

Cato Institute Policy Analysis No. 150: Intelsat and the Separate System Policy: Toward Competitive International Telecommunications

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Executive Summary

International telecommunications is a multi-billion-dollar industry, and the services it provides are crucial to the functioning of the global economy. Until recently, the business was organized in a monopolistic fashion. At best, national telecommunications administrations extracted huge profits from incoming and outgoing traffic, in effect treating international telecommunication as a luxury to be taxed to support domestic postal or telephone operations. At worst, communication across national boundaries was viewed as a threat to the government's power and thus was carefully controlled and monitored.

With the globalization of trade, the importance of unrestrained and efficient telecommunications has gained world recognition. National monopolies are now on the defensive, and many are beginning to unravel. On the world stage the United States has taken the lead in promoting a more competitive structure. The United States has opened up most of its own equipment and service markets and has deregulated some of its domestic industry. It is not unusual to hear U.S. government spokespersons criticize overseas monopolies and hold up our own fairly competitive system as a model for the rest of the world.

It may come as a surprise, then, to learn that the U.S. government is responsible for one of the most formidable obstacles to free competition in international telecommunications. U.S. policy prevents competing satellite systems from carrying international public switched telecommunications traffic, that is, any services that in any way use the public telephone network. The policy is designed to protect Intelsat, the international telecommunications satellite consortium, from competition. The restriction on alternative satellite systems was imposed in 1985, as part of the "Separate Satellite System Policy."

U.S. attempts to protect Intelsat from competition are groundless and counterproductive. Protecting Intelsat helps to sustain an obsolete, monopolistic structure that routinely overcharges users and restricts trade in telecommunications services. More is at stake, however, than lower prices, greater efficiency, and improved trade opportunities -- important as all those things are. The issue is also one of how the United States defines its role in the post-cold-war world. The protection of Intelsat is a classic example of how political and strategic concerns held over from the cold war are now handicapping the U.S. economy's ability to respond to new global economic challenges.

Intelsat and the U.S. Separate System Policy

Intelsat was created in 1965 as part of a geopolitical initiative of the United States. The proposal for an international

consortium for the commercial development of satellite communications came at the height of the U.S.-Soviet space race. In a context of military, political, and technological competition with the Soviets, the creation of an international satellite communications system was a bold stroke. It offered other nations the benefits of improved international communications in exchange for their aligning themselves with the United States in the space race. Predictably, the response to Intelsat's creation divided along East-West lines. Europe, North America, and eventually many developing nations joined the United States in Intelsat. The Soviet bloc stayed out, creating its own satellite communications system, Intersputnik, instead.

Intelsat has grown from a single satellite in 1965 to a network of 14 satellites linking roughly 750 earth station antennas. Intelsat operates as a user-owned cooperative. By 1990 the Assembly of Parties consisted of 118 member nations with one vote each. A majority of the Assembly of Parties is required to ratify any major changes in the Articles of Agreement. The Assembly of Parties generally follows the advice of the Board of Governors, which is composed of the signatories to the Operating Agreement. The signatories are designated by the member countries to own their shares in Intelsat, and ownership is apportioned on the basis of countries' use of the system. Thus, those who use the system most have the greatest influence on the day-to-day operations of Intelsat.

Most countries have specified that their public telephone and telegraph (PTT) monopolies will act as their signatories. The United States created the Communications Satellite Corporation (COMSAT) to act as its signatory and, hence, owner of the U.S. share of Intelsat. COMSAT has the sole right of access to Intelsat from the United States. No other U.S. corporation may deal directly with Intelsat; AT&T, MCI, television and radio networks, and news organizations wishing to use the international satellite services of Intelsat must go through COMSAT.(1)

Organized as a global cooperative of the western world's telecommunications authorities, Intelsat developed satellite communications in a way that worked with, rather than against or around, each country's established telephone monopoly. In the words of a former attorney for COMSAT, the Intelsat organization "was built around a fundamental concern of sovereign [nations] to control foreign communications in the interest of their national security. . . . The Intelsat space segment [was] structured so as to preserve sovereign control of the link from the sovereign's territory to the facility's theoretical midpoint."(2) In other words, national sovereignty was maintained by a mythological creature referred to in telecommunications circles as the "half circuit." Each sovereign contributes exactly one-half of the investment costs of establishing an international circuit, and its ownership rights extend to what Gantt calls the "theoretical midpoint," a telecommunications analogue of the national boundary somewhere in the ocean (for international cables) or outer space (for satellites).

For the first 15 years of Intelsat's existence, the United States was a strong supporter of the idea that Intelsat should be the single global system for satellite communications. Through COMSAT, the United States argued that the Intelsat treaty's reference to a single global system committed the consortium's members to plan to meet all of their satellite communications needs through Intelsat.(3) The United States advocated tight controls on the establishment of separate satellite systems by member nations, including a prohibition against systems that could cause significant economic harm to Intelsat.(4)

In the 1970s, however, U.S. telecommunications policy began to take a path that brought cold-war-era concerns about world leadership and a single global system into conflict with domestic trends favoring competition and diversity. An increasingly pro-competitive U.S. government deregulated satellite communications for domestic traffic. Later, the United States allowed its domestic satellites to carry transborder traffic on an ancillary basis. The latent policy conflict came to a head in 1983 when the U.S. government received applications from RCA, Orion, PanAmSat, and others to launch and operate private satellite systems that would carry international traffic in direct competition with Intelsat.

The emergence of U.S.-based satellite competition created a dilemma for the U.S. government. Twenty years after the Europeans and many developing-world nations had settled into Intelsat and bought into the U.S.-inspired idea of a single global system, the United States became the first to threaten to disrupt its monopoly over international satellite communications. The conflict pitted the political and military elements of the U.S. government, represented by the Defense and State departments, against commercial interests, represented by the Commerce Department and the Federal Communications Commission.

The United States responded to the dilemma in 1985 with a compromise known as the "Separate Satellite System Policy" (SSP for short).(5) SSP permitted alternative satellites to go up but restricted their activities to a few specialized markets. Under the new policy, competing satellite systems were restricted to the supply of private-line circuits (connecting different offices within a single corporation, for example), television signal carriage, and other services that are not connected to public switched networks, that is, public telephone systems. The PSN restriction reserves the lion's share of the market to Intelsat, giving it exclusive rights to all telephone calls and switched data communications, which generate just under three-fourths of all revenue from international satellite communications. The decision to authorize separate systems was made by executive order. A few months later, a senior interagency group cochaired by the State and Commerce departments issued a white paper outlining the rationale for the decision.(6) Reflecting the serious problem posed by changing the international satellite regime, the SIG included representatives from four cabinet-level departments and several other agencies of the executive branch.

The PSN restriction was part of a political bargain. It allowed the United States to make some space for competing satellite systems but restricted the newcomers to peripheral markets. Such a concession was needed to sell competition, both to the traditional monopoly administrations, of which Intelsat was composed, and to those elements of the U.S. government that supported Intelsat. The PSN restriction deflated the political pressures on the United States stemming from its apparent abandonment of the Intelsat coalition and reassured the world that the United States could pursue a pro-competitive policy without threatening Intelsat.

Growing Pressures on the PSN Restriction

In 1985 the SSP, even with the PSN restriction, was perceived as opening the door to additional competition and diversity in international telecommunications. Most countries viewed the United States as a maverick, unilaterally unleashing its pro-competitive policy on the rest of the world. The open door was in the foreground, the restriction in the background. Much has changed since 1985. Many other countries have moved toward competition in international telecommunications. Many of Intelsat's members are deploying undersea fiber-optic cables to carry traffic once reserved for Intelsat. The Communist bloc has collapsed and the cold war has ended, calling into question one of the original rationales for promoting Intelsat. In this context, the PSN restriction has become the most notable aspect of the SSP. By maintaining the PSN restriction, the United States is slowing the advance of telecommunications liberalization, even in cases in which other countries are willing and able to go along with liberalization.(7)

There is an obvious conflict between the PSN restriction and U.S. policy goals favoring competition and diversity in international telecommunications services. The United States has complained about restrictive, monopolistic telecommunications regimes in other countries for several years. The commitment to open markets and free trade in international telecommunications is motivated by more than ideology. The United States has discovered that other countries' telecommunications monopolies are hurting its businesses and contributing to its trade deficit.

The United States has unilaterally introduced competition in its own international telecommunications markets, but it has suffered from the asymmetric character of the change. International rates have gone down on the U.S. side of circuits, but they have not dropped as much in other countries. For a call to the United States, other nations' carriers often charge two to three times the rate U.S. carriers charge for the same call in the other direction. Thus, a growing number of users arranges to make international calls out of rather than into the United States. That arrangement results in more traffic flowing out of the United States than flowing in. Because telephone companies receive more compensation for terminating international traffic than for originating it, the traffic imbalance results in a net outflow of funds--a trade deficit in services.(8)

A recent FCC rulemaking proposal noted that the U.S. net settlements deficit for international telecommunications traffic jumped from \$40 million in 1970 to \$2 billion in 1988.(9) The report also placed on the public record what is common knowledge among major users: overseas telecommunications monopolies overcharge their international customers by grotesque amounts.(10) The high rates charged by foreign PTTs deter U.S. carriers from reducing their rates,(11) thus imposing additional costs on U.S. users of international communications services. By restricting buyers to one firm, overseas monopolies also constrict the market for U.S.-made telecommunications equipment.

Ultimately, the only solution to the problem is to encourage liberalization and competition in other countries. U.S.

policy goals require that the United States export competition to the rest of the world. In that context, the PSN restriction makes no sense. Protecting Intelsat from competition also protects foreign countries' monopolies over the incoming and outgoing flow of telecommunications traffic. In addition, satellite communications is one area in which U.S. equipment manufacturers enjoy technological preeminence, but protecting Intelsat limits the export market for satellite equipment.

Recently, the PSN restriction has come into conflict with other important economic and foreign policy goals. In December 1989, AT&T asked the FCC for permission to establish additional telephone and data links between the United States and the Soviet Union.⁽¹²⁾ Citing perestroika, improved political and economic ties, and a pressing need for additional circuit capacity between the two countries, AT&T proposed using the Soviet Union's Intersputnik satellite system rather than Intelsat for the additional capacity.

The reasons for AT&T's use of Intersputnik are simple and strong. As anyone who has ever attempted to place a telephone call to Moscow can attest, there is a severe shortage of circuit capacity between the West and the formerly communist world. Calls result in a busy signal more than 94 percent of the time.⁽¹³⁾ Although AT&T could attempt to use Intelsat circuits to increase the number of lines into the Soviet Union, that alternative is not feasible from the Soviet point of view. Using Intelsat requires payouts of foreign exchange, and the Soviet Union is badly strapped for hard currency. For that reason the Soviet Ministry of Communications indicated that any significant expansion of service capacity to the Soviet Union in the near term must use its own Intersputnik system.

Nevertheless, the FCC denied AT&T's application. A letter on May 14, 1990, from Deputy Secretary of State Lawrence Eagleburger to FCC chairman Alfred Sikes said that the application was incompatible with the 1985 restriction on the use of separate satellite systems. AT&T was proposing to carry public switched telephone traffic over a non-Intelsat satellite system. That proposal clearly violated the protectionist intent of the separate systems policy. In keeping with the SSP, however, the State Department did authorize AT&T to link up with Intersputnik for private-line circuits.⁽¹⁴⁾

There is room to doubt whether SSP is even applicable to the Intersputnik system. Intersputnik is not licensed by the United States, and its existence predates the 1985 SSP decision, whereas the policy's language appears to encompass only those U.S.-based satellite systems licensed after 1985. Allowing the largest U.S. carrier to link up with Intersputnik, however, would have opened an enormous loophole in the PSN restriction. Intersputnik satellite beams reach all of Europe and indeed most of the world. At least two other American satellite communications companies had also expressed an interest in connecting with the Soviet system to provide service to Eastern Europe and the Soviet Union; many other service providers would be interested in using Soviet capacity if the U.S. government would permit it. If the PSN restriction was to be maintained, the AT&T proposal had to be stopped.

That one example makes it clear how anomalous the PSN restriction is, and how costly it is becoming to maintain it. Why would the United States, which has taken such a vocal position in favor of international telecommunications liberalization, adopt a policy that so obviously impedes the development of competition in international markets? And why would the United States, which is willing to give away food and financial aid to Eastern Europe and the Soviet Union as those areas struggle toward a market economy and a more open polity, veto a marketplace transaction that would both expand communications between the two nations and help support the Soviet economy? Is protecting Intelsat worth those sacrifices?

The Stakes: A New Order in International Telecommunications

The truth is that neither Intelsat's existence nor its viability would be threatened if the United States repealed the PSN restriction. Intelsat's own spokespersons assert that by implementing more efficient pricing and deploying more powerful satellites, Intelsat could survive economically.⁽¹⁵⁾ The most significant effect would be a radical change in Intelsat's status and in the character of international telecommunications.

The PSN restriction is a policy of the U.S. government. The restriction on separate satellite systems is not required by the Intelsat Operating Agreement, nor is it part of any other U.S. international treaty obligation, the 1934 Communications Act, or the 1962 Satellite Act. It is, as noted above, a unilateral U.S. restriction designed to reconcile an obvious conflict between the political-military and the commercial orientations of U.S. telecommunications policy.

Even without the PSN restriction, Intelsat has two additional layers of protection: (a) the need to obtain operating agreements with foreign administrations and (b) consultations under the Intelsat Operating Agreement. Without the U.S.-imposed restriction, however, neither protection can effectively maintain Intelsat's monopoly.

Operating Agreements with Foreign Administrations

An American-owned satellite system that wishes to provide telecommunications services between the United States and the public network of a foreign country must obtain an operating agreement with that country. For example, before PanAmSat can provide telephone service between the United States and Brazil, the Brazilian telecommunications authority must agree to connect with it. Whether or not such operating agreements will be allowed is a matter of national telecommunications policy. Any country that wishes to protect Intelsat can refuse to authorize a competitor to operate there. As long as the PSN restriction is in place, however, other countries cannot choose to connect their public networks to competing satellite systems even if they want to.

Article 14(d) Consultations

Intelsat is also protected from new entrants by Article 14(d) of the Intelsat Operating Agreement. Under that article, all parties to the Intelsat agreement commit themselves to consultation with Intelsat's Assembly of Parties before they allow non-Intelsat satellites to operate. Members agree to prove that a proposed satellite system will meet three criteria. First, it must not result in harmful radio frequency interference to Intelsat; second, it must not cause "significant economic harm" to Intelsat; third, it must not endanger Intelsat's ability to provide direct communications links among all the participants in the global system.⁽¹⁶⁾ Under Article 14(d), Intelsat can issue recommendations against the establishment of any separate system.

The presidential determination authorizing separate U.S. satellite systems requires all applicants to go through Article 14(d) consultations. In fact, consultations are required on any separate system proposed by Intelsat member countries, regardless of whether or not they are connected to the PSN. Moreover, a separate consultation is required for each operating agreement with each individual country. In the case of PanAmSat, for example, its existing links to Latin American countries were cleared under 14(d) on the assumption that its services were not connected to any PSN. If the United States abolished the PSN restriction tomorrow, PanAmSat would have to go through an entirely new round of consultations before it could change the status of its service. Thus, the American policy on PSN connections is an additional form of protection. Eliminating the restriction would not, by itself, undermine Intelsat's control of international satellite telecommunications.

That does not imply that the PSN restriction is redundant and meaningless, however. Now more than ever, the U.S. decision to limit separate satellite systems to nonswitched markets has a critical significance for the future of Intelsat and global communications policy. The PSN restriction acts as a powerful buffer between Intelsat and its competition. As long as the restriction exists, the United States, rather than Intelsat itself, absorbs and stifles the growing pressures for new, competitive services.

The buffer effect of the PSN restriction becomes clear when one examines how the Article 14(d) consultation process has already been strained by the demands placed on it by new satellite providers. Even with the PSN restriction, the number of 14(d) consultations increased rapidly after 1985. Table 1 shows the acceleration in the number of Article 14(d) consultations since 1973. From 1973 to 1981, there were only 17 such consultations, an average of fewer than 2 per year. In 1989 alone, there were 179.

Year	Number of Consultations	Year	Number of Consultations
1973	0	1984	0
1974	2	1985	87
1975	0	1986	0
1976	3	1987	76

1977	0	1988	15
1978	2	1989	179
1979	4		
1980	6		
1981	0		
1982	31		
1983	1		

Source: Intelsat BG-86-21E, July 1990.

The growth in the number of consultations put pressure on the consortium to streamline and liberalize its significant economic harm criteria. Responding to the political pressures and administrative burdens created by new applicants under the U.S. Separate Satellite System Policy, Intelsat began a detailed review of its nontechnical coordination procedures in 1989. The review culminated in the issuance of a new 14(d) policy in November 1990.(17) The new policy established certain capacity thresholds for competing satellites and stipulated that entities whose satellites had capacities below the thresholds would no longer need to engage in economic harm consultations. Non-Intelsat satellites intended to carry traffic connected to public networks with fewer than 100 circuits were no longer subject to non-technical 14(d) consultations. Non-Intelsat systems that are not connected to the PSN and have a capacity of fewer than 30 transponders are also exempt from an economic harm review.

The new consultation policy did not eliminate the pressures to streamline 14(d) further, however. In early November 1990, Bruce Crockett, president of COMSAT's World Systems Division and current chairman of the Intelsat Board of Governors, issued a statement advocating the total elimination of Article 14(d) commitments for all satellites not connected to the PSN. Crockett stated that the current threshold policy is progressive but does not go far enough.(18)

The streamlining of 14(d) can be seen as a very positive sign. It shows that Intelsat is now confident of its ability to weather minor competitive challenges. COMSAT's willingness to eliminate Article 14(d) protection altogether for satellites not connected to the PSN confirms that some of Intelsat's largest members feel that the organization has not been hurt by competition under the SSP.

But the changes in 14(d) policy can also be seen in another light: as an unavoidable, involuntary concession to pluralism in international satellite communications. Intelsat trimmed its nontechnical consultation criteria because the strains placed on its cooperative structure by a constant stream of new entrants left it with no other choice. Once Intelsat's biggest member began to move toward more open entry, Intelsat's consultation procedures and organizational structure no longer could maintain stiff barriers to entry. In that view, the SSP, even with the PSN restriction, has led to significant erosion of Article 14(d) protection.

Once the pressures for change are understood, the significance of the U.S. unilateral PSN restriction becomes clear. To begin with, eliminating the PSN restriction would up the ante tremendously. Public switched traffic accounts for about 71 percent of Intelsat's revenues. The United States is either at the originating or receiving end of roughly 40 percent of world PSN traffic. U.S.-based satellite systems make most of the proposals for new international competition. Without the PSN restriction, non-Intelsat satellites could be deployed in larger markets and in many new types of applications. Within that framework of drastically increased stakes, there would be an explosion in the number of 14(d) consultations. The definition of "significant economic harm" would become problematic and extremely controversial. U.S. suppliers could make bilateral deals with overseas administrations, gaining their support for entry. The internal pressures within the consortium would grow, and the whole consultation process would almost certainly break down under such circumstances.

Thus, eliminating the PSN restriction would be tantamount to abandoning the original vision underlying Intelsat. It would mark the beginning of the end of Intelsat's privileged status as an international monopoly cooperative composed of national monopolies, and it would pave the way for a competitive and pluralistic international market structure. That is a goal the United States should openly embrace. It would put downward pressure on international telephone prices,

allow new capacity to be provided more easily to underserved areas,(19) and pave the way for U.S. service providers to enter more foreign markets. The United States, and indeed the world as a whole, has much to gain and almost nothing to lose from executing the transition rapidly and thoroughly.

The Cable-Satellite Competition

To speak of altering or even abandoning the concept of Intelsat as a single global system will no doubt provoke cries of outrage in some quarters. But other forces are undermining Intelsat's control of PSN markets. In the past two years, many telecommunications administrations have constructed transoceanic fiber-optic cables, the capacity of which rivals that of an Intelsat satellite. The incursion of fiber cables into international PSN traffic represents a far more potent threat to Intelsat than does any separate satellite system.

Fiber cables have several advantages over satellite transmission. Some are inherent in the technology; others are artifacts of the incentives created by Intelsat's cooperative structure. Many carriers and users prefer cables because they do not suffer from the annoying delay caused when signals travel more than 50,000 miles to and from an orbiting satellite. Also, because the cables are owned by the carriers themselves, the carriers can directly profit from the revenues that are collected. Intelsat rates, on the other hand, are averaged, and the revenues collected are subject to a rate-of-return limitation.

Although fiber cables compete with Intelsat for international traffic, they are not prohibited from being connected to the PSN as separate satellites are. Cables already are making visible inroads into Intelsat's share of PSN traffic. The two most important statistical indicators are (a) the change in the proportion of international circuits available by cable and by satellite and (b) the change in ownership shares in Intelsat caused by the migration of PSN traffic from satellite to cable. In both cases, sharp, noticeable changes have occurred since 1988. Such changes are attributable to the installation of high-capacity submarine fiber cables in 1988, 1989, and 1990.

Table 2 shows the proportion of cable and satellite circuits employed by AT&T for PSN traffic between 1985 and the end of October 1990. Between 1985 and 1989, the proportion of satellite circuits used by AT&T declined very gently, by about half a percentage point a year. In the latter part of 1990, however, the circuit ratio changed rapidly in favor of cable, by about 1 percent in one month.

	1985	1986	Sept. 1990	Oct.1990
Cable circuits	10,192	11,216	19,05	19,617
Satellite circuits	15,445	16,550	24,217	24,120
Percentage satellite	60.2	59.6	56	55.1

Source: AT&T International Communications Services.

The diversion of PSN traffic to cable also shows up in the changing ownership shares in Intelsat held by the three largest signatories: the United States, the United Kingdom, and Japan (Table 3). Ownership shares and capital obligations in Intelsat are based on each country's use of the system; a relative decline in one signatory's use of Intelsat due to cable diversion results in a lower ownership share.

	Ownership Shares (%)		
Signatory	1985	1988	1989
United States	24.7	26.9	23.9
United Kingdom	13.4	13.7	12.3

Japan	3.7	4.9	4.9
Total	41.8	45.5	41.1

Source: Intelsat Annual Reports.

The SSP was implemented in 1985. The increase in ownership shares of the large signatories from 1985 to 1988 suggests that the presence of competing satellites did not cut into the utilization percentages of the major countries. In fact, the ownership shares of the big three actually increased slightly between 1985 and 1988. Between November 1988 and November 1989, however, four fiber cable lines linking the United States, the United Kingdom, and Japan were put into service. The combined capacity of the cables was about 200,000 voice channels--roughly the equivalent of two Intelsat VI satellites. After 1988 the combined share of the top two signatories dropped by 4 percent in one year, and Japan's share remained constant despite growing traffic. Three more cables came on line in 1990, and the FCC has approved seven more, representing 360,000 voice channels, to be installed between 1991 and 1994.

Decisions to install fiber cables are not subject to formal economic harm consultation with Intelsat, and U.S. approvals of cable proposals have become remarkably liberal in recent years. At one time the FCC conducted an extensive review during which applicants had to prove that the additional capacity was needed before plans to install cable were approved. Today private and carrier-owned cable ventures are subjected to only the most rudimentary review. That fact, coupled with the immense economic impact of cables on international PSN traffic, points up the inconsistency of the U.S. policy protecting Intelsat from competing satellites. The United States protects Intelsat from other satellite systems but does not protect it from cables--its most formidable competitor.

A defender of the SSP's PSN restriction might argue that it is precisely the threat of cables that makes it imperative to protect Intelsat from other satellites. From a public policy standpoint, however, that argument makes no sense whatsoever. If there are compelling public interest reasons to protect Intelsat, then Intelsat should be protected from any telecommunications medium capable of eroding its share of international traffic. Through its licensing of carriers under Section 214 of the Communications Act, the FCC has the same authority over cables that it has over satellites. If, on the other hand, our policy goals are best served by competition and open entry, then satellites as well as cables should be allowed to compete for PSN traffic. The economic effects of competition from satellites or cables on Intelsat are basically the same.

To the extent that a relevant distinction exists between the two transmission media, satellites should be the favored medium. Opponents of PSN competition argue that Intelsat's competitors will selectively serve the most profitable international telecommunications markets and leave Intelsat with the burden of serving the thinner, less profitable links to the developing world. As a point-to-point medium, however, cables foster "cream skimming" more than satellites do. Cables are typically deployed only over the thickest, most profitable transatlantic and transpacific routes and thus undermine Intelsat's averaged rate structure directly. Satellite communications, in contrast, are not limited to specific routes. A single satellite system can cover an entire continent, serving both densely populated metropolitan areas and the most remote rural regions. Moreover, the separate satellite system proposals of PanAmSat and AT&T-Intersputnik are not confined to the high-volume "cream" markets. One-third of PanAmSat's transponders are aimed at the developing nations of Latin America. The AT&T- Intersputnik proposal would serve the Soviet Union and Eastern Europe, where there are severe capacity shortages. Satellites also have a stronger pro-competitive effect than do cables. The owners of cables are usually (but not always) the same carriers that control national telecommunications networks. Their pricing and access arrangements, therefore, are unlikely to be set in a way that undermines any monopoly's power. Cables also must terminate their traffic over the existing public network. Satellites, on the other hand, can bypass existing telephone networks entirely and give entrepreneurs direct access to overseas users. Entrepreneurial satellite companies' efforts to gain interconnection rights to overseas networks will exert liberalizing pressures on foreign governments.

Economic Issues Raised by Competition

The policy of protecting Intelsat is often defended by an appeal to global egalitarianism. Small, developing nations are supposed to gain from a single-system approach to international satellite communications. Rich countries effectively subsidize poorer countries, it is asserted, in much the same way that rural users and local residential subscribers

benefited from cross-subsidies under the old, vertically integrated AT&T regime.

That argument and the analogy on which it is based are misleading. Intelsat's rate structure contains no direct cross-subsidy between thick and thin routes. Instead, there is a system of averaged rates that, under certain conditions but not others, results in a smaller revenue requirement for thinner routes. Intelsat charges users the same fee for a space segment regardless of how heavily trafficked the route in question is. Because economies of scale can lower the unit costs of serving high-volume routes, when the capacity serving thick routes is loaded fully, Intelsat clears more profit on thick routes (such as between the United States and the United Kingdom) than it does on other routes. That arrangement reduces, in a relative sense, the revenue requirements of other, thinner routes. In short, to the extent that a cross-subsidy exists between the world's center and its periphery, it is an indirect effect of averaged rates.

The averaging effect can cut both ways, of course. A single system can result in a subsidy flowing from poor countries to rich countries (more precisely, from thin to thick routes) just as easily as it can work the other way around. Every time Intelsat invests in a technically sophisticated, high-capacity satellite to serve the thick routes, the investment burden and financial risks are assumed by the whole organization. Thus, until such time as the new satellite serving the thick routes is fully loaded and operating at a profit, the thick routes are, in effect, being subsidized by the rest of the system. As Marcellus Snow has shown, at various points in Intelsat's history such subsidies have flowed in both directions.⁽²⁰⁾ The advent of fiber cables along the thicker routes in recent years, however, makes investments in satellites serving the major markets riskier than before.

Toward a New Outlook

The debate over the PSN restriction is one indication of an important change in the U.S. role in the world. Increasingly, economic and trade considerations are coming into conflict with the military and political goals of U.S. foreign policy. During the 1950s, 1960s, and part of the 1970s, U.S. economic and political-military power seemed to work in tandem. In the 1980s, however, the military and industrial components of the military-industrial complex began to decouple. Effective competition in the global marketplace now requires subordinating military and political objectives. Preservation of the political clout and control of the cold-war era can be purchased only at the price of sacrificing economic competitiveness. The contradiction is most apparent in U.S. efforts to control the export of high technology. The defense establishment, which is locked into the old paradigm of strategic military competition, insists on limiting trade in advanced computers and telecommunications technologies despite the deleterious effects on economic opportunities for U.S. companies.

The same conflict is present in U.S. policy toward Intelsat. The United States has a protective, almost paternalistic attitude toward Intelsat because it represents a triumph of cold-war-era diplomacy and political initiative. State Department officials still refer to Intelsat as a "U.S. gift to the world." The SIG White Paper outlining the Separate System Policy, though generally favorable to competition, strongly expressed the prevailing attitude toward Intelsat in the federal government, an attitude that typifies the synthesis of foreign policy and commercial objectives. This synthesis characterized the post-World War II era:

Intelsat's manifest success has: provided a dramatic example of U.S. leadership in the peaceful use of space . . . ; contributed to meeting evolving U.S. commercial needs for efficient international communications services; provided developing countries with improved communications at reasonable and affordable rates; confined the Soviet Intersputnik system to a relatively small portion of the world; supplied developing countries with access to the geostationary orbit and satellite radio frequencies; provided benefits to U.S. companies through open international procurement [of] equipment and services.⁽²¹⁾

All of those claims have merit; Intelsat was indeed a tremendous success. But its accomplishments are part of the past, and many of the criteria of its success have diminished significance outside the framework of superpower competition. From the perspective of the 1990s, the United States has nothing to gain by protecting or promoting an Intelsat monopoly.

The United States now has the opportunity to take a bold policy initiative appropriate to the new international order. It can open the market for international telecommunications by eliminating the PSN restriction. Beyond that, there is a way that it can promote both competition and the continued economic viability of Intelsat. The United States can

authorize direct access to Intelsat's space segment by telecommunications service providers in the United States, and it can begin to promote the legalization of similar direct access arrangements in other countries.

Currently, Intelsat circuits can be accessed only through the signatory in each country. Intelsat's signatories are almost always national telecommunications monopolies. Frequently, Intelsat's rates can be undercut not because its own space-segment charges are too high but because the signatories providing access to its space segment charge inflated prices. Freeing Intelsat from monopoly access would expand its markets and improve its ability to sustain itself as a global system. It would also give users more choice and facilitate competition in global service markets. Such a transition would not be easy to implement given Intelsat's current structure. But recreating Intelsat in a competitive mold cannot be any more difficult than its original creation was 26 years ago.

Notes

(1) Robert W. Hahn and Randall S. Kroszner, "Lost in Space: U.S. International Satellite Communications Policy," Regulation 13 (Summer 1990): 58.

(2) John B. Gantt, "The Issue of Private United States International Satellite Systems Separate from Intelsat," Space Communication and Broadcasting 5 (1987): 17.

(3) Michael Kinsley, *Outer Space and Inner Sanctums: Government, Business, and Satellite Communication* (New York: Wiley and Sons, 1976), p. 114.

(4) Marcellus Snow, *International Satellite Communications: Economic and Political Issues of the First Decade of Intelsat* (New York: Praeger, 1976), pp. 102, 120. Snow observes that the "significant economic harm" provision was strongly opposed by France, which wanted no restrictions on separate systems so that it could put together its own system linking French-speaking areas.

(5) The policy was set by Presidential Determination 852.

(6) Senior Interagency Group on New International Satellite Systems, "A White Paper on New International Satellite Systems," February 1985. The SIG was composed of representatives of the Departments of State, Commerce, Justice, and Defense as well as the U.S. Trade Representative, the National Security Council, the Central Intelligence Agency, the U.S. Information Agency, the Board for International Broadcasting, the Agency for International Development, the National Aeronautics and Space Administration, and other agencies.

(7) For example, U.S. telecommunications users and trade negotiators have complained for years about the Deutsche Bundespost, the German telecommunications authority that epitomized the closed PTT monopolies of Europe. In 1989 the Bundespost altered its regulations to allow separate satellite systems to carry traffic from its public network. Because of the U.S.-imposed PSN restriction, however, one competing satellite system, PanAmSat, was unable to gain access to the German market.

(8) James Alleman and Paul Rappoport, *Alternative Settlement Procedures for International Telecommunications: A Simulation*, ICTM Research Paper no. 1 (Omaha: International Center for Telecommunications Management, 1989).

(9) Federal Communications Commission, "In the Matter of Regulation of International Accounting Rates," Notice of Proposed Rulemaking, released August 7, 1990.

(10) An internal British Telecommunications International document uncovered by the Financial Times found net profit rates of 70 percent on certain international routes. My study of telecommunications in Hong Kong uncovered an overall net profit rate of 60 percent. Milton Mueller, *International Telecommunications in Hong Kong: The Case for Liberalization* (Hong Kong: Chinese University Press, 1990).

(11) Lowering U.S. rates any further would simply increase the traffic imbalance and hence worsen the net settlements deficit.

(12) American Telephone and Telegraph Co., Application for Authority Pursuant to Section 214 of the Communications Act of 1934, as Amended, to Establish and Operate Satellite Channels of Communication Between the Roaring Creek Earth Station and Points in the Union of Soviet Socialist Republics via the Intersputnik Satellite System, Dec. 13, 1989.

(13) As of April 1990 only 16 public switched circuits went from the United States to the Soviet Union. Fewer circuits existed between those two nations of 250 million population each than between the United States and Iceland.

(14) On December 14, 1990, the State and Commerce departments also authorized AT&T to use Intersputnik to add 100 more public switched circuits. That addition was in response to the new Intelsat coordination policy that exempts separate systems below certain capacity thresholds from "economic harm" consultations.

(15) Personal interview with Claudio Bonnefoy, Intelsat, October 15, 1990. Telephone interview with Joseph Pelton, University of Colorado Interdisciplinary Telecommunications Program, December 5, 1990.

(16) The relevant section, which has become the focal point of change and controversy within Intelsat, bears repeating in full.

To the extent that any Party or Signatory or person within the jurisdiction of a party intends individually or jointly to establish, acquire, or utilize space segment facilities separate from the Intelsat space segment facilities to meet its international public telecommunications services requirements, such Party or Signatory, prior to the establishment, acquisition or utilization of such facilities, shall furnish all relevant information to and shall consult with the Assembly of Parties, through the Board of Governors, to ensure technical compatibility of such facilities . . . and to avoid significant economic harm to the global system of Intelsat. Upon such consultation, the Assembly of Parties, taking into account the advice of the Board of Governors, shall express, in the form of recommendations, its findings regarding the considerations set out in this paragraph, and further regarding the assurance that the provision or utilization of such facilities shall not prejudice the establishment of direct telecommunication links through the Intelsat space segment among all the participants.

(17) The decision was made at the 16th meeting of the Intelsat Assembly of Parties, held in Lisbon, October 30-November 2, 1990. For a description of how the new thresholds affected U.S. satellite policy, see U.S. Department of State, "New Intelsat Guidelines Reflected in U.S. Separate System Policy," December 18, 1990.

(18) COMSAT Corporation, "Statement Issued by Bruce Crockett, U.S. Signatory and Chair of Intelsat's Board of Governors," November 9, 1990. In a historically inaccurate but laudable concession to the principle of competition, Crockett also maintained that the 14(d) process was "never intended to impede competition and should not be used by member countries for such purposes."

(19) Intelsat's new 100-circuit coordination threshold, plus the availability of Intersputnik capacity, has already resulted in a small avalanche of 14(d) coordination requests by separate satellite systems seeking additional capacity into Eastern Europe and the Soviet Union. That increase in requests shows how much more responsive an open market is to capacity shortages than is the politically constrained Intelsat system. See Eastern European and Soviet Telecom Report 2, no. 1 (January 1991): 3.

(20) Snow, Table 5.3, p. 90. Snow's contrast of systemwide and regional average costs in 1972 and 1973 showed that the average costs of the cream Atlantic region exceeded the systemwide average costs from April 1972 to July 1972, and during part of that period the average costs of the thin Indian Ocean region were below the systemwide average.

(21) Senior Interagency Group on New International Satellite Systems, pp. 1819.