada	N/A	N/A	N/A	N/A	N/A	\$0.42	\$0.42	\$0.42	\$0.42	\$0.42	\$0.28	\$0.28	\$0.28	\$0.28	\$0.26	\$0.24	\$0.22	\$0.20	\$0.20
China	N/A	N/A	N/A	N/A	N/A	\$3.23	\$3.60	\$4.17	\$3.96	\$3.43	\$3.72	\$3.48	\$3.37	\$2.93	\$2.91	\$2.67	\$2.13	\$1.69	\$1.48
Colombia	\$2.20	\$2.10	\$2.10	\$2.10	\$2.00	\$2.00	\$2.00	\$1.90	\$1.85	\$1.85	\$1.75	\$1.60	\$1.55	\$1.50	\$1.40	\$1.30	\$1.25	\$1.00	\$1.00
Dominican Republic	N/A	N/A	N/A	N/A	N/A	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.42	\$1.39	\$1.36	\$1.29	\$1.30	\$1.10	\$0.90	\$0.80	\$0.80
Egypt	N/A	N/A	N/A	N/A	N/A	\$2.10	\$2.10	\$2.00	\$2.00	\$1.95	\$1.90	\$1.80	\$1.70	\$1.60	\$1.50	\$1.40	\$1.40	\$1.30	\$1.20
El Salvador	N/A	N/A	N/A	N/A	N/A	\$1.55	\$1.55	\$1.50	\$1.50	\$1.50	\$1.50	\$1.40	\$1.30	\$1.25	\$1.20	\$1.20	\$1.10	\$0.88	\$0.88
France	\$2.04	\$1.86	\$1.76	\$1.68	\$1.57	\$1.76	\$1.71	\$1.99	\$1.80	\$1.58	\$1.71	\$1.43	\$0.96	\$0.97	\$0.62	\$0.54	\$0.35	\$0.26	\$0.20
Germany	\$2.04	\$1.86	\$1.43	\$1.26	\$1.18	\$1.32	\$1.47	\$1.70	\$1.61	\$1.58	\$1.71	\$1.43	\$1.10	\$0.83	\$0.51	\$0.39	\$0.23	\$0.20	\$0.20
Greece	N/A	N/A	N/A	N/A	N/A	\$1.79	\$2.00	\$2.32	\$2.20	\$2.15	\$2.32	\$2.19	\$1.66	\$1.55	\$1.41	\$1.26	\$1.01	\$0.86	\$0.73
Guatemala	N/A	N/A	N/A	N/A	N/A	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.40	\$1.30	\$1.20	\$1.18	\$1.00	\$0.90	\$0.84
Hong Kong	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$2.60	\$2.50	\$2.50	\$2.50	\$2.35	\$2.25	\$1.90	\$1.60	\$1.20	\$1.00	\$1.00	\$0.94	\$0.79	\$0.69
India	N/A	N/A	N/A	N/A	N/A	\$2.70	\$2.50	\$2.50	\$2.25	\$2.25	\$2.25	\$2.25	\$2.00	\$1.90	\$1.80	\$1.80	\$1.60	\$1.58	\$1.58
Israel	\$3.00	\$3.00	\$2.50	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.40	\$2.28	\$2.16	\$2.16	\$1.90	\$1.18	\$0.70	\$0.59
Italy	\$2.29	\$1.90	\$1.80	\$1.71	\$1.60	\$1.79	\$2.00	\$2.32	\$2.20	\$2.15	\$2.13	\$2.03	\$1.65	\$1.51	\$1.22	\$0.71	\$0.52	\$0.33	\$0.32
Jamaica	\$2.29	\$1.90	\$1.80	\$1.71	\$1.60	\$1.79	\$2.00	\$2.32	\$2.20	\$2.15	\$2.14	\$2.04	\$1.65	\$1.51	\$1.40	\$1.40	\$1.30	\$1.25	\$1.25
Japan	\$3.00	\$3.00	\$2.66	\$2.66	\$2.66	\$2.35	\$2.35	\$2.35	\$1.80	\$1.76	\$1.91	\$1.62	\$1.31	\$1.04	\$0.94	\$0.94	\$0.91	\$0.86	\$0.40
Korea, Rep.	\$3.00	\$3.00	\$3.00	\$3.00	\$2.80	\$2.80	\$2.60	\$2.52	\$2.44	\$2.36	\$2.10	\$1.90	\$1.60	\$1.44	\$1.41	\$1.26	\$1.23	\$0.98	\$0.85
Mexico	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1.32	\$1.16	\$1.10	\$1.00	\$0.91	\$0.67	\$0.68	\$0.70	\$0.70
Netherlands	\$2.04	\$1.86	\$1.76	\$1.26	\$1.18	\$1.32	\$1.47	\$1.70	\$1.61	\$1.45	\$1.56	\$1.29	\$0.69	\$0.69	\$0.59	\$0.37	\$0.36	\$0.27	\$0.21
Nigeria	N/A	N/A	N/A	N/A	N/A	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50
Pakistan	N/A	N/A	N/A	N/A	N/A	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.20	\$2.00	\$1.80
Peru	N/A	N/A	N/A	N/A	N/A	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.50	\$1.40	\$1.30	\$1.30	\$1.23	\$1.00	\$0.95
Philippines	\$2.70	\$2.70	\$2.70	\$2.70	\$2.50	\$2.30	\$2.30	\$2.15	\$2.00	\$1.98	\$1.92	\$1.85	\$1.68	\$1.68	\$1.34	\$1.23	\$1.00	\$1.00	\$0.82
Poland	N/A	N/A	N/A	N/A	N/A	\$2.00	\$1.75	\$1.75	\$1.65	\$1.50	\$1.50	\$1.35	\$1.30	\$1.25	\$1.20	\$1.15	\$0.95	\$0.70	\$0.70
Russia	N/A	N/A	N/A	N/A	N/A	\$9.00	\$9.00	\$9.00	\$9.00	\$3.00	\$3.00	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60
Saudia Arabia	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.03	\$2.00
South Africa	N/A	N/A	N/A	N/A	N/A	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.80	\$1.80	\$1.50	\$1.20	\$1.20	\$1.00	\$1.00	\$0.80
Spain	\$2.21	\$2.01	\$1.91	\$1.81	\$1.70	\$1.90	\$2.12	\$2.46	\$2.29	\$2.10	\$2.28	\$2.15	\$2.06	\$1.80	\$1.78	\$1.44	\$0.64	\$0.48	\$0.34
Switzerland	\$2.29	\$1.86	\$1.76	\$1.68	\$1.57	\$1.76	\$1.71	\$1.99	\$1.68	\$1.47	\$1.59	\$1.16	\$1.11	\$0.84	\$0.91	\$0.52	\$0.51	\$0.34	\$0.30
Taiwan	\$2.25	\$2.25	\$2.25	\$2.25	\$2.25	\$2.00	\$2.00	\$2.00	\$2.00	\$1.90	\$1.80	\$1.60	\$1.40	\$1.20	\$1.20	\$1.20	\$1.20	\$1.14	\$1.00
Thailand	N/A	N/A	N/A	N/A	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.30	\$2.30	\$2.00	\$1.75	\$1.60	\$1.60	\$1.55	\$1.50	\$1.40	\$1.05
United Kingdom	\$1.20	\$1.20	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$0.97	\$0.74	\$0.61	\$0.49	\$0.37	\$0.36	\$0.20	\$0.20
Fisher Ideal Index for Peak and Off-peak 1/	100.0	97.6	93.0	90.1	88.3	87.7	87.2	89.5	85.6	83.5	73.7	67.7	60.8	56.0	49.5	42.5	36.9	31.5	28.8
change from prior year		-2.4%	-4.7%	-3.2%	-2.0%	-0.7%	-0.6%	2.7%	-4.4%	-2.4%	-11.8%	-8.0%	-10.3%	-7.9%	-11.6%	-14.0%	-13.3%	-14.4%	-8.6%

See notes at end of table.

Table 26. Accounting Rates for Selected Countries in U.S. Dollars
(Continued)

	Off-peak Period Account Rates ^{2/}																		
	Year End Data																June 1		
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Australia	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.65	\$0.74	\$0.85	\$0.81	\$0.79	\$1.14	\$0.97	\$0.83	\$0.76	\$0.59	\$0.59	\$0.45	\$0.42	\$0.29
Brazil	\$3.00	\$3.00	\$3.00	\$3.00	\$2.50	\$2.50	\$2.50	\$1.50	\$1.50	\$1.20	\$1.20	\$1.60	\$1.50	\$1.40	\$1.30	\$1.14	\$1.03	\$0.85	\$0.85
Canada	N/A	N/A	N/A	N/A	N/A	\$0.42	\$0.38	\$0.38	\$0.38	\$0.38	\$0.24	\$0.24	\$0.24	\$0.24	\$0.22	\$0.20	\$0.14	\$0.12	\$0.12
China	N/A	N/A	N/A	N/A	N/A	\$3.23	\$3.60	\$4.17	\$3.96	\$3.43	\$3.72	\$3.48	\$3.37	\$2.93	\$2.91	\$2.67	\$2.13	\$1.69	\$1.48
Colombia	\$2.20	\$2.10	\$2.10	\$2.10	\$2.00	\$2.00	\$2.00	\$1.90	\$1.85	\$1.85	\$1.75	\$1.60	\$1.55	\$1.50	\$1.40	\$1.30	\$1.25	\$1.00	\$1.00
Dominican Republic	N/A	N/A	N/A	N/A	N/A	\$1.45	\$0.80	\$0.80	\$0.80	\$0.80	\$1.90	\$0.60	\$0.60	\$1.29	\$0.60	\$0.60	\$0.90	\$0.80	\$0.80
Egypt	N/A	N/A	N/A	N/A	N/A	\$2.10	\$2.10	\$2.00	\$2.00	\$1.95	\$1.90	\$1.80	\$1.70	\$1.60	\$1.50	\$1.40	\$1.40	\$1.30	\$1.20
El Salvador	N/A	N/A	N/A	N/A	N/A	\$1.55	\$1.55	\$1.50	\$1.50	\$1.50	\$1.50	\$1.40	\$1.30	\$1.25	\$1.20	\$1.20	\$1.10	\$0.88	\$0.88
France	\$2.04	\$1.86	\$1.76	\$1.68	\$1.57	\$1.76	\$1.71	\$1.99	\$1.80	\$1.58	\$1.43	\$1.14	\$0.96	\$0.97	\$0.62	\$0.54	\$0.35	\$0.26	\$0.20
Germany	\$2.04	\$1.86	\$1.43	\$1.26	\$1.18	\$1.32	\$1.47	\$1.70	\$1.61	\$1.58	\$1.71	\$1.43	\$1.10	\$0.83	\$0.51	\$0.39	\$0.23	\$0.20	\$0.20
Greece	N/A	N/A	N/A	N/A	N/A	\$1.79	\$2.00	\$2.32	\$2.20	\$2.15	\$2.32	\$2.19	\$1.66	\$1.55	\$1.41	\$1.26	\$1.01	\$0.86	\$0.73
Guatemala	N/A	N/A	N/A	N/A	N/A	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.40	\$1.30	\$1.20	\$1.18	\$1.00	\$0.90	\$0.84
Hong Kong	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$2.60	\$2.50	\$2.50	\$2.50	\$2.35	\$2.25	\$1.90	\$1.60	\$1.20	\$1.00	\$1.00	\$0.94	\$0.79	\$0.69
India	N/A	N/A	N/A	N/A	N/A	\$2.70	\$2.50	\$2.50	\$2.25	\$2.25	\$2.25	\$2.25	\$2.00	\$1.90	\$1.80	\$1.80	\$1.60	\$1.58	\$1.58
Israel	\$2.25	\$2.25	\$2.50	\$2.40	\$2.40	\$2.10	\$2.10	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.63	\$1.40	\$1.40	\$1.23	\$1.18	\$0.70	\$0.59
Italy	\$2.29	\$1.90	\$1.80	\$1.71	\$1.60	\$1.79	\$2.00	\$2.32	\$1.61	\$1.58	\$1.70	\$1.70	\$1.65	\$1.10	\$0.82	\$0.71	\$0.52	\$0.33	\$0.32
Jamaica	\$2.29	\$1.90	\$1.80	\$1.71	\$1.60	\$1.79	\$2.00	\$2.32	\$0.74	\$0.74	\$1.40	\$1.40	\$1.40	\$1.40	\$1.40	\$1.40	\$1.30	\$1.25	\$1.25
Japan	\$3.00	\$3.00	\$2.66	\$2.66	\$2.66	\$2.35	\$2.35	\$2.35	\$1.80	\$1.76	\$1.91	\$1.62	\$1.31	\$1.04	\$0.94	\$0.94	\$0.91	\$0.86	\$0.40
Korea, Rep.	\$3.00	\$3.00	\$3.00	\$3.00	\$2.80	\$2.80	\$2.60	\$2.52	\$2.44	\$2.36	\$2.10	\$1.90	\$1.60	\$1.44	\$1.41	\$1.26	\$1.23	\$0.98	\$0.85
Mexico	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1.45	\$1.32	\$1.16	\$1.10	\$1.00	\$0.91	\$0.67	\$0.68	\$0.70	\$0.70
Netherlands	\$2.04	\$1.86	\$1.76	\$1.26	\$1.18	\$1.32	\$1.47	\$1.70	\$1.61	\$1.45	\$1.56	\$1.29	\$0.69	\$0.69	\$0.59	\$0.37	\$0.36	\$0.27	\$0.21
Nigeria	N/A	N/A	N/A	N/A	N/A	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50
Pakistan	N/A	N/A	N/A	N/A	N/A	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30
Peru	N/A	N/A	N/A	N/A	N/A	\$2.00	\$2.00	\$1.50	\$1.35	\$1.20	\$1.20	\$1.20	\$1.50	\$1.40	\$1.30	\$1.30	\$1.23	\$1.00	\$0.95
Philippines	\$2.70	\$2.70	\$2.70	\$2.70	\$2.50	\$2.30	\$2.30	\$2.15	\$2.00	\$1.50	\$1.50	\$1.50	\$1.25	\$1.25	\$1.34	\$1.23	\$1.00	\$1.00	\$0.82
Poland	N/A	N/A	N/A	N/A	N/A	\$2.00	\$1.75	\$1.75	\$1.65	\$1.50	\$1.50	\$1.35	\$1.30	\$1.25	\$1.20	\$1.15	\$0.95	\$0.70	\$0.70
Russia	N/A	N/A	N/A	N/A	N/A	\$6.75	\$6.75	\$6.75	\$6.75	\$6.75	\$2.25	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60	\$2.60
Saudia Arabia	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$1.62	\$1.60
South Africa	N/A	N/A	N/A	N/A	N/A	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$1.80	\$1.80	\$1.50	\$1.20	\$1.20	\$1.00	\$1.00	\$0.80
Spain	\$2.21	\$2.01	\$1.91	\$1.81	\$1.70	\$1.90	\$2.12	\$2.46	\$1.62	\$1.58	\$1.71	\$1.43	\$1.38	\$1.11	\$1.04	\$0.95	\$0.64	\$0.48	\$0.34
Switzerland	\$2.29	\$1.86	\$1.76	\$1.68	\$1.57	\$1.76	\$1.71	\$1.99	\$1.68	\$1.47	\$1.59	\$1.16	\$1.11	\$0.84	\$0.91	\$0.52	\$0.51	\$0.34	\$0.30
Taiwan	\$2.25	\$2.25	\$2.25	\$2.25	\$2.25	\$2.00	\$2.00	\$2.00	\$2.00	\$1.90	\$1.80	\$1.60	\$1.40	\$1.20	\$1.20	\$1.20	\$1.20	\$1.14	\$1.00
Thailand	N/A	N/A	N/A	N/A	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.30	\$2.30	\$2.00	\$1.75	\$1.60	\$1.60	\$1.55	\$1.50	\$1.40	\$1.05
United Kingdom	\$1.20	\$1.20	\$1.06	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.76	\$0.68	\$0.52	\$0.48	\$0.49	\$0.37	\$0.22	\$0.14	\$0.13

^{1/} The Fisher Ideal index of accounting rates is based on the accounting rates for the countries in the table, denominated in U.S. dollars and weighted by U.S. Billed minutes. Where off-peak accounting rates exist, peak accounting rates were weighted 2/3 and off-peak accounting rates were weighted 1/3.

^{2/} Peak period accounting rates are shown in this table if the rates in the off-peak period are the same as the rates in the peak period.

