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How Foreign Regulations and U.S. Policies Are Holding Back the U.S. Telecommunications Services Industry

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EXECUTIVE SUMMARY

This study examines the changes taking place in the telecommunications services industry both here and abroad, the opportunities emerging from these changes, and the factors affecting the ability of U.S. carriers to take advantage of these opportunities. We conclude that current domestic, foreign, and international regulations restrict the ability of U.S. firms to seize these opportunities and, consequently, limit the ability of the telecommunications industry to generate high-wage, American jobs.

This study proposes changes in domestic regulations to spur competition throughout the telecommunications services industry and thereby lower prices, stimulate innovation, and improve the international competitiveness of all U.S. firms. The study also recommends a proactive, international negotiating position to increase the opportunities available to U.S. telecommunications services firms in foreign nations. Finally, the study advocates abandoning the current international service operating agreement in favor of a cost-based, non-discriminatory agreement.

The following is a summary of the findings.

Growing Opportunities

- The market for telecommunications services in foreign countries is growing at an unprecedented rate. In 1993, the global market generated $455 billion in revenues and is expected to generate $490 billion in 1994. The global telecommunications services industry will generate almost $1 trillion in revenue by the end of the decade.

- This growth translates into lucrative opportunities, particularly in foreign countries, for efficient telecommunications firms. While many sectors of the U.S. market are approaching maturity, many foreign markets are in
the primary stages of development and exhibit considerable latent demand. In some countries, basic service growth is five times that of the United States, mobile subscriber bases are doubling annually, and satellite use is doubling biannually. As a consequence, future growth in the U.S. telecommunications services industry is becoming increasingly dependent on the ability of U.S. firms to exploit the unparalleled opportunities presented in foreign markets.

**U.S. Competitiveness**
- U.S. firms are well positioned to take advantage of these opportunities. As a result of U.S. government policies which promoted competition long before most other countries, U.S. firms today are the most competitive in the world. Intense domestic competition has forced U.S. firms constantly to innovate, improve efficiency, and provide high-quality services.

- U.S. wireline firms are consistently ranked number one in the world by the three main industry measures of international competitiveness -- revenue per employee, access line per employee, and measures of labor and capital productivity. U.S. cellular firms have similarly proven themselves to be among the most efficient in the world. In foreign markets, U.S. cellular operators have been awarded 49 percent of all cellular licenses in countries where they have been allowed to bid.

**Foreign and International Regulatory Barriers**
- Despite the world-class efficiency of U.S. firms and their publicly-announced intentions of expanding overseas operations, U.S. direct investment is concentrated in a small number of countries and is notably absent from some of the most lucrative markets. No U.S. firm is a major basic telecommunications services provider in the European Union (E.U.) or Japan, the second and third largest markets in the world, respectively. U.S. cellular providers do provide services in E.U. member states but are, oddly, minor players in the Japanese market. The dearth of U.S. participation in key foreign markets can be explained by prohibitive government regulations that restrict U.S. firms from exploiting their competitive advantage in telecommunications services.
• While the United States maintains one of the most open markets and takes extraordinary measures to ensure a level playing field, foreign countries are characterized by monopoly providers and regulatory environments hostile to foreign competition. In every Asia-Pacific country, except possibly New Zealand, foreign firms are denied the same opportunities that the United States grants to foreign firms in its market. Every European Union member state, except the United Kingdom, places strict limits on foreign participation. Foreign barriers to U.S. direct investment are also thwarting the ability of U.S. firms to compete freely in developing markets.

• Many of these same foreign governments restrict U.S. firms from providing international services originating in their countries, while their firms are allowed to participate freely in the U.S. market. These prohibitions have two effects: U.S. firms cannot compete in the market for international services originating in those countries, and U.S. firms are forced to form alliances with foreign firms in order to provide the global, seamless service that multinational firms demand. Foreign governments, in essence, are guaranteeing their domestic firms a piece of the market for global, seamless services at the expense of U.S. firms.

• The international telecom services settlement system, known as the accounting rate system, is also used by foreign firms to exploit U.S. consumers and firms. Due to the above-cost levels in the accounting rate system, the United States perpetually posts an annual trade deficit-- now in excess of $4 billion -- in telecommunications services.

• Foreign firms use this mechanism to overcharge U.S. consumers billions of dollars annually and, furthermore, discriminate against the United States by charging significantly more for terminating calls from the United States than for calls originating in other countries, despite small cost differentials. The Economic Strategy Institute estimates that U.S. consumers were overcharged between $1.7 and $2.1 billion dollars in 1992.
Consequences of the Current Regulatory Environment

- Foreign regulations are likely to restrict U.S. participation in their markets for the foreseeable future. The conventional wisdom that foreign government deregulatory plans will foster fair competition and allow U.S. firms to enter foreign markets freely in the near future is erroneous. This belief is refuted by the history of the regulatory reform process, the specifics of current regulatory proposals, and logic. The most common deregulation proposal excludes U.S. firms as long as possible in an effort to promote domestic industry and to insulate monopoly operators.

- Foreign barriers have substantial negative consequences for the U.S. economy. Job creation in the U.S. telecommunications industry is retarded by foreign restrictions on U.S. foreign direct investment. The U.S. economy benefits from greater access to foreign markets in two ways: U.S. firms would repatriate income from foreign operations, and U.S. telecommunications exports would rise with additional U.S. service licenses.

- The Economic Strategy Institute estimates that U.S. firms would capture a minimum foreign market share of 10 percent, and potentially 25 percent, if these markets were open to U.S. firms. The impact of such foreign market penetration would be substantial. If, in 1994, U.S. firms were to capture 25 percent of non-U.S. telecommunications services markets, U.S. firm revenue would increase by $72 billion, and approximately $3.61 billion in net income would be repatriated to the United States.

- As foreign markets expand, the repatriation effect will grow significantly. If U.S. firms maintain this share of foreign telecommunications services markets between 1992 and 2000, U.S. firms would accumulate over $874 billion in net revenues. Foreign service licenses for U.S. firms also provide a boon for U.S. telecommunications equipment manufacturers and would help lower the persistent U.S. trade deficit.

Economic Strategy Institute
The above-cost charges generated by the accounting rate system overcharge U.S. consumers billions of dollars annually. Current accounting rate balances suggest that by the end of the decade U.S. consumers will be overcharged a cumulative $27 billion by foreign firms, if the accounting rate system is not changed.

**Recommendations**

- If the United States wishes to enjoy the benefits of having the most internationally competitive telecommunications services industry, the U.S. government must do three things: complete the deregulation of the domestic market; adopt a proactive, incentive-based strategy to open foreign markets; and institute a cost-based, non-discriminatory international settlement system.

**Domestic Deregulation**

- The superior international competitiveness of U.S. firms is a direct result, among other things, of U.S. government policies encouraging competition in the domestic market. If domestic deregulation is delayed and foreign countries push forward with reform, U.S. firms may become less competitive relative to their foreign counterparts, costing the U.S. economy thousands of jobs.

- Failure to pass comprehensive deregulation in the United States will decrease the pressure on foreign governments to liberalize and open their markets. The sole impetus for telecom liberalization in most countries originates from foreign businesses fearing that their firms will become less competitive relative to U.S. firms as a result of a less liberalized domestic telecom market. The longer the U.S. Congress delays passing telecom deregulation, the less foreign firms have to fear and, as a consequence, the less likely foreign governments are to open their markets.

- In order to maximize competitive pressures, deregulation should permit any firm with a network in place to provide any telecommunications service it can. There is no reason electric utility companies, cable TV
providers, and wireless firms should be restricted from providing any service once adequate safeguards are established to ensure competitive behavior. Deregulation should also encourage new firms to enter the market by mandating interconnection and establishing a transition period during which competition will be encouraged in non-competitive markets.

- In an effort to promote efficiency, the U.S. government should immediately adopt price cap regulation in place of the current rate of return regulation. Unlike rate of return regulations, price caps encourage firms to improve their efficiency and lower their costs.

- Congress should also investigate the potential for overinvestment in the local exchange. Although, in general, a competitive telecommunications infrastructure is more efficient than a monopolistic one, introducing competition into the entire local network could lead to overinvestment. However, it must be stressed that the longer federal officials wait to deregulate closed markets, the greater the loss to U.S. consumers.

**Opening Foreign Markets**

- The U.S. government must adopt an aggressive, incentive-based policy to open foreign markets to U.S. foreign direct investment. Successfully concluding the ongoing General Agreement on Trade in Services (GATS) negotiations should be a top priority of both the White House and the Office of the U.S. Trade Representative.

- By negotiating for the adoption of the following set of principles, the government can create greater opportunities for U.S. firms and ensure that U.S. firms compete on a level playing field in foreign countries:

  1. Countries must permit foreign firms to operate as both resellers and facilities-based operators.

  2. Countries must guarantee foreign firms access to their public switched network on terms that are non-discriminatory, cost-based, and publicly disclosed.
3. Countries must agree to the principles of interoperability.

4. Countries must ensure that foreign ownership is not limited by quantitative ceilings or by requirements that foreign firms enter joint ventures.

5. Countries must agree to establish domestic safeguards against cross-subsidization.

6. Customers must also be guaranteed equal access to foreign and domestic telecommunications providers.

- In order to maximize the probability of reaching an agreement, U.S. telecom policy must be incentive-based. The FCC should adopt a policy making comparable market access a key factor in their decision to grant or deny foreign entry to the U.S. market. This policy should not set rigid comparability standards effectively excluding all foreign firms from the U.S. market: the U.S. economy benefits when foreign telecom firms, operating in liberalized native telecom markets, compete in the U.S. market. Instead, the FCC should review a general list of market access issues when considering foreign petitions to enter the U.S. market. Such a policy will permit foreign firms with liberalized home markets to compete in the United States while encouraging foreign countries to open their markets to U.S. firms.

- Opening foreign telecom markets must remain a top priority of the U.S. government after the conclusion of the GATS -- regardless of the negotiation's outcome. If the United States cannot conclude a successful GATS agreement, the United States should actively attempt to secure smaller multilateral agreements with like-minded countries, based on the above-stated principles. The USTR should begin these negotiations immediately following the GATS negotiating deadline -- even if the negotiations are extended beyond the original two year time frame. The longer foreign markets remain closed, the greater the loss to the U.S. economy.

**Changing the Accounting Rate System**

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• The U.S. government must also launch an aggressive campaign to eliminate the accounting rate system in favor of a cost-based, transparent, non-discriminatory international settlement system. Under a new system, foreign firms would assign a single, cost-based charge to each incoming international call, regardless of its origin.

• While a new international settlement system is being negotiated, the FCC should assume a more public and vocal role in advocating accounting rate reductions. The FCC should construct surrogate models of true international transmission costs, as a rough guide to the appropriate accounting rate, and advocate that foreign monopolies lower accounting rates to be more in line with the surrogate.
INTRODUCTION

The game has begun. Telecommunications providers from every nation are gearing-up to provide worldwide telecommunications services in fierce competition with one another. The U.S. telecommunications industry would appear to be the team to beat -- efficient, innovative, and technologically advanced. The one thing no one would expect is that, in this game, U.S. telecommunications providers might end up watching from the sidelines.

The telecommunications services industry is in a period of tremendous growth. Around the globe, new markets are emerging and expanding faster than many experts believed possible. U.S. telecommunications services firms, which are among the world's most efficient and technologically innovative, are well-positioned to compete in foreign and emerging global markets. However, a slew of foreign and international regulations which restrict and constrain U.S. firm participation are preventing U.S. firms from taking advantage of their competitive position. This study analyzes the evolving telecommunications services industry and how domestic, foreign, and international regulations are influencing its change.

The term telecommunications services typically refers to four types of communication services: basic voice services, mobile communications, satellite services, and enhanced services. Basic voice services are traditional, "plain old telephone" services including the local, long distance, and international transmission of telephone, telex, telegraph traffic, and raw data via either a switched or leased line network.\(^1\) Mobile communications are wireless services such as cellular phones, pagers, and personal communications services (PCS), and satellite services are defined as any non-broadcast service transmitted via

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\(^1\)Leased-line services allow businesses to create their own private network on which they can transmit an unlimited amount of data or voice traffic at a flat rate.
satellite. Enhanced or value-added services, which add value to the basic transmission of information, include storage and forwarding, e-mail, on-line databases, and financial transaction processing services.

One can scarcely overestimate the importance of a healthy, innovative telecom services industry (the Industry) to the U.S. economy. The Industry ranks as one of the U.S.'s largest economic sectors, with annual revenues surpassing petroleum refining, computers, and aerospace. 1992 revenue reached $169 billion, which not only exceeds many other U.S. industries, but is also considerably larger than the entire GDP of most nations. (See Figure i.1 below) The Industry employed roughly one million Americans in 1992, and while some high-profile firms have reduced their workforce (particularly the Baby Bells), others, particularly mobile and enhanced service providers, have been expanding their payrolls at a rapid pace. Furthermore, the Industry, as a heavy user of advanced electronics and computer systems, is indirectly responsible for many high-wage jobs in the high-tech capital goods industry.

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2Issues that relate to telecommunications equipment are beyond the scope of this study and will not be covered.
Figure i.1: The Relative Size of the U.S. Telecommunications Services Industry, 1994. Source: Department of Commerce

Not only is the Industry one of the largest sectors in the U.S. economy, but it also produces a critical input for every U.S. business. A high-quality, low-cost, and innovative telecom services industry is therefore essential to the economic success and international competitiveness of all U.S. industries. A more efficient, more innovative U.S. telecommunications services industry directly translates into greater overall economic efficiency and subsequently, an improved national trade balance.

The challenge facing policy makers today is to create a regulatory environment that promotes competition in the domestic market (and hence the competitiveness of U.S. firms) and expands foreign market opportunities for U.S. firms. This paper recommends policy actions which will improve both domestic economic efficiency and foreign opportunities for U.S. firms.

Chapter One examines the size, growth, and emerging trends of the world's telecom services markets. Foreign opportunities in telecom services, particularly opportunities in Europe, Latin America, and Asia-Pacific nations, are outlined and discussed in detail. The data reveal that foreign markets are becoming increasingly important to the U.S. telecom services industry's growth and prosperity.
Chapter Two assesses the ability of U.S. firms to compete in foreign telecom services markets, reviewing the regulatory history of the U.S. telecom market and identifying the factors which have promoted the efficiency and competitiveness of U.S. firms. The chapter examines the steps U.S. firms have taken to improve their efficiency and competitiveness, and compares U.S. providers with their international rivals. In a review of the breadth and depth of U.S. firm participation in foreign markets, the chapter goes on to illustrate that U.S. firms are curiously inactive, or absent, in a number of key foreign markets, despite their competitive advantage.

Chapter Three examines the foreign and international regulations that are prohibiting or stifling U.S. foreign market penetration, comparing the access afforded foreign telecom services firms in the United States, Europe, and Asia-Pacific nations, and considering the degree to which foreign and domestic firms operate on a level playing field. The standard, international service operating agreement for completing international calls is also examined to discern its impact on U.S. service exports and participation overseas.

Chapter Four analyzes the prospect for real changes in foreign regulations that would permit greater U.S. participation in foreign markets. It challenges the conventional wisdom that foreign governments will inevitably open their markets and argues that most will continue protecting their incumbent operators. The chapter then discusses the consequences of foreign regulations and the international service operating agreement for U.S. firms and consumers.

Chapter Five recommends a proactive policy program for promoting the competitiveness of U.S. telecom services firms and opening foreign markets. It discusses the different policy options being debated, and, based on the preceding analysis, recommends a policy course that would maximize the opportunities available to U.S. firms and, most importantly, maximize the benefits of the telecommunications revolution to the U.S. economy.
CHAPTER I: TELECOMMUNICATIONS SERVICES MARKETS

A Global Overview

Never before in the history of the telecom services industry have the opportunities in foreign markets been so potentially lucrative. More countries are engaged in major efforts to enhance, expand, or restructure their telecom market than at any other time. In fact, countries representing more than half the world market have initiated major plans to upgrade or expand their telecom infrastructure. Increasingly, countries are realizing that maintaining a ubiquitous, advanced, and reliable telecom infrastructure is vital to their future economic growth, efficiency and prosperity. U.S. firms, who are among the most competitive telecom firms in the world, stand to make tremendous profits in overseas markets -- if they are permitted to compete on a level playing field.

A. The Global Market

1. Overview

The global telecom services industry generated $455 billion in revenues in 1993 and is expected to exceed $490 billion in 1994.1 The vast majority of industry revenues (approximately 84 percent) are generated from basic voice services, i.e. local, domestic long distance, and international wireline traffic. Mobile communications, satellite, and enhanced services generate a small but rapidly increasing portion of the industry's revenues. In 1994, the global market for enhanced services has an estimated value of $45 billion while mobile and

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satellite services are expected to generate $25 and $9.6 billion respectively.\textsuperscript{2} Figure 1.1 shows the size and composition of the global telecom market.


![Pie chart showing the percent of global revenue generated by telecom sectors.](image)

**Total Value: $455 billion**

While basic voice telecom services constitute the largest share of the global market, the mobile/cellular and enhanced services sectors are experiencing the greatest annual growth. Global growth in cellular subscribers was 47 percent in 1993, outpacing the five percent growth in fixed-line subscribers.\textsuperscript{3} At this pace, by the year 2000 mobile communications will carry more voice traffic worldwide than the traditional wireline network.\textsuperscript{4} Worldwide revenues from enhanced services are forecast to grow by $11 billion in 1995, a 20 percent annual increase.

\textsuperscript{2}Office of the United States Trade Representative, memorandum, May 1994, *Telecommunications Services in the Uruguay Round*.

\textsuperscript{3}International Telecommunications Union as reported by John Zarocostas, "Worldwide Telecom Sales Rose by 1.8% Last Year," *Journal of Commerce*, 20 October 1994, p5A.

In contrast, the global basic services market is anticipated to experience more modest revenue growth (about six percent). As a consequence, a greater percentage of future global industry revenues will be generated by mobile/cellular and enhanced services.

International telecom markets are also growing rapidly worldwide and present tremendous opportunities for efficient service providers. Global telecom traffic volume has steadily increased since 1986 and is expected to increase to 60 billion minutes in 1995 and 80-100 billion minutes by the year 2000.5 (See Figure 1.2 below) Revenues have been increasing by 16 percent annually over the past few years, generating $55.1 billion in billed revenue in 1992. International telecom service revenues are forecast to exceed $70 billion in 1995.6 This trend strongly suggests that the long-term growth of U.S. telecom firms will increasingly depend on the U.S.-originated and foreign-originated international telecom market.

Figure 1.2: Worldwide Growth in International Traffic Volume. Source: TeleGeography

*Estimate

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5 Over 90 percent of all international traffic is voice telephony.
6 Economic Strategy Institute estimate based on current growth trends and anticipated future price trends.
2. The United States in the Global Market

The United States is currently the single largest market for telecom services in the world, representing approximately 33 percent of the total global market for telecom services. Revenues from the U.S. market surpassed $169 billion in 1992 and are predicted to exceed $193 billion in 1994.\(^7\) The largest sectors, basic local and long distance services sectors, generated $122 billion in 1992, and while the mobile/cellular and enhanced services accounted for only $20 billion, they remain the fastest growing sectors, posting annual growth rates of 39 and 40 percent respectively.\(^8\) Figure 1.3 shows the relative size of the United States in the global telecom market in 1994.

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\(^8\)Ibid., p. 29-5.

While the United States will remain the largest market for telecom services for some time, many foreign markets are experiencing greater growth. While some basic voice services in the U.S. market are nearing maturity, foreign markets are in their infancy and are expected to grow significantly. Table 1.1 below shows the anticipated growth in telecom services revenue in 1994 by region and Figure 1.4 tracks the forecast revenue generated by each market through the year 2000.
Table 1.1: Anticipated Growth in Telecom Services Revenue, 1994. Source: Global Source Reference.

<table>
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<tr>
<th>Telecommunications Sector</th>
<th>United States</th>
<th>Europe(^9)</th>
<th>Asia-Pacific(^{10})</th>
</tr>
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<tbody>
<tr>
<td>Local and Long Distance</td>
<td>3.8 %</td>
<td>4-6%</td>
<td>4-10%</td>
</tr>
<tr>
<td>International</td>
<td>20%</td>
<td>13%</td>
<td>16%</td>
</tr>
<tr>
<td>Mobile/Cellular Services</td>
<td>39%</td>
<td>30%</td>
<td>50%</td>
</tr>
<tr>
<td>Satellite Services</td>
<td>20-30%</td>
<td>27%</td>
<td>20-30%</td>
</tr>
<tr>
<td>Enhanced Services</td>
<td>40%</td>
<td>20-30%</td>
<td>25%</td>
</tr>
<tr>
<td>All Sectors</td>
<td>7.7%</td>
<td>6-9%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Figure 1.4: Forecast Telecom Services Revenue in Regional Markets. Source: Global Source Reference.

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\(^9\) All European estimates and calculations in this paper are for the 12 member states of the European Union, unless otherwise noted. The 12 member states are Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and the United Kingdom.

\(^{10}\) All Asia/Pacific estimates are for the 14 largest telecommunications markets in the region: Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, and Thailand.
Furthermore, these forecasts may underestimate the opportunities in foreign countries by failing to account for the latent demand for telecom services in almost all foreign countries. As a consequence of inefficient providers operating in protected markets, telecom costs in foreign countries, on average, are much higher than in the United States while service quality remains poor. The Office of Technology Assessment estimates that the price of voice calls from Europe to U.S. headquarters are 50 to 100 percent higher than calls in the other direction.\footnote{Office of Technology Assessment, \textit{U.S. Telecommunications Services in European Markets}, (Washington, D.C.: Government Printing Office, August 1993), p. 96.} High prices suppress demand for telecom services in developing countries, as well as in industrialized countries. For example, while the United States consumes 50 percent of the world’s telecom services, the four largest European countries (with approximately the same population) consume only 19 percent of these services.\footnote{\textit{Ibid.}, p. 58.} The presence of latent demand means that efficient U.S. firms could earn even greater revenue from participating in foreign markets than growth projections indicate.

As a result of the tremendous growth in foreign markets, the U.S. market will account for a smaller percentage of total global telecom service revenues in several sectors. (See Figure 1.5) Currently, the United States is the largest market for all telecom service sectors -- basic voice, mobile/cellular, satellite, and enhanced services. It accounts for approximately 32 and 25 percent of the global basic voice and satellite markets respectively, and 40 percent of the enhanced services and mobile/cellular markets. The United States will remain the primary global market for enhanced service, but its share of the global basic services and mobile/cellular markets is expected to fall to 20 and 28 percent, respectively, by the year 2003.
This is not to say that the United States will become an unimportant telecom market: the United States will remain a vital market for all global telecom providers. However, these trends indicate that U.S. telecom services industry's future growth will increasingly depend on exploiting foreign markets.

**B. Growing Market Opportunities**

1. **Basic Voice Services**

   a. The United States
   
   Growth in basic voice services can occur in one of two ways: a network can be expanded to provide telecom services to more people, or people can be encouraged to increase their use of existing services. The U.S. telephony services market (particularly the local and long distance market) is one of the most ubiquitous and mature in the world -- 94.2 percent of all households received basic service and new access line installation slowed to 1.7 percent in 1993.\(^{13}\)

The international telecom services market is the fastest growing basic voice service in terms of revenue and traffic growth in the United States. The number of billed international minutes has been growing 16 percent annually since 1990 compared with 6.9 percent per annum growth in local and domestic long distance services.\footnote{Ibid.} In 1994, basic local and long distance service revenues are anticipated to grow by three and six percent, respectively, compared with 19.5 percent in international service.\footnote{Ibid.} U.S. net revenues for international services exceeded $7.4 billion in 1992 compared to $2.2 billion in 1982.\footnote{Ibid.} Figure 1.6 outlines the growth of international service net revenues and traffic volume.

**Figure 1.6: Growth of U.S. International Service Net Revenue and Traffic Volume.** Source: \textit{Ibid.} p. 9.

As a consequence, a greater proportion of U.S. telecom firms' net revenues is being generated by providing U.S.-originated international services than ever before. In 1982, international services generated only five percent of total revenues in the U.S. telecom industry. International service provision now accounts for over ten percent of the industry's revenues and could generate as

\footnote{Ibid.}
\footnote{Ibid.}
\footnote{Ibid. p. 12.}
much as 15 percent of total industry revenues by the year 2000. Figure 1.7 chronicles the growth of international service revenues as a percentage of the total revenues of U.S. telecom services firms.

**Figure 1.7: International Service Net Revenues as a Percentage of Total Domestic and International Toll Revenues.** Source: Federal Communications Commission, *Trends in the International Communications Industry*, March 1994, p. 12.

![Graph showing international service net revenues as a percentage of total domestic and international toll revenues from 1982 to 1993.]

*Estimate

b. The European Union

The E.U. basic voice services market produced $75 billion in revenues in 1992 and is expected to grow by four to six percent per year. Growth in this market will come primarily from increased use of the existing wireline network but also by network expansion in less developed member states (particularly Germany). Demand has been significantly stifled by high prices, irregular billing practices, installation delays, and lower service quality relative to the United States. Average annual per capita consumption of telecom services in European Union

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member states ($217) is less than half the comparable U.S. figure ($460). As prices decline in the E.U. market, growth in demand and revenues is expected to increase substantially, and efficient firms could stimulate and capture a large part of this latent demand.

The basic voice service with the greatest growth potential in the European Union is the international market. More international calls, 34 percent in 1992, originate in the European Union than anywhere else in the world, generating $10 billion in net revenues in 1992. (See Figure 1.8) In 1992, the U.S. market grew by 16 percent, the E.U. market experienced 14 percent revenue growth, and similarly, the Asia-Pacific market grew by 12 percent. However, the high cost of telecom services in member states has significantly suppressed usage, especially among business customers. These high costs have also spurred the growth of private international telecom networks which bypass the expensive and inefficient monopoly carrier. Demand for these private networks is expected to expand at least twice as fast as demand for the traditional public switched network in Europe. These trends suggest that foreign international telecom traffic will continue to expand throughout the decade and that efficient, U.S. firms would profit handsomely by entering foreign markets.

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19Economic Strategy Institute estimate based on 1992 E.U. and U.S. aggregate expenditure and population figures. It is also worth noting that cultural differences also affect average phone usage. U.S. daily average usage would undoubtedly remain higher than most other nations if phone charges were similar. However, the significant difference in phone use can not be explained entirely by cultural differences.

20Net revenue, as opposed to billed revenue, is the appropriate figure when discussing the international market. International telecommunications providers must pay foreign firms to carry the call from the international transmission facility to the final destination. Net revenue represents the part of billed revenue that domestic carriers retain after paying foreign firms for completing the call. This system is roughly similar to the access charges the long distance must pay the Baby Bells for the connection of a long-distance call.
c. Developing Countries
In contrast with the United States, most developing countries currently operate antiquated wireline networks that are not comprehensive, provide low-quality service, and fail to meet existing demand for telecom services. The great disparity between the telecom networks in developed and developing countries is reflected in national telephone penetration rates (the number of phone lines per 100 people). Figure 1.9 shows the difference in penetration rates and also indicates the need for network expansion.
Figure 1.9: Line Penetration in Developed and Developing Countries, 1991.

In many parts of the developing world, low-quality service is an accepted fact of life. In Eastern Europe for example,

"Lines only marginally reliable for basic voice service are unreliable for enhanced and facsimile transmission. The number of annual faults per 100 lines ranged from 18 (in Croatia) to 97 (in Romania); by contrast, reports of faults in Sweden were ten per 100 lines, in France nine, and in the United Kingdom 15. In Romania, 70 percent of calls were not completed, and in Hungary, 45 percent of local calls failed to go through."\(^{21}\)

Even obtaining a telephone line is a difficult and lengthy process in many countries. In countries such as the Philippines, Sri Lanka, and Cambodia, people wait up to ten years or more to obtain a telephone line. The Central and Eastern Europe average waiting time for telephone installation is 11.5 years, compared with ten days in the United States.\(^{22}\)

\(^{22}\)Ibid.
In an effort to improve their networks, many developing countries have initiated or announced plans to upgrade and expand their telecom infrastructure. Developing countries around the world are realizing the importance of an advanced telecom infrastructure to global competitiveness and economic growth. China, where the waiting list for telephone lines is 20 million lines and growing by two million annually, has initiated a project to increase the number of telephone lines to 100 million lines by the year 2000. Unmet demand in Brazil is currently 2 million phone lines, and Telebras, the Brazilian government-owned monopoly, has launched a campaign to meet this demand by 1999. India has committed itself to spending $15 billion on an expansion project to reduce their waiting list which, although officially quoted at three million, is believed to be between 40 and 60 million lines. Indonesia plans to double its 1992 line base by the year 1995 and add an additional five million lines by the year 2000. Other countries with similarly ambitious projects include Russia, Saudi Arabia, and Poland, to name a few.

The tremendous expansion of basic telecom networks in developed countries presents huge opportunities for both telecom equipment manufacturers and basic service providers. Countries in the Asia-Pacific region will spend between $90 and $120 billion this decade to upgrade their switching and transmission facilities, in addition to the cost of adding 100 million new telephone lines.23 The World Bank estimates that it will cost Asia's lower income countries almost $400 billion to reach a telephone density of ten lines per 100 inhabitants -- a level less than one quarter the phone density of Western Europe.24 Basic telecom services revenues in developing countries are expanding rapidly as a result of infrastructure enhancement and expansion projects to create reliable, comprehensive national networks. In Singapore, for example, as a result of infrastructure expansion and overall economic growth, telecom services revenues are increasing by 15-20 percent annually.25 In China, revenues are growing 50-55 percent annually.26

23 World Bank, Telecommunications Sector Reform in Asia: Towards a New Pragmatism, paper number 232, p. ix.
24 Ibid. p. 3.
2. Mobile Communications Markets

The surge in demand for mobile communications services is revolutionizing the way many countries communicate. By the end of the decade, half of all telephone calls worldwide are expected to originate or terminate on a mobile phone. Mobile communications is currently the fastest growing telecommunication service sector in the world. The United States is the largest market for mobile communications, claiming 28 million subscribers for cellular, paging, and specialized mobile radio services which generated $10 billion in revenues in 1992. This market is expected to grow by 36 and 39 percent in revenues and subscribers respectively in 1993. By the end of the decade, the U.S. Commerce Department expects the U. S. cellular subscriber base alone to top 35 million.

European Union member states claim 16 million mobile communication service users generating $5.8 billion in revenues in 1992. Throughout the European Union, annual subscriber growth rates have averaged 30 to 40 percent in member states over the past four years and this growth is expected to continue for the remainder of the decade. The European market should generate $15.9 billion in revenues by the year 2000 and include 19.1 million cellular subscribers and 40 million total mobile communication subscribers.

Japan is the third largest mobile communications market, boasting 1.64 million cellular subscribers in 1992, despite a regulatory environment which has discouraged the use of mobile, particularly cellular, communications. The Japanese government has announced its intention to encourage the use of mobile communications services and, as a consequence, the subscriber base is expected to expand rapidly over the next decade. By 2010, 38 million cellular subscribers are expected in Japan. Figure 1.10 shows the anticipated subscriber base from these three regions.

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28 Ibid. p. 29-13.

Despite the impressive cellular growth rates in developed nations, the fastest growing cellular markets are in developing countries. In developed countries, mobile communication is still viewed as a personal luxury; in developing countries, where the wireline service is unreliable and unavailable in many locations, mobile communication is becoming a necessity. Several developing countries may leapfrog the wireline stage of development altogether and install wireless networks to handle all voice telecom traffic. While mobile services in the United States will be a secondary form of communication (after the wireline system), mobile communications will be the primary form of communication in much of South and Central America, Central and Eastern Europe and the Asia-Pacific region.

The Asia-Pacific region is the world's fastest growing mobile/cellular market. Annual growth in regional cellular subscriber volume from 1989 to 1992 was 80 percent and now remains steady at 50 percent, while paging services continue
their rapid expansion throughout the region.\textsuperscript{31} Mobile service demand in Singapore is expected to quadruple this decade. In Hong Kong alone, there are over 800,000 paging service subscribers, equaling the subscriber total in the United Kingdom, with an estimated 35,000 subscribers being added monthly.\textsuperscript{32} China, already the world's fourth largest mobile/cellular market, will boast 1.2 million cellular subscribers and 10 million pager users by the end of this year. It is predicted that by the year 2000, China will have 10 million cellular and 30 million pager subscribers.

Similarly, South and Central American cellular markets are also growing rapidly. Cellular markets in South and Central America have experienced 45 percent annual growth over the last five years.\textsuperscript{33} The Venezuelan cellular market has been growing at a rate of 200 percent per year and shows no sign of slowing.\textsuperscript{34} Mexico's subscriber base has grown from 60,000 in 1990 to 311,000 in 1992, an annual growth rate of 128 percent. The Asia-Pacific and South and Central American markets are expected to continue to be the fastest growing markets for wireless telecom services in the world through the remainder of the decade.

Central and Eastern European countries represent another potentially lucrative cellular market. The poor state of wireline networks in the region means that, in many cases, it is more economical to build a new cellular network from scratch than to rebuild the existing network. Average time usage in Central and Eastern European countries is several times higher than in the United States because many European customers do not have access to a wireline network. In fact, almost all foreign investment in the region has been directed at establishing mobile communication networks.

\textsuperscript{32}\textit{Ibid.}
\textsuperscript{34}\textit{Ibid.}
3. Satellite Services

a. Domestic Satellite Systems
Satellite services are anticipated to grow significantly in the future, particularly in countries with inadequate wireline networks. By the turn of the century, satellite technology will provide the final link in the globalization of the Industry. Satellites currently play an important role by providing voice, data, and video services across continents as well as communications in areas with mountainous terrain or inadequate wireline facilities. For example, US West services 43 rural Wyoming communities with satellite-based phone service. By complementing existing cellular and wireline networks, proposed satellite projects could make personal communication networks virtually ubiquitous. Satellite services are also expanding to provide two-way, cost-effective voice and data services, radio-determination services, and television services direct to the home via direct broadcast satellites (DBS).

The European market for satellite communication is expanding rapidly and is expected to grow from $350 million in 1991 to $1.3 billion by 2001. Unlike the United States, whose DBS industry has had a slow start, Europe's DBS industry is competitive and profitable. Penetration rates of satellite television are expected to grow from a three percent average across Europe in 1990 to 16 percent by 1995. Eutelsat, a European consortium, also hopes to expand its satellite industry by providing services to Russia and Central and Eastern Europe.

Many developing countries rely heavily on satellite services and are planning to increase these services significantly. Lacking adequate wireline facilities and/or because of particular geographic characteristics, many are finding it more cost effective to use satellites to provide local, long distance, and international services.\textsuperscript{35} Honduras, for example, is participating in a joint venture with PanAmSat to extend service to remote rural communities. Similarly, Indonesia will employ satellites to provide the 13,700 islands of the Indonesian archipelago

\textsuperscript{35}For example, countries in mountainous regions (Chile), countries with many islands (Indonesia), or nations with dispersed populations.
with domestic telecom services, and Chile recently deployed a new satellite system to provide domestic services in the Andes.\textsuperscript{36}

b. International satellite services

International satellite services are divided into two types: fixed and mobile satellite services. International fixed satellites transmit signals to fixed earth positions, e.g., TV station satellite dishes. International mobile satellites transmit signals to mobile communication networks, e.g., maritime vessels, airplanes, and mobile personal satellite terminals.\textsuperscript{37}

The international fixed satellite service (FSS) industry has experienced significant growth in recent years. U.S. revenues from international FSS reached $706 million in 1993, up 22 percent from 1992, and are expected to grow 25 percent in 1994.\textsuperscript{38} The bulk of U.S. international FSS revenues are generated by Intelsat (the International Telecommunication Satellites Organization), a consortium of 126 countries (including the United States) providing satellite services to 180 countries.\textsuperscript{39}

The international mobile satellite services (MSS) industry has generated modest revenues, but is expected to experience tremendous growth in the mid 1990s. The bulk of U.S. revenues from international MSS originates from INMARSAT (the International Maritime Satellite Organization), a global network of satellites jointly operated by a consortium of 66 countries. U.S. INMARSAT revenues reached $145 million in 1992, representing a 25 percent annual growth rate from 1990 revenues. Over the next four years, a flurry of new satellite systems dedicated to MSS will be launched. These satellites will tap into the burgeoning


\textsuperscript{37}Internationally, fixed satellites services (FSS) primarily include basic telecom traffic (e.g., basic telephony) but also provide private line and business services, broadcast (video transmission), and data transmission. International mobile satellite services (MSS) include cellular telephony, positioning and navigation services, and digital radio.

\textsuperscript{38}U.S Department of Commerce. \textit{op. cit.} p. 29-15.

\textsuperscript{39}This consortium employs 20 satellites cooperatively used by all signatories for international telecom transmission and plans to launch an additional 12 satellites over the next two years. In addition to Intelsat, there are two privately-owned U.S. international satellite systems, PamAmSat and Columbia Communications, which service the United States. PamAmSat provides mainly video broadcasting services and business communications to the Western Hemisphere and Europe. Columbia Communications serves U.S. military communications in the Pacific Basin.
market for global paging, in-flight phone service, video and data transmission, and international mobile voice telephony.

The market for global mobile telephony service has attracted several consortia which are proposing to deploy low earth orbiting (LEO) and middle earth orbiting (MEO) satellite systems.\textsuperscript{40} LEO and MEO systems are capable of receiving, switching, and transmitting signals from any mobile station in the world. These systems will complement the existing terrestrial cellular networks and could eventually allow the wireless network to bypass the wireline network completely.

4. Enhanced Services

Enhanced services include electronic mail, on-line database, and enhanced processing services. Due to the relative infancy of these services, the United States, European Union, and Japan will continue to be the largest and fastest growing markets for enhanced services throughout the remainder of the decade. The U.S. enhanced services industry will generate $18 billion in revenues in 1994, representing approximately 40 percent of a $45 billion world market.\textsuperscript{41} Revenues for enhanced services in the European Union were $6.3 billion in 1992 and are expected to increase between 20 and 30 percent annually.\textsuperscript{42} Japan’s enhanced services market is expected to experience similar growth in both revenues and demand.

5. The Market for Global Seamless Services

There is also tremendous demand for private global telecom networks. Many multinational corporations are turning to telecom firms to run their private, in-house telecom networks. Currently, international businesses create private

\textsuperscript{40}There are currently six U.S. projects to build LEO and MEO systems: Motorola's Iridium, Loral's GlobalStar, TRW’s Odyssey, Constellation Communications' Aries plan, Ellipsat, and Teledesic, the project conceived by Microsoft's Bill Gates and Craig O. McCaw. Iridium, the largest of these projects, plans to launch 66 LEO satellites by 1998 to provide global communications. These systems will compete against satellite constellations from France, Mexico, Russia, and Belgium.

\textsuperscript{41}Office of the United States Trade Representative, \textit{op. cit.}

networks through independent agreements with separate carriers in each country: no one carrier can meet all telecom needs of multinationals because of foreign barriers to U.S. entry. (This is the subject of Chapter Three.) In many cases, these carriers have different technical standards and equipment, making it extremely difficult for international businesses to operate efficient, trouble-free private networks. Multinational firms increasingly want to buy their services in a single package from a single vendor, rather than dealing with an international patchwork of private and government-operated telecom firms.

The last two years have seen a flurry of international joint venture agreements, between firms in different countries, to supply seamless services. These ventures will typically supply the following services:

- Global, virtual private network services for voice, switched data and conferencing,
- Global, managed data services based on low and high speed packet switching and frame relay,
- Global applications such as messaging, EDI (electronic data interchange), and audioconferencing,
- Facilities management and full enterprise network management.

The market for this global service is estimated at $10 billion and could be worth more than $25 billion by the end of the decade. In the past year, a number of global alliances have been announced to exploit this lucrative market. (See Table 1.2) In addition to the alliances listed, several other telecom firms are actively searching for global partners, including the United Kingdom's Cable and Wireless.

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Conclusion

Future revenue growth and employment in the U.S. telecom services industry will increasingly depend on the ability of U.S. firms to take advantage of opportunities in foreign markets.

The opportunities in foreign markets are impressive and growing at an unprecedented pace. Furthermore, international businesses are demanding that telecom services firms operate seamless global networks providing services that transcend traditional, national borders. The success of the U.S. telecom services industry will in large part depend on its ability to compete head-to-head with its foreign counterparts both in the United States and in foreign countries.

<table>
<thead>
<tr>
<th>Alliance</th>
<th>Partners</th>
<th>Area of Partner Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Partners</td>
<td>AT&amp;T</td>
<td>U.S. and Others</td>
</tr>
<tr>
<td></td>
<td>KDD</td>
<td>Japan and parts of Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>Singapore Telecom</td>
<td>Singapore and parts of Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>Unitel (Canada)</td>
<td>Canada</td>
</tr>
<tr>
<td></td>
<td>Korea Telecom</td>
<td>Korea and other parts of Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>Telefonica de España</td>
<td>Europe and parts of Central and South America</td>
</tr>
<tr>
<td></td>
<td>(Spain)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Telekom NZ*</td>
<td>New Zealand</td>
</tr>
<tr>
<td></td>
<td>Telstra (Australia)*</td>
<td>Australia</td>
</tr>
<tr>
<td></td>
<td>Unisource</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Telia (Sweden)</td>
<td></td>
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<tr>
<td></td>
<td>PTT Switzerland</td>
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<td></td>
<td>PTT Holland</td>
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<td></td>
<td>UBN</td>
<td></td>
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<tr>
<td></td>
<td>SITA</td>
<td></td>
</tr>
<tr>
<td>Concert</td>
<td>MCI</td>
<td>North America</td>
</tr>
<tr>
<td></td>
<td>British Telecom</td>
<td>All territory outside North America</td>
</tr>
<tr>
<td></td>
<td>Nippon Information and Communication Corp.</td>
<td>Will market Concert's product in Japan</td>
</tr>
<tr>
<td>No Official Name.</td>
<td>Sprint</td>
<td>North America and Other</td>
</tr>
<tr>
<td>(Pending Approval)</td>
<td>Deutsche Bundespost</td>
<td>Europe and Other Areas</td>
</tr>
<tr>
<td></td>
<td>Telekom</td>
<td></td>
</tr>
<tr>
<td></td>
<td>France Telecom</td>
<td>Europe and Other Areas</td>
</tr>
</tbody>
</table>

*Associate member.
CHAPTER II: U.S. PARTICIPATION IN FOREIGN MARKETS

A. Can They Compete?: The International Competitiveness of U.S. Telecom Services Firms

The U.S. government has been at the forefront of encouraging competition in the domestic telecom services market and, as a result, U.S. telecom services providers have become the most competitive in the world. Intense domestic competition has forced U.S. firms constantly to innovate and improve their efficiency. While the United States has encouraged competition in all telecom sectors except the local exchange, the overwhelming majority of countries have discouraged competition and maintained a public monopoly that has no incentive to become more efficient. The following is a brief discussion of the history of competition in the United States and the resulting world class competitiveness of U.S. firms.

1. The History of U.S. Telecom Competition

The entire domestic telecom network was once regulated as a natural monopoly, almost exclusively operated by AT&T. AT&T maintained a monopoly in the manufacturing of telephone equipment and in the provision of all services over the telephone network. In 1968, competition was introduced in the manufacturing of customer premises equipment (CPE), the equipment that connects households and businesses into the telephone network (e.g. telephones and faxes). This changed the equipment component of the network from a service to a purchasable good and hence reduced telecom services to local, long distance, and international services.
The application of microwave technology during the 1950s changed the underlying cost structure of the industry and made it possible for more than one firm to compete profitably in the long distance market. Throughout the 1960s and 1970s, however, competition in the long distance market was limited by AT&T’s monopoly control of the local exchange. As a consequence, the Department of Justice (DOJ) filed an anti-trust suit in 1974 charging that AT&T had used its monopoly control of the local exchange to impede competitive entry into the long distance market. Eight years later, a consent decree known as the Modification of Final Judgment (MFJ) was issued, which ordered AT&T to divest itself of the Regional Bell Operating Companies (RBOCs) that provided local exchange service. The RBOCs were consolidated into the seven Baby Bells (or Regional Holding Companies, RHCs) and regulated as natural monopolies. The goal of the MFJ was to separate AT&T’s competitive and non-competitive activities. The RBOCs were restricted from entering three lines of business deemed competitive, and AT&T was prohibited from electronic publishing and re-acquiring an RBOC.\footnote{Three RHCs have recently petitioned Judge Green to vacate the MFJ.} (See Table 2.1)
Table 2.1: Modified Final Judgment Line-of-Business Restrictions. Source: AT&T.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Line of Business Restriction</th>
<th>Current Status of Restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T</td>
<td>Cannot engage in electronic publishing.</td>
<td>Lifted in 1989</td>
</tr>
<tr>
<td></td>
<td>Cannot re-acquire a RHC.</td>
<td>In Effect</td>
</tr>
<tr>
<td>RBOCs</td>
<td>Cannot manufacture telecom network equipment or customer premise equipment (CPE).</td>
<td>In Effect</td>
</tr>
<tr>
<td></td>
<td>Cannot offer information services (such as electronic yellow pages).</td>
<td>Lifted in Full in 1991</td>
</tr>
<tr>
<td></td>
<td>Cannot offer long distance or international services.</td>
<td>In Effect</td>
</tr>
</tbody>
</table>

Divestiture was not the only impetus to competition in the United States -- the Federal Communications Commission (FCC) has also encouraged the development of competition in the long distance market. Realizing that the sheer size and scope of AT&T made it hard for new firms to compete, the FCC applied the dominant carrier status to AT&T and the RHCs. Firms with dominant carrier status are subject to more stringent regulations (e.g. submit traffic, revenue, and tariff data more frequently, request permission for network expansion) than firms without the classification. The increased data and authorization requests allowed the FCC to monitor AT&T’s actions and ensured that AT&T did not abuse its dominant market position to disadvantage new entrants. This regulation aided the development of significant competition in the U.S. long distance market, and consequently fostered the competitiveness of U.S. firms.

Divestiture spurred the development of the most competitive long distance market in the world, with more than 500 companies competing in the U.S.
market today. Competition has caused nominal prices to decline considerably and the market to expand. For example, a ten minute weekday call using AT&T from Washington, DC to Los Angeles cost $5.15 in 1982; ten years later, the same call cost $2.50.\footnote{Federal Communications Commission, 1992/1993. Statistics of Common Carriers. Washington: U.S. Government Printing Office, p. 264.} On average, interstate long distance prices for residential customers have declined by 50 percent in real terms.\footnote{U.S. House of Representatives, Anne K. Bingaman speaking before the Committee on the Judiciary in testimony on H.R. 3626, 103rd Congress, 26 January 1994.} Price reductions, in turn, precipitated growth in the industry. Revenues in the long distance market grew by 53 percent in the eight years following divestiture.\footnote{U.S. Department of Commerce, op. cit., p. 29-6.} Most of this revenue growth has come from new entrants into the market. The two long distance carriers which have penetrated the market most successfully since divestiture are MCI and Sprint, whose average revenue growth were 20.9 and 19.3 percent per year, respectively, during this period.\footnote{Ibid.}

Furthermore, as a result of this intense competition, U.S. firms have developed advanced skills in marketing which their international counterparts have not. The long distance carriers have engaged in a seemingly endless battle to win customers by offering a slew of specialized, discount service packages. These skills should give U.S. firms a sizable advantage in foreign market competition.

2. International Competitiveness

Comparing the efficiency of U.S. with global telecom services firms is a daunting task. Telecom firms in different countries operate with significantly different regulations and universal service requirements, and no two telecom services firms provide exactly the same service. (e.g. KDD of Japan provides international services while AT&T provides mobile, long distance, and international services.) The problems of measuring competitiveness have resulted in controversy over which formulas are meaningful indicators of a firm's potential success or failure in foreign markets.
a. Basic Voice Services

Three measures of international competitiveness have been widely used to evaluate telecom service firms -- revenue per employee, access lines per employee, and measures of labor and capital productivity. To date, none of these measures have gained acceptance as the universal standard of competitiveness. However, by each proposed measure of competitiveness, U.S. firms have been rated the most efficient telecom services providers in the world. With each of these measures showing U.S. dominance, it is difficult to counter the assertion that U.S. telecom services firms are the most efficient in the world.

In 1993, Merrill Lynch released a report on the efficiency of global telecom services providers based on revenue per employee.\(^49\) In this analysis, the three primary U.S. long distance carriers rank first, second, and third. (See Table 2.2) MCI, in particular, was shown to be by far the most competitive firm in the world -- nearly 80 percent more efficient than its nearest competitor, Sprint.\(^50\)

\(^{49}\)This measure of efficiency is used by the Department of Commerce in its 1994 *Industrial Outlook* to assess the competitive strength of U.S. telecom service firms.

\(^{50}\)This measure of efficiency is upwardly biased toward long distance companies and negatively biased towards local exchange carriers. MCI's remarkable efficiency rating is heightened by the quality of the measurement. While most nations have monopolies which provide both local and long distance service, the primary business of MCI, Sprint, and AT&T is long distance service. Sprint competes in a number of telecom sectors including local exchange, long-distance, and cellular services which negatively biases its score.
Table 2.2: Efficiency of Telecommunications Services Providers, 1993, Company Revenue per Employee (in thousands of dollars). Source: Merrill Lynch

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue/Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCI</td>
<td>383</td>
</tr>
<tr>
<td>Sprint</td>
<td>216</td>
</tr>
<tr>
<td>AT&amp;T</td>
<td>213</td>
</tr>
<tr>
<td>Hong Kong Telecom</td>
<td>200</td>
</tr>
<tr>
<td>NTT (Japan)</td>
<td>196</td>
</tr>
<tr>
<td>RBOCs (U.S.)</td>
<td>168</td>
</tr>
<tr>
<td>TELMEX (Mexico)</td>
<td>165</td>
</tr>
<tr>
<td>Cable &amp; Wireless (U.K.)</td>
<td>163</td>
</tr>
<tr>
<td>GTE (U.S.)</td>
<td>149</td>
</tr>
<tr>
<td>TEF (Spain)</td>
<td>147</td>
</tr>
<tr>
<td>Bell Canada</td>
<td>143</td>
</tr>
<tr>
<td>STET (Italy)</td>
<td>136</td>
</tr>
<tr>
<td>Telecom New Zealand</td>
<td>123</td>
</tr>
<tr>
<td>British Telecom</td>
<td>120</td>
</tr>
<tr>
<td>Telefonica de Argentina</td>
<td>101</td>
</tr>
<tr>
<td>Telefonos de Chile</td>
<td>97</td>
</tr>
</tbody>
</table>

In October 1992, the McKinsey Global Institute, a subsidiary of McKinsey & Co., released a comparative study of global telecom firms' productivity based on the number of calls handled per employee and per dollar of investment. Again, U.S. telecom services firms were rated the most productive providers in the world, surpassing firms in Europe and Japan. The study found that labor productivity among U.S., Japanese, and French phone companies is comparable, while Germany's and the U.K.'s productivity is about 20 and 40 percent less than the United States respectively. However, when capital investment is considered with labor productivity, the study found that the U.S. telecom services industry is far more efficient than those in Europe or Japan. U.S. phone networks handle
four times as many calls per dollar of investment as those in France and Germany and twice as many as those in the United Kingdom.\textsuperscript{51}

b. Enhanced Services
U.S. firms are also extremely competitive in the enhanced services industry. Most enhanced services were pioneered and refined by U.S. firms, and only recently have serious foreign competitors entered the market. The Office of the United States Trade Representative cites evidence that the U.S. enhanced services industry (which includes the 'new' telecommunications services such as on-line database, data processing, and storage and forwarding services) is by far the most competitive in the world.\textsuperscript{52}

c. Mobile communications
In cellular/mobile communications, U.S. mobile communications services firms are widely regarded as among the most competitive in the world. U.S. firms have dominated foreign license competitions for cellular service, winning 49 percent of all licenses awarded to foreign firms, while firms from Sweden and the United Kingdom remain a distant second and third with 15 and 12 percent respectively.\textsuperscript{53} Figure 2.1 outlines the share of all cellular service licenses awarded to foreign firms by countries of licensees in 1993.

\textsuperscript{52}Enhanced services change the form of the transmission or store the transmission for a period of time and thereby add value to the transmission.

The combined findings of these studies using different measures of efficiency are indisputable -- U.S. telecom services providers are the most competitive in the world, bar none. U.S. firms are the lowest cost providers in the world, provide high quality, innovative services, and have gained significant marketing and technical experience by operating in the most competitive market in the world. Therefore, U.S. firms are in an excellent position to compete (and capture substantial market share) in foreign telecom services markets.

B. U.S. Firm Participation in Foreign Markets

Over the last decade, U.S. telecom firms have announced aggressive plans to expand overseas operations. AT&T recently announced a goal of drawing 50 percent of the firm's revenues from overseas operations by the year 2000. Sprint and MCI are both actively seeking to enter mobile and basic telephony markets in Asia, South and Central America, and Central and Eastern Europe. The Baby

\textsuperscript{54}Includes foreign firms represented in winning consortia and contracts awarded to more than one foreign firm. The market shares do not add up to 100 percent due to rounding.
Bells, restricted from expanding in the U.S. market, now own and operate foreign ventures ranging from cellular and PCS service to basic telephony. The chairmen of Bell Atlantic and US West expect international operations to generate a sizable portion of total company revenue by the year 2000. These ambitious expansion and investment projects are an acknowledgment of the opportunities and increasing importance of foreign markets to the long-term growth and revenue of U.S. telecom firms. As a recent Office of Technology Assessment report concluded, "U.S. firms are looking abroad because of new opportunities and because their future depends increasingly on growth in foreign markets."\(^{55}\)

The actual pattern of U.S. foreign direct investment, however, is puzzling at first glance. U.S. foreign investment in traditional telephone service provision (the most lucrative service) has been concentrated in a handful of countries, most notably the United Kingdom and New Zealand, while the majority of U.S. mobile/cellular investments have occurred in developing markets (South and Central America and Central and Eastern Europe). U.S. investment in many of the world's most lucrative and promising basic services markets -- the European Union, Japan, and China -- is almost non-existent. Despite the vast opportunities unfolding in foreign telecom markets and the public announcements of the desire to enter these markets, U.S. firms are notably absent from a number of key foreign markets and are oddly minor participants in others.

1. U.S. Foreign Direct Investment in Basic Voice Service Markets

a. Western Europe
The only country where U.S. firms have substantial foreign investment is the United Kingdom. Both Sprint and AT&T have been licensed to provide nationwide basic telecom services, and the Baby Bells and U.S. cable companies have been particularly aggressive in the British cable and local telephony market. NYNEX, USWest, TCI, Pacific Telesis, Southwestern Bell, and Cox Cable all have substantial holdings in the United Kingdom cable telco market.\(^ {56}\)


\(^{56}\)In the United Kingdom, local service providers are permitted to carry and deliver both cable television and basic telephony (telco) services to customers.
b. Central and Eastern Europe
The U.S. presence in the basic service markets of Central and Eastern Europe is currently small, but is expected to expand significantly in the future. AT&T has a 39 percent stake in a project to build and operate a modern telecom network in the Ukraine. In Hungary, the first Eastern European country to tender local telephony contracts, foreign-led consortia won in 15 of Hungary's 54 telephony districts and U.S.-led consortia won eight of these licenses.57 The Hungarian national telecom operator, Matav, which is partly owned by Ameritech, took 38 districts.

c. Asia-Pacific Region
U.S. firms have entered aggressively into the New Zealand telecom service market. Bell Atlantic and Ameritech own 49.9 percent of Telecom NZ, the dominant carrier in New Zealand, while its main competitor, Clear Communications, is jointly owned by MCI, Bell Canada International, and three New Zealand companies. U.S. firms are also active in New Zealand's pay-television market. In Australia, BellSouth has been awarded a license to become a comprehensive wireline and wireless facilities-based operator. U.S. firms are not present, however, in any of the other major Asia-Pacific markets for basic telecom services.

d. South and Central America
U.S. firms have by far the most international basic service operations in South and Central America. Mexico, which will open its long distance market in 1997, has been the focal point of U.S. foreign direct investment. Southwestern Bell owns a 10 percent share of TELMEX, the Mexican national carrier. MCI formed an alliance with Mexico's largest financial group to provide services, AT&T has engaged in discussions with TELMEX to provide long distance service, and Sprint formed a joint venture with Grupo Iusacell to compete in Mexico's long distance market. U.S. firms have participated in foreign and domestic consortia that have successfully bid to provide basic services in Chile, Argentina, Uruguay, and Venezuela. Furthermore, U.S. firms are expected to bid for stakes

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in the basic telecom markets of Columbia, Brazil, Paraguay, Nicaragua, and Honduras by the end of the year.\footnote{"Telecom Privatization in Latin America," \textit{Telecommunications}, (March 1994): 61.}

2. U.S. Foreign Direct Investment in Mobile Communications Markets

a. Western Europe

b. Central and Eastern Europe
U.S. firms are participating in a substantial number of international mobile/cellular communications ventures in Central and Eastern Europe. Foreign cellular participation has been most prevalent in Eastern Europe and the former Soviet Union. These countries have allowed foreign mobile communication firms with superior technology and experience to bid for national cellular and paging licenses. US West has stake in cellular franchises in Slovakia, Georgia, Czech Republic, Latvia, Bulgaria, Hungary, and Russia. In addition to cellular ventures, U.S. firms are providing data and enhanced services in Eastern Europe, such as Sprint International's data service facilities in Romania and Russia. Table 2.3 shows U.S. participation in cellular markets of Eastern Europe and the former Soviet Union.

<table>
<thead>
<tr>
<th>Country</th>
<th>Foreign Cellular Partner</th>
<th>Ownership</th>
<th>Award Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>US West, Bell Atlantic</td>
<td>24.5%</td>
<td>1990</td>
<td>$60 million investment over the next ten years.</td>
</tr>
<tr>
<td>Hungary</td>
<td>US West</td>
<td>49%</td>
<td>1989</td>
<td>US West, to date, has invested $13 million.</td>
</tr>
<tr>
<td>Poland</td>
<td>Ameritech, France Telecom</td>
<td>24.5%</td>
<td>1991</td>
<td>$50 million investment over three to four years.</td>
</tr>
<tr>
<td>Romania</td>
<td>Nationwide Cellular (U.S.)</td>
<td>51%</td>
<td>1991</td>
<td></td>
</tr>
<tr>
<td>Russia (Moscow)</td>
<td>Plexys Int. (U.S.)</td>
<td>100%</td>
<td>1992</td>
<td></td>
</tr>
<tr>
<td>Russia (Moscow)</td>
<td>US West, Millicom Cellular (U.S.)</td>
<td>22%</td>
<td>1991</td>
<td>$7 million initial investment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia (St. Petersburg)</td>
<td>US West</td>
<td>40%</td>
<td>1991</td>
<td>Priority investment to international gateway.</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Millicom Cellular (U.S.)</td>
<td>49.0%</td>
<td>1991</td>
<td>Will also establish international satellite links.</td>
</tr>
<tr>
<td>Belarus</td>
<td>CommStruct Int. (U.S.)</td>
<td>50%</td>
<td>1991</td>
<td></td>
</tr>
</tbody>
</table>

c. Asia-Pacific Region
U.S. firms are present in only a few of the major Asia-Pacific cellular markets. BellSouth has been licensed to provide cellular service in Australia and New Zealand. Although a number of foreign firms participate in Japanese cellular consortia, in all cases they are marginal players. U.S. firms have been awarded minimal stakes in the Japanese cellular ventures, with the exception of Pacific
Telesis. Table 2.4 shows the participation of U.S. firms in the Japanese cellular market.\(^{60}\)


<table>
<thead>
<tr>
<th>City/Region</th>
<th>Partners</th>
<th>Foreign Ownership</th>
<th>Percent Foreign Stake</th>
<th>Average Foreign Stake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo/Nagoya (A)</td>
<td>Motorola (U.S.), British Telecom (U.K.), GTE</td>
<td>8.0%</td>
<td>21%</td>
<td>3.50%</td>
</tr>
<tr>
<td></td>
<td>(U.S.), US West (U.S.), Rogers Cantel (Canada), NYNEX (U.S.)</td>
<td>5.0% 3.0% 2.0% 2.0% 1.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tokyo/Nagoya (B)</td>
<td>Pacific Telesis (U.S.), Cable and Wireless (U.K.)</td>
<td>15.0% 8.0%</td>
<td>23.0% 11.5%</td>
<td></td>
</tr>
<tr>
<td>Osaka/Kobe/Kyoto (A)</td>
<td>British Telecom (U.K.), NYNEX (U.S.), GTE (U.S.), Motorola (U.S.)</td>
<td>5.0% 2.0% 1.5% .25%</td>
<td>8.75% 2.18%</td>
<td></td>
</tr>
<tr>
<td>Osaka/Kobe/Kyoto (B)</td>
<td>Pacific Telesis (U.S.), Cable and Wireless (U.K.)</td>
<td>13.0% 7.2%</td>
<td>20.2% 10.1%</td>
<td></td>
</tr>
</tbody>
</table>

\(^{60}\)Several firms ESI interviewed believe the Japanese strategy is to include foreign firms only when Japanese firms are unable to provide the technical expertise needed and that the inclusion of a large number of foreign firms is designed to minimize the gains made by any single foreign firm. Pressure from the U.S. government was also instrumental in opening this market.

d. South and Central America
U.S. firms have been extremely active in the cellular markets of South and Central America. Bell Atlantic recently purchased a 42 percent share of Mexico's second largest cellular operator, Grupo Iusacell. Argentina, Mexico, Chile,
Venezuela, and Uruguay have licensed U.S. firms (solely and in consortia) to run cellular systems.

3. Conclusions

*While U.S. firms have aggressively entered a select number of foreign markets, the majority of countries prohibit or restrict U.S. foreign direct investment, particularly in basic services.*

Considering the aggressive rhetoric of many U.S. firms and the vast opportunities unfolding in foreign markets, it is curious that U.S. firms are absent, or are minor participants, in so many foreign markets. The reasons for the concentration of U.S. investment in a handful of countries are foreign government regulations and closed foreign markets that hinder U.S. firms from taking advantage of their technological leadership and greater efficiency. There are some markets where foreign firms have been awarded cellular and wireline contracts over U.S. firms, but this cannot explain the complete absence of U.S. firms from so many vital markets. The overwhelming majority of foreign countries restrict foreign direct investment in their markets and thereby prevent U.S. and other foreign firms from exploiting their comparative advantage in these markets.
CHAPTER III: FOREIGN AND INTERNATIONAL REGULATIONS

U.S. firms are blocked from the majority of lucrative international opportunities by foreign government regulations prohibiting or restricting U.S. participation, and by international regulations that discriminate against and overcharge U.S. firms and consumers. The following is an analysis and comparison of the regulations and restrictions placed on foreign firms in U.S., European, and selected Asia-Pacific telecom markets. This chapter also reviews the accounting rate system, the widely used international settlement system for connecting international calls, and its implications for U.S. consumers and firms.

A. Foreign Participation in Telecom Markets

Most foreign countries prohibit U.S. firms from participating in their domestic market. Only a handful of countries (such as New Zealand and the United Kingdom) grant foreign firms market access which is comparable to the market access the United States grants. Government restriction of competition and foreign participation can take three primary forms:

- *Governments limit the number of carriers licensed to participate in the market.* Governments can place quantitative restrictions on the number of firms which can participate in their telecom market. Telecommunications firms can provide service in one of two ways: by owning the physical network (the phone lines and switching equipment) required to transmit or terminate a call, or by paying a facilities-based operator for the use of its network. The first operator is known as a facilities-based operator and the latter a resale operator. Countries typically prohibit all resale operations and limit facilities-based operations to one national carrier
who is usually government-owned and controlled. In the few cases where competition is allowed, there are severe restrictions.

- **Governments establish foreign ownership restrictions.**
  Governments can also limit the degree to which foreign firms participate in the market by establishing foreign ownership restrictions. Even if a government maintained a monopoly in a certain telecom sector, foreign firms could still conceivably invest in that firm. Most foreign governments are the sole owner of the monopoly carrier. When foreign investment is permitted, most countries (including the United States) limit the percentage of a domestic carrier which can be owned by foreign interests.

- **Governments fail to protect new firms from the market power of the dominant carrier.**
  Governments can discriminate against foreign firms by adopting regulations which apply only to foreign operators or by allowing dominant firms to thwart the entry of foreign firms. Many governments maintain policies that directly and indirectly discriminate, or allow the dominant carrier to discriminate against foreign firms. Lack of governmental oversight allows some monopoly providers (or de facto monopoly providers) to discriminate against foreign firms by charging higher interconnection rates or hindering customer access to the foreign service provider.

1. **The U.S. Market**

a. Limits on the number of providers
In basic voice telecom services, foreign competition is permitted in long distance and international service provision while local service, which is provided by the Baby Bells and other local exchange carriers, is generally monopolistic.  

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61 Competition is being allowed into the local exchange in a small but increasing number of regions. State public utilities commissions consider competitive entry into the local exchange services market on a case-by-case basis and some now seem more inclined to allow competition. For example, MFS Communications Corporation has been granted permission by the Maryland Public Service Commission to compete with Bell Atlantic for business and government customers. Local exchange carriers (LECs) also face a small degree of competition from
Foreign firms have been particularly active in the U.S. long distance and international service markets. In 1992, nearly 500 domestic and foreign subsidiaries participated in the U.S. long distance market. 27 firms (common carriers) operated as facilities-based providers, and nearly 100 operated as resellers of international services. Of this total, at least 12 are subsidiaries of foreign firms, including Cable and Wireless (U.K.), now the fifth largest U.S. long distance carrier. The United States also allows foreign firms to provide two-way international service: service from the United States to a foreign country and vice-versa. For example, Telefonica de España can provide all of the international telecom services needs of a firm with locations in Puerto Rico and Spain.

Mobile/cellular, satellite, and enhanced services are similarly open and competitive in the United States. In mobile communications, the United States currently manages a regional duopoly in cellular services but competition will significantly expand in December when the FCC auctions spectrum for personal communication services (PCS).

When the FCC originally awarded analog licenses in 1981, there were only a few non-U.S. cellular firms. As a consequence, there are no major foreign mobile competitive access providers (CAPs). CAPs connect large business customers directly to a long distance company’s "point of presence" (the point where the local exchange and long distance lines physically connect), hence by-passing the local exchange. CAPs are still a relatively small part of the local telephone network, accounting for less than 0.25 percent ($200 million) of LEC revenue in 1992 according to the U.S. Department of Commerce.


63U.S.-based international services providers can be subject to dominant carrier status on those routes serving their home nation.

64It is misleading to discuss the satellite policy of individual nations in this context because of the nature of orbital space ownership rights. Nations do not own the rights to the orbital space above their terrestrial borders; technically anyone can place a satellite in orbit. However, if the satellite is stationed directly above a nation, it must receive permission from that nation to transmit. If the satellite is not stationed above that nation, it is free to transmit to that nation without prior approval.

65The market structure of each nation's enhanced services sector will not be discussed in this section. The United States secured market opening commitments from 43 other nations in the Uruguay Round of the General Agreement on Tariffs and Trade. The United States committed to open its enhanced services market without reservations as did many of the other signatories. Several U.S. telecommunications services firms have expressed doubt that some nations (particularly Japan) will fulfill their GATT commitments and completely liberalize their enhanced services market.

Economic Strategy Institute
service providers in the United States. Foreign firms can participate directly in the U.S. cellular market by purchasing licenses on the resale market or by investing in U.S. firms. For example, in 1989, British Telecom purchased a 22 percent stake in McCaw Cellular Communications, the largest U.S. cellular operator.\(^66\) The market structure and level of foreign participation allowed in the U.S. telecom services market is summarized in Table 3.1.

### Table 3.1: Market Structure and Level of Foreign Participation Allowed in the United States. Source: Economic Strategy Institute.

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Basic Voice Local</th>
<th>Long Distance and International</th>
<th>Mobile/Cellular</th>
<th>Enhanced Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Regionalized Monopoly</td>
<td>Open and Competitive</td>
<td>Regionalized Duopoly: Open to foreign firms.</td>
<td>Open and Competitive</td>
</tr>
</tbody>
</table>

b. Foreign ownership restrictions
Although the United States does not restrict the number of foreign carriers that can participate in the telecom market (with the exception of local and cellular services), U.S. law does limit foreign ownership in telecom firms (called common carriers). Foreign firms are prohibited from holding common carrier radio licenses, owning more than 20 percent of U.S. firms holding a radio license, or having any representation on the board of a U.S. radio license holder.\(^67\) The subsidiary of a foreign firm can hold a common carrier radio license, but the parent firm is limited to 25 percent foreign stock ownership, foreign directors, and foreign officers. These provisions were originally established in the Communications Act of 1934 to prevent foreign countries from spreading propaganda in the United States. The FCC has the power to waive these restrictions on request.\(^68\) Table 3.2 summarizes U.S. ownership restrictions.

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\(^66\) In 1992, AT&T purchased British Telecom's 22 percent stake in McCaw. This eliminated all direct foreign participation in the U.S. cellular services market.

\(^67\) These restrictions apply in four radio-license sectors: broadcast, common carrier, aeronautical fixed, and aeronautical en route.

\(^68\) In fact, the FCC has waived this provision on a number of occasions, including ENTEL Chile's 80 percent acquisition of AmerITel, Telstra's (Australia) 39.7 percent equity stake in Digitran, and ChileSat's acquisition of 100 percent of NACX. In fact, in approving British Telecom's 20 percent equity stake in MCI, the FCC allowed foreign ownership in MCI to exceed the Section 310 ceiling.

<table>
<thead>
<tr>
<th>Foreign Ownership Restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct foreign ownership of a common carrier radio license is limited to 20 percent while indirect investment is limited to 25 percent.</td>
</tr>
</tbody>
</table>

c. Special obligations placed on foreign firms
The United States also places specific obligations on firms owned by foreign carriers. A U.S. firm with more than 15 percent foreign ownership, or with a representative of a foreign firm on its board of directors, is classified as a dominant carrier on those routes where the foreign owner holds monopoly power.\(^{69}\) Firms with dominant carrier status are required to submit traffic, revenue, and tariff data more frequently and seek FCC authorization to construct new lines, extend existing lines, and acquire new lines. Non-dominant firms only need authorization for the construction of major cables and to initiate service to new countries. The purpose of this regulation is to prevent foreign monopolies (known as public telephone operators or PTOs) or firms with considerable home market power from using their dominant domestic position unfairly to disadvantage firms in the U.S. market.

d. Protecting new firms from former PTO market power
The United States has taken more steps than any other country to ensure that its former PTO (AT&T and the RHCs) do not impede fair market competition. The primary regulatory tool (applied to AT&T) is FCC's dominant carrier status (discussed in the previous section). AT&T and the RHCs are the only common carriers, without substantial foreign ownership, to be classified as a dominant carrier.\(^{70}\) The U.S. government, through divestiture restrictions, cost-based access regiments, and non-discrimination safeguards, has similarly ensured that the RHCs do not abuse their market power.

\(^{69}\)If the foreign affiliate has bottleneck power (if somewhere in the network a call must pass through that firm's facilities to reach its final destination), it can also be classified as a dominant carrier.

\(^{70}\)U.S. common carriers who are partly owned by foreign carriers are also classified as dominant carrier on those international routes served jointly by the foreign owner and the U.S. common carrier.
e. International Private Line Resale
The United States does restrict what is known as international private line resale to certain international destinations. The term international private line resale refers to the ability of a carrier to connect a private, international circuit to the public telephone networks in two countries and resell the service to another party (e.g. an international corporation). This would enable IBM, for example, to make a call from anywhere in Britain to any destination point in the United States over a private international line. The private line is considerably cheaper than using a conventional line because private lines are not subject to accounting rate charges. In 1991, the FCC created an equivalent resale opportunity standard which permitted international private line resale "... only on those routes where equivalent resale opportunities are provided to U.S. carriers." This policy directive had two intended goals. The FCC wanted to prevent an expansion of the accounting rate deficit, and secondarily to expand the opportunities for U.S. firms in foreign countries. Currently, only resale with the United Kingdom and Canada has been approved.

2. The Asia-Pacific Region

a. Limits on the number of providers
U.S. firms face significant entry barriers in Asia-Pacific countries, with the exception of New Zealand and Australia. New Zealand launched an aggressive liberalization campaign. Telekom NZ, the former PTO, faces competition from Clear Communications in toll bypass, international, and leased-line service. In fact, both major domestic services providers are partly-owned by U.S. firms.

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71This restriction only applies to carriers -- not to customers.
72Accounting rate charges are discussed later in this chapter.
73Federal Communications Commission, CC Docket No. 90-337.
74Without equivalency, the net settlement deficit is exacerbated considerably. A firm can make international calls to the United States and avoid the accounting rate charge using a private line by 'bypassing' the international carrier. However, without equivalency, that firm cannot bypass the international carrier on U.S. originated calls, for which the U.S. carrier is charged the settlement rate.
75The United Kingdom has adopted a similar standard. The U.K. policy states that "international simple resale services should only be permitted between the United Kingdom and those countries whose regulatory regimes allow an equivalent freedom to provide services in the reverse direction." Currently, equivalency has only been acknowledged in Canada, Sweden, and Australia. In almost all other countries, international private-line resale is not permitted.
Australia, Japan, and South Korea, however, keep local, long distance, and international services markets closed to foreign firms and limit the number of facilities-based operators. The Australian government owns a majority stake in the only two voice services providers, Telstra and Optus. The only foreign mobile operator, Vodafone Australia, must be 51 percent Australian-owned by July 2003. In Japan, Nippon Telephone and Telegraph (NTT) is both a local exchange monopoly and a long distance provider. South Korea still maintains the typical PTO market structure. One competitor, Dacom Corp., is permitted to compete against Korea Telecom, the PTO, in international voice and data services. Basic voice services markets in the rest of Asia are almost always closed to foreign participation.

In mobile/cellular services, only New Zealand maintains a market which is significantly open to foreign firms. New Zealand has licensed Bell South to operate a cellular service as well as Telecom NZ, a firm with 49 percent U.S. ownership. Recently, Australia licensed the first foreign firm to compete in the cellular market, while South Korea maintains a duopoly in cellular services and until recently has refused to consider foreign participation in their cellular market. The Japanese cellular market is governed by a regional duopoly similar to the United States. U.S. mobile service providers are completely locked out of Hong Kong, Taiwan, Thailand, Indonesia, and the People's Republic of China. Table 3.3 reviews the market structure and level of foreign participation allowed in Asia-Pacific countries.

---

76 The Australian government has announced plans for open competition in the Australian market in July 1997. Service provision as well as facilities construction will be permitted.
77 Foreign firms are excluded from all basic services sectors in Thailand, Hong Kong, Indonesia, People's Republic of China, and Taiwan. Long distance and international services have been partially liberalized in the Philippines.

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Basic Voice Local</th>
<th>Long Distance and International</th>
<th>Mobile/Cellular</th>
<th>Enhanced Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Duopoly: Closed to foreign firms</td>
<td>Duopoly: Closed to foreign firms</td>
<td>Three firms licensed: One foreign firm</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Open and Competitive</td>
<td>Open and Competitive&lt;sup&gt;78&lt;/sup&gt;</td>
<td>Open and Competitive</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>South Korea</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Regulated Duopoly: Limited foreign participation</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>Japan</td>
<td>Managed Competition: Closed to foreign firms</td>
<td>Managed Competition: Closed to foreign firms</td>
<td>Regionalized Competition: Foreign firm participation minimized</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>Singapore</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Competitive but Closed to foreign firms</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Monopoly</td>
<td>Managed Competition: Closed to foreign firms</td>
<td>Regulated Duopoly: Open to foreign firms.</td>
<td>Competitive but Closed to foreign firms.</td>
</tr>
<tr>
<td>China</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Closed to foreign firms</td>
</tr>
<tr>
<td>United States</td>
<td>Regional Monopoly</td>
<td>Open and Competitive</td>
<td>Regional Duopoly: Open to foreign firms.</td>
<td>Open and Competitive</td>
</tr>
</tbody>
</table>

<sup>78</sup>While New Zealand regulations restrict the number of international carriers, the two existing providers are both partly owned by foreign firms.
b. Foreign Ownership Restrictions
All of the Asia-Pacific countries under review have foreign ownership restrictions. These restrictions are summarized below in Table 3.4. Foreign firm ownership is banned or heavily regulated in almost all other Asia-Pacific countries. In 1992, the United States and South Korea reached an accord establishing a 33 percent foreign ownership limit for Korean-based telecom services firms. However, in the licensing of a second cellular network, South Korea limited foreign firms to a 20.2 percent stake. The Office of the United States Trade Representative has protested the licensing process claiming that it was confusing, wrought with favoritism, and designed to thwart foreign participants.


<table>
<thead>
<tr>
<th>Country</th>
<th>Foreign Ownership Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Foreign ownership in Optus, a basic carrier, is limited to 49 percent.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>49.9 percent ownership restriction on telecom firms.</td>
</tr>
<tr>
<td>South Korea</td>
<td>U.S. and Korean officials negotiated a 33 percent limit.</td>
</tr>
<tr>
<td>Japan</td>
<td>Facilities-based carriers are limited to 33 percent foreign ownership.</td>
</tr>
<tr>
<td>Other Asia-Pacific Countries</td>
<td>In every other country, foreign firms are restricted from wholly or partly owning firms.</td>
</tr>
<tr>
<td>United States</td>
<td>Direct foreign ownership of a common carrier radio license is limited to 20 percent while indirect investment is limited to 25 percent.</td>
</tr>
</tbody>
</table>

79 Many Asia-Pacific governments - particularly in developing countries - are preparing to offer new telecom stock on domestic and international markets. Asia-Pacific telecom companies are likely to hit the markets with $3-4 billion of international equity offerings each year for the next three years in an attempt to upgrade their networks. However, it is very unlikely that foreign firms will be allowed to take sizable stakes in these firms (which, in almost every case, will have majority government ownership).
Other barriers to foreign participation have been identified in the Asia-Pacific region as well. For example, a GATT review of the Australian telecom market found a "substantial number of impediments to international participation." Barriers to free trade included the lack of plans for the post-duopoly regime after 1997 and the limits on foreign equity levels in two of three Australian carriers.

c. Protecting new firms from former PTO market power
Japan's Nippon Telephone and Telegraph (NTT) operates in a regulatory environment that, in effect, condones discrimination against new carriers. The Japanese government's limited regulatory oversight of NTT gives the former PTO the power to discriminate against new entrants and to block the entry of foreign firms. Newly-established carriers must connect their lines to NTT's (who has a monopoly in the local exchange) if they wish to provide city services. In 1992 the Japanese government refused to require NTT to charge appropriate rates (i.e. rates based on cost) for access to NTT's network and also refused to balance NTT's peculiar tariff structure.\(^8^0\)

In conclusion, although national market structures and foreign firm access vary significantly across the Asia-Pacific region, in every country except New Zealand foreign firms are denied the same opportunities that the United States grants foreign firms in the U.S. telecom services market.

3. The European Market

a. Limits on the number of providers
Unlike the United States, the European telecom services market is characterized by state-owned monopoly operators and limited foreign competition. A study of the European market conducted by the Office of Technology Assessment (OTA) concluded that 85 percent of the E.U.'s telecom services market remains closed to foreign firms.\(^8^1\) Almost all European countries restrict foreign firm access to the basic services market by preserving government-owned monopolies in local, long distance, and international voice telecom services. In fact, only one of the

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\(^{80}\) World Bank, *Telecommunications Sector Reform in Asia: Towards a New Pragmatism*, paper number 232, p. 85.

countries surveyed for this analysis, the United Kingdom, has allowed foreign firms to provide international telecom services. The existence of these monopolies means that both facilities-based and resale competition are forbidden in most European countries.

In mobile communications, most European countries maintain a regulated duopoly, while several others, including Spain, Ireland, and Switzerland, preserve monopolies. Countries which preserve duopolies have adopted a U.S. approach by giving one license to the monopoly public telephone operator (PTO) and the second to a consortium of firms including, in many cases, foreign firms. The European market for enhanced services is generally competitive and contains both foreign and domestic suppliers.

There are three exceptions to the European generalization: the United Kingdom, Sweden, and Finland -- the only European countries to allow competition in parts of their telecom services market. The United Kingdom has followed a deregulatory strategy that in some ways is more aggressive than deregulation in the United States. Local service in the United Kingdom has been completely liberalized and currently more than 20 North American firms (mostly U.S. firms) operate as both cable television and local telephony providers. The U.K. government also recently granted local, long distance, and international service licenses to six foreign firms (three of which are U.S. firms). However, the United Kingdom did not allow these foreign firms to become international facilities-based operators, thereby reducing the profit potential and long-term growth prospects of foreign firms. Sweden has licensed several foreign firms to participate in its long distance and international markets, including the U.K.’s Cable and Wireless, AT&T, France Telecom, and British Telecom. A comprehensive review of the market structure and the level of foreign participation allowed in selected European countries is provided in Table 3.5.

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Basic Voice Local</th>
<th>Long Distance and International</th>
<th>Mobile/Cellular</th>
<th>Enhanced Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>Open and Competitive</td>
<td>Open and Competitive&lt;sup&gt;82&lt;/sup&gt;</td>
<td>Multiple Licenses: Open to foreign firms</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>Germany</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Duopoly: Foreign consortia in both carriers</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>France</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Duopoly: Foreign consortia in one carrier</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>Sweden</td>
<td>Monopoly</td>
<td>Open and Competitive</td>
<td>Analog monopoly, digital competition</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>Italy</td>
<td>Monopoly</td>
<td>Monopoly</td>
<td>Duopoly: Closed to Foreign Firms</td>
<td>Open and Competitive</td>
</tr>
<tr>
<td>United States</td>
<td>Regional Monopoly</td>
<td>Open and Competitive</td>
<td>Regional Duopoly: Open to foreign firms</td>
<td>Open and Competitive</td>
</tr>
</tbody>
</table>

b. Foreign ownership restrictions
Foreign ownership restrictions vary considerably among European countries. The United Kingdom, Germany, and Finland have no legal restrictions on the

<sup>82</sup>Only resale is permitted in international basic services.
foreign ownership of telecom firms. Several countries, including Spain, Portugal, and Denmark, limit the percentage of foreign ownership while others ban foreign investment (mainly in countries where PTOs still operate). Table 3.6 reviews the different foreign ownership restrictions throughout Europe.

Table 3.6: Comparison of Foreign Ownership Restrictions in the United States and E.U. Member States

<table>
<thead>
<tr>
<th>Countries Without Restrictions</th>
<th>Countries with Partial Restrictions (foreign ownership limit in parentheses)</th>
<th>Countries Forbidding Foreign Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>Portugal (10%)</td>
<td>France</td>
</tr>
<tr>
<td>Finland</td>
<td>United States (20%)</td>
<td>Belgium</td>
</tr>
<tr>
<td></td>
<td>Spain (25%)</td>
<td>Greece</td>
</tr>
<tr>
<td></td>
<td>Denmark (49%)</td>
<td>Ireland</td>
</tr>
<tr>
<td></td>
<td>Germany(^{84})</td>
<td>Luxembourg</td>
</tr>
<tr>
<td></td>
<td>Italy(^{85})</td>
<td></td>
</tr>
</tbody>
</table>

  c. Protecting new firms from former PTO market power

For many years, the United Kingdom operated a regulatory environment that in effect discriminated against new carriers. The United Kingdom followed a policy of protecting the second domestic carrier, Mercury Communications, from excessive competition, as well as British Telecom. For example, while in the United States customers are granted equal access to the long distance companies (customers simply dial and are automatically connected to their long distance carrier), in the United Kingdom customers of carriers other than BT must use special access codes. Negotiating interconnection agreements with BT were plagued with complaints, including lengthy negotiations and charges of above-cost interconnection rates.

\(^{83}\)Although some governments do own significant shares of the privatized PTOs (i.e. the British government’s Golden Share).

\(^{84}\)Deutsche Telekom is 100 percent government-owned. There are no foreign ownership restrictions in Mannesmann Mobilfunk.

\(^{85}\)The Italian government has a majority stake in Telecom Italia, the newly-formed telecom conglomerate controlling all of Italy’s fixed telephone operations.
Although many outstanding issues remain, the U.K. government has made progress in reducing some of the impediments to competition. Recently, the U.K. government decided that people who switched local telephone carriers could keep their telephone numbers. Until this decision, people received new phone numbers each time they switched local carriers.

Conclusions: Asymmetrical Market Access

Access to basic voice telecom services markets is asymmetrical: U.S. firms are prohibited from participating in most foreign markets while foreign firms compete in a relatively open and fair U.S. market.

While the U.S. basic voice telecom services market remains one of the most open markets in the world, most foreign countries deny U.S. firms access to their markets. Even when markets are privatized and opened, many countries enact laws that favor and protect the dominant PTO, and fail to enact laws that support fair competition. The few countries who have begun to liberalize their basic voice telecom markets have not developed policies to level the playing field between monopoly and competitive service providers that would permit the development of effective competition. These foreign regulations stymie competition and protect domestic firms from competition, unlike U.S. regulations that encourage competition.

U.S. mobile/cellular operators are marginalized in several countries by foreign regulations that attempt to promote domestic service providers.

U.S. firms face fewer restrictions in providing mobile communication services than basic services and have become significant cellular operators in some countries. Many countries have realized that foreign firms (especially U.S. firms) have technical expertise and market experience that their domestic firms cannot match. However, some countries promulgate laws that marginalize foreign firm participation or restrict it completely. U.S. firm participation in the Japanese and the South Korean cellular markets are examples of this exclusion.
B. International Settlement System -- The Accounting Rate

Since in the majority of cases U.S. firms are not permitted by foreign governments to provide end-to-end international service (services provided directly to customers in the destination and origination countries), international service providers must enter into operating agreements with firms in other countries to complete international calls. These two firms must establish the accounting rate charges that they impose upon one another for the termination of an international call. When an international call is made, the telecom firm in the originating country must pay the services provider in the destination country for directing the call to its final destination. The originating carrier must pay the second carrier a settlement rate that is half the negotiated accounting rate.

Overall, and on a country-by-country basis, the United States originates more international calls than it receives. This results in U.S.-based operators making net annual out payments to foreign operators; as a consequence, the United States realizes a trade deficit. In fact, the United States makes annual settlement payments to all of its major trading partners. Table 3.7 examines the net settlement payments made by the United States to major trading partners in 1992.

<table>
<thead>
<tr>
<th>Country</th>
<th>Traffic Originating in United States (in thousands of minutes)</th>
<th>Traffic Originating in Foreign Country (in thousands of minutes)</th>
<th>Net Settlement Payment to Foreign Country (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico(^{86})</td>
<td>1,277,226</td>
<td>608,649</td>
<td>$677.0</td>
</tr>
<tr>
<td>Germany</td>
<td>562,891</td>
<td>235,716</td>
<td>$187.5</td>
</tr>
<tr>
<td>Philippines</td>
<td>195,233</td>
<td>22,327</td>
<td>$155.7</td>
</tr>
<tr>
<td>Canada</td>
<td>2,226,372</td>
<td>1,512,091</td>
<td>$120.8</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>249,403</td>
<td>50,176</td>
<td>$120.7</td>
</tr>
<tr>
<td>South Korea</td>
<td>206,380</td>
<td>95,386</td>
<td>$92.7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>733,377</td>
<td>501,107</td>
<td>$72.1</td>
</tr>
<tr>
<td>Italy</td>
<td>207,212</td>
<td>117,914</td>
<td>$59.8</td>
</tr>
<tr>
<td>Taiwan</td>
<td>162,534</td>
<td>82,153</td>
<td>$43.6</td>
</tr>
<tr>
<td>Japan</td>
<td>362,989</td>
<td>277,892</td>
<td>$38.9</td>
</tr>
<tr>
<td>France</td>
<td>239,790</td>
<td>156,545</td>
<td>$38.7</td>
</tr>
<tr>
<td>Total for Selected Countries</td>
<td>6,423,407</td>
<td>3,659,956</td>
<td>$1.61 billion</td>
</tr>
<tr>
<td>Total For All Countries</td>
<td>10,156,212</td>
<td>5,290,895</td>
<td>$3.3 Billion</td>
</tr>
</tbody>
</table>

The annual U.S. telecom services deficit has steadily increased over the past 15 years due to the increasing demand for U.S.-originated international services. The international telecom services trade deficit has expanded from $347 million in 1980 to $3.3 billion in 1992. (See Figure 3.1) Billed revenue is the total amount that U.S. customers are charged for international calls (the amount collected by the U.S. international carrier). Net revenue represents the part of billed revenue that domestic carriers retain after paying net settlement payments to foreign firms.

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\(^{86}\)U.S. international traffic to Mexico is not charged a flat accounting rate. International settlement charges are determined by the distance the call travels in Mexico.
Figure 3.1: Growth of the U.S. Telecommunications Services Trade Deficit.

Unlike most trade deficits, the telecom services deficit is an indication of the efficiency of U.S. telecom firms relative to foreign competitors. The following example illustrates why the United States runs a trade deficit in telecom services when U.S. international telecom service providers are more efficient than their international counterparts. Two relatives, Person A (who lives in Washington, DC) and Person B (who lives in Rio de Janeiro, Brazil) call each other frequently and seek to minimize their collective phone bill. A 10 minute call from DC to Rio de Janeiro costs Person A $11.62.\textsuperscript{87} The same call from Rio de Janeiro to Person A costs $26.50.\textsuperscript{88} In order to minimize their collective costs, Person A will call Person B more often. As a consequence, more calls originate from the United States and the U.S. long distance company pays the Brazilian carrier an annual net settlement payment. The competitive U.S. market environment and the efficiency of U.S.-based international telecom service providers, which make

\textsuperscript{87}Peak rate, weekday, direct dialing on Cable and Wireless, 20 May 1994.
\textsuperscript{88}Peak-rate, weekday, direct dialing , 3 June 1994.
U.S.-originated international calls cheaper than foreign-originated calls, generate an annual U.S. trade deficit in telecom services.89

The telecom services trade deficit is also aggravated by the proliferation of international call back services offered by U.S. firms. These services allow a person in a foreign country to call another country at a substantial discount by routing the call through the United States. The customer calls a number in the United States that provides a dial tone and connects the customer to the destination number at lower U.S. prices. Although customers save up to 75 percent on the call, the United States adds to its telecom services trade deficit.90

Under fair and competitive market conditions the deficit caused by the accounting rate system would be based on economically-efficient costs and, therefore, would not be a concern. However, the negotiated accounting rate, in almost every case, is above-cost, and therefore acts as an unfair tax on American consumers of international telecom services.91 According to the Organization for Economic Cooperation and Development (OECD),

"There is agreement [among OECD member countries] that the present level of collection charges faced by the customers of international telecom operators are too high and do not reflect the cost of providing the service. There is also widespread agreement that the accounting rates . . . are too high and do not reflect costs. Moreover, they restrict the ability of operators to reduce customer collection charges and they can distort traffic flows."92

In fact, the FCC concluded in a 1991 Report and Order that accounting rates would be half their present level if a cost-based accounting system was adopted

89Again it is important to cite cultural differences in phone usage and income differentials as factors in traffic imbalances. If international phone charges were equal in all countries, U.S. carriers would probably still make out payments to foreign firms. However, there would be no intrinsic incentive for a firm or resident in the United States to make all of the international calls which is a growing cause of the accounting rate trade deficit.
90In a May 1994 decision, the FCC ruled that call back services were not in violation of U.S. law. However, the FCC did note that it would closely monitor the effect of these services on the accounting rate deficit.
by our trading partners.\textsuperscript{93} Although the average accounting rates between the United States and foreign countries have been declining by 3.4 percent annually since 1991, the settlement payment still constitutes 58 percent of the total cost of a U.S. international call.\textsuperscript{94} If accounting rates were cost-based, U.S.-originated international telephone calls would cost, on average, 30 percent less than current per minute charges, and the average cost per minute of an international call would fall from $1.00 to $.70.\textsuperscript{95}

The lack of competition in the international telecom market of foreign countries gives U.S. telecom firms very little control over the "negotiated" accounting rate. Foreign monopoly operators are in a position to demand above-cost accounting rates and extract excessive profits from U.S. consumers because they face no competitive pressure in their home market. These monopoly profits are then used to subsidize local telephone service and, in many cases, other governmental services such as postal systems and public transportation.\textsuperscript{96}

The total cost to U.S. consumers of above-cost accounting rates is difficult to measure, because it requires knowledge of the actual cost structure of foreign telecom providers, and this data is not made available. However, several attempts to quantify the overpayments and the total welfare loss to society define a sound range for these excess profits. The FCC in a 1991 decision cited evidence "... which suggests that U.S. carriers may be making overpayments of as much as $500 million per year to two regions of the world, Asia and Europe. . ."\textsuperscript{97} This figure does not include an estimate of net settlement overpayments to other parts of the world, including Mexico, who receives the largest net settlement payment from the United States ($677 million in 1992). Another study conducted by Strategic Policy Research concluded that $2.3 billion of the total net settlement payments paid in 1991 to foreign countries was non-cost

\begin{flushleft}
\textsuperscript{95}\textsuperscript{95}Estimate by Economic Strategy Institute based on 1992 FCC calling information.
\end{flushleft}
related.\textsuperscript{98} The Economic Strategy Institute has determined that the amount of the subsidy to foreign firms (the non-cost component of total net settlement payments) is between $1.67 and $2.1 billion in 1992 based on FCC estimates and available cost structure data.\textsuperscript{99} Table 3.8 reviews these three estimates.

### Table 3.8: Estimated Annual Tax on U.S. Consumers Imposed by Above-Cost Accounting Rates

<table>
<thead>
<tr>
<th>Group</th>
<th>FCC</th>
<th>Strategic Policy Research</th>
<th>Economic Strategy Institute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Overpayments</td>
<td>$500 million</td>
<td>$2.3 billion</td>
<td>$1.67- $2.1 billion</td>
</tr>
<tr>
<td>Qualifications</td>
<td>Only includes Europe and Asia.</td>
<td>Does not take into account differentials in accounting rates.</td>
<td>Calculations based on the methodologies of previous estimates.</td>
</tr>
</tbody>
</table>

The accounting rate system has yet another problem: the accounting rates demanded by foreign monopoly operators are discriminatory. Foreign firms demand a higher accounting rate from U.S. operators than they collect from firms in other countries, even though the associated costs are equal. One example of this discrimination can be seen in the huge difference in accounting rates charged by the Spanish monopoly, Telefonica de España. Each call from the United States to Spain incurs an accounting rate charge of $.72 per minute while Telefonica charges only $.28 per minute for calls originating in the United Kingdom. Discriminatory accounting rates are inherently above-cost, and also indicate that foreign firms are exploiting U.S. consumers.


\textsuperscript{99}We believe the Strategic Policy Research study, which is by far the most comprehensive attempt to quantify the tax, overestimates the amount for a number of reasons related to the inability to separate inefficiency from profiteering and the difficulty in accounting for regional differences in service provision.
In 1991, the FCC addressed the extent of the discrimination against U.S. consumers:

"...The present level of certain intra-regional accounting rates or other country-to-country arrangements suggests that U.S. carriers may not only be required to pay above-cost accounting rates, but that U.S. carriers are subject to discriminatory treatment in this respect. In the case of Europe, for example, U.S. carriers may be paying as much as $.50 to $1.40 per minute more to terminate U.S.-originated telephone calls than other countries pay to terminate their international telephone calls in those same locations."100

In essence, the cost of terminating an international call is the same regardless of the country of origin. In every case, the call is directed through the local exchange to the final destination. The only distance-related cost is the cost of laying a cable across the ocean floor (or satellite transmission), and this expense is only a minor component of the total cost of terminating a call. To date, foreign firms have not disputed the accusations of discrimination and have refused to disclose the accounting rates they charge.101 When these actions are taken into account, the rational conclusion is that foreign monopolies discriminate against American consumers.

The existence of an international settlement system that promotes above-cost, discriminatory tariffs presents an unfair and onerous burden on U.S. consumers and hinders the ability of U.S. firms to compete in the global market. The accounting rate system must be abolished in favor of a cost-based, non-discriminatory, and transparent (published) access charge. A logical, cost-based, and non-discriminatory alternative to the accounting rate system has been proposed by many of the industry's leading analysts (including the Organization for Economic Cooperation and Development) and can easily be implemented by members of the world community.

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100 Federal Communications Commission, *op. cit.*

101 Member OECD nations have only agreed to share average accounting rates by region (i.e. North America, Europe, etc.).
CHAPTER IV: CONSEQUENCES OF THE CURRENT REGULATORY ENVIRONMENT

A. The Empty Promise of Open Foreign Markets

Countries in Europe (e.g., Germany) and the Asia-Pacific region (most notably Thailand) have announced plans to abandon the government-owned and controlled monopoly structure and to foster competition in their domestic telecom markets. Governments are also stepping up the pace of telecom reform and development, as they recognize that their ability to upgrade the Industry will be a major determinate of their future economic prosperity. These announcements have enticed many Industry watchers and government officials to proclaim that the U.S. government need do nothing to ensure foreign market access. However, these assessments are speculative, and misguided, for three reasons:

- Corporatization and privatization of a monopoly operator does not guarantee competition.

- In most cases where countries are proposing to introduce competition, the new competition will only involve domestic firms at first, or place stringent limits and conditions on U.S. firm participation.

- Countries that have announced plans to allow foreign competitors in segments of their domestic market have intentionally left many pivotal questions unanswered.

Many countries who have announced plans or intentions to corporatize (to separate the PTO functions from other government functions and to create a corporate structure to govern operations) or privatize their PTO have not
discussed when competitors (domestic or foreign) will be allowed to enter the market. Furthermore, the most common deregulation scenario excludes foreign firms as long as possible in an effort to build domestic strength at the expense of U.S. jobs and consumers. Foreign countries and PTOs have declared that they fear head-to-head competition with U.S. firms, and many U.S. firms have launched public relations efforts to calm these fears.102 Finally, while many deregulation plans propose foreign firm participation, many of the details of the nature, extent, and terms of that entry are left unanswered.

1. The European Union: 1998

The European Union has established a January 1, 1998 deadline for member states to allow resale competition in their basic voice services markets. Four states, Greece, Spain, Ireland, and Portugal have a five-year extended grace period and "very small networks" have a two-year extension "where justified".103 The European Union is gradually moving toward a more open and competitive market, and there are indications the EU may press for competition in the basic services market before the 1998 deadline. The European Commission is also actively seeking liberalization of the mobile communications market, having recently released a Green Paper on the mobile and personal communications market recommending abolition of monopoly operators and "... all restrictions on the freedom to provide services within the Community."104 European countries are also adopting more liberal telecom services policies. Within a year, it is believed that only Austria, Norway, Luxembourg, and Switzerland will have the traditional PTO structure.

While the European Commission's push for market liberalization should be applauded, several pivotal issues determining the extent and character of non-

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103 Spain may waive this grace period. The monopoly operator, Telefonica de España, once a fierce opponent of liberalization, has led the charge to open the Spanish market. Many believe that Telefonica's policy change is the result of foreign regulations which condition entry upon reciprocal opportunities for their own firms. Many other nations are hesitant to allow a firm to enter their market if that firm wields monopoly power in their home market.
European participation in the market remain unresolved. For example, how will the former monopolies set interconnection charges to give competitors access to their telephone networks? Will these interconnection charges be publicly disclosed or negotiated in secret (which would inevitably lead to discrimination)? Will prospective new entrants be licensed by each country individually or will licensing in one country automatically amount to licensing in other E.U. member states? The European Commission also delayed addressing the contentious issue of competitive public-switched network construction. It is unclear whether member states will allow the building of competing facilities. Like the E.C. directive on basic voice services, the mobile communications Green Paper avoids discussing certain important issues regarding foreign participation in the E.U. mobile communications market. For example, will satellite-based mobile communications firms be granted pan-European licenses?

These deregulation plans, as currently written, will not provide U.S. firms access comparable to the access afforded several E.U. firms in the United States. The Office of Technology Assessment, in an in-depth study of European telecom service markets, concluded that "As European countries reluctantly allow greater competition, their policies will continue to favor European firms." It is unlikely that these agreements, in final form, will offer U.S. firms comparable market access, and it is therefore necessary for the U.S. government to support

105It is indeed the opinion of the author of this study that the European Commission (along with the U. K. government) are the U.S.'s best allies in opening European markets to foreign firms. The greatest opponents of market liberalization will be the PTOs and their labor unions which fear, justly, foreign competitors from the United Kingdom and the United States.

106Interconnection issues delayed the introduction of real competition in New Zealand and Britain for years.

107The European Union has stated that "The licensing of the Community telecommunications market for third countries should be linked to comparable access to such countries' markets." However, the definition of "comparable access" has not been discussed.

108The European Commission has announced plans to release a Green Paper on infrastructure by January 1995 in which telecommunications facilities will be discussed. Unofficial sources have disclosed that the Commission will propose a broad liberalization plan effective Jan. 1, 1998. This proposal will be widely contested by powerful national interests, particularly PTO and PTO unions.

109The Green Paper does mention that foreign participation should be governed by the principle of reciprocal market access.

the European Commission's efforts to liberalize telecom markets in E.U. member states and to continue pressing for market access agreements.

2. Asia-Pacific Liberalization

Several Asia-Pacific countries have established plans for deregulating the telecom services market. The deregulation schemes vary by country and are often developed in coordination with corporatization and privatization plans for the monopoly operators.

- In India, privatization of the state telecom operator has already begun. Competition is scheduled for 2004, but the timetable for competitive foreign entry is still unknown.

- China recently licensed a second competitor in the cellular/mobile market but has expressed no desire to abandon the monopoly in basic telecom infrastructure and services.

- Government officials in Thailand are now discussing the complete privatization of the domestic and international telecom services market. The Thai government has announced its intention to introduce full network competition by mid-1997 but has not declared a change in its policy of excluding foreign participation in basic services.

- Malaysia has suggested that a second carrier network will begin operating in direct competition with the monopoly operator before the end of the decade, but as of yet, foreign direct participation is unclear.

It is at best an oversight, and at worst misleading, to assume that these markets will be open to U.S. direct investment in the future.

3. The Most Likely Deregulation Plan for Basic Voice Services Markets

The most common deregulatory plan excludes foreign firms as long as possible in an effort to promote domestic industry and insulate inefficient monopoly operators. If the United States government does not pressure foreign
governments to open their markets to U.S. foreign investment, foreign
governments will pursue reform schemes that insulate inefficient public
telephone operators (PTOs) and exclude U.S. firms. U.S. firms will most likely
be allowed to participate in telecom sectors where they have significant expertise
and technological advantages (e.g., mobile/cellular and enhanced) and
restricted in sectors where foreign countries believe domestic firms can supply
the service without any major reduction in national competitiveness (e.g., basic
services). The most common trend for telecom sector reform is modeled after the
telecom reform in the United Kingdom, Singapore, and Malaysia, involving four
stages: corporatization, privatization, domestic competition and foreign
competition.

a. Corporatization and Privatization
The first two stages are corporatization and privatization. Corporatization refers
to reorganizing the hierarchy of a PTO to give it a corporate business structure.
Corporatization and privatization will be conducted in different order,
depending on the country. Some countries will first privatize and then
corporatize (e.g., Argentina) while others do the reverse (e.g., Mexico,
Malaysia). While it is true that privatization has been spurred by an
acknowledgment of the benefits of competition, it has also been spurred by the
need of governments to raise money. The amount of capital raised by a PTO
sell-off depends on two factors: the extent of the monopoly's operations and the
perceived ability of the PTO to remain profitable. PTOs are known to be less
efficient than other firms (particularly U.S. firms) who have operated in
competitive environments. It then follows that investors would shy away from
investing in the PTO unless it were allowed to operate in a domestic market that
was not competitive. The government will guarantee the PTO domestic market
dominance and thereby maximize the capital raised.

\[111\] Governments have traditionally used part of the money for the general budget and part for
improving the competitiveness and efficiency of the PTO. For example, Greece will use 60
percent of the funds raised from a 25 percent sell off of OTE, the Greek PTO, to cover a revenue
shortfall in this year's budget. The remainder is earmarked to improve OTE's aging fixed-wire
network. It is also likely that in many cases foreigners will be allowed to invest in the PTO.
Although certain benefits do accrue to U.S. telecom firms when investing in these PTOs, these
benefits would be dwarfed by the synergy and revenues generated from competing in those
markets.

\[112\] Several governments are stipulating that while monopolies exist, the monopoly provider
must expand and upgrade the existing network. The ex-PTO is allowed to capture monopoly

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Economic Strategy Institute
This was exactly the policy followed by the United Kingdom when British Telecom (BT) was privatized. BT was given a protected environment with only one other competitor licensed -- Mercury Communications, a subsidiary of the U.K.'s Cable and Wireless. The protected market not only helped to boost the value of the initial sell-off but also placated opponents of privatization. Privatization in Britain was seen by leading Conservatives as "selling off the family silver" and by Labour leaders as a "sell out of the British working class." It was necessary to co-opt and neutralize established interests who might otherwise block the sale in order to minimize the displacement of workers. "It was important that the new companies [BT and British Gas] should have reasonably good economic prospects, so as to please new shareholders and demonstrate the policy's success." Granting British Telecom a protected market neutralized both of these interests.

In many countries this stage will take much longer than analysts now predict. PTO unions represent one of the most powerful political lobbies in many foreign countries -- in many countries PTOs are the single largest employer. Other domestic political interests may also slow the progress of reform. These interests understand that privatization will result in considerable layoffs and are prepared to slow down privatization, if necessary, in order to protect their workers and constituents. In April, three-fourths of France Telecom's workers went on strike to protest privatization plans. In both Greece and Germany, for

profits after guaranteeing that it will install new digital switching equipment and fiber optic/coax cables. The most successful nation following this strategy has been Singapore, which has boosted line penetration to almost 50 per 100 population and has almost completely modernized their network. In Hungary, local exchange monopolies were licensed with the stipulation that these firms reduce the waiting list for telephone lines from the current average of 10-15 years to days or weeks.


Ibid. p. 73.

Nations following similar privatization plans include Malaysia, Singapore, Japan, and India.

An alternatively used name for Public Telephone Operator (PTO) is Post, Telephone, and Telegraph (PTT) which connotes the combination of postal service and telephone operations. Several PTO's are also monopolies in other telecommunications services, i.e. cable television and mobile telephony.

For instance, on August 1, 1994 the European Parliament overwhelmingly rejected the 1998 deadline proposed for opening basic telephone services to competition. The apparent reason for the rejection was political: the Parliament recently launched a campaign to win equal decision-making rights with the Council of Ministers on E.U. legislation.

Another example of this is the privatization of TELMEX, the former Mexican PTO.
example, the governments met with significant resistance from the PTO union and were forced to make considerable concessions guaranteeing benefits and job security in order to win approval for privatization. The propensity of unions to demand concessions will inevitably delay, but not necessarily halt, the privatization process. It will ensure that PTOs are well protected from competitive pressures.

It is also important to remember that complete privatization may never occur. Most foreign governments have maintained a stake in the privatized PTO: the Japanese government still owns two-thirds of Nippon Telephone and Telegraph, the Malaysian Ministry of Finance holds 76 percent ownership of Telekom Malaysia, and New Zealand’s government maintains a "Kiwi Share" of its former PTO. These stakes have been justified as a necessary safeguard against abuses of monopoly or dominant power but in some cases may indirectly serve to give the former PTO an advantage against foreign and domestic competitors.

b. The Introduction of Domestic Competition
Once initial privatization is complete, domestic competition will be gradually introduced into the basic services market. The reasons for gradual domestic competition, as opposed to foreign competition, are twofold: to protect the PTO from more efficient foreign competitors, and to promote powerful domestic firms and interests (e.g., utility companies and other firms owning rights of way). For example, in 1985 in the United Kingdom, Mercury Communications was granted the sole license to compete against British Telecom in the lucrative long distance and international telecom market. In Malaysia, Telekom Malaysia, the government-owned carrier corporatized in 1987, faces competition in its long distance and commercial business market from domestic carriers. In Japan, competition in the lucrative long distance market is still limited to domestic firms, nine years after corporatization.119

c. Permitting Foreign Competition
The final stage is the introduction of foreign competitors into the basic services market. Competition will be gradually phased in for several reasons: first, to

119In some nations, notably Mexico, foreign firms were allowed to purchase minority stakes in the privatized PTO.
avoid any abrupt shocks to the domestic employment market, and second, because domestic factions with considerable political power will resist efforts to allow foreign firms' participation. Governments will limit the types of services that foreign firms can deliver and most likely limit foreigners to resale provision. Before foreign competition is allowed, the government and ex-PTO will have reasonable conviction that domestic firms will not buckle under competitive pressures from foreign entrants, and domestic firms will become equity owners in the global alliances to provide international services to multinational firms. This guarantees foreign firms a share of a market that may not have accrued to them in a competitive market.120

The entire reform process from privatization to foreign competition in the basic services market is, in fact, very long. (See Table 4.1) In Japan, where telecom reform began in 1985, no foreign competitors have yet emerged. In Britain, it took ten years for foreign firms to be licensed for long distance and international service. In Singapore it will be at least 14 years until foreign firms are allowed to participate in the basic services market. Some countries (e.g., Mexico and New Zealand) have allowed foreign firms to purchase stakes in the PTO, but these cases are much the exception rather than the rule.

120Global alliances are discussed in detail in Chapter Three.
Table 4.1: Telecommunications Basic Voice Services Reform: Corporatization to Competition. Source: Economic Strategy Institute.

<table>
<thead>
<tr>
<th>Country</th>
<th>Corporatization</th>
<th>Privatization (Initial Offering)</th>
<th>Domestic Competition</th>
<th>Foreign Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1984</td>
<td>1984</td>
<td>1984</td>
<td>1984</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1984</td>
<td>1984</td>
<td>1984&lt;sup&gt;121&lt;/sup&gt;</td>
<td>1990&lt;sup&gt;122&lt;/sup&gt;/1994</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1987</td>
<td>1990</td>
<td>1987</td>
<td>1990&lt;sup&gt;123&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mexico</td>
<td>1989</td>
<td>1990&lt;sup&gt;124&lt;/sup&gt;</td>
<td>1990</td>
<td>1996/2026&lt;sup&gt;125&lt;/sup&gt;</td>
</tr>
<tr>
<td>Japan</td>
<td>1985</td>
<td>1986</td>
<td>1986</td>
<td>Unknown</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1987</td>
<td>1990</td>
<td>1990</td>
<td>Unknown</td>
</tr>
<tr>
<td>Singapore</td>
<td>1993</td>
<td>1994</td>
<td>2007</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

The future intentions of foreign countries should not distract U.S. policy makers from the fact that today, and for the foreseeable future, foreign regulatory regimes restrict the entry of U.S. firms. Unlike the United States, who have traditionally favored telecom consumers over the service providers (through aggressive promotion of competition), foreign countries will focus simultaneously on ensuring the viability of the PTO through a temporary monopoly and promoting the development of a quality infrastructure. After privatization has been complete, it will be several years until foreign firms are allowed to compete in the domestic market, and even then, domestic firms will have institutional advantages. In the meantime, U.S. firms will be restricted

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<sup>121</sup>The U.K. government maintained a duopoly for seven years after the initial privatization.
<sup>122</sup>Foreign competitors entered the local exchange market in 1990 and licenses for long distance and international telecom services were awarded to foreigners in 1993 and 1994. The United Kingdom still maintains an informal duopoly in international facilities-based licenses.
<sup>123</sup>Ameritech and Bell Atlantic purchased majority holdings in the dominant carrier, New Zealand Telecom.
<sup>124</sup>The Mexican government allowed foreign firms to purchase minority shares in the Mexican PTO, TELMEX. Southwestern Bell participated in a consortium which bought 20 percent of TELMEX.
<sup>125</sup>The long distance market will be opened to foreign firms in 1996 while TELMEX retains a monopoly in local service until the year 2026.
from these markets and will be unable to take advantage of their world-class efficiency.

B. Prospects for Cost-Based Accounting Rates

The problems associated with the accounting rate system would be solved by the introduction of competition in foreign markets. If many firms were competing for international traffic on both ends of the transmission, the settlement rate would be negotiated at the economically efficient cost and would continue to decrease as firms improved their efficiency. Unfortunately, as previous discussions have shown, widespread domestic competition will not occur in the foreseeable future. Therefore, if the current system of discriminatory, above-cost accounting rates is allowed to exist in its present form, U.S. consumers will continue to pay billions of dollars in unnecessary overpayments.

C. Consequences of the Present Situation

Foreign direct investment barriers and asymmetrical market access have significant consequences not only for U.S. firms, but also for the U.S. economy. Foreign regulations, by restricting U.S. firms from taking advantage of their highly competitive position, hinder the ability of the U.S. economy to grow and also take away American jobs. Furthermore, these regulations insulate inefficient monopolies and allow them to collect rents that would not accrue to them in competitive markets.

1. Closed Foreign Markets -- Opportunities Denied

If equivalent opportunities existed for U.S. firms in foreign markets, U.S. telecom services providers, and the U.S. economy, would reap significant benefits. U.S. foreign direct investment in telecom markets benefits the U.S. economy in several ways:

- Profits from overseas investments are repatriated into the U.S. economy.
• U.S. telecom equipment exports rise.

• The U.S. telecom service trade balance improves, and the price of U.S. originated international calls declines.

• More U.S. jobs are created.

a. Repatriation of funds into the U.S. economy
Repatriated revenue, simply, is net income generated in foreign countries and brought back into the United States. Fund repatriation spurs investment and job creation not only in telecom but also other industries. We can expect this revenue will be used to support new investment in research and development in the United States, thereby creating new, high-paying U.S. jobs. This investment would take place not only in the Industry but also in high-tech equipment design and manufacturing, upon which U.S. telecom firms rely heavily.

Foreign local and long distance markets
Although it is impossible to estimate the exact share of the global market U.S. basic service firms would capture if all markets were open and competitive, even if U.S. firms captured only a small portion of these markets, the U.S. economy would receive handsome benefits in the form of repatriated revenue. A conservative estimate is that U.S. telecom service providers would capture a market share between 10 and 25 percent if foreign markets were completely open to U.S. firms.\textsuperscript{126} For example, if, in 1992, U.S. firms had captured 25 percent of the non-U.S. telecom services market, U.S. firm revenues would have increased by $72 billion and approximately $3.61 billion in net income would have been repatriated back to the United States.\textsuperscript{127} Table 4.2 shows the potential annual amount that would have been repatriated, based on possible U.S. firm penetration of foreign basic services markets in the year 1992.

\textsuperscript{126}It would be some time before U.S. firms gained significant foreign market share. However, current experience and trends from U.S. firm participation in the U.K. local telephone and cable market demonstrates that U.S. firms can establish themselves as viable challengers in foreign markets and gain market share.

\textsuperscript{127}Economic Strategy Institute estimate based on a non-U.S. market value of $331 billion and a 5.01147 percent profit margin.

<table>
<thead>
<tr>
<th>Value of Foreign Local and Long Distance Markets$^{128}$</th>
<th>U.S. Penetration in Foreign Basic Service Markets</th>
<th>U.S. Revenue from Foreign Operations (in billions)</th>
<th>Net Income$^{129}$ (in billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$288$ billion</td>
<td>10%</td>
<td>$28.8</td>
<td>$1.44</td>
</tr>
<tr>
<td></td>
<td>15%</td>
<td>$43.2</td>
<td>$2.16</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>$57.6</td>
<td>$2.89</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>$72.0</td>
<td>$3.61</td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td>$86.4</td>
<td>$4.33</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>$115.2</td>
<td>$5.77</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>$144</td>
<td>$7.22</td>
</tr>
</tbody>
</table>

As foreign markets expand, the repatriation effect will increase significantly. If U.S. firms captured just 10 percent of all foreign local and long distance markets, they would accumulate over $250 billion in additional revenues between 1992 and 2000, as illustrated in Figure 4.1.

$^{128}$ $288$ billion is the value of foreign (non-U.S.) basic services including local and long distance but not international calls. The United States has a particularly competitive advantage in providing international calls and it is therefore addressed separately.

$^{129}$ Net income is based on 1992 FCC common carrier data of net income as a percentage of revenues in the U.S. market. The figure for 1992 was 5.01147 percent.
Figure 4.1: Projected Additional Annual U.S. Firm Revenue from Open Foreign Local and Long Distance Markets. Source: Economic Strategy Institute.

The international market
ESI has estimated that if the market for international telecom services was free of impediments, U.S. firms would capture a minimum of 20 percent of the market for calls originating outside the United States. This estimate is based on the premise that U.S. firms would dominate the market for international calls terminating in the United States (anticipated 70 percent market share\textsuperscript{130}). If U.S. firms were permitted to become facilities-based operators in foreign countries, they would also be able to compete in other international markets by routing calls through the United States. It is very possible U.S. firms, who are the most efficient in the world, would also capture market share on those routes, potentially raising its overall international, non-U.S. originated, market share to 50 percent. Table 4.3 shows the additional revenues U.S. firms would have earned in 1992 had they been able to compete in international telecom service markets\textsuperscript{131}

\textsuperscript{130} The 70 percent threshold seems a reasonable amount based on two factors: the greater efficiency of U.S. telecommunications firms and the U.S. experience in the airline industry. U.S. airlines carriers, like telecom service providers, are the most efficient in the world. On Trans.-Atlantic routes in direct competition with certain European carriers, U.S. airlines have maintained a 70 percent market share.

\textsuperscript{131} This figure does not include estimates of the potential increase in revenue from greater international simple resale provision which would also be substantial.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$43.1 billion</td>
<td>20%</td>
<td>$8.62</td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td>$12.93</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>$17.24</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>$21.55</td>
</tr>
</tbody>
</table>

In fact, if U.S. firms participated in international markets and captured 50 percent market share, U.S. firms would cumulatively earn over $273 billion from 1992 to 2000. See Figure 4.2.

Figure 4.2: Projected Additional Annual U.S. Firm Revenue from Open International Telecom Markets. Source: Economic Strategy Institute.

Asymmetrical market access guarantees foreign firms a piece of the U.S. market (in addition to 100 percent of their closed home market) for "seamless" private networks at the expense of more efficient U.S. firms. To provide global service
to multinational companies, telephone companies need to provide that service in all countries where multinational firms are located. A firm can provide these services in one of two ways: by building networks in foreign countries or by forming alliances with firms who have an established network in those countries. Since U.S. firms are not granted the market access necessary to build networks in foreign countries, U.S. firms are forced to establish alliances with foreign firms.

If U.S. firms were allowed to establish networks in foreign countries -- if there were symmetric market access -- the United States would undoubtedly dominate the market for providing services to multinational firms. Since U.S. firms are more efficient service providers, they would be more likely to build networks in foreign countries with less efficient service providers and hence would gain a greater share of this international market. In some cases, U.S. firms might choose to form alliances with foreign firms; however, these alliances would be determined by market forces and not by government regulation.

Despite conventional wisdom, the flurry of international alliances may not necessarily be part of the "natural" evolution of the telecom industry. In many cases it would be more beneficial for U.S. firms to establish their own networks instead of forming joint alliances. This is a choice that U.S. firms should make; not foreign governments. When U.S. firms are forced into these alliances, foreign firms gain an unfair share of the growing international telecom market at the expense of U.S. firms and workers.

Foreign cellular markets
The United States economy can also expect to benefit from the opening of foreign cellular markets. Through 1992, U.S. mobile/cellular providers had captured 49 percent of all cellular service licenses awarded to foreign firms.\(^{132}\) Based on this licensing percentage, if all foreign cellular markets were completely liberalized in the year 2000, U.S. firms would record $47.62 billion in

\(^{132}\)Includes U.S. firms participating in foreign consortia.
revenues,\textsuperscript{133} of which approximately $4.76 billion in net income would flow back into the United States.

b. Benefits to U.S. telecommunications equipment manufacturers
The U.S. economy also stands to benefit from the expansion of telecom equipment exports that would follow U.S. firm penetration of foreign markets. The clearest example of this effect is AT&T -- but other domestic equipment manufacturers would also benefit. AT&T is the only major telecom firm in the world that is both a service provider and an equipment manufacturer. If AT&T were permitted to become a facilities-based operator in more foreign markets, it would export more of its American-made equipment to its overseas subsidiaries.\textsuperscript{134} Other U.S. service providers would also purchase a greater amount of American-made telecom equipment. Increased equipment production and exports would create more jobs in the United States and help ease the persistent merchandise trade deficit.\textsuperscript{135} U.S. equipment manufacturers will also reap the economies of scale that come from greater output, and hence make U.S. manufacturers more competitive in global markets.

c. Improving the U.S. telecom services trade balance
Greater U.S. firm penetration in foreign markets will also improve the U.S. telecom services trade balance (which is currently a $3.3 billion deficit). If U.S. firms were allowed to provide international services in foreign countries, U.S. firms would charge cost-based accounting rates (which, because of the greater efficiency of American firms, would be lower than their competitor's price) to capture that market. As a result, the price of U.S. international calls would fall significantly. Furthermore, greater competition in foreign markets from efficient U.S. firms would lower the price of international telecom services overseas, spurring demand for international services to the United States.

\textsuperscript{133}The non-U.S. mobile/cellular market in the year 2000 is estimated at $118.57 billion of which approximately 82 percent will be cellular services (based on 1994 predictions of the size of each service). The non-U.S. cellular market for 2000 is therefore estimated at $97.19 billion.

\textsuperscript{134} Another intensely debated issue concerns technical standards. Many nations restrict the types of equipment which can be attached to the public network. These restrictions typically aid the PTO and their equipment suppliers.

\textsuperscript{135} Trade data released by the International Trade Commission days before the release of this study supports the theory of greater equipment sales through U.S. foreign direct investment in telecommunications markets. U.S. carrier involvement in the Mexican market, for example, has helped U.S. manufacturers secure over 47 percent of the market for all telephone products.
In conclusion, the total cost of foreign barriers to U.S. firm revenue and repatriation of funds is substantial, and growing each year. Table 4.4 tallies the total loss to U.S. firm revenues based on the previous estimates of U.S. firm foreign market penetration (10 percent of foreign local and long distance markets, 50 percent of the international market, and 50 percent of foreign cellular markets).


<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign Local and Long Distance Markets</th>
<th>International Markets</th>
<th>Foreign Cellular Markets</th>
<th>Revenues Denied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>$28.8</td>
<td>$21.6</td>
<td>$7.5</td>
<td>$57.9</td>
</tr>
<tr>
<td>1993</td>
<td>$31.1</td>
<td>$24.1</td>
<td>$9.4</td>
<td>$64.6</td>
</tr>
<tr>
<td>1994</td>
<td>$33.6</td>
<td>$27.0</td>
<td>$11.7</td>
<td>$72.3</td>
</tr>
<tr>
<td>1995</td>
<td>$36.3</td>
<td>$30.3</td>
<td>$14.6</td>
<td>$81.2</td>
</tr>
<tr>
<td>1996</td>
<td>$39.2</td>
<td>$34.0</td>
<td>$18.3</td>
<td>$91.5</td>
</tr>
<tr>
<td>1997</td>
<td>$42.3</td>
<td>$38.0</td>
<td>$22.8</td>
<td>$103.1</td>
</tr>
<tr>
<td>1998</td>
<td>$45.7</td>
<td>$42.5</td>
<td>$28.5</td>
<td>$116.7</td>
</tr>
<tr>
<td>1999</td>
<td>$49.3</td>
<td>$47.5</td>
<td>$35.6</td>
<td>$132.4</td>
</tr>
<tr>
<td>2000</td>
<td>$53.3</td>
<td>$53.4</td>
<td>$47.6</td>
<td>$154.3</td>
</tr>
</tbody>
</table>

Total Revenues Denied $874 Billion

2. The Accounting Rate System -- The Perpetual Trade Deficit Machine

The accounting rate system is used by foreign firms to extract unfair profits from U.S. international telecom service consumers. These overpayments represent a tremendous burden on U.S. consumers and an unchecked siphon of U.S. jobs overseas. If this trend continues, the United States will have paid more than $25 billion in cumulative overpayments in the 1990s alone. (See Figure 4.3) These monopoly profits will then be used to modernize foreign monopolies and to place U.S. firms at a competitive disadvantage in the international marketplace.
Figure 4.3: Non-Cost-Based Overpayments by U.S. Consumers to Foreign Firms via the Accounting Rate System. Source: Economic Strategy Institute.

Cumulative U.S. Loss: $27.34 billion

Conclusion

*Foreign government regulations and international agreements that hamper the ability of U.S. firms to take advantage of their competitive advantage in global telecom markets have a significant impact on the U.S. economy.*

The consequences of foreign regulatory barriers are sobering. Each year billions of dollars are extracted from U.S. consumers, and U.S. firms are denied billions of dollars of revenue that would be repatriated to strengthen the U.S. economy. These regulations also ensure that foreign firms keep 100 percent of overseas markets and gain a piece of the U.S. multinational services market at the expense of more efficient U.S. firms. Many of the proposed deregulation plans will fail to open up significant opportunities for U.S. firms in the short-run and will continue to keep U.S. firms at a disadvantage in the long-run. Therefore, the United States government must take an aggressive role in negotiating the elimination of barriers to U.S. investment in foreign telecom markets and the revision of the accounting rate system.
CHAPTER V: RECOMMENDATIONS

Promoting Competitiveness, Opening Foreign Markets, and Improving Consumer Welfare

A. Promoting Competitiveness through Domestic Deregulation

Regulation has failed to keep pace with the technological change that is revolutionizing telecommunications. As technology has increased the versatility of telecommunications networks, there has been a blurring of the roles of these networks; yet the regulatory environment has maintained an outmoded distinction between each industry. For instance, although local telephone companies have the potential to provide video programming, they are prevented from entering this market due to regulatory constraints. This outdated regulatory regime is delaying the advent of a ubiquitous, competitive information infrastructure and costing consumers billions of dollars annually.

Any restructuring of the domestic regulatory environment will have a profound impact on the international competitiveness of U.S. firms. By creating an environment that promotes competition and constant productivity improvements, the United States can not only improve the international competitiveness of U.S. telecom services firms but also maximize U.S. consumer savings, promote higher quality services, and spur innovation. Domestic deregulation should therefore incorporate two principles:
• Promote competition in all telecom services sectors

• Create incentives for telecom service providers to become more efficient

Congress should also investigate the potential for overinvestment in the local exchange before moving forward with deregulation. The following is an examination of these principles and a discussion of their impact on international competitiveness and opportunities for U.S. firms overseas.

1. Promoting Competition

Domestic competition is one of the most important factors in promoting international competitiveness. The McKinsey Global Institute found, in a study of service sector productivity, that competition and rules regarding firm concentration were significant factors in promoting labor productivity. In fact, the study concluded that "Openness to competition is the most important factor in the productivity difference between service industries in Europe, Japan, and the United States." More specifically, the study found that...

"Public policy exerts its greatest influence on productivity through the competition and concentration rules that operate at country or industry level. Among the various competition rules, the most important are those that help or hinder the freedom to enter a market and to offer services at unrestricted prices. Whenever we observed regulatory interference with one of the basic market elements -- freedom of entry and pricing -- the affected industry seemed to pay for the interference with lower levels of productivity."

136 There are several other ways U.S. regulatory bodies can promote international competitiveness. The success of the cellular industry in foreign markets is a direct result of the FCC’s speed in allocating frequency licenses. This allowed U.S. firms to gain important technical experience in the sector before their international competitors. Allowing trial demonstrations of new technologies or combining technologies is also critical to competitiveness. Unfortunately, the FCC’s spectrum allocation for PCS systems (being auctioned in December 1994) is behind allocation in several key foreign markets, and this factor may disadvantage U.S. firms when bidding for PCS systems in foreign nations.


138 Ibid., p.77.
The current regulatory regime restricts competitive forces by maintaining outdated distinctions between different sectors of the Industry. Although U.S. consumers and firms benefit from having one of the world's most competitive long distance markets, the monopolistic local exchange and the duopoly in cellular services promote higher costs that impede U.S. international competitiveness. Enhanced, fair telecom competition would produce significant benefits for every sector of the U.S. economy. Annual consumer savings could exceed billions of dollars as intra-lata, cellular, and cable costs decline. This nationwide cost reduction would also check inflationary pressures. Increased competition is also seen by the overwhelming majority of analysts as key to accelerating the national information superhighway’s development, spurring product innovation, and improving service quality. Clearly, promoting competition in the domestic market is in the best interest of the United States.

For competitive reasons, as well as overinvestment concerns, every firm that has the capacity (or desire) to provide telecom services must be afforded the opportunity to do so. Currently, in some areas, there are up to eight networks with the capacity to carry telecom traffic, such as cable, electric utility, Internet, and various wireless networks, in addition to telephone networks. The owners of these networks, several of which operate as monopolies in their core business, must be restricted from using their monopoly power to deter competition and from cross-subsidizing their telecom services operations. While fears of monopoly power abuse are justified, it is important to remember that the FCC has had significant experience overseeing firms with dominant market power and, with the appropriate guidance and authority from Congress, is fully capable of sustaining a competitive market environment. Table 5.1 offers a quick glance at a few of the most common networks that can and should be allowed to carry various telecom services traffic.

<table>
<thead>
<tr>
<th>Type of Network</th>
<th>Network Characteristics</th>
<th>Current Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable TV</td>
<td>Cable TV networks differ significantly from the traditional telephone network. Cable networks are one-way, non-switched systems (telephone networks are two-way, switched) operating on broadband lines (coax and fiber). These networks reach about 70 percent of all homes, and therefore, many long distance companies are actively seeking to invest in cable franchises.</td>
<td>The cable television industry is characterized by many regional monopoly providers. Cable companies are allowed to operate networks in competition with other cable networks if authorized by the local franchising authority. They are currently subject to the same regulatory barriers to local competition faced by other firms.</td>
</tr>
<tr>
<td>Electric Utility Companies</td>
<td>Electric utility companies operate their own telecom networks to monitor their electricity transmission systems, as well as to provide internal communications. Since these are fiber optic and coaxial cable networks, their capacity far exceeds what is being used by the electric utility firms, leading some utility companies to seek permission to use this excess capacity for additional telecom services.</td>
<td>At present, municipally-owned electric utilities are allowed to operate telecom networks. Not all electric utilities are permitted to enter the telecom services market, however. Specifically, the nine largest utility companies (known as registered holding companies) are prohibited by the Public Utility Holding Company Act of 1935 from providing telecom services.</td>
</tr>
<tr>
<td>The Internet</td>
<td>The Internet was built in 1969 to link researchers across the country to remote computer centers, providing access to hardware and software resources. Over time the Internet grew to provide access to academic institutions, and more recently it was made available to business users. The Net now connects thousands of companies, enabling information exchange and access to scientific research.</td>
<td>The Internet poses a strategic threat to other telecom providers since it has the capacity to provide competitive telecom services. This potential will be greatly improved as personal computers become more widespread and households gain broadband access to the Internet.</td>
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</tbody>
</table>

It is also important that U.S. resources and capital are used efficiently. If regulations restrict existing infrastructure from being upgraded, a competing...

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139 In fact, as much as 98 percent of their fiber optic capacity remains unused.
140 The Internet has experienced enormous growth in recent years: it has grown at a rate of 15 percent per month over the past five years and now reaches 20 million computers. (Source: George Gilder, "Breaking the Box," National Review, 15 August 1994, p. 38.)
network will be built less efficiently (i.e. The costs of constructing a new network are greater than upgrading and utilizing many of the existing networks.) Regulations should therefore not discriminate among potential telecom providers.

2. Creating Incentives to Promote Efficiency

Government must always be watchful of a firm operating in a non-competitive market. The government can use two primary tools to control a monopoly's costs: rate of return regulations, stipulating the profit margin of a firm, and price caps, stipulating the price a firm may charge. Price caps encourage firms to lower their costs in order to increase profits, while rate of return regulations guarantee the same profit margin regardless of cost. (i.e. There is no incentive to become more efficient.) If the United States wants to foster greater efficiency and competitiveness in U.S. firms, the government should replace rate of return regulations with price caps.

The Overinvestment Question

To date, no serious research of the potential for overinvestment in the local exchange has been publicly criticized or debated. Although one might assume an entirely competitive telecom infrastructure always maximizes efficiency, this may not be true. While costs at the center of the network are low enough to justify competition, as one moves incrementally further from the core, the cost-per-subscriber increase, because the costs are shared among less people. Cable at the center of the network is used by thousands of households while a cable at the periphery is used only by one household.\(^{142}\) Therefore, to provide service to all customers, more cable must be laid at the periphery than at the center.\(^{143}\) As the local exchange becomes gradually more competitive, and costs of duplicating each additional increment increases, the cost efficiencies generated by a competitive market may no longer justify the construction of a competitive alternative. Congress, and other regulatory bodies, may wish to examine this

\(^{142}\)In fact, the local loop (the part of the network that connects homes and businesses to switching stations) in an average-size, urban area accounts for between 56 percent and 67 percent of the cost of a local exchange network.

issue further and weigh its implications for the U.S. economy when considering deregulation of the local exchange.

If Congress undertakes deregulatory measures that do not promote the highest level of fair competition\textsuperscript{144}, the United States may be left with an inefficient market structure that sustains higher prices than other, properly deregulated markets (e.g. the United Kingdom) and thereby hinders U.S. international competitiveness. Worse yet, without any deregulation (and particularly if foreign countries deregulate their own markets) the United States risks losing its competitive edge altogether. It is therefore imperative that the U.S. Congress pass comprehensive deregulation legislation as soon as possible.

B. Opening Foreign Markets

Since foreign countries are not committed to permitting foreign participation in telecom markets, the U.S. government must adopt an aggressive, incentive-based strategy to persuade foreign countries to open their telecom services markets. The most effective strategy to increase foreign opportunities for U.S. firms incorporates three policy initiatives:

- Aggressively pursue a comprehensive liberalization agreement in the General Agreement on Trade in Services (GATS) negotiations.

- Create incentives for foreign countries to liberalize by considering the relative openness of foreign markets when evaluating foreign carrier petitions to enter the U.S. market.

- Aggressively pursue bilateral and smaller multilateral agreements with like-minded countries.

\textsuperscript{144}In order to promote fair competition in the domestic market, Congress must address and resolve many other contentious issues. They include interconnection, network standards, local number portability, conduits and right of ways, unbundling, ending line-of-business restrictions, universal service, and service resale. These issues, however, are beyond the scope of this study.
1. Multilateral Negotiations

The United States government is currently engaged in negotiating a multilateral telecom services market opening agreement under the General Agreement on Trade in Services (GATS). By allowing the United States to avoid trade friction with its trading partners, an international agreement on trade in telecom services is by far the most desirable solution to the problem of closed markets and discriminatory policies. Therefore, concluding a successful GATS negotiation should be the first priority of the U.S. government telecom market opening strategy.

The United States must take a strong position in the GATS negotiation to ensure that U.S. firms are allowed to compete on a level playing field in foreign markets. Four issues must be addressed: determining the minimum principles for a successful GATS, establishing a reasonable time frame for market liberalization, defining a critical mass of countries, and reviewing U.S. policies on foreign ownership limits and dominant carrier status.

a. Minimum Principles of a Strong GATS

Before the United States agrees to accept commitments in any telecom services sectors that would further open the United States to foreign participants, foreign countries must agree to certain basic principles ensuring that they will no longer exclude, or discriminate against, U.S. firms:

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145 The GATS provisions can be divided into two parts: the rules that apply generally and rules that apply when a market opening commitment is scheduled. Rules that apply generally affect all service sectors regardless of whether a nation has scheduled a commitment. General rules include transparency and most favored nation treatment. The GATS lays down another set of rules which are only enforceable when a nation makes a specific commitment to open part of its market. These rules cover national treatment and the market access of foreign firms. "Once a nation has listed a particular sector or subsector in its schedule of commitments, it is bound automatically to the principles of national treatment and market access unless it otherwise lists reservations to these provisions in its schedule." A nation must either eliminate the above-mentioned barriers or list them as 'reservations' which exempts that nation. For example, a nation may take an exemption from MFN treatment or decide to limit the number of suppliers in a market when making a commitment in telecommunications services.

146 The United States proposed a comprehensive liberalization policy during the Uruguay Round of the GATT. However, a satisfactory agreement was not reached.
- **Countries must permit foreign firms to operate as both resellers and facilities-based operators in the basic telecom services market.**

  It is vital for countries to allow foreign firms to operate as both resellers and facilities-based operators. Countries that restrict foreign firms to resell operations limit the ability of foreign firms to operate profitably and to sustain growth, and therefore institutionalize the position of the dominant, domestic carrier.\(^{147}\)

- **Countries must guarantee that foreign firms will have access to the public network. Interconnection tariffs must be non-discriminatory, cost-based, and publicly disclosed.**

  An equally important market access issue is interconnection -- the ways in which a firm is allowed to interact with the public network. Access to the public network is essential for new entrants to compete in any country's telecom services market. Consider, for example, a U.S. market in which the Baby Bells were permitted to provide long distance service while still holding a monopoly in the local exchange. If the Baby Bells charged long distance companies higher rates than they charged themselves, the long distance companies would be placed at a cost disadvantage. Long distance companies could potentially lose their customer base, and the Baby Bells could seize control of the U.S. telecom market.

  Some countries have argued that interconnection is a private issue and that mandating interconnection is not a legitimate role of government.

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\(^{147}\)Reselling is an effective way to penetrate a market but has limited profitability potential. Resellers, by definition, use the lines and facilities of another carrier and then resell services over those lines to customers. The reseller pays to the facilities-based carrier a fee which in most cases is slightly above the facilities-based carrier's costs. When the reseller competes with a dominant carrier (in most cases the former PTO) it must offer its services at a lower price than the dominant carrier to entice people to switch carriers, and thereby operates at a smaller profit margin than the entrenched carrier. The facilities-based carrier can, at any time, underprice the resellers and force them out of the market. The tenuous market position is only sustainable as long as the PTO allows them to remain in the market. Furthermore, resellers are automatically restricted by the capacity of the facilities-based carrier. If only 20 percent of a facilities-based operator's lines are available to resellers, then resellers face a ceiling on the number of services which they can provide. When resellers reach the ceiling, future growth depends upon their ability to become competitive facilities-based operators. In order for U.S. firms to be successful in foreign markets, nations must allow both resale and facilities-based competition.
Considering that most countries have owned and operated these telecom firms, and protected their entrenched position, it seems inane to think that governments now have no role to play in promoting fair and competitive markets. Our trading partners must ensure that U.S. firms are able to interconnect with the public network in a reasonable and non-discriminatory manner. Tariff rates should be publicly quoted to ensure that firms follow these principles.

- **Countries must ensure that foreign ownership is not restricted by either quantitative limits or mandatory joint ventures.**

Although unrestricted foreign ownership is one of the six general principles of market access applied to countries who make GATS commitments in a telecom sector, many countries will attempt to secure reservations and prevent U.S. firms from establishing wholly-owned subsidiaries. It seems very unlikely that countries who have relied on their telecom firms to subsidize other services will completely relinquish their investment interests in the PTOs. The United States should agree that governments may maintain a "golden share" of their PTOs, but those countries must ensure that the PTO will receive no special treatment or privileges from the relationship.

- **Foreign countries must ensure that their carriers will not use profits gained from other ventures to cross-subsidize their telecom services ventures.**

The problem of cross-subsidization must also be addressed. It is possible that former PTOs could subsidize certain telecom services with the monopoly rents collected from other ventures, in an effort to drive out efficient foreign competitors. The most precarious issue related to subsidization is how to divide universal service charges fairly among competing carriers. Universal service arrangements, which will undoubtedly differ considerably from country to country, must not advantage the former monopoly. This would place U.S. and other foreign firms at a severe disadvantage in servicing these markets and would violate accepted fair market principles.
• Customers must be guaranteed equal access to foreign and domestic telecom services providers.

It will be impossible for foreign firms to compete with former monopolies if customers are not given identical access to all firms. Two access issues should be addressed by the U.S. government in these negotiations: maintaining phone numbers when switching carriers, and dialing different codes to access different carriers. If customers are required to change their phone number each time they change telephone carriers, new entrants to foreign markets will have little chance to secure significant market share. Similarly, new entrants will not thrive if their customers are required to dial special codes in order to access their telecom systems while dominant firm customers have no code requirement and retain the right to all uncoded or default traffic.

• Foreign countries must subscribe to the principle of interoperability.

Countries must allow foreign firms who use equipment differing from the national standard (but still compatible) to interconnect with the public switched network without penalty. Many of the restrictions placed on equipment is aimed at protecting domestic manufacturers under the guise of maintaining "network integrity".

b. Determining Reasonable Time Frames for Foreign Liberalization

It is unrealistic for the United States to expect its trading partners to agree to these market opening commitments without some period of adjustment. The United States should acknowledge this fact and accommodate requests for delays when justified. The time frame for meeting all commitments must not exceed, in any case, four years for developing countries,\(^{148}\) and in most cases should not exceed two years for developed and newly-industrialized countries. These time frames should take into account the condition of the country's telecom infrastructure and the initiatives undertaken by the government to deregulate their market. The United States, by offering countries enough time to

\(^{148}\)Based on the U.K., U.S. and Japanese deregulation programs, six years is more than enough time for foreign nations to corporatize, privatize, upgrade existing networks, and introduce domestic competition.
deregulate completely and introduce domestic market forces, will persuade a greater number of countries to make stronger commitments.

c. Defining a Critical Mass of Countries
Before the United States commits to the principles listed above, it must secure similar commitments from a minimum, "critical mass" of countries. There are two groups of countries which must agree to market opening commitments -- developed countries with strong (i.e. wealthy, large, or international) dominant carriers, and developing or newly-industrialized countries with growing markets and carriers.

Because closed foreign markets afford foreign firms a guaranteed piece of the global services market, it is important to secure market opening commitments in both developed, newly-industrialized, and developing countries. The United States needs to guard against cross-subsidization by large, established foreign firms. If firms with institutionalized or virtual monopolies in their closed home market are gaining access to the U.S. market, the foreign carrier can cross-subsidize their U.S. operations and "dump" services. Countries which fit this description include Japan, Canada, Australia, New Zealand, all of the European Union member states, and the members of the European Free Trade Association. It must also be remembered that firms in developing and newly industrialized countries (many of which are upgrading their networks) could also pose a threat to fair market competition in the United States. These countries include Mexico, South Korea, Malaysia, Singapore, Taiwan, Chile, and Thailand.

d. Reviewing Section 310 and Dominant Carrier Classification
The U.S. Foreign Ownership Restriction -- Section 310 of the 1934 Communications Act
The United States will undoubtedly be asked by its trading partners to abandon Section 310 of the 1934 Communications Act that limits foreign ownership to 25 percent and is in direct conflict with the GATS rules concerning market access.\footnote{The ownership restriction is also contradictory to the principles of the OECD Code of Liberalization of Capital Movements from which the United States had to take a waiver.}

Opponents of this provision state that the limit on foreign direct investment deprives U.S. firms of much-needed capital that many would be unable to

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acquire in U.S. financial markets, and thereby, lessens competitive pressures. However, these consequences of maintaining Section 310 are not as severe as some analysts contend, for three reasons. First, no U.S. carrier has shown any inability to raise needed capital in the U.S. capital markets. Second, the FCC has the authority to waive this provision, and has done so on numerous occasions. The Commission examines the needs of the U.S. carrier (including its ability to secure other funding), the relative openness of the foreigner's home market, and the acquisition's impact on the U.S. telecom market (i.e. whether asymmetrical market access problems will arise). This review balances the interests of the U.S. carrier with the impact of the deal on the U.S. economy and telecom services market. Third, there are a multitude of domestic firms interested in entering the telecom services market to promote fierce competition. The long distance market is a perfect example -- over 500 firms compete for long distance service customers with the current foreign ownership restriction. There is no reason to believe, once other parts of the U.S. market are deregulated, that competitive pressures will be substantially limited by restricted foreign ownership.

Maintaining the foreign ownership limit, and offering to rescind it in return for reciprocal market access, provides an incentive to foreign countries. The U.S. is the largest market in the world for telecom services, and foreign firms who wish to compete in global markets must have a presence, either through direct investment or alliances, in the United States. If the U.S. government unilaterally abandons its foreign ownership limitation, the United States, which has very few incentives to offer its trading partners, due to relatively few restraints on foreign firm access, will have even less with which to bargain. It is logical, therefore, for the United States to maintain the foreign ownership restriction if the GATS negotiations fail to produce a strong telecom services agreement.

*Dominant Carrier Classification*

The U.S government should maintain the dominant carrier classification to protect the domestic market from unfair competition, but should continue to resist efforts to apply the classification simply to impede foreign entry and avoid fair market competition. Dominant carrier status is a necessary regulatory tool to prevent foreign monopoly providers from abusing their market power to disadvantage other firms in the U.S. market. The United States must realize that, although many countries are introducing competition in what were once
monopoly markets, many of these foreign monopolies will not face substantial market competition for some time, and will therefore continue to wield monopoly powers. The GATS fails to recognize this fact.

The GATS requires member countries to ensure that domestic monopoly providers who have affiliates in other countries do not abuse their home market power (which would allow the monopoly to act unfairly in foreign markets). However, the GATS fails to recognize the market power of dominant carriers after competition has been introduced.\textsuperscript{150} Once a competitor to the monopoly is licensed, member countries are not required to monitor the actions of the ex-monopoly. For example, if the German basic telecom services market were liberalized completely and ten firms entered the German market to compete against Deutsche Telekom, the German government would no longer be obligated by the GATS to ensure that Deutsche Telekom not abuse its market power. The lack of substantial international rules, and the fact that many firms operate as monopolies or retain monopoly powers in foreign markets, are ample justification for maintaining precautionary regulations such as dominant carrier status. It is important to let the international community know that this rule is not a weapon to thwart foreign participation but a safeguard for U.S. consumers and all firms operating in the U.S. telecom market.

\subsection*{2. Creating Incentives}

In order to maximize the probability of reaching an agreement, U.S. telecom policy must be incentive-based. The FCC should adopt a policy making comparable market access a key factor in their decision to grant or deny foreign entry to the U.S. market. This policy should not set rigid comparability standards effectively excluding all foreign firms from the U.S. market: the U.S. economy benefits when foreign telecom firms, operating in liberalized native telecom markets, compete in the U.S. market. Instead, the FCC should review a general list of market access issues when considering foreign petitions to enter the U.S. market. Such a policy will permit foreign firms with liberal home

\footnote{\textsuperscript{150}Article VIII of the GATS which defines Member obligations for monopoly oversight applies to "cases of exclusive service suppliers where a Member authorizes a small number of service suppliers AND substantially prevents competition among those firms." (Emphasis added)}
markets to compete in the United States while encouraging foreign nations to open their markets to U.S. firms.

The benefits of this policy are threefold. First, the United States will have significantly greater leverage in international negotiations. The U.S. market is still the largest market in the world, and foreign firms wishing to provide global services to multinational firms must have a presence here. Second, this regulation will ensure that competition in the U.S. telecom services market remains fair. Foreign PTOs who accrue monopoly profits in their home markets will not be allowed to cross-subsidize foreign affiliates in the United States and undercut competitive firms. This standard will protect not only U.S. firms, but also foreign firms who do not benefit from protected home markets. Third, foreign firms will not be permitted to acquire greater economies of scale relative to U.S. firms as a result of asymmetrical market access -- i.e. restrictive foreign regulations will not be used to add to the competitiveness of foreign firms.

Opponents of a comparable access standard claim that the most significant problem is defining "equivalency". No two countries have the same regulatory regimes, and different countries allow competition in different telecom service markets. Some argue the proposal effectively imposes the U.S. regulatory regime on foreign countries, and determining comparable market access will take years of bureaucratic investigation and bickering which will further delay market access.

These problems need not exist. The key to making quick decisions on market comparability is determining the market access issues to review. The FCC should therefore quickly adopt an unambiguous list of criteria (such as those proposed earlier in this Chapter) to ensure that reviewing foreign license requests is fast and objective.

3. Multilateral/Bilateral Negotiations -- Beyond the GATS Framework

If the GATS concludes unsuccessfully or proves fruitless after the original April 1996 deadline, the U.S. government should begin negotiating multilateral/bilateral agreements outside the privy of the GATS. The U.S. government should not allow the GATS negotiations to drag out past the
original deadline without actively exploring other avenues to reach market opening agreements. The longer foreign markets stay closed, the less the U.S. economy gains.

Under smaller multilateral/bilateral agreements, the firms from signatory countries would be granted greater access to the U.S. telecom market than firms from non-signatory countries -- i.e. the FCC would not review market access issues when considering a license application from a signatory country's firms. The FCC should also use its authority to waive Section 310 ownership restrictions. The firms of non-signatory countries would be required to submit to both the FCC market access evaluation and Section 310 stipulations.

Seeking a smaller multilateral agreement would allow the United States to expand market opening commitments while leaving the door open for future rounds of negotiating. If other countries became willing, at a future date, to make similar market opening commitments, the agreement could be expanded to include these countries.

Opponents have one primary objection to establishing smaller multilateral agreements outside the GATS: the United States would be forced to take an exemption to the most-favored-nation (MFN) principle. Some believe the United States should act as a role model for other countries, leading by example. This stance, it is argued, will show foreign countries the benefits of competition and result in foreign market liberalization. Taking an MFN exemption in basic telecom, opponents assert, will make it harder for the United States to convince its trading partners to adopt liberal market policies in telecom services as well as other service industries.

However, this generic, textbook analysis underestimates three factors -- the commitment of most countries to protect domestic providers, the vast opportunities in foreign markets, and the benefits open foreign markets would bring to U.S. firms and consumers. As shown in Chapter Four, not taking an aggressive, incentive-based position could cost U.S. firms, workers, and consumers tens of billions of dollars annually. In a time of runaway merchandise trade deficits and increased competition from newly developed countries, the United States simply cannot afford to pass up opportunities to
expand exports. The benefits of securing smaller multilateral market opening agreements outweigh the negative consequences, if any, incurred by an MFN exemption. The various U.S. policy options, their pros and cons, are summarized in Table 5.2.

**Table 5.2: U.S. Policy Options.** Source: Economic Strategy Institute.

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<th>Policy Option</th>
<th>Pros of Policy Option</th>
<th>Cons of Policy Option</th>
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<tr>
<td><strong>Continuing the Present Policy</strong></td>
<td>• Would reinforce the U.S. position as the world's leading advocate of free trade. Some countries might follow the U.S. example.</td>
<td>• If asymmetrical market access continued to exist, foreign firms would use profits made in the home market to &quot;dump&quot; in the U.S. market.</td>
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<td>The United States can advocate foreign market liberalization while allowing foreign firms to enter freely and compete in the domestic market.</td>
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<td>• U.S. firms would not achieve the same economies of scale as their international competitors and therefore would be less competitive.</td>
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<td></td>
<td></td>
<td>• U.S. firms would be denied billions of dollars in revenue from foreign markets.</td>
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<td>Policy Option</td>
<td>Pros of Policy Option</td>
<td>Cons of Policy Option</td>
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<tr>
<td>**Securing Multilateral</td>
<td>• U.S. firms would be given the chance to compete for the lucrative opportunities</td>
<td>• None</td>
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<td><strong>Agreements</strong></td>
<td>emerging in foreign markets on a level playing field with former PTOs.</td>
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<td></td>
<td>• Foreign firms would not &quot;dump&quot; services into the U.S. market.</td>
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<td></td>
<td>• Foreign firms would not acquire greater economies of scale relative to U.S. firms,</td>
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<td></td>
<td>due to asymmetrical market access.</td>
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### Policy Option

**Pursuing Smaller Multilateral and Bilateral Agreements**

If multilateral negotiations fail to conclude successfully, the United States can seek commitments from other liberalization-minded countries.

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<th>Policy Option</th>
<th>Pros of Policy Option</th>
<th>Cons of Policy Option</th>
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<tr>
<td></td>
<td>U.S. firms would gain greater access to some foreign markets which otherwise would be closed.</td>
<td>Taking an MFN exemption might tarnish the country’s image as the leading advocate of free trade.</td>
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<td></td>
<td>Foreign firms would not be permitted to &quot;dump&quot; services into the U.S. market.</td>
<td>Many opportunities in foreign markets would still be out of U.S. firm reach.</td>
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<td></td>
<td>Intense pressure would be placed on foreign countries to open their markets.</td>
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</tr>
<tr>
<td></td>
<td>Foreign firms would not acquire greater economies of scale relative to U.S. firms, due to asymmetrical market access.</td>
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**C. The Accounting Rate System**

Since competition, in the vast majority of foreign nations, will be realized in the near future, the U.S. government must pursue an aggressive policy to lower the above-cost fees paid to foreign carriers for connecting international traffic. This policy should consist of two simultaneous efforts -- negotiating the replacement of the accounting rate system, and strong advocacy of lower rates under the existing system.

1. **A New International Settlements System**

   The United States should begin negotiating for the immediate elimination of the accounting rate system and the institution of a cost-based, transparent, non-
discriminatory access charge.\textsuperscript{151} The access charge model separates the cost of transmitting an international call into three components based on geographic boundaries. First, a firm in the originating country carries the call through its network to the country's border (more precisely, to the international switching office). Secondly, the call is either transmitted via an underwater submarine cable to the destination country or fed directly into the foreign country's international exchange if the countries are landlocked. Finally, a foreign firm carries the signal through its network to the final destination. Dividing transmission costs in this manner allows nations to identify specific cost factors.

While the costs of the second leg are influenced by international factors, the costs incurred in the first and third legs of transmission are not. Costs of the first and third transmission leg vary by domestic distance factors. The cost of connecting a call from New York to Buffalo is less than the costs incurred connecting a New York City to San Francisco call. Therefore, once an international call reaches a foreign border, the cost of completing that call is not sensitive to the call's origination point. International transmission costs, the second leg, vary by the country of origin, although the costs are much less sensitive than domestic long distance traffic.\textsuperscript{152}

A hypothetical example employing Figure 5.1 illustrates this point. Two persons are calling Perth, Australia. Person A is calling from New York and Person B from Tokyo. Both Persons A and B are charged for the transmission of their signal through the domestic network to their country's boundary. The cost of completing this leg of the transmission may differ for Persons A and B because Person A's call must be transmitted 3,000 miles across the United States while Person B's call only goes to a facility in southern Japan. The next leg of the transmission is carrying the call via submarine cables to Sidney, Australia, where the cable connects into the Australian network. Since the United States is farther from Australia than Japan, we would expect Person A's costs in the second leg of transmission also to be higher. In the third leg of the transmission,

\textsuperscript{151}This alternative has been proposed by the OECD's Working Party on Telecommunication and Information Services Policies in \textit{International Telecommunication Pricing Practices and Principles: A Progress Review} (to be released).

\textsuperscript{152}Transnational transmission costs are only marginally distance sensitive when submarine cables are employed, and even less distance sensitive when traffic is transmitted via satellite.

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both Person A and Person B's call travel from Sidney to Perth through the Australia long distance company's network. The cost of this leg of the transmission (from Sidney to Perth) are equal for both Person A and B's call and, in fact, are equal for any call regardless of country of origin.

Under the present accounting rate system, the prices charged for the completion of an international call are negotiated bilaterally, and are dependent upon the country of origin\textsuperscript{153}; and usually U.S. consumers are charged more than customers in other countries. Under the access charge model, international calls destined for the same location in a country (which enter the network from the same location) are charged the same traffic access charge, regardless of where the call originates. Therefore, a traffic access charge is inherently less discriminatory than an accounting rate.

In order to ensure non-discrimination, the access charge must be cost-based and transparent. The United States should advocate that all international telecom services providers make public their access charge and supply an accounting justification for these charges to all other signatories.\textsuperscript{154} The costs of terminating the call under the access charge system should closely correspond to the cost of providing domestic service from the international switching office to the call destination. In the example above, the access charge should mirror the cost of a domestic long distance call from Sidney to Perth plus the marginal cost incurred by the international switching office. This procedure is essential for creating a fair, cost-based, and transparent international service agreement system.

\textsuperscript{153}The accounting rate system recognizes two components of an international call by randomly dividing the submarine cable in half and 'handing off' the call at this midpoint to the foreign carrier. This artificial construct allows foreign nations to argue that differential accounting rates based on nation of origin are justified when in actuality the costs of transmission through submarine cables are minuscule.

\textsuperscript{154}This may also require the accounting separation of telecommunications operations from other businesses (particularly for PTOs).
2. Advocating Cost-Based, Non-Discriminatory Accounting Rates

While negotiating for a new international settlement system, the FCC should adopt a policy that increases pressure on foreign monopolies and governments to negotiate cost-based, non-discriminatory accounting rates. The main problem in advocating non-discrimination and cost-based accounting rates is determining costs and comparing accounting rates -- the United States is the only nation which requires the public disclosure of all international accounting rates. The FCC should therefore request that foreign carriers seeking permission to compete in the U.S. market disclose all of their current and historical accounting rates with other countries. Foreign monopolies petitioning to expand their current activities in the U.S. market should also be asked to submit this information. If a petitioning firm does not submit accounting rate information, the FCC should assume that the foreign firm is discriminating against U.S. consumers.

In the absence of international cost data, the FCC should employ surrogate cost measures as a rough approximation of a cost-based accounting rates. The FCC should calculate these approximations based on relevant international transmission costs and long distance traffic within specific countries. These approximations should not be viewed as an ideal accounting rate charge, and the FCC should only advocate the reduction of accounting rates consistent with this rough approximation. Admittedly, a surrogate-based policy is far from ideal, since it does not guarantee cost-based accounting rates or guard against discriminatory pricing. This policy should therefore only be effective in the interim, while the above-mentioned international settlement system is negotiated.

If foreign firms refuse to re-negotiate accounting rates when strong evidence suggests that discrimination or above-cost-based accounting rates exist, the FCC should consider taking stronger action. In 1991 the FCC tentatively concluded that they had the authority "to determine and prescribe just and reasonable accounting rates".\textsuperscript{155} The FCC should investigate and determine if in fact they have this authority. This policy tool should be used only when the private accounting rate negotiations have become exhausted and evidence clearly points

to discrimination or above-cost rates. Those who object to government intervention into "private" negotiations should remember that most foreign firms are public entities or retain government-sanctioned monopoly status. In essence, many accounting rates currently are being dictated by foreign governments who extract monopoly profits from U.S. consumers. Therefore, U.S. government intervention in these negotiations to protect the interest of American consumers is both reasonable and sensible.

**Conclusion**

The telecommunications services industry is one of the most vital industries in the U.S. economy. As a country, we cannot allow this industry to become less efficient, less innovative, or less competitive. The U.S. government has always played a role in shaping this industry and ensuring that U.S. businesses and consumers enjoy the best telecommunications services in the world -- from mandating universal service to breaking up AT&T. It is now crucial for the government to reshape the industry again, to break down remaining inefficient, domestic market structures and to open foreign markets for U.S. telecommunications firms. If this action is delayed, or never taken, the United States will risk losing its world-class efficiency and competitive advantage in yet another key industry, and every American citizen will bear the dire consequences.
A Selected Bibliography


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