

POLICY ROUNDTABLES

The Reform of International Satellite Organisations

1995

Introduction

The OECD Competition Committee debated the reform of international satellite organisations in November 1995. This document includes an analytical note by Ms. Sally Van Siclen of the OECD Secretariat and written submissions from Italy and the United States, as well as an aide-memoire of the discussion.

Overview

Since the creation of international satellite organisations (ISOs), technology and institutions have changed. Fibre optic cable has greatly increased connectivity. Satellites and ground stations have become more efficient. Private satellite systems have emerged. The almost uniform landscape of monopoly domestic public telecommunications operators (PTOs) has been transformed in many countries with the addition of corporatised PTOs and, in some countries, private competitive operators.

As the environment for which ISOs were designed has changed, policymakers need to review the appropriateness of their status and structure. The purpose of this roundtable was to discuss alternative, pro-competitive structures of the international satellite organisations.

ISOs have extensive effects on competition in domestic telecommunications and broadcast markets. The roundtable was a timely opportunity for competition authorities to come up with positions to influence the governments and representatives at the ISOs.

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General Distribution **OCDE/GD(96)123**

THE REFORM OF INTERNATIONAL SATELLITE ORGANISATIONS

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Paris 1996

40959

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FOREWORD

This document comprises proceedings in the original languages of a roundtable on the Reform of International Satellite Organisations which was held by Working Party No. 2 of the Committee on Competition Law and Policy in November 1995. It is published as a general distribution document under the responsibility of the Secretary General of the OECD to bring information on this topic to the attention of a wider audience.

This is the seventh compilation published in an OECD series named "Roundtables on Competition Policy".

PRÉFACE

Ce document rassemble la documentation dans la langue d'origine dans laquelle elle a été soumise, relative à une table ronde sur la réforme des organisations internationales de satellites qui s'est tenue en novembre 1995 dans le cadre du Groupe de travail n˚2 du Comité du droit et de la politique de la concurrence. Il est mis en diffusion générale sous la responsabilité du Secrétaire général afin de porter à la connaissance d'un large public les éléments d'information qui ont été réunis à cette occasion.

Cette compilation est la septième diffusée dans la série de l'OCDE intitulée "les tables rondes sur la politique de la concurrence".

TABLE OF CONTENTS

BACKGROUND NOTE 7
Sally Van Siclen, OECD Secretariat

NOTE DE RÉFÉRENCE 19
Sally Van Siclen, Secrétariat de l'OCDE

NATIONAL CONTRIBUTIONS

Italy 33

United States 41

United States (Update) 57

AIDE-MEMOIRE OF THE DISCUSSION 59

AIDE-MÉMOIRE DE LA DISCUSSION 63

OTHER TITLES IN THE SERIES "ROUNDTABLES ON COMPETITION POLICY" 69

BACKGROUND NOTE

Sally Van Siclen, OECD Secretariat

1. Introduction

The international satellite organisations (ISOs) were established by treaty in order to increase connectivity among domestic telecommunications systems. Since that period -- INTELSAT was established in 1964 -- technology and institutions have changed. Fibre optic cable has greatly increased connectivity, satellites and ground stations have become more efficient, private satellite systems have emerged, and an almost uniform landscape of monopoly domestic public telecommunications operators (PTOs) has been transformed in many countries into a varying landscape with the addition of corporatised PTOs and, in some countries, private competitive operators. As the environment for which ISOs were designed has changed, policymakers are reviewing the appropriateness of their status and structure. The purpose of this roundtable is to discuss alternative, pro-competitive structures of the international satellite organisations.

2. The international satellite organisations

Satellite applications are a small part of the overall communications sector; communications satellite revenue represents less than 0.5 per cent of telecommunications revenue in OECD countries (OECD 1995, p. 8). Three ISOs are of greatest interest to OECD Member countries: INTELSAT, INMARSAT and EUTELSAT. INTELSAT, the International Telecommunications Satellite Organisation, was created by international treaty in 1964. Its main purpose, as set forth in its founding document, is to provide reliable international public telephony on a non-discriminatory basis to all areas of the world through development and operation of a global commercial telecommunications satellite system.[1] It now has 135 member countries and its system is used by about 220 countries, territories and other entities. It has total assets of US$3.3 billion of which the space segment is $2.9 billion (Intelsat 1995, p. 11). INMARSAT, the International Maritime Satellite Organisation, established in 1976, has as its purpose the improvement of distress and safety of life at sea communications. It also provides, on a non-exclusive basis, aeronautical communications and mobile satellite communications. EUTELSAT, the European Telecommunications Satellite Organisation, is a regional carrier serving 44 countries of Europe and most of the former Soviet Union. There are other regional ISOs. In addition, there are domestic satellite systems (domsats) in thirteen OECD Member countries.[2] A few privately owned separate satellite systems such as PanAmSat, Columbia and Orion also exist. Finally, there are plans for a number of low earth orbit (LEO) private satellite systems such as Iridium.

Internal structure of INTELSAT

The structures of the ISOs are similar; attention here focuses on INTELSAT.

INTELSAT is established by treaty among sovereign states (known as "Parties"). It is a public international organisation entitled to privileges, exemptions and immunities in 45 of its member countries (Intelsat 1995, pp. 12-13). These include exemption from taxes and immunity from competition laws.

The operating agreement is among organisations (known as "Signatories") designated by governments to act as their representatives in INTELSAT. Most of the management, financial and operational decisions are taken by the Board of Governors, which consists of a subset of Signatories and in which representation is based on investment share.[3] As Table 1 suggests, most Signatories are the PTO

for the corresponding country, controlling also the domestic terrestrial public switched network. Signatories are the principal customers of INTELSAT, historically accounting for more than 90 per cent of usage. (Intelsat 1995, p. 12.)

In 1993, the Board decided that Signatories may authorise non-Signatories who are located in their respective countries and who use the space segment to invest in INTELSAT. As of the end of 1994, there were two non-Signatory Investors, Cable & Wireless plc (UK) with 3.66 per cent share and Chilesat (Chile) with a 0.17 per cent share (Intelsat 1995, p. 12).

Investors and customers pay space segment charges based on their individual usage of the system. Each Investor's investment share is calculated annually based on its percentage of use of the space segment in the previous 180 days. An Investor may request an investment share that is larger or smaller than its utilisation ratio, subject to a minimum investment share of 0.05 per cent for each member country (Intelsat 1995, p. 16). Each Investor contributes to INTELSAT's capital requirements and receives capital repayments and other compensation for use of capital in proportion to its investment share (Intelsat 1995, p. 12).

Signatories generally have the sole right to market satellite capacity within their territory (OECD 1995, p. 9). However, a number of countries now allow multiple entities to have access to INTELSAT (Intelsat 1995, p. 17). With few exceptions, neither INTELSAT nor national systems were permitted to offer services in each other's primary market (OECD 1995, p. 9). The tariffs charged by ISOs to Signatories are uniform, but Signatories set the price at which they re-sell satellite capacity to others (OECD 1995, p. 11).

In sum, Signatories are the managers, primary customers, suppliers of capital and beneficiaries of return on capital of INTELSAT. At the same time, Signatories are generally the exclusive reseller of INTELSAT's services within their countries. They are also generally the Signatory for other ISOs (e.g., INMARSAT and EUTELSAT) and, as noted above, some Signatories are also the sole owner of a domestic satellite system. Signatories are generally, but not always, the owner/operator of the dominant or monopoly domestic telecommunications system.

The structure of INTELSAT is already evolving. Its future structure was studied by a task force of the Assembly of Parties which reported in August 1995. Further study has since been undertaken. INTELSAT has already instituted a progressive phase-out of the economic harm assessment for separate satellite systems that provide public switched network services, so that such systems not exceeding a certain size are automatically determined not to cause significant economic harm. (INTELSAT reviews proposals for separate satellite systems to assess whether it would cause economic harm. If it found such harm, then it could, in principle, block the proposed system.) Similarly, the Meeting of Signatories in April 1995 supported, in principle, the concept of multiple Signatories per country.[4]

Activities of INTELSAT

INTELSAT provides four services: public switched telephone service, private line (business) service, broadcasting (video and audio), and domestic and regional services. In 1994, INTELSAT had 24 satellites in service and expected to launch an additional nine over the following two years. It provides more than half of all international telephone calls, "virtually all" transoceanic television broadcasts, and provides domestic telecommunications services in almost 30 nations (Intelsat 1994). (In developing countries, satellites are part of the basic information infrastructure.)

Table 1. INTELSAT's
Sources of operating revenue (%)

	1994	1993	1992
International public switched services	51.9	56.4	60.0
Transponder lease services	34.9	30.7	25.9
Broadcast services	4.1	3.6	5.1
Private network services (business)	6.0	6.6	6.6
Cable restoration services	3.1	2.7	2.4
	100.0	100.0	100.0

(Intelsat 1995, p. 17)

"Transponder lease services" is an umbrella category for long-term leasing for a variety of applications, domestic and international, including public switched service, video, radio and public and private data networks. "Broadcast services" includes occasional use and short-term lease services, not only of broadcast services but also of ancillary services provided to broadcasters. "Private network services" includes occasional and fulltime business services for a variety of applications. "Cable restoration services" is the lease of satellite capacity to cable communication providers who use the satellite capacity to restore communications to their customers in the event of a cable failure.

Obligations of INTELSAT

As noted above, INTELSAT is charged with the obligation to provide reliable, high-quality international public telephony on a non-discriminatory basis to all areas of the world. I.e., it has a universal service obligation for services which are not clearly defined.

3. Other participants

In addition to INTELSAT, satellite operators are other ISOs, domestic satellite systems (domsats) and private satellite systems. The other organisations/firms are more oriented towards servicing the broadcast industry than INTELSAT is. For example, in 1990 about 75 per cent of EUTELSAT's revenue was from television distribution. In 1991, U.S. satellite revenues from television were 58 per cent of all satellite service revenues; broadcasting yielded 50 per cent of Telesat's revenues and 80 per cent of AUSSAT's space segment revenues. In Sweden and the UK, the overwhelming demand for satellite services is for broadcasters. Astra, Luxembourg's domestic system, derived 100 per cent of its revenues from sales to broadcasters (OECD 1995, pp. 16, 31).

Private firms, also, exhibit a pattern of revenues different from that of the ISOs. For example, PanAmSat's sources of operating revenues for recent years were:

Table 2. Pan Am Sat's
Sources of operating revenue (%)

	1994	1993	1992
Long-distance telephony	4	3	3
Broadcasting	61	63	77
Business communications	35	34	20
	100	100	100

(PanAmSat 1995, p. 28).

4. Markets

Peck has suggested[5] that there are four types of markets served by satellites:

-- public switched network (PSN) which are also connected by cable;
-- PSN which are not also connected by cable or other technologies;
-- services, such as multi-point, broadband television broadcasting, where satellites have a major technological advantage over cable; and
-- satellite mobile communication.

One might divide each of the first two types of markets into those services which INTELSAT is obligated to supply and those services for which it is not under such an obligation. (Actual markets may be even smaller, e.g., cable restoration service.)

While we have not performed the research necessary to establish whether these are distinct markets, there are published statements to suggest support for these market definitions. For example, in a prospectus, INTELSAT sees competition from undersea fibre optic cables as particularly significant for high density routes. But it also notes that,

> "There will, however, be a large number of routes for which: (a) cables cannot be provided, (b) cables would be significantly less cost-effective than satellites, (c) system planners want media diversity and/or (d) system planners want more diverse paths than there are cable available. Accordingly, INTELSAT expects that satellite and fibre optic cable services will continue to play complementary roles in providing global telecommunication services." (Intelsat 1995, p. 19)

PanAmSat says that fibre optic cables do not compete with its services: their primary use is high volume telephony communications point-to-point. It says that fibre optic cable is not readily useable for point to multipoint broadcast applications or for transmission of *ad hoc* events, which require short-term satellite capacity and transportable uplink earth stations (PanAmSat 1995, p. 59). Finally, a number of PTOs used satellites until they developed national fibre networks, at which time they shifted services (OECD 1995, p. 38). Hence, it seems that there are at least two types of markets, those in which fibre optic cable can compete and those in which it cannot, i.e., broadcasting services. There is less evidence regarding the existence of finer markets, e.g., that voice telephony might be in a distinct market from data transmission or, more generally, business network services.

Not all satellites can supply all services: satellites are configured with various transponders to supply the mix of services that are forecasted to be demanded in that coverage area over the satellite's expected lifetime. Some transponders are designed to work with large, expensive stationary groundstations which are typical for public switched networks. Others are designed to work with small groundstations which are typical for business service users and for mobile users. Yet other transponders are designed for digital signals produced with video compression, used by broadcasters.

Services for, e.g., business communications networks or broadcasters, includes more than provision of satellite capacity. These services may include procurement and installation of on-site antennas, network design, management, operation and maintenance, provision of teleport transmission facilities, provision of trucks equipped for live news broadcasts, signal quality monitoring, and more. Satellite operators either provide these services or provide satellite capacity to other companies who provide these services. Voice telephony requires only satellite capacity and limited ground services (PanAmSat 1995, pp. 36-37).

The geographic dimension of markets must take into account the two natures of the possible communication, point-to-point and point-to-multipoint, and the network characteristics of the service, i.e., that for some customers, a network that does not have landing rights (the license to operate) in certain countries would not be a substitute for a network that does have landing rights in those countries, even though any particular communication would take place only between pairs of countries. Indeed, INTELSAT says that its "key competitive advantage is its extensive global connectivity, i.e., access to virtually every other country through earth stations already directed at INTELSAT satellites." (Intelsat 1995, p. 19)[6]

In addition to these essentially horizontally related markets, there are vertically related markets of interest. Peck suggested that there may be competition issues raised by the vertical integration of PTOs as signatories to ISOs and national suppliers, particularly when the PTOs have monopolies over the provision of national infrastructure (OECD 1995b, para. 15). In particular, he noted that the PTOs have an incentive to limit access of private competitors to existing infrastructure. In addition to these issues raised by Peck, there may also be issues related to cross-subsidisation from terrestrial activities to satellite services, or vice versa, which may affect entry conditions (into the subsidised activity) and efficiency (in those activities for which price is different from the competitive price).

Barriers to entry into the satellite communications markets seem to be high: PanAmSat says that "The construction and launch of a satellite comparable to the Company's new satellites usually takes three to five years and costs approximately $200 million to $250 million. In addition, there are a limited number of orbital slots. The operation of an international satellite communications system also requires approvals from national telecommunications authorities and Intelsat and, in certain cases, from regional satellite authorities, such as Eutelsat....[O]btaining the necessary licenses involves significant time, expense and expertise." (PanAmSat 1995, p. 58)[7] The OECD estimates the cost of an in orbit multi-purpose satellite to be $200 to $250 million (OECD 1995, p. 46). Peck suggested that there may also be competition effects on entry arising from the differential legal status of INTELSAT, e.g., with respect to taxes and exemption from competition laws, vis-a-vis private enterprises.

Given the type of entry barriers -- especially launch costs and costs of obtaining licenses -- and the low marginal costs of using a satellite circuit, there may be significant economies of scope in the provision of satellite capacity for various services. Evidence for this is the provision of both broadcasting services and business communication services through the same satellite (PanAmSat 1995, p. 33). If there are such scope economies, then this has implications for restructuring the ISOs. In contrast, there are several firms that provide satellite services but who lease satellite capacity from operators; this reduces support for the existence of economies of scope across these markets.

According to an OECD study, PTOs substantially mark up the price of satellite circuits initially purchased from INTELSAT. In Europe, circuits purchased for less than $400 per month are retailed for

more than $6 000 by PTOs. The PTOs have to provide transit on terrestrial routes and incur termination costs (e.g., for earth stations). Mark ups in the US are also high, with retail prices three times the price paid to COMSAT, the U.S. Signatory to INTELSAT (OECD 1995, p. 51).

The space segment cost of satellite services is uniform, for each location within that satellite's field of coverage (OECD 1995, p. 11). However, the space segment costs are a small fraction -- less than ten per cent -- of the total cost of providing satellite services; the large costs are on the ground.[8]

5. Proposals for re-organisation

Reorganisation of any ISO requires the consensus of its Parties, who constitute a wide variety of developed and developing countries with varying regulatory regimes with respect to, *inter alia*, telecommunications and broadcasting. There exists a consensus within INTELSAT that any reorganisation must provide:

- -- global connectivity
- -- universal service
- -- quality of service
- -- non-discriminatory pricing
- -- encouragement of competition to and from INTELSAT.

Some options which have been put forward are:

- -- to allow multiple Signatories
- -- to allow direct access for non-investors to INTELSAT
- -- to create an internal market for INTELSAT capacity
- -- to retain its intergovernmental nature, but create a fully-owned subsidiary with commercial freedom and subject to all the relevant laws, including taxation and competition laws
- -- privatisation as a single entity
- -- privatisation as multiple entities.[9]

6. Issues for discussion

In a short note, it is not possible to fully explore the implications of each aspect of a reorganisation. However, some aspects can be highlighted.

Horizontal issues

The PTO in a country is usually a Signatory to each of the ISOs, may own a domestic satellite system, and usually owns a terrestrial domestic system. Such a PTO is usually the monopoly re-seller of capacity from the ISOs. An incompletely-regulated profit-maximising PTO would, in general, have incentives to set prices at a different level from that preferred by the ISOs. (It is not possible to generalise regarding other PTOs' pricing incentives.) Hence, competition among ISOs and domsats for PTOs' custom is dampened by their common ownership and management; competition for broadcasters and other businesses can be only on the basis of product differentiation when a Signatory is the sole re-seller of satellite capacity in its territory.

If non-investors were to gain direct access to capacity held by the ISOs, then Signatories may have an incentive to direct the ISOs to raise their prices of satellite capacity to the monopoly level. Signatories could then recoup their higher costs through higher returns on capital.

If ISOs were to compete with private satellite operators, then consideration would have to be given to the effects on competition -- both as a barrier to entry and in post-entry strategic interaction -- of the differential status of ISOs regarding taxes and their exemption from various laws including competition laws. There is also a potential for differential treatment of ISOs and private and domestic satellite systems in the assignment of spectrum and orbital slots.

If ISOs were to be limited to providing only their mandated services, there may be cost increases if there are economies of scope in providing mandated and non-mandated services. These cost increases may be reflected in price increases to Signatories. (The relationship between the current pricing system and costs is not well-understood by the author.) Any such price increases would be borne both by users who would benefit from increased competition in the non-mandated services and by users who would not so benefit. On the other hand, if ISOs continue to provide both mandated and non-mandated services, then there may be a potential for cross-subsidisation from mandated to non-mandated services (which would disadvantage private rivals) and a potential for cross-subsidisation from non-mandated to mandated services. The latter possibility would be similar to the use of a monopoly in some telecommunications markets to subsidise the provision of universal service. One issue is whether worldwide connectivity necessitates such cross-subsidisation, i.e., whether competition in all services would leave under-served areas, in light of the cost characteristics of the space segment (low additional fixed costs and very low marginal cost to serve an adjacent area). A related issue is whether such cross-subsidisation could be more efficiently achieved through an alternative mechanism, such as competitive bidding to provide such services.

Vertical issues

PTOs have an incentive to limit access of private competitors to existing infrastructure. I.e., private domestic competitors may be denied access to the ISOs. In the other direction, private satellite operators may be denied access to the terrestrial network. So long as PTOs retain a monopoly in at least one market, there remains the potential for cross-subsidisation from terrestrial activities to satellite services (inhibiting entry into satellites services), or vice versa (inhibiting entry into telecoms or postal delivery or other activities of the PTO).

On the other hand, INTELSAT may act to partially internalise network pricing externalities, i.e., by giving each PTO a stake in its profits, it can partially overcome the incentives of complementary monopolists -- PTOs in each country -- to charge prices higher than the vertically integrated profit maximising price. A decoupling of monopoly PTOs from access to the ISOs and the creation of competition in the satellite segments will not reduce this problem: there would remain incentives for monopoly PTOs to charge high access fees from satellite operators and foreign PTOs. At the same time, it is not clear whether the current structure of the ISOs act to efficiently mitigate this problem. After any decoupling, there would remain the problem of finding a regulatory regime when different countries have different visions of competition in telecoms and satellites.

Questions

1. Can the standard tools of competition policy analysis be applied to ISOs?

2. Might an ISO behave anti-competitively? If so, how can it be controlled?

3. Would vertical separation between public switched network owners and ISOs enhance or diminish competition in the various relevant markets?

4. Would multiple signatories reduce competition concerns in the relevant markets? Would this change the nature of the bargaining when some countries have multiple signatories and others do not?

5. Would direct access for non-investors to INTELSAT reduce competition concerns in the relevant markets?

6. Would horizontal separation between mandated services (universal connectivity) and other services promote competition in those other markets?

7. Can universal connectivity be provided through a mechanism other than that embodied in the ISOs?

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Notes

1. More information about INTELSAT, including its 1993 and 1994 annual reports, is provided at it's Internet site at http://www.intelsat.int:8080/.

2. Australia, Canada, France, Germany, Japan, Italy, Luxembourg, Norway, Spain, Sweden, Turkey, United Kingdom, and United States. See Table 2 of OECD 1995.

3. Some Governors represent more than one Signatory. In March 1995, there were 27 Governors representing 117 Signatories. See Intelsat 1994.

4. See the press release, http://www.intelsat.int:8080/press/html/pr25meet.html.

5. Professor Merton Peck, discussant at the *ad hoc* Meeting of Experts on Competition in Satellite Services, Committee for Information, Computer and Communications Policy, Working Party on Telecommunications and Information Services Policies, 15 June 1995. See OECD 1995b.

6. An additional statement suggesting that the absence of landing rights in some countries can put a network at a competitive disadvantage is in an interview of Michael T. Smith, Vice Chairman, Hughes Electronics Corp. in "Newsmaker Forum," *Space News*, 9-15 October 1995.

7. A necessary condition for entry into the provision of satellite services is access to a satellite or access to an orbital slot. A global satellite system requires at least three satellites, with numbers larger than three to provide for possible back-up satellites or poor locations. A non-market allocation system is used for the assignment of geostationary orbital slots by the International Telecommunications Union. Part of this slot allocation process involves ensuring that a satellite in one slot does not use frequencies that would interfere with the operation of satellites in nearby slots. Time devoted to negotiations to ensure non-interference can increase the time necessary to place a satellite. However, a private satellite company, PanAmSat, "has been able to coordinate all of its satellites to date without material difficulty." (PanAmSat 1994, p. 58)

8. "The cost of using the Intelsat system are a minor component of end-to-end communications rates (generally less than 10 per cent), giving it little leverage over setting the final prices for its services." (Goldschmidt)

9. In its report on satellite communication services, the OECD Secretariat for the Committee for Information, Computer and Communications Policy wrote,

   "The key options available to policy-makers to increase efficiency are:

   - -- allow ISOs, separate satellite systems and users full commercial freedom to develop, market and apply satellite capabilities as efficiently as possible;
   - -- in examining full commercial freedom for ISOs, consideration would also be given to examining the obligations and privileges that the ISOs currently have as treaty organisations;
   - -- introduce measures, such as direct access or other improved access options that will stimulate new services, lower prices and encourage the use of available capacity;
   - -- increase transparency in the pricing of international satellite services;
   - -- liberalisation of resale of satellite communication;
   - -- liberalisation of earth stations to allow non-signatories and non-PTOs to obtain licenses to own and operate earth stations;
   - -- separate the regulation of international communications markets and commercial decision making." (OECD 1995, pp. 13-14)

Table 3. Ownership shares of INTELSAT

	Signatory	Percentage
OECD Members		
Australia	Telstra Corp. Ltd.	2.73
Austria	Government	0.50
Belgium	Regie des Telegraphes et Telephones	0.47
Canada	Teleglobe Canada Inc.	1.91
Denmark	Tele Danmark A/S	0.50
Finland	Telecom Finland Ltd.	0.09
France	France Telecom	3.67
Germany	Deutsche Bundespost Telekom	3.60
Greece	Hellenic Telecommunications Organisation	0.43
Iceland	Government	0.17
Ireland	The Irish Telecommunications Board	0.12
Italy	Telecom Italia	4.36
Japan	Kokusai Denshin Denwa Company Ltd.	4.36
Luxembourg	Government	0.05
Mexico	Government	0.52
Netherlands	PTT Nederland NV	1.59
New Zealand	Telecom Corporation of New Zealand Ltd.	0.59
Norway	Telenor	2.45
Portugal	Companhia Portuguesa Radio Marconi	0.61
Spain	Telefonica de Espana, S.A.	2.00
Sweden	Telia AB	0.55
Switzerland	Direction Generale de l'Entreprise des Postes, Telephones et Telegraphes	0.84
Turkey	General Directorate of PTT	0.50
United Kingdom	British Telecommunications PLC	10.38
United States	COMSAT Corp.	19.11
SUBTOTAL		62.10

Table 3. (cont'd) Ownership shares of INTELSAT

	Signatory	Percentage
CLP Observers		
Czech Rep.	Sprava Radiocomunikaci Praha, s.p.	0.07
Hungary	HUNSAT	0.05
Korea	Korea Telecom	1.80
Poland	Polish Telecommunications Co.	0.05
Slovakia	none	
SUBTOTAL		1.97
Other countries with share exceeding 1 per cent		
Argentina	Comision Nacional de Telecomunicaciones	1.79
Brazil	Empresa Brasilena de Telecomunicacoes SA	1.36
Chile	Empresa Nacional de Telecomunicaciones SA	1.02
China	Ministry des Post et Telecommunications	2.31
Columbia	Empresa Nacional de Telecomunicaciones de Columbia	1.27
India	Videsh Sanchar Nigam Ltd.	1.95
Israel	REZEQ The Israel Telecommunication Corp. Ltd.	1.45
Saudi Arabia	Government	1.13
Singapore	Singapore Telecommunications Private Ltd.	1.67
South Africa	Telkom SA Limited	1.16
Thailand	Government	1.12
United Arab Emirates	Ministry of Communications	1.08
SUBTOTAL		17.31
TOTAL SHARE OF SIGNATORIES LISTED HERE		81.38

NOTE DE RÉFÉRENCE

Sally Van Siclen, Secrétariat de l'OCDE

1. Introduction

Les organisations internationales de télécommunications par satellite (ISO) ont été créées par traité pour améliorer la connectivité entre les systèmes de télécommunications intérieurs. Depuis cette époque -- INTELSAT a été créé en 1964 -- la technologie et les institutions ont évolué. Le câble à fibre optique a considérablement augmenté la connectivité ; les satellites et les stations terriennes sont devenus plus performants ; des systèmes privés de télécommunications par satellite sont apparus et d'un paysage quasi uniforme d'opérateurs de télécommunications publiques (ETP) en situation de monopole, on est passé dans de nombreux pays à un paysage diversifié avec des ETP ayant le statut d'entreprises et, dans un petit nombre de cas, des opérateurs concurrents privés. L'environnement pour lequel les ISO avaient été conçues ayant évolué, les responsables sont engagés dans un réexamen de leurs statuts et de leurs structures. L'objet de la présente table ronde est d'examiner, pour les organisations internationales de télécommunications par satellite, les structures nouvelles qui favorisent la concurrence.

2. Les organisations internationales de télécommunications par satellite

Les applications par satellite ne représentent qu'une faible partie du secteur général des télécommunications ; les recettes des télécommunications par satellite représentent moins de 0.5 pour cent des recettes globales de télécommunications dans les pays de l'OCDE (OCDE, 1995, p.8). Trois ISO présentent un intérêt particulier pour les pays Membres de l'OCDE : INTELSAT, INMARSAT et EUTELSAT. L'Organisation internationale de télécommunications par satellite (INTELSAT) a été créée par traité international en 1964. Sa mission principale, telle qu'elle est énoncée dans les textes portant création de l'Organisation, est de fournir des services internationaux fiables de téléphonie publique sur une base non discriminatoire à toutes les régions du monde, grâce à la mise en place et à l'exploitation d'un système global commercial de télécommunications par satellite.[1] Elle compte aujourd'hui 135 pays Membres et son système est utilisé par quelque 220 pays, territoires et autres entités. Le total de ses actifs s'élève à 3.3 milliards de dollars des Etats-Unis, dont 2.9 milliards de dollars pour le segment spatial (Intelsat, 1995, p.11). INMARSAT, qui est l'Organisation internationale des télécommunications maritimes par satellite, créée en 1976, a pour mission d'améliorer les communications pour la recherche et le sauvetage en mer. Elle fournit également, sur une base non exclusive, des services de communications aéronautiques et des services de télécommunications par satellite. Quant à EUTELSAT, qui est l'Organisation européenne de télécommunications par satellite, c'est un exploitant régional qui dessert 44 pays d'Europe et la plupart des pays de l'Ex-Union soviétique. Il existe en outre d'autres ISO à vocation régionale, et on dénombre dans 13 pays Membres de l'OCDE des systèmes intérieurs de satellite (Domsats)[2] et on observe par ailleurs un petit nombre de systèmes de satellite "distincts", appartenant à des intérêts privés, comme PanAmSat, Columbia et Orion. Enfin, il existe différents projets de systèmes de satellite privés en orbite terrestre basse (LEO), comme le projet Iridium.

Structure interne d'INTELSAT

Les structures des ISO sont analogues ; nous allons nous intéresser ici plus particulièrement à celle d'INTELSAT.

INTELSAT a été créée par un traité conclu entre Etats souverains (appelés les "Parties"). C'est une Organisation internationale publique qui bénéficie de privilèges, exonérations et immunités dans 45 de ses Etats Membres (INTELSAT, 1995, pp. 12-13), notamment d'exonérations fiscales et de l'immunité vis-à-vis de la législation sur la concurrence.

L'Accord d'exploitation a été signé entre des organismes (appelé "les Signataires") désignés par les Gouvernements pour les représenter au sein d'INTELSAT. La plupart des décisions de gestion ou d'ordre financier ou opérationnel sont prises par le Conseil des Gouverneurs dont la représentation est fonction des parts d'investissements et où siège une partie des Signataires.[3] Comme le montre le Tableau 1, la plupart des Signataires sont des ETP du pays correspondant, qui contrôlent également le réseau commuté public terrestre national. Les Signataires sont les principaux clients d'INTELSAT, puisque depuis toujours leur part dans l'utilisation du système dépasse 90 pour cent (Intelsat, 1995, p.12).

En 1993, le Conseil a décidé que les Signataires pouvaient autoriser des non signataires, qui sont implantés dans leur pays respectif et utilisent le segment spatial, à investir dans INTELSAT. A la fin de 1994, on comptait deux investisseurs non signataires, Cable & Wireless plc (Royaume-Uni) avec une part de 3.66 pour cent et Chilesat (Chili) avec une part de 0.17 pour cent (Intelsat, 1995, p.12).

Les investisseurs et clients payent au titre du segment spatial des redevances, qui sont calculées en fonction de leur utilisation individuelle du système. La participation de chaque investisseur aux investissements est calculée annuellement sur la base de son pourcentage d'utilisation du segment spatial sur les 180 jours précédents. Un investisseur peut demander une participation à l'investissement supérieur ou inférieur à son taux d'utilisation, sous réserve que la participation minimale de chaque pays Membre à l'investissement ne soit pas inférieure à 0.05 pour cent (Intelsat, 1995, p.16). Chaque investisseur contribue aux apports en capital d'INTELSAT et reçoit soit sous forme de remboursements de capital soit sous d'autres formes une rémunération au prorata de sa participation à l'investissement (Intelsat, 1995, p.12).

Les Signataires ont d'une manière générale l'exclusivité de la commercialisation de la capacité sur satellite sur le territoire de leur pays (OCDE, 1995, p.9). Toutefois, un certain nombre de pays autorisent désormais plusieurs entités à avoir accès à INTELSAT (Intelsat, 1995, p. 17). A quelques exceptions près, ni INTELSAT, ni les systèmes nationaux n'étaient admis à proposer des services sur leur marché principal respectif (OCDE, 1995, p.10). Les tarifs pratiqués par les ISO à l'égard des Signataires sont uniformes, mais les Signataires fixent le prix auquel ils souhaitent revendre à autrui la capacité dont ils disposent. (OCDE, 1995, p.11).

En résumé, les Signataires sont les directeurs, les premiers clients, les apporteurs de capital et les bénéficiaires du retour sur investissement d'INTELSAT. Dans le même temps, les Signataires sont généralement les revendeurs exclusifs des services INTELSAT dans leur pays respectif. Ils sont aussi le plus souvent le Signataire pour d'autres ISO (par exemple INMARSAT et EUTELSAT) et, comme on l'a vu plus haut, certains Signataires sont propriétaires exclusifs d'un système intérieur de satellite. Les Signataires sont généralement, mais pas toujours, le propriétaire-exploitant du système de télécommunications national dominant ou monopolistique.

La structure d'INTELSAT évolue déjà. Sa structure future a été étudiée par un Groupe de l'Assemblée des Parties, qui a fait rapport en août 1995. D'autres études ont depuis été entreprises. INTELSAT a d'ores et déjà décidé d'éliminer progressivement l'évaluation du préjudice économique dans le cas des systèmes distincts de satellites qui fournissent des services publics sur réseau commuté, de telle sorte que lorsque ces systèmes ne dépassent pas une certaine taille, on considère automatiquement qu'ils ne provoquent pas de préjudice économique significatif (INTELSAT examine les projets de systèmes distincts de satellites pour voir s'ils sont susceptibles de créer un préjudice économique. Si l'Organisation

considère qu'un tel préjudice est possible, elle peut alors en principe bloquer le projet). De la même manière, la réunion des Signataires d'avril 1995 a donné son accord de principe à l'idée qu'il puisse y avoir plusieurs signataires par pays[4].

Activités d'INTELSAT

INTELSAT fournit quatre types de services : des services téléphoniques publics commutés, des services de lignes privées (pour entreprises), des services de radiodiffusion (audio et vidéo) et des services intérieurs et régionaux. En 1994, INTELSAT disposait de 24 satellites en service et prévoyait d'en lancer neuf autres sur les deux années suivantes. L'Organisation achemine plus de la moitié de l'ensemble des appels téléphoniques internationaux et la quasi-totalité des programmes de télévision transocéanique et elle assure des services de télécommunications intérieures dans près de 30 pays (Intelsat 1994). (Dans les pays en développement, les satellites font partie de l'infrastructure d'information de base).

Tableau 1. INTELSAT
Sources de recettes d'exploitation (%)

	1994	1993	1992
Services commutés publics internationaux	51.9	56.4	60.0
Service de location de répéteurs	34.9	30.7	25.9
Services de radiodiffusion	4.1	3.6	5.1
Services de réseaux privés (entreprises)	6.0	6.6	6.6
Services de rétablissement des circuits en câble	3.1	2.7	2.4
	100.0	100.0	100.0

(Intelsat 1995, p. 17)

Les "services de location de répéteurs" sont une catégorie générique qui couvre la location de longue durée pour diverses applications, nationales et internationales, notamment les services commutés publics, la vidéo, la radio et les réseaux pour données publics et privés. Les "services de radiodiffusion" comprennent les utilisations occasionnelles et les locations de courte durée, non seulement pour les services de radiodiffusion mais aussi pour les services annexes fournis aux radiodiffuseurs. Les "services de réseaux privés" correspondent aux services occasionnels et permanents aux entreprises, pour diverses applications. Les "services de rétablissement des circuits en câble" consistent à louer des capacités sur satellite aux exploitants de communications par câble, qui utilisent ces capacités pour rétablir les services de communication qu'ils assurent à leur clientèle, en cas de défaillance d'un câble.

Obligations d'INTELSAT

Comme on l'a noté, INTELSAT a l'obligation de fournir des services de téléphonie publique internationaux fiables et de haute qualité, sur une base non discriminatoire, dans toutes les régions du monde. A ce titre, l'Organisation a une obligation de service universel, pour des services qui ne sont pas clairement définis.

3. Autres participants

En plus de ceux d'INTELSAT, il existe des satellites exploités par d'autres ISO, par des systèmes intérieurs (Domsats) et par des systèmes privés. Les autres organisations ou entreprises sont plus tournées qu'INTELSAT vers l'offre de services au secteur de la radiodiffusion. Ainsi, en 1990, environ 75 pour cent des recettes d'EUTELSAT provenaient de la distribution de programmes de télévision. En 1991, la télévision représentait 58 pour cent de l'ensemble des recettes des services par satellite aux Etats-Unis, 50 pour cent des recettes de Telesat et 80 pour cent des recettes du segment spatial d'AUSSAT. En Suède et au Royaume-Uni, l'essentiel de la demande de services par satellite émane des radiodiffuseurs. Astra, qui est le système intérieur luxembourgeois, tire l'intégralité de ses recettes de la vente de capacités aux radiodiffuseurs (OCDE, 1995, p. 16, 31). De même, les entreprises privées ont une structure de recettes différente de celle des ISO. Ainsi, les sources de recettes d'exploitation de PanAmSat ont été, ces dernières années, les suivantes :

Tableau 2. Pan Am Sat
Sources de recette d'exploitation (%)

	1994	1993	1992
Téléphonie à longue distance	4	3	3
Radiodiffusion	61	63	77
Communications d'entreprises	35	34	20
	100	100	100

(PanAmSat 1995, p. 28).

4. Marchés

Selon Peck[5], on peut considérer qu'il existe quatre types de marchés desservis par les satellites :

-- les réseaux publics commutés (RPC), qui sont aussi reliés par câble ;
-- les RPC qui ne sont pas par ailleurs reliés par câble ou par d'autres technologies ;
-- les services comme la radiodiffusion télévisuelle à large bande multipoint, pour lesquels les satellites disposent d'un avantage technologique majeur sur le câble ;
-- les communications mobiles par satellite.

Chacune des deux premières catégories de marchés pourrait être subdivisée en deux, entre d'une part les services qu'INTELSAT est tenue de fournir et d'autre part ceux qui ne font pas l'objet d'une telle obligation (les marchés réels peuvent dans certains cas être encore plus étroits, par exemple celui du service de rétablissement des circuits en câble.)

Bien que nous n'ayons pas effectué les recherches nécessaires pour déterminer si ces définitions correspondent à des marchés distincts, un certain nombre de déclarations tendraient à les confirmer. Par exemple, dans une de ses brochures, INTELSAT considère la concurrence par les câbles à fibre optique sous-marins comme particulièrement importante sur les liaisons à fort trafic. Mais l'Organisation note également que

> "il existera toutefois un grand nombre de liaisons pour lesquelles : a) des câbles ne peuvent être tirés, b) les câbles seraient sensiblement moins rentables que les satellites et c) les planificateurs du système veulent diversifier les supports et/ou d) les planificateurs des systèmes veulent une

plus grande diversification d'acheminement que celle que les seuls câbles peuvent offrir. En conséquence, INTELSAT estime que les services par satellite et par câble à fibre optique continueront de jouer des rôles complémentaires dans l'offre de services mondiaux de télécommunications" (Intelsat 1995, p.19).

PanAmSat indique que les câbles à fibre optique ne font pas concurrence à ses services : ils sont avant tout utilisés pour les liaisons téléphoniques à fort trafic point à point. Selon cet exploitant, le câble à fibre optique se prête mal aux applications de radiodiffusion point à multipoint ou à la retransmission d'événements ponctuels, qui nécessitent de disposer temporairement d'une capacité sur satellite et de stations terriennes transportables pour les liaisons montantes (PanAmSat, 1995, p.59). Enfin, un certain nombre d'ETP ont utilisé des satellites jusqu'à ce qu'ils mettent en place des réseaux nationaux à fibre optique, sur lesquels ils ont ensuite basculé leurs services (OCDE 1995, p.38). De ce fait, il semble exister au moins deux types de marchés, ceux sur lesquels le câble à fibre optique peut être un concurrent et ceux sur lesquels il ne le peut pas, comme pour les services de radiodiffusion. Les éléments sont moins probants s'agissant de l'existence d'une subdivision plus fine des marchés, par exemple, le fait que la téléphonie vocale pourrait constituer un marché distinct de celui de la transmission de données, ou plus généralement, des services sur réseau pour entreprises.

Tous les satellites ne peuvent pas assurer toute la gamme des services : ils sont équipés de différents types de répéteurs de manière à assurer l'éventail des services pour lesquels on prévoit une demande dans la zone que le satellite doit desservir, sur sa durée de vie utile escomptée. Certains répéteurs sont conçus pour travailler avec des stations terriennes fixes coûteuses de grande capacité, en général exploitées pour les réseaux publics commutés. D'autres sont conçus pour travailler avec de petites stations terriennes, le plus souvent exploitées par des utilisateurs de services aux entreprises et de services mobiles. D'autres répéteurs encore sont conçus pour les signaux numériques obtenus par compression vidéo, utilisés par les radiodiffuseurs.

Les services assurés, par exemple, pour les réseaux de communication d'entreprise ou les radiodiffuseurs, ne se limitent pas à la fourniture de capacités sur satellite. Ils peuvent comporter l'achat et l'installation d'antennes sur site, la conception des réseaux, la gestion, l'exploitation et la maintenance, la mise à disposition de moyens de transmission par téléport, la mise à disposition de camions équipés pour les retransmissions en direct, le suivi de la qualité du signal, etc. Les exploitants de satellite soit assurent ces services, soit mettent des capacités sur satellites à la disposition d'autres sociétés, qui fournissent ces services. La téléphonie vocale ne nécessite que des capacités sur satellite et des services au sol limités (PanAmSat 1995, pp. 36-37).

La dimension géographique des marchés doit prendre en compte les deux formes possibles de communication, point à point et point à multipoint, et les caractéristiques de réseau du service, c'est-à-dire le fait que pour certains clients un réseau qui ne dispose pas de droit d'atterrissement (autorisation d'exploitation) dans certains pays ne saurait remplacer un réseau qui dispose effectivement de tels droits dans ces pays, même si les communications qu'il est susceptible d'acheminer ne s'effectueront qu'entre paires de pays. De fait, selon INTELSAT, son "avantage concurrentiel essentiel est sa connectivité mondiale poussée, c'est-à-dire l'accès à pratiquement n'importe quel autre pays par le biais de stations terriennes déjà pointées vers des satellites d'INTELSAT" (Intelsat 1995, p.19)[6].

Outre ces marchés dont les liens sont essentiellement horizontaux, il existe aussi certains marchés intéressants, dont les liens sont verticaux. Selon Peck, l'intégration verticale de certains ETP qui sont à la fois Signataires d'ISO et fournisseurs nationaux peut poser des problèmes de concurrence, notamment lorsque ces ETP ont un monopole sur l'infrastructure nationale (OCDE, 195b, para. 15). Il note en particulier que les ETP sont incités à restreindre l'accès des concurrents privés à l'infrastructure existante. Outre ces questions soulevées par Peck, il peut également exister des problèmes de péréquation tarifaire des

activités terrestres vers les services sur satellite, ou inversement, qui sont susceptibles d'influer sur les conditions d'entrée (sur le marché de l'activité susmentionnée) et l'efficience (s'agissant des activités pour lesquelles le prix est différent du prix concurrentiel).

Les barrières à l'entrée sur les marchés des télécommunications par satellite semblent élevées : Selon PanAmSat "la construction et le lancement d'un satellite comparable au nouveau satellite de la Compagnie nécessitent en général trois à cinq ans et coûtent quelque 200 à 250 millions de dollars. De plus, il n'existe qu'un nombre limité de positions orbitales. L'exploitation d'un système de télécommunications internationales par satellite nécessite aussi des autorisations de la part des autorités nationales des télécommunications et d'Intelsat et, dans certains cas, des autorités régionales de satellites, comme Eutelsat... L'obtention des licences nécessaires exige beaucoup de temps, d'argent et d'expertise. (PanAmSat, 1995, p. 58)[7] L'OCDE estime que le coût d'un satellite polyvalent en orbite est compris entre 200 et 250 millions de dollars (OCDE, 1995, p.46). Selon Peck, la concurrence pourrait aussi modifier les conditions d'entrée du fait des différences de statut juridique entre INTELSAT, s'agissant par exemple de la fiscalité et des exonérations vis-à-vis de la législation sur la concurrence, et les entreprises privées.

Etant donné la nature des obstacles à l'entrée -- notamment coûts de lancement et coûts de l'obtention des licences -- et de la faiblesse des coûts marginaux liés à l'utilisation d'un circuit par satellite, il pourrait exister d'importantes économies de gamme dans l'offre de capacités sur satellite pour divers services, comme l'atteste l'offre à la fois de services de radiodiffusion et de services de communication aux entreprises sur un même satellite (PanAmSat, 1995, p.33). Si de telles économies de gammes existent, cela a alors des implications pour la restructuration des ISO. En revanche, il existe plusieurs entreprises qui proposent des services sur satellite mais en louant des capacités sur satellite auprès d'exploitants ; ce qui tendrait à affaiblir l'argument en faveur de l'existence d'économies de gamme sur ces différents marchés.

Selon une étude de l'OCDE, les ETP pratiquent une marge substantielle sur le prix qu'ils demandent pour les circuits de satellite qu'ils ont acquis auprès d'INTELSAT. En Europe, des circuits achetés pour moins de 400 dollars par mois sont revendus au détail pour plus de 6 000 dollars par les ETP. Les ETP doivent assurer l'acheminement des télécommunications sur des liaisons terrestres et supporter les coûts correspondant à la partie terminale de la liaison (par exemple stations terriennes). Les marges aux Etats-Unis sont également élevées avec des prix de détail trois fois supérieurs aux prix versés à la COMSAT, qui est le Signataire des Etats-Unis auprès d'INTELSAT (OCDE, 1995, p.51).

Le coût du segment spatial des services sur satellite est le même en tout point dans la zone desservie par le satellite (OCDE, 1995, P. 11). Toutefois, les coûts du segment spatial ne représentent qu'une faible partie -- moins de dix pour cent du coût total de la prestation de service par satellite. Les principaux coûts sont ceux du segment terrestre.[8]

5. Propositions de réorganisation

La réorganisation d'une ISO quelle qu'elle soit nécessite le consensus de ses Parties, lesquelles regroupent un large éventail de pays développés et pays en développement qui disposent de régimes réglementaires variables, notamment en ce qui concerne les télécommunications et la radiodiffusion. Il existe au sein d'INTELSAT un consensus sur le fait que toute réorganisation doit s'appuyer sur les principes suivants :

-- connectivité globale
-- service universel
-- qualité du service
-- tarif non discriminatoire
-- encouragement de la concurrence à l'égard et de la part d'INTELSAT.

Certaines options ont été proposées, notamment :

-- autoriser les Signataires multiples
-- autoriser l'accès direct des non investisseurs à INTELSAT
-- créer un marché interne pour les capacités d'INTELSAT
-- conserver à l'Organisation son caractère intergouvernemental et créer une filiale en pleine propriété jouissant de la liberté commerciale et soumise à l'ensemble des lois applicables, notamment en matière de fiscalité et de droit de la concurrence
-- privatiser sous la forme d'une entité unique
-- privatiser sous la forme de plusieurs entités[9].

6. Questions à examiner

Dans une courte note, il n'est pas possible d'explorer dans le détail les implications de chaque aspect d'une réorganisation. Toutefois, on peut en mettre en lumière un certain nombre.

Questions de caractère horizontal

Dans un pays, l'ETP est en général un Signataire dans chacune des ISO, il peut posséder un système intérieur de satellite et il possède en général un système intérieur terrestre. Un tel ETP a en général le monopole de la revente des capacités qu'il acquiert auprès des ISO. Un ETP soucieux de maximiser ses profits et soumis à une réglementation insuffisamment contraignante serait en règle générale incité à fixer ses prix à un niveau différent de celui préféré par les ISO. (Il n'est pas possible de généraliser concernant les autres incitations des ETP en matière de fixation des prix). En conséquence, la concurrence entre les ISO et les Domsats pour bénéficier de la clientèle des ETP est limitée par le fait que ce sont les mêmes membres qui y siègent et qui en assure la direction ; la concurrence vis-à-vis des radiodiffuseurs et des autres entreprises ne peut se faire que par une différenciation des produits lorsqu'un Signataire a l'exclusivité de la revente des capacités sur satellite sur son territoire.

Si les non-investisseurs pouvaient avoir un accès direct à la capacité que possèdent les ISO, les Signataires seraient incités à demander aux ISO de relever les prix de leurs capacités sur satellite pour les porter au niveau pratiqué par le monopole. Les Signataires seraient alors en mesure de récupérer les surcoûts qu'ils devraient acquitter, par le biais d'un rendement plus élevé de leur capital.

Si les ISO devaient concurrencer les opérateurs de satellite privés, il faudrait alors s'interroger sur les effets sur la concurrence -- à la fois en tant qu'obstacle à l'entrée et dans les interactions stratégiques une fois l'entrée réalisée -- de la différence de statut entre les ISO, dans les domaines de la fiscalité et de l'exonération vis-à-vis de diverses législations, notamment des lois sur la concurrence. Il peut également exister des différences de traitement entre les ISO et les systèmes intérieurs privés de satellites dans l'attribution des fréquences et des positions orbitales.

S'il était décidé de n'autoriser les ISO qu'à assurer les services pour lesquels elles ont reçu mandat, certains coûts pourraient augmenter, dans l'hypothèse où il existe des économies de gamme dans la fourniture des services imposés et non imposés. Ces augmentations des coûts pourraient se répercuter sur les prix demandés aux Signataires. (L'auteur a des difficultés à discerner avec précision le lien avec les coûts dans le système actuel de fixation des prix). Toutes ces éventuelles hausses de prix seraient supportées à la fois par les utilisateurs qui bénéficieraient d'un surcroît de concurrence dans les services non imposés et par les utilisateurs qui n'en bénéficieraient pas. En revanche, si les ISO continuaient de fournir aussi bien des services imposés que des services non imposés, on peut craindre une péréquation tarifaire des services imposés vers les services non imposés (ce qui désavantagerait les concurrents privés) et une péréquation tarifaire des services non imposés vers les services imposés. Cette dernière éventualité serait assimilable au recours à un monopole sur certains marchés des télécommunications pour subventionner l'offre de

service universel. On peut se demander si la collectivité mondiale a besoin d'une telle péréquation tarifaire, c'est-à-dire si l'ouverture de tous les services à la concurrence risquerait d'aboutir à ce que certaines régions soient sous-desservies, compte tenu des caractéristiques des coûts du segment spatial (faible coût fixe additionnel et très faible coût marginal pour desservir une zone adjacente). Une question voisine est de savoir si cette péréquation tarifaire pourrait être obtenue plus efficacement par un autre mécanisme, comme l'adjudication par appel d'offres pour la fourniture de ces services.

Questions de caractère vertical

Les ETP sont incités à limiter l'accès des concurrents privés à l'infrastructure en place. Autrement dit, les concurrents intérieurs privés peuvent se voir refuser l'accès aux ISO. Inversement, les exploitants de satellites privés peuvent se voir refuser l'accès au réseau terrestre. Tant que les ETP conservent un monopole sur au moins un marché, il subsiste un risque de péréquation tarifaire des activités terrestres vers les services sur satellite (empêchant l'entrée dans les services par satellite) ou inversement (empêchant l'entrée dans les télécoms ou les services postaux ou d'autres activités assurées par l'ETP).

D'un autre côté, INTELSAT peut réagir pour internaliser en partie les externalités de la tarification du réseau, c'est-à-dire qu'en donnant à chaque ETP une participation à ses bénéfices, elle peut en partie éliminer les incitations des monopoles complémentaires, -- les ETP dans chaque pays -- à pratiquer des prix plus élevés que le prix de maximisation des bénéfices dans une structure verticalement intégrée. Le fait de supprimer l'exclusivité d'accès aux ISO des ETP en situation de monopole et d'ouvrir à la concurrence les segments spatiaux ne supprimera pas le problème : les ETP en situation de monopole seront toujours incités à demander des tarifs d'accès élevés aux exploitants de satellite et aux ETP étrangers. Mais dans le même temps, on voit mal si la structure actuelle des ISO contribue efficacement à atténuer ce problème. Après le découplage, quelle que soit la forme qu'il prendrait, il resterait à trouver un régime réglementaire dans lequel différents pays ont des visions différentes de la concurrence dans les télécommunications et les satellites.

Questions

1. Les outils classiques de l'analyse de la concurrence sont-ils applicables aux ISO ?

2. Une ISO pourrait-elle avoir un comportement anticoncurrentiel ? Dans l'affirmative, comment pourrait-on la contrôler ?

3. La séparation verticale entre exploitants de réseaux commutés publics et ISO renforcerait-elle ou diminuerait-elle la concurrence sur les différents marchés concernés ?

4. L'autorisation de signataires multiples contribuerait-elle à réduire les problèmes de concurrence sur les marchés concernés ? La nature de la négociation serait-elle modifiée s'il y avait plusieurs signataires dans certains pays et un signataire unique dans d'autres ?

5. L'accès direct des non-investisseurs à INTELSAT réduirait-il les problèmes de concurrence sur les marchés concernés ?

6. La séparation horizontale entre services imposés (connectivité universelle) et les autres services encouragerait-elle la concurrence sur ces autres marchés ?

7. La connectivité universelle peut-elle être assurée par un mécanisme autre que celui représenté par les ISO ?

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Notes

1. On trouvera d'autres informations sur INTELSAT, notamment ses rapports annuels de 1993 et 1994 sur le site Internet de cette Organisation à l'adresse : http://www.intelsat.int:8080/.

2. Allemagne, Australie, Canada, Espagne, Etats-Unis, France, Italie, Japon, Luxembourg, Norvège, Royaume-Uni, Suède et Turquie. Voir le Tableau 2 de la Publication OCDE, 1995.

3. Certains Gouverneurs représentent plusieurs Signataires. En mars 1995, on dénombrait 27 Gouverneurs représentant 117 Signataires. Voir Intelsat 1994.

4. Voir le Communiqué de presse à l'adresse : http://www.intelsat.int:8080/press/html/pr25meet.html.

5. Professeur Merton Peck, intervenant à la réunion ad hoc d'experts sur la concurrence dans les services par satellite, Comité de la politique de l'information, de l'informatique et des communications, Groupe de travail sur les politiques en matière de télécommunications et de services d'information, 15 juin 1995. Voir OCDE, 1995b.

6. Une autre déclaration qui tendrait à indiquer que l'absence de droit d'atterrissement dans certains pays peut placer un réseau dans une situation défavorable par rapport à la concurrence figure dans l'entretien de Michael T. Smith, Vice-président de la Hughes Electronics Corp. publié dans le "Newsmaker Forum", de *Space News* du 9-15 octobre 1995.

7. Une condition nécessaire à l'entrée sur le marché des services par satellite est l'accès à un satellite, ou l'accès à une position orbitale. Un système mondial par satellite nécessite au moins trois satellites, et même plus si l'on tient compte des satellites de secours ou de la nécessité de compenser les positionnements défavorables. L'attribution des positions sur l'orbite des satellites géostationnaires par l'Union internationale des communications se fait selon un système non marchand. Une partie de cette procédure d'allocation des positions consiste à vérifier qu'un satellite sur une position n'utilisera pas des fréquences susceptibles d'interférer avec l'exploitation des satellites des positions voisines. Le temps consacré aux négociations pour s'assurer de l'absence de risque d'interférence peut allonger les délais nécessaires pour mettre un satellite en orbite. Toutefois, une société de satellite privée, PanAmSat "a pu jusqu'à présent parvenir à coordonner sans difficulté matérielle l'ensemble de ses satellites." (PanAmSat, 1994, p.58).

8. "Les coûts d'utilisation du système Intelsat n'entrent que pour une très faible part dans les tarifs de télécommunications de bout en bout (généralement moins de dix pour cent), de sorte qu'ils ne peuvent jouer que de façon limitée dans la détermination du prix final de ces services". (Goldschmidt).

9. Dans son rapport sur les communications par satellite, le Secrétariat de l'OCDE pour le Comité de la politique d'information, de l'informatique et des communications indique que :

   "les principales options dont disposent les décideurs pour accroître l'efficience sont les suivantes :

   -- donner aux ISO, aux systèmes distincts de communication par satellite et aux usagers l'entière liberté de développer, commercialiser et mettre en oeuvre de façon aussi efficiente que possible les capacités sur satellites ;

   -- en examinant l'entière liberté commerciale pour les ISO, il conviendrait aussi d'examiner les obligations et privilèges actuellement attachés aux ISO en tant qu'organismes créés en vertu d'instruments internationaux ;

-- introduire des mesures, tel que l'accès direct ou d'autres possibilités d'accès amélioré, qui stimuleront les nouveaux services, feront baisser les prix et encourageront l'utilisation de la capacité disponible ;

-- accroître la transparence dans l'établissement des prix des services internationaux par satellite ;

-- libéraliser la revente des communications par satellite ;

-- libéraliser les stations terriennes afin de permettre à des organismes qui ne sont ni des signataires ni des ETP d'obtenir des licences pour la détention et l'exploitation de ces stations ;

-- dissocier la réglementation des marchés internationaux des télécommunications et la prise de décisions commerciales" (OCDE, 1995, p. 13-14).

Tableau 3. Participations au capital d'INTELSAT

	Signataire	Pourcentage
Pays Membres de l'OCDE		
Australie	Telstra Corp. Ltd.	2.73
Autriche	Gouvernement	0.50
Belgique	Régie des Télégraphes et Téléphones	0.47
Canada	Teleglobe Canada Inc.	1.91
Danemark	Tele Danmark A/S	0.50
Finlande	Telecom Finland Ltd.	0.09
France	France Telecom	3.67
Allemagne	Deutsche Bundespost Telekom	3.60
Grèce	Organisation hellenique des télécoms	0.43
Islande	Gouvernement	0.17
Irlande	Conseil Irlandais des télécommunications	0.12
Italie	Telecom Italia	4.36
Japon	Kokusai Denshin Denwa Company Ltd.	4.36
Luxembourg	Gouvernement	0.05
Mexique	Gouvernement	0.52
Pays-Bas	PTT Nederland NV	1.59
Nouvelle-Zélande	Telecom Corporation of New Zealand Ltd.	0.59
Norvège	Telenor	2.45
Portugal	Companhia Portuguesa Radio Marconi	0.61
Espagne	Telefonica de Espana, S.A.	2.00
Suède	Telia AB	0.55
Suisse	Direction Générale de l'Entreprise des Postes, Telephones et Telegraphes	0.84
Turquie	Direction générale des PTT	0.50
Royaume-Uni	British Telecommunications PLC	10.38
Etats-Unis	COMSAT Corp.	19.11
TOTAL PARTIEL		62.10

Tableau 3. (suite) Participations au capital d'INTELSAT

	Signataire	Pourcentage
CLP Observateurs		
Rép. Tchèque	Sprava Radiocomunikaci Praha, s.p.	0.07
Hongrie	HUNSAT	0.05
Corée	Korea Telecom	1.80
Pologne	Polish Telecommunications Co.	0.05
Slovaquie	néant	
TOTAL PARTIEL		1.97
Autres pays dont la part dépasse 1 pour cent		
Argentine	Comision Nacional de Telecomunicaciones	1.79
Brésil	Empresa Brasilena de Telecomunicacoes SA	1.36
Chili	Empresa Nacional de Telecomunicaciones SA	1.02
Chine	Ministère des Postes et Télécommunications	2.31
Colombie	Empresa Nacional de Telecomunicaciones de Columbia	1.27
Indie	Videsh Sanchar Nigam Ltd.	1.95
Israël	REZEQ The Israel Telecommunication Corp. Ltd.	1.45
Arabie Saoudite	Gouvernement	1.13
Singapour	Singapore Telecommunications Private Ltd.	1.67
Afrique du Sud	Telkom SA Limited	1.16
Thaïlande	Gouvernement	1.12
E.A.U	Ministère des Communications	1.08
TOTAL PARTIEL		17.31
TOTAL DES PARTS DES SIGNATAIRES ICI REPERTORIES		81.38

ITALY

1. Introduction

Satellite communications have experienced dramatic changes in the last decade. The number of satellite operators has increased both at the global and regional level, entailing more competition in the markets for satellite capacity and services. These developments have begun to erode the traditional monopoly of Intergovernmental Satellite Organisations (ISOs) and Public Telecommunication Operators (PTOs) in these markets. Moreover, the supply of satellite services was diversified well beyond the traditional role of ensuring public switched network interconnection. At the same time, satellite operators had to face increasing competition from fibre optic cable networks.

Trends towards a more competitive environment and a market-oriented supply of services have been thwarted by a restrictive and inadequate regulatory framework, which has often safeguarded monopoly positions and has lead to blatant conflicts of interest. This has represented a major barrier to entry for private satellite operators. As a result, the need has emerged for radical revisions of both national and international regulations of the satellite sector. A first step in this direction was taken by the EC Directive 94/46 which extended the liberalisation of telecommunication equipment to the satellite industry. The swift embodiment of the directive into national legislation by member states will eliminate many distortions to competition implied by current regulations. In addition, the status of ISOs is currently undergoing a wide-ranging review aimed at radically changing their structure and their role in satellite communications.

In Italy, clear obstacles to competition in satellite communications are raised by the impending role of the national PTO, Telecom Italia. The PTO retains a virtual monopoly position in the market for satellite capacity, through exclusive rights on both earth stations and access to the space segment, and in the market for satellite services, in which it holds a dominant position through its subsidiary Nuova Telespazio. Therefore, in the perspective of the full liberalisation of telecommunication services in 1998, measures to accelerate liberalisation in satellite communications are urgently needed.

2. Competition policy issues

Although some competition already exists within some regional markets (North America, Oceania) and a competitive fringe has recently emerged on the world market, the market for satellite transmission capacity is still heavily regulated and characterised by the existence of dominant positions held by ISOs on the world market and by PTOs on national markets. These dominant positions are strengthened by regulation, which entitles ISOs and PTOs with exclusive rights and gives them advantages over competitors. Since the market for satellite transmission capacity may not be viewed as a natural monopoly, the current situation distorts competition on this market as well as on the broader market for inter modal satellite and cable transmission capacity.

It may be useful to summarise the regulatory framework and control structure of the satellite communications industry. In most countries, as well as at the global level, rights to use frequencies and orbits, which are the two natural resources needed for satellite communication, are allocated by international regulatory agencies without any reference to market mechanisms[1]. The ISOs, who are the largest satellite operators at the global level, are controlled by the signatories of the international treaties establishing them.

In most countries, the ISO signatories are the national PTOs, which provide public telecommunication services, often in a statutory or *de facto* monopoly situation. Moreover, in several cases PTOs also control separate national satellite systems.

The Intelsat treaty, which served as a model for the treaties governing Inmarsat and Eutelsat, stipulates that any non-signatory satellite operator wishing to install an independent satellite system must be authorised by the ISO itself. The ISO, however, may refuse to grant an authorization whenever it deems that the new undertaking might damage it. At the same time, the ISO, who enjoys special tax advantages, has long been and in most cases still is exempted from the application of competition laws.

In the space segment, ISO satellite transmission capacity may be leased only by treaty signatories (or by subjects authorised by them), who have an exclusive right to directly access satellite capacity. As a consequence, final users are denied direct access to a significant share of the world satellite capacity. The sale of satellite capacity to PTOs takes place as an internal transaction within ISOs, with prices largely unrelated costs and with no disclosure obligations. Prices for final services may be freely fixed by PTOs. The resale of satellite capacity for telephone communications is forbidden in most countries and, in many cases, a prohibition applies also to resale of capacity for data transmission.

In the terrestrial segment, PTOs are usually entitled with exclusive rights on large-sized earth stations, whereas the use of mobile stations and of VSAT was only recently liberalised by EC Directive 94/46. Finally, especially at the international level, PTOs act at the same time as regulators (technical and qualitative standard setting) and providers of satellite services.

The current situation leads to inefficiencies and distortions of competition. As far as the ISOs are concerned, the inter mediation of PTOs between service and capacity providers hampers the development of a vertical integration like the one existing in the private satellite industry. Moreover, the price setting mechanism for final satellite services is both unclear and unrelated to cost variables, therefore enhancing the market power of the PTOs. As a result, prices of similar services vary considerably between different countries, while arbitrage is made difficult by the existing obstacles to the resale of satellite capacity. Lack of transparency and widespread market power allow PTOs to limit the supply of ISO satellite capacity in order to prevent competitors from entering the market.

Moreover, international satellite regulations, provisions of ISO treaties and the peculiar ownership structure of ISOs represent obstacles to the free functioning of the markets involved and lead to the widespread introduction of anti-competitive practices on behalf of national PTOs. The impending presence of PTOs in the governing bodies of ISOs, the impossibility of direct access to ISOs capacity by unauthorised operators, the justification of exclusionary practices based on alleged economic harm to the organisation and the lack of clear separation between regulators and service providers, severely restrict competition in satellite communications by raising almost insuperable barriers to entry for independent satellite operators[2]. In addition, the presence of PTOs in international regulatory agencies and ISO boards, which are often asked to evaluate projects of private satellite operators, gives PTOs a constant informational edge over their potential competitors.

Since PTOs are often both signatories of ISOs and operators of separate national satellite systems, they may be led to favour the interests of separate systems by influencing marketing and investment decisions of ISOs as well as ISOs strategies against potential competitors. For instance, business decisions aimed at increasing the number of ISO circuits capable to interconnect with the public switched networks clearly favour the interests of PTOs who often have exclusive rights over such networks. Moreover, by exploiting their influence on ISO boards, PTOs may prevent competitors supplying services more advanced or competitive than their own from accessing satellite capacity, a market in which they already have a dominant position. Similarly, they can either support initiatives or delay choices in order to favour the

interests of separate satellite systems over those of the ISOs themselves. Finally, when PTOs are signatories of many ISOs at once, they can support choices which favour the activities of the ISO which ensures them the highest returns.

Significant distortions in inter modal competition between satellite and fibre optic cable networks may be caused by the double role of PTOs, who are at the same time ISO signatories and cable operators, by the lack of direct access to satellite capacity by non-signatories and by the failure of ISO tariffs to reflect the actual cost incurred for service provision.

PTOs often own, manage and develop fibre optic cable networks, a business involving complex strategies and sizeable R&D investments. They may therefore have strong incentives to favour the commercial growth of cable at the expense of satellite communications. This may be reflected in the attitude of PTOs towards national satellite systems, in which they often hold significant stakes, as well as in their stance within the boards of ISOs. Since development of satellite communications may turn out to be crucial for PTOs competitors, the dominant position of PTOs in both transmission media may hinder competition.

Symmetrically, the lack of direct access of non-signatory telecom operators to the space segment may induce them to favour the use of cable over satellite. The runaway from satellite communications, due to institutional barriers to entry may become a significant phenomenon since, partly due to liberalisation, a growing share of OECD international telephone traffic is carried by non-signatory operators.

Finally, the fact that satellite capacity prices bear little relation to the actual cost of service provision, due to the loose relationship between ISOs tariffs and costs, may discourage satellite use by signatories who are mainly engaged in provision of base services, such as voice telephony. If the tariff charged by ISOs partly reflects the cost of more advanced services, these signatories may have incentives to use cheaper cable networks.

3. The situation in Italy: operators and regulations

There are two satellite operators in Italy: Telecom Italia, a subholding of the state-owned corporation Stet, and Nuova Telespazio, fully owned by Telecom Italia and Stet with equal equity stakes. Telecom Italia, who has exclusive rights for national and long distance voice telephony, is the only ISO signatory authorised by the Post and Telecommunications Ministry. With an investment share in Intelsat amounting to 4.3 per cent in 1995, Telecom Italia is therefore the only Italian company having direct access to the ISOs space segment[3].

Nuova Telespazio, created in 1995, provides a range of satellite services recently liberalised by the EC Directive 94/46. These include services and systems for remote sensing, environmental monitoring and land management; broadcasting services and systems[4]; services and systems for the development, implementation and management of support structures for space ventures; studies and experimentation aimed at developing new satellite systems and techniques.

Telecom Italia takes on lease space segments belonging to ISOs in order to provide satellite communication services or to sub-lease them to other companies providing satellite services. In doing so, Telecom Italia is free to decide on the number of transponders it wishes to sub-lease and on the length of the contracting period. Operators currently sub-leasing Eutelsat satellite capacity through Telecom Italia include the state owned broadcasting company Rai and the private broadcasting networks Fininvest and Telepiù.

Since neither private nor public separate satellite systems currently exist in Italy, the PTO's exclusive right to access the capacity of ISOs entails full control over the totality of existing satellite transmission capacity dedicated to the Italian territory. Moreover, the PTO's subsidiary Nuova Telespazio

has apparently taken up an option on the majority of Eutelsat's Hotbird 2 transponders. With this satellite to be launched in 1996, the PTO is staking a claim on future satellite capacity as well. The PTO monopoly in the access to satellite capacity is further tightened by its ownership of all earth stations connected with the public switched network and by the exclusive role played by Nuova Telespazio in managing existing VSAT networks[5]. The number of companies producing and managing VSAT networks can be expected to increase in the future as a result of the liberalisation of the satellite equipment and services markets by EC Directive 94/46.

Being a partner of Motorola's Iridium project, Nuova Telespazio also has a strong claim in the new market for mobile satellite services. These include global cellular telephony and data transmission, which use low-orbit mobile satellite systems (Big and Small LEOs, respectively) to provide telephone links and data transmission on an international scale from hand-held terminals independent of earth stations.

In the TV broadcasting sector, spectrum frequencies are allocated by the Government according to national plans which establish both the range of frequencies available for commercial uses and their assignment to individual operators. Current plan provisions merely legalised the situation found at the time the plan was issued, with no attention paid to competition policy issues, such as the possibility of access by new operators and the design of market mechanisms for allocating residual frequencies. The plan allows for only twelve national TV channels, all broadcast through ether. Moreover, the state-owned TV company, Rai, has exclusive rights over live satellite broadcasting, to be provided in collaboration with Nuova Telespazio. In sum, access for private operators to live satellite broadcasting is currently impossible and, given the restrictive regulatory environment, the potential for entry into the domestic market for satellite TV services appears to be extremely limited. At the same time, the liberalised market for small dimension TVRO stations makes it possible to receive satellite TV services aired by European satellite operators. In the future, these could be specifically directed to the Italian market if no restrictive legislation is introduced.

4. Satellite communication policy by the European Commission

In the last five years EC policies have been crucial in redressing distortions to competition implied by national regulations in markets relevant for satellite communications. Significant EC initiatives included the 1990 Green Paper on Satellite Communications and, more recently, Directive 94/46 on the liberalisation of markets for satellite equipment and services.

The Green Paper, adopted by the Commission in November 1990, suggested several priorities to be tackled in order to open up to competition markets relevant for satellite communications. These measures included:

- -- the complete liberalisation of the markets for satellite equipment (including earth stations) and satellite services, through the elimination of exclusive rights in these markets;
- -- the establishment of the right to freely access the space segment, based on transparent and non-discriminatory procedures;
- -- the sharp separation between regulatory functions and service provision in order to eliminate the conflicts of interest which arise when PTOs are also in charge of delivering licenses, setting standards for satellites and earth stations and monitoring their use;
- -- the elimination of the immunity of ISOs from EC competition legislation and other provisions contained in the Treaty of Rome; and
- -- the setting of tariffs for the access to the space segment based on actual costs incurred.

These proposed measures were adopted by the EC in October 1994, when the Commission issued Directive 94/46 which extends to satellite communications the provisions of Directive 88/301, concerning the liberalisation of telecommunication terminal equipment, and Directive 90/388, concerning the opening up to competition of all telecommunication services except voice telephony. Specifically, Directive 94/46 clearly states that participation of member states to ISOs does not constitute a waiver from EC competition law. Moreover, the directive summons member states which are also ISO signatories to take all necessary steps in order to ensure free and non-discriminatory access to the space segment by operators of duly authorised networks of earth stations. Finally, the directive provides for a clear separation between regulatory and service provision functions by stating that the evaluation of projects and the definition of technical standards be precluded to signatories, which are often national PTOs, and be attributed to intergovernmental organisations themselves.

5. Policy priorities

Frequency allocation

In the vast majority of OECD countries, orbits and frequencies, the natural resources on which the satellite industry is based, are currently allocated by international or national regulatory agencies, often under the influence of national PTOs operating in regimes of legal or *de facto* monopoly. While the scarcity of orbits is controversial[6], available frequencies are widely acknowledged to be an increasingly scarce resource. Scarcity of frequencies is partly due to artificial rationing induced by government regulations setting apart a consistent range of frequencies for non-commercial uses. Given the mounting demand for frequencies by telecommunications operators, an overall revision of frequency allocation provisions, including those precluding frequency ranges for commercial uses, seems in order. In this respect, it might be desirable that the Secretariat contribute to the rethinking of frequency allocation procedures by clarifying the economic rationale for such a revision, analysing possible alternatives to existing allocation schemes and surveying the initiatives taken by OECD governments in this field.

In principle, a better allocation of new frequencies made available for commercial uses could be obtained through market mechanisms ensuring real competition among applicants as well as through liberalisation of frequency resale to third parties. Specifically, it would seem crucial to modify the system of fixed-term licensing by allowing some kind of property rights over frequencies. In this way their value would be determined according to economic criteria and, eventually, frequencies would be allocated to operators using them in the most efficient way. This would also reduce risk for investors and would stimulate the development of a full-fledged market within an adequate regulatory framework aimed at preventing excessive concentrations of frequency rights by a single operator[7]. At the same time, licensing procedures could be modified in order to minimise the thorny regulatory problems connected with the need to determine the optimal duration of licenses, given the timing and life span of investments, and the procedures for frequency reallocation at expiry, which would require to separate the value of the license from the value of the company. Recently, the US. regulatory agency Federal Communications Commission has adopted market criteria, based on tender mechanisms, to allocate frequencies for cellular phone and TV services.

At the global or regional level, market mechanisms for the allocation of new available frequencies could be adopted by international regulatory agencies, such as ITU, WARC, RARC and IFRB, provided some frequencies are set apart for services of public interest or services aimed at remote or economically disadvantaged areas and limits are set to the maximum amount of frequencies to be owned by a single operator.

Restructuring of intergovernmental satellite organisations

A fundamental rethinking of the structure and role of ISOs is made urgent by the rapid increase of non-signatory satellite operators, whose activities are often at the global level, and by the changing regulatory environment, which is modifying the rules of the game especially in the EU. The scope for ISOs activities should be reduced, by scaling down both the range of services they supply and the number of satellites they own, and privileges and rules which safeguard their dominant position on the global market should be eliminated.

As in other network services, where changes in technology and demand patterns have often undermined the traditional justifications for the persistence of legal monopolies, both structural measures and modifications in the regulatory framework are needed. Structural measures include privatisation and separation of commercial from public interest activities.

Complete privatisation of ISOs, backed by many private satellite operators, is based on the assumption that all services provided by ISOs can be supplied in a satisfactory way on a pure market basis. For instance PanAmSat, the leading competitor of Intelsat, already provides network connectivity and more advanced business services in developing countries, such as Argentina and South Africa. From this standpoint, the persistence of intergovernmental organisations could not be justified by the need to ensure universal service. In any case, even when universal service obligations are relevant, it is possible to design compensatory mechanisms for the supplier of universal service, which would cover the additional costs incurred in engaging in unprofitable activities. This would preserve the provision of universal service even in a fully competitive environment .

Unbundling commercial from public interest activities of ISOs would entail the survival of smaller-sized intergovernmental organisations supplying only public interest services and the creation of several private operators inheriting ISOs competitive activities[8]. Whether ISOs are completely privatised or just unbundled, it is paramount that ISOs satellite network should be subdivided among several operators, leaving each of them with the minimum amount of satellites needed to provide the services they specialise in. This would prevent the persistence, after privatisation, of significant market power leading to barriers to competition in the market for transmission capacity.

The creation of several private companies providing the commercial services presently provided by the ISOs would make it possible to correct the recent biases affecting their investment decisions. Partly taking advantage of their immunities, exclusive rights and fiscal privileges, ISOs have increasingly tended to switch their supply of services from voice telephony to services characterised by higher uncertainty in the evolution of demand.

Independently of these structural measures, a number of changes in the regulatory framework are in order. First, the present overlap between regulatory agencies and service providers should be eliminated, in order to avoid conflicts of interest and the ensuing distortions to competition. Government officials, unaffected by the vested interests of PTOs, should sit in both international regulatory bodies -- such as ITU, WARC, RARC and IFRB -- and ISO boards, where regulatory decisions concerning the setting of standards and the evaluation of applicants' projects are taken[9]. Second, it is necessary to ensure non-discriminatory access to the transmission capacity of ISOs to all private satellite operators, eliminating both the so-called "consulting procedure" and the right to preclude access to a non-signatory foreshadowed by article XIV of the Intelsat treaty. Third, tariffs charged by ISOs for the use of transmission capacity should be required to be public and should be clearly based on actual costs incurred. Finally, ISOs immunity from national and international competition law should be eliminated, as anticipated by EC Directive 94/46, and their fiscal privileges should be reviewed.

Priorities in Italy

The swift embodiment into national legislation of EC Directive 94/46, which liberalises the markets for satellite equipment and services, should constitute the top priority for the Italian government, given the absolute monopoly position of Telecom Italia in the market for satellite transmission capacity (including access to both the space segment and earth stations) and the dominant position it enjoys, through its subsidiary Nuova Telespazio, in the market for satellite communication services. The failure by the Italian Parliament to approve the relevant legislation, in spite of the expiry of the deadline set by the EC, is delaying the beneficial effects expected from liberalisation.

Even though telecommunication services liberalisation will exclude voice telephony until 1998, the directive liberalises the connection of earth stations to the public switched network. According to the directive, national PTOs would only be allowed to deny such a connection to a private operator when technical and quality standards are not met. Moreover, the directive represents a powerful tool for opening access to the space segment, since it summons member states to remove obstacles and discriminatory provisions barring the use of ISOs transmission capacity to non-signatories. Therefore a quick adoption of the directive by the Italian parliament would lower institutional entry barriers, eventually reducing prices of satellite services for end-users.

It is important to note, however, that adoption of the directive would leave the monopoly position of Telecom Italia largely unaffected in the short- to medium-term. In order to accelerate the beneficial effects of liberalisation for consumers, it is necessary therefore to lay down temporary rules which would facilitate non-discriminatory access by new providers of satellite services to the existing network of earth stations, until markets become truly competitive.

Revising the existing regulatory framework of satellite communications is also urgently needed in view of plans by Telecom Italia to set up a fibre optic cable network at the national level[10]. If plans are implemented and satellite regulations do not change, Telecom Italia would become a monopolist in the market for transmission capacity of both fibre optic cable and satellite. This could lead to significant market distortions and could severely inhibit competition in the telecommunications and TV services markets. Similarly, the monopoly position enjoyed by Telecom Italia in the markets for satellite capacity and voice telephony may prevent access to these services to potential competitors wishing to use satellite communications to create alternative networks for local and long distance telephony after the liberalisation of voice telephony in 1998. Finally, the exclusive right of Telecom Italia to access ISOs space segment, together with the participation of its subsidiary Nuova Telespazio in the Iridium project of global cellular telephony and its dominant position in the domestic market for cellular telephony may constitute significant hindrances to the development of competition in the cellular phone market. Telecom Italia might in fact be able to prevent competitors from entering the market for global cellular telephony.

It is also important to note that the loose connection between tariffs charged by PTOs for satellite transmission capacity and actual costs results in widespread price differentials for end-users across countries, which cause significant market distortions and losses of consumer welfare. In this respect a multilateral agreement with other OECD countries concerning the possibility of resale of transmission capacity to third parties could favour, through international arbitrage, greater transparency and correspondence to costs of capacity prices for final service providers.

Notes

1. Recently the Federal Communication Commission has promoted a public bid for allocating frequency rights at the national level.

2. In addition, since most PTOs are state-controlled, ISOs wishing to raise funds in capital markets enjoy an unfair advantage over private satellite operators due to government guarantees.

3. Before the merger of several state-owned telecommunication companies, which led to the creation of Telecom Italia in 1994, the only ISO signatory for Italy was the company Telespazio, fully owned by Stet and subsequently acquired by Telecom Italia in 1995. In 1992, Telespazio held investment shares in Intelsat, Inmarsat and Eutelsat amounting to 2.5 per cent, 2.8 per cent and 7.3 per cent, respectively.

4. Directive 94/46 is commonly interpreted as excluding from liberalisation live television services.

5. In 1995, Nuova Telespazio also acquired the only Italian producer of VSAT equipment.

6. However, geostationary orbits on heavy traffic areas, such as Northern Atlantic routes, are close to saturation and the prospective development of LEO satellite constellations is expected to cause congestion of low altitude orbits.

7. In practice, such a market already exists, since companies having frequency licenses often change ownership.

8. Non-commercial services should include mainly the so-called PSN services.

9. For instance, in 1988 the British government clearly separated regulatory functions from service provision by replacing BT with a government office, the Signatory Affairs Office, as ISO signatory.

10. Telecom Italia is planning to connect 10 million final users with fibre optic cable by 1998.

UNITED STATES

The Future of INTELSAT: A Competition Policy Perspective

[Remarks of Hon. Christine A. Varney
Commissioner, United States Federal Trade Commission[1]]

1. Introduction

Formed by international treaty in the 1960s, INTELSAT is an intergovernmental joint venture that produces international satellite telecommunications services. Unlike producers of domestic U.S. telecommunication services (including domestic satellites), which are privately owned and operated, INTELSAT is owned primarily by national governments.[2] Unlike U.S. domestic long distance providers, none of which is permitted any special access to bottleneck facilities, INTELSAT has enjoyed exclusive access to the public switched network (PSN) -- the public telephone system -- in most member countries. And unlike domestic providers, which like any other private enterprises are subject to the full array of regulatory, tax, and antitrust institutions, INTELSAT enjoys immunity from them all.[3]

As the market for telecommunications services becomes more competitive, INTELSAT's privileged status has been increasingly called into question -- even INTELSAT itself appears to recognize that the status quo cannot be sustained, as witnessed by its proposals for a major reorganization. Yet, from an economic perspective, the manner in which INTELSAT proposes to reorganize itself appears curious. INTELSAT was created in the 1960s on the implicit premise that international telecommunications services could not, or would not, be supplied by private, for-profit enterprises. Whether that premise was then valid is now hard to determine; what is clear, however, is that it is no longer true. All of the services provided by INTELSAT are now also privately produced. But rather than concluding that this entry negates any need for a state-owned supplier of satellite services, INTELSAT is pursuing means by which it can continue to enjoy at least some of its privileges in the provision of "core" services, while simultaneously expanding into the provision of competitively-supplied services.

In this paper we examine the justification for the privileges and immunities now accorded INTELSAT, and we analyze the key proposals that have been set forth for its reorganization. We conclude that as historically configured, INTELSAT is an anachronism inappropriately structured for the current market for telecommunications services. Moreover, the proposal for reform most favored by INTELSAT -- the "Option 2A" approach, which preserves part of INTELSAT as an intergovernmental organization while "commercializing" the remainder -- is unsatisfactory. It would create the illusion of competition, while preserving an ownership structure that would permit conduct ultimately detrimental not just to rival producers of telecommunications services, but to consumers of those services as well.

2. The Evolving State of Competition for International Telecommunications Services

In reading contemporary discussions of the events leading up to the current state of affairs in international satellite telecommunications, one is struck by the similarity between this sequence of events and the experiences of the U.S. domestic telecommunications market over the previous four decades. To briefly recount the latter events: By the late 1950s, AT&T provided (through its Bell subsidiaries) local switched service to approximately 80 per cent of American telephone subscribers, while retaining a virtual monopoly on long distance service.[4] The Federal Communications Commission (FCC) did not regulate individual rates; rather, as long as AT&T's aggregate rate-of-return fell within acceptable limits, the FCC would find them "reasonable."[5] The result of this policy was a highly inefficient rate structure, with

politically-attractive uniform geographic rates that failed to reflect the substantial economies of traffic density inherent in the production of telecommunications services.

Then, in 1959, the FCC authorized private microwave carriage, which allowed large customers to bypass AT&T's long distance service. This decision had two effects. First, it precipitated the filing of AT&T tariffs that embodied huge discounts to large private customers. Secondly, it created pressure for the FCC to authorize common carrier provision of private line services, pressure to which it succumbed in 1960 when it authorized MCI to offer these services. It is noteworthy, as Crandall has observed, that the FCC justified its MCI decision "on the dubious premise that the new service was unique and would not compete importantly with AT&T's bread-and-butter: switched-voice, long distance services."[6] Shortly thereafter, the FCC authorized the entry of "specialized" common carriers, which were to provide mainly data services to smaller companies.

AT&T responded to this competition in a number of predictable ways.[7] In addition to selectively cutting prices to large private line customers, it also sought to reduce rates on dense, low-cost routes, and resisted interconnecting MCI to the AT&T network when such interconnection was necessary to provide a switched service. AT&T also sought legislative and regulatory protection from MCI's incursions. When accused by the Department of Justice of monopolizing long distance service, AT&T argued that long distance telephony was a natural monopoly, and that entrants were socially inefficient "creamskimmers" that undermined AT&T's ability to satisfy, through cross-subsidization, its socially beneficial universal service obligations.[8]

Consider now the history of INTELSAT. INTELSAT spent the first of its fifteen years as a virtual monopolist in global satellite communications. Inter- and intramodal competition was virtually nonexistent. Like the old AT&T, INTELSAT sold services at "globally averaged" rates that did not fully reflect cost (*e.g.*, economies of density) and demand (*e.g.*, price elasticity) considerations. But soon cracks began to appear in INTELSAT's monopoly.

First, in the early '70's the U.S. actively supported a procompetitive "open skies" policy for domestic satellite communications, explicitly eschewing an INTELSAT-like monopoly market structure. The program successfully created a competitive domestic satellite market, suggesting to customers and potential entrants the feasibility and desirability of international satellite competition.[9]

Second, trans-Atlantic underwater cable capacity increased substantially during the 1980s, taking away a considerable amount of INTELSAT's business on point-to-point interactive services (*e.g.*, telephony) on high density routes.

Third, several private satellite owners sought, and obtained, permission to connect Europe and South America to North America, INTELSAT's opposition notwithstanding. Though these carriers were prohibited from providing services requiring access to the U.S. PSN, they nonetheless compete for a significant share of INTELSAT's nonswitched business.

The parallels with AT&T are striking. Both AT&T and INTELSAT started out as (multiproduct) monopolists, using an inefficient uniform rate structure that likely embodied cross-subsidies.[10] Like AT&T, INTELSAT initially began to face competition on a small subset of customers and services, to which it responded with deep, highly selective price cuts to price elastic customers on dense routes (which, as might be expected, elicited vociferous complaints from rivals[11]). Like AT&T (but with far greater success), INTELSAT attempted to forestall entry into services that required access to the public switched network. Like AT&T, INTELSAT characterized itself as a natural monopolist vulnerable to creamskimming entry from firms without INTELSAT's "public interest" obligations. Last, just as entrants initially were permitted to compete with AT&T only for "non-core" (i.e., nonswitched) services, entry by separate satellite systems was permitted only because INTELSAT believed that it would present no competition for INTELSAT's core switched services.[12]

AT&T's attempts to defend its dominant positions in the markets for customer equipment and long distance ultimately proved unsuccessful, and in retrospect it is now clear to many observers that all of AT&T's rationalizations for its protected position were without merit. Both of these markets are now considered competitive,[13] and the one remaining pocket of monopoly power in domestic telecommunications -- the local exchange -- may some day succumb to the forces of competition. As we shall argue below, INTELSAT's current position is equally difficult to defend.

The analogy with AT&T is neither complete or perfect, however. One important distinction between the two cases arises from the fact that INTELSAT receives a large and growing share of its revenues from nonswitched services (*e.g.,* video transmission) for which cable does not constitute a competitive alternative to satellites. This distinction has important policy implications. In the AT&T case, because access to the local exchange was seen as the principal barrier to entry of new long distance providers, it was deemed sufficient to separate AT&T from the Bell operating companies (and also eliminate any other means by which AT&T might maintain preferential access to the local exchange), thereby creating a "level playing field" for other providers of long distance service. In the case of INTELSAT, vertical separation of INTELSAT from the national telephone monopolies also is an important means for increasing the amount of competition for switched services. This policy, however, will not help increase the number of competitive alternatives for nonswitched services. To create more competition in this market segment, it may be necessary to go beyond the remedy adopted in AT&T by breaking up INTELSAT into two or more privately-owned competing entities.

Justifying INTELSAT's Entry Barriers

Since its creation in the mid-1960s, INTELSAT has enjoyed considerable protection from entry by competing sellers of international telecommunications satellite services. These protections arise from two principal sources. First, Article 14(d) of the INTELSAT Operating Agreement requires all parties to the INTELSAT agreement to consult with INTELSAT's Assembly of Parties before they allow non-INTELSAT satellites to operate. Among other things, the entrant must demonstrate that it will not impose "significant economic harm" on INTELSAT. The way in which this clause has been interpreted has changed over the years, and its current interpretation is not as inhospitable to competition as it once was.[14] Nonetheless, as will be discussed below, the provisions of Article 14 still provide INTELSAT with the means to impede competitive entry.

Second, a new entrant wishing to provide service between, say, the U.S. and a European country may find itself unable to provide those services which account for a large share of INTELSAT's revenues. Under U.S. policies promulgated in the mid-1980s (known as the "Separate Satellite System Policy," (SSSP), competitors to INTELSAT wishing to serve U.S. consumers may only do so for those services that *do not* require access to public switched networks (i.e., the public telephone system). For reasons discussed below, other INTELSAT signatory nations also likely have similar restrictive interconnection policies regarding their switched networks. This is a formidable entry constraint, for it protects INTELSAT from competition on services which account for over half its revenues.[15]

INTELSAT's ability to restrict entry that would inflict "significant economic harm" on it appears, on its face, to be irreconcilable with the basic principles of competition policy, the goal of which is to protect competition, not competitors. The necessity of protecting INTELSAT from free entry may also seem inconsistent with the assertion that INTELSAT is a natural monopoly. One might wonder why firms would wish to enter a market when they would suffer a cost disadvantage relative to the incumbent. In principle, however, a condition could exist -- known as "unsustainable natural monopoly" -- wherein entry would harm both INTELSAT and society.[16]

Unsustainability can arise either from cost or regulatory considerations.[17] In principle, unsustainability could justify entry restrictions. But even here, the case for restricting entry applies with full force only when there are no sunk costs associated with entry into a market. Otherwise, the

nonsustainability of the natural monopoly may only mean that the incumbent cannot fully exploit the advantages conferred on it (relative to the entrant) by the existence of the sunk costs.[18] The incumbent may still be able to set a price that allows it to cover its costs and deter entry; this price may well be substantially below the price the monopolist would charge if it enjoyed regulatory protection from entry. This could be an important point to bear in mind in the present context, because a substantial portion of the costs of satellite communication may be sunk once the satellite is placed into orbit. [19]

Second, as Vickers and Yarrow note, "the vested interests of incumbent firms are such that they should bear a heavy burden of proof when arguing for restrictions on entry." Firms should not be shielded from entry simply because of the theoretical possibility of unsustainability -- they must be required to demonstrate the presence of unsustainability to a skeptical audience.[20]

Nonsustainability becomes an issue, of course, only when the presence of natural monopoly first has been demonstrated convincingly. The standard method for addressing this issue is to estimate the monopolist's cost function and conduct tests for cost subadditivity. [21] Typically, this is far easier said than done. Fortunately, though, one can sometimes derive information that is useful to policymakers from these limited data. Subadditivity can be ruled out if it can be shown that the necessary conditions for subadditivity are not satisfied.[22] The sustainability issue then would be rendered moot, and a stronger case made for exposing INTELSAT to the rigors of free entry.

Waverman[23] and Neven, Röller, Waverman[24] provide an insightful discussion of the cost characteristics of satellite services. As they note, each satellite can be viewed as a "plant"; a relevant policy issue is whether there are scale economies from "multiplant" (i.e., multiple satellite) operations.[25] Neven *et al*. identify several possible sources of economies from multi-satellite operations. First, once aloft, satellites must be monitored and controlled continuously to maintain their geosynchronous orbits. A single orbit control station can control up to five satellites.[26] Second, satellite operations exhibit what are sometimes called "economies of massed reserves." This refers to the necessity of holding reserve capacity to protect against service interruptions from equipment breakdown. According to Neven *et al*., if a firm operated only one satellite, half its capacity would be held in reserve in case of transponder failure; with more than one satellite in operation, "the optimal percentage of transponders held in reserve falls but reaches a steady state once at least six satellites are jointly controlled."[27] Neven *et al*. also note that the mixture of services produced by a satellite has a significant impact on total costs (both fixed and marginal), even on a standardized satellite. For example, telephony is less costly than video, while "very small aperture terminals" (VSAT) services are more costly than both telephony and (one-way) video transmission.[28]

The best, and most recent, econometric study of satellite costs was performed by Neven *et al*. using annual data on INTELSAT for the period 1967-89. Neven *et al*. estimated a translog cost equation that explains total operating cost as a function of the number of satellites in the system, prices of capital and labor, capacity utilization, and time. They find little evidence of substantial of scale economies, concluding (p. 413) that "economies of scale are exhausted at modest levels of operations." In contrast, earlier studies by Snow claimed to have found such evidence.[29] Snow's estimates suffer from several serious methodological drawbacks, however, that undermine the plausibility of his findings.[30] Overall, the evidence supporting INTELSAT's claim to natural monopoly status is, at best, weak and equivocal. If we accept Vickers' and Yarrow's argument that firms seeking governmental protection from entry should bear a heavy burden of proving that such restrictions would benefit society, we do not believe that this burden has been met.

The absence of compelling evidence that INTELSAT is a natural monopoly renders moot the sustainability issue, and suggests that the market for international satellite communication services should be presumed capable of supporting several independent competitors without loss of productive efficiency. Are there any remaining arguments, then, in favor of maintaining INTELSAT in its present form? The rationale most likely to be offered is a variant of the "creamskimming" argument presented earlier. The

most recent INTELSAT policy statement -- the *Report* of the INTELSAT 2000 Porlamar Working Party (*IPWP Report*)[31] -- reiterates INTELSAT's commitment to provide "services to all countries on a non-discriminatory basis and ensure retention of [the] commitment to the principle of universal service."[32] Without some form of protection from unrestricted competition for its core "public switched network" telephony services,[33] the argument would go, INTELSAT would be unable to satisfy its universal service commitment because "creamskimming" entry into profitable services would deprive INTELSAT with the revenue necessary to cover the costs of providing nonremunerative services.

In evaluating this argument, several preliminary observations are in order. First, the threat of lost service to socially meritorious consumers is a familiar suggestion, having been raised in defense of entry protections in numerous previous instances. As noted earlier, AT&T argued that entrants were socially unproductive creamskimmers that deprived AT&T of its ability to undertake socially desirable cross-subsidization. But the argument also was made in defense of restricting entry into competitive markets. This argument played a prominent role in the creation of pervasive entry regulation established by the U.S. Motor Carrier Act of 1935.[34] Free entry into airline markets was similarly condemned,[35] as was entry into electricity generation.[36]

As we now know, history has revealed these dangers to be exaggerated. Most of the empirical scholarship on transportation deregulation shows enormous benefits from unregulated competition.[37] Indeed, there is evidence that the welfare of smaller communities actually improved after deregulation because of the increases in productive efficiency brought about by deregulation.[38] Electricity generation also is now believed to be increasingly competitive.[39]

The unfulfilled predictions of cataclysmic service loss that accompanied previous deregulatory initiatives should give one ample basis for skepticism about asserted losses of "lifeline" satellite services to poor nations should INTELSAT become fully subject to competition. We do not question that there is merit in the concept of universal service. Expanding the size of a communications network can be beneficial to all members of the network by providing additional communications opportunities. To the extent that a subsidy is necessary to attain a network of efficient size, one could perhaps justify a set of cross-subsidies.[40] But some analysts have in fact questioned whether INTELSAT is providing a net subsidy to Third World countries. Hahn and Krozner, for example, claim that numerous studies of INTELSAT's pricing behavior (including one commissioned by INTELSAT itself) have failed to demonstrate the existence of this subsidy.[41] As Mueller observes, the use of globally averaged rates can result in a subsidy from thin to thick routes when, for example, the costs of technologically sophisticated equipment used only on thick routes is recovered (in part) from higher tariffs on thin routes.[42] Perhaps more compelling is that one of INTELSAT's principal privately-owned rivals -- PanAmSat -- entered not by serving the dense (and presumably highly profitable) North Atlantic routes, as is predicted by the standard creamskimming argument,[43] but rather by establishing service between the United States and South America.[44]

But even assuming otherwise -- that INTELSAT does provide a subsidy to certain classes of customers considered "meritorious" by some criteria -- the question remains whether a system of cross-subsidies funded by implicit excise taxes on some INTELSAT users is the best means for doing so. There are good reasons why one should consider this the least preferred method. Most economists would argue that a "good" system of taxation should, among other things, (1) minimize the allocative distortions induced by the tax; and (2) facilitate political responsiveness -- that is, the system "should be designed so that individuals can ascertain what they are paying so that the political system can more accurately reflect the preferences of individuals."[45] The existing method fares poorly by these criteria. First, by raising the prices charged to certain customers for certain classes of service above the marginal or incremental cost of providing those services, the current method causes some potential users of INTELSAT's services to use less efficient communication modes, and possibly to forego some consumption of telecommunications services altogether, even though these users would value INTELSAT's services more than it would cost INTELSAT to produce them. From an economic perspective, this would be a direct loss in economic

welfare.[46]

The second problem with the current system is its lack of transparency. One can argue that if the citizens of one country are asked to subsidize the consumption of telecommunications services in another, the former are entitled to know the magnitude of the proposed subsidy, and the identity of the proposed recipients, so that they can determine for themselves whether or not they wish to supply it. Such a determination is impossible under the current system. No one has been able to identify the recipients of these subsidies, nor does anyone know how much income is being transferred.[47] Moreover, because these higher prices for INTELSAT's services frequently are incurred by business users, the ultimate incidence of these implicit taxes (as manifested in higher prices for the goods and services that these business users sell to final consumers) is impossible to trace. If INTELSAT's pricing structure is providing a cross-subsidy, it is quite possible that its providers are unaware of its existence and magnitude. Explicit subsidies, by contrast, would make conspicuous what would otherwise be implicit taxes whose effects are hidden from policy makers and the public. When subsidies are explicit, voters are better able to weigh rationally the costs and benefits of transferring income to selected consumers. [48]

3. Proposals for a Restructured INTELSAT

In light of the preceding, how should one evaluate the current proposals for the reform of INTELSAT? The *IPWP Report*, noting the trend towards increased liberalization of telecommunications markets, and the growing extent of competition from cable and other satellites, considers options ranging from retention of the status quo (with minor changes), to privatization coupled with disintegration. The *Report* ultimately favors what it terms "Option 2A," which essentially would divide INTELSAT's assets into two groups. Some of these assets would be reserved for so-called "lifeline" services under the control of an INTELSAT with an unchanged ownership configuration (i.e., as an intergovernmental organization, or IGO), and a "commercialized" subsidiary (with a large but declining INTELSAT ownership share[49]) to compete aggressively in the markets for competitively-supplied services. The *IPWP Report* provides few additional details about how (if at all) the IGO INTELSAT's asset and management structure would be kept separate from those of the "commercialized" affiliate.

Option 2A is unsatisfactory from a competition policy perspective, especially because it would tend to preserve a situation where an IGO would maintain a controlling interest in a commercial affiliate. To see better why this is objectionable, it is instructive once again to revisit the United States' experience with domestic telecommunications antitrust and deregulation. The central feature of the Department of Justice settlement with AT&T was the complete separation of the regional Bell monopolies from AT&T, coupled with a restriction prohibiting the regional Bell monopolies from entering markets for unregulated services such as long distance and "customer premises equipment." The purpose of this restriction was to prevent the price regulated Bell monopolies from adopting strategies that would allow them to evade regulatory controls and set monopoly prices.[50] Two such strategies generally are available to regulated monopolists: The first of these is "tying/discrimination," in which the monopolist conditions purchase of the regulated service on the purchase of an unregulated product or service; the second is "cost misallocation/cross-subsidization," in which a regulated monopolist inflates its rate base, and thus its regulated price, by including in it the costs of providing the unregulated services. In the "tying" scenario, the monopolist bundles the regulated and unregulated products, selling the bundle at a price equal to the price that would have prevailed absent price regulation. The monopolist often can accomplish the same result by granting its affiliate preferential access to the monopolized input. For example, had the Bell companies been allowed to offer long distance service post-divestiture, they could have granted their long distance subsidiary superior access to the local exchange, thereby allowing them to profitably raise the price of long distance services.[51]

As Stiglitz *et al*. point out,[52] similar incentives may exist in the case of INTELSAT and its Signatories, the postal, telephone, and telegraph (PTT) monopolies that exist in most member countries and

which have exclusive INTELSAT access rights.[53] Just as a Bell operating company with a long distance subsidiary would have had an incentive to discriminate against nonaffiliated long distance providers, so too might a regulated PTT discriminate against non-INTELSAT satellite providers in order to raise the price of unregulated satellite services. Alternatively, a PTT subject to cost-of-service regulation might artificially inflate the costs of INTELSAT's services, and thereby the base on which its allowed rate-of-return is calculated.[54] Not only would this strategy raise the price of the regulated service, but, as Brennan notes, it can cause a distortion in the market for the competitively-supplied services, as efficient private suppliers are displaced by the less efficient monopolist.[55] As Stiglitz *et al.* observe, this pattern of cross-subsidization -- from the regulated "core" services to the unregulated competitive services -- would seem particularly perverse, given that the ostensible rationale for the perpetuation of INTELSAT as an IGO is the subsidization of the "core" (or "lifeline") services.[56]

The implications of the preceding are that: (1) INTELSAT should be completely privatized; and (2) the ownership interests of its current owners -- the signatories -- should be attenuated, if not eliminated outright (especially for the commercialized affiliate).[57] Privatization would mean that INTELSAT would relinquish some of its artificial advantages vis a vis private competitors -- in particular, its exemption from taxation,[58] and its ability to obtain investment funds outside of ordinary competitive capital markets. The question remains, however, whether this alone would be sufficient to ensure competitive performance in the relevant markets.

As currently configured, INTELSAT enjoys a number of advantages that, left unchanged, would allow it to exercise market power even if it surrendered the advantages noted above.[59] If left intact, a privatized INTELSAT would still control a large share of the existing transponder capacity on the major international satellite routes and a large number of scarce geo-orbital slots.[60] The latter is an important entry constraint. In its absence, INTELSAT could face competition not just from newly launched satellites, but from private satellites (such as those now serving domestic markets) relocated from other orbital positions.

These problems have led many INTELSAT critics to suggest that INTELSAT be broken up into several smaller carriers. The best available cost estimates suggest that INTELSAT could be horizontally disintegrated into systems of five to eight satellites at a very small cost penalty.[61] If this step is carried out, the particular manner in which the divestiture is carried out is important. As noted by Waverman and by Priest,[62] competition would be enhanced little if INTELSAT were broken up regionally, as this would merely replace a global dominant firm with a series of smaller regional dominant firms. Once again it is instructive to draw upon the lessons of U.S. antitrust policy. In a famous monopolization case -- *Standard Oil*[63] -- the remedy also created a series of regional monopolies, even though this outcome was in no way dictated by technological considerations.[64] Rather, it was merely an error in judicial policymaking.[65]

It is important that any attempt to privatize INTELSAT avoid the *Standard Oil* mistake.[66] Accordingly, something along the lines suggested by Waverman -- *e.g.*, breaking up INTELSAT into three independent global entities, each having three to four satellites over the Atlantic, one-two over the Pacific, and one-two over the Indian Ocean -- seems to offer far greater prospects for competition than any other plan yet offered.

4. Concluding Observations

Substantial progress has been made towards liberalization of international telecommunications markets. The easing of the "economic harm" test for separate systems, and the elimination in 1997 of the U.S. public switched network interconnection ban for those systems, will move us much closer to a truly competitive market. Yet barriers still remain -- and competition policy could contribute much towards their elimination. Principal among these barriers are PSN interconnection bans or impediments in non-U.S. markets. The elimination by the U.S. of its PSN interconnection ban only solves half the problem -- a

separate satellite system wishing to connect the U.S. to another country obviously must have interconnection rights on both ends. The analysis presented earlier suggests that one should not necessarily expect monopoly PTTs to grant such rights without a struggle -- the solution may require a diligent and determined effort by national competition authorities. But if the U.S. experience with telecommunications competition is any guide, it is an effort well worth making.

Notes

1. The assistance of the following members of the FTC's Bureau of Economics is gratefully acknowledged: Jonathan Baker, Michael Vita, Ronald Bond, Denis Breen, and Paul Pautler.

2. The U.S. share in INTELSAT is held by COMSAT, a corporation created by Congress in 1962. Although COMSAT is a privately-owned commercial entity, it must comply with the official instructions of the U.S. government when exercising its voting rights in INTELSAT.

3. Friedan, "Should INTELSAT and INMARSAT Privatize?," *Telecommunications Policy* 18 (1994), 679-86, p. 682. Some authors have suggested that INTELSAT's status as an IGO may confer upon it a comparative advantage in obtaining desirable orbital slots from the International Telecommunications Union, the U.N. organization that allocates spectrum internationally. *See* Field, "INTELSAT At a Crossroads," *Law & Policy in International Business*, 1994, 1335-66, p. 1363.

4. Crandall, *After the Breakup*, 1991, pp. 8-9.

5. Crandall, *supra* note 4, p. 23. According to Crandall, until AT&T began to confront competition, its tariff filings seldom required the FCC to determine whether any of its individual rates were "just and reasonable"; as he notes, although the uniform rates requested by AT&T probably were economically inefficient, they were "politically reasonable" (*i.e.*, few customers complained). However, once emerging competition compelled AT&T to make selective discounts on now-competitive services, the FCC found that it was unable to "satisfy itself that any of the tariffs was justified. The FCC could not devise a satisfactory method for determining the costs of individual services, and AT&T could not or would not provide the data that would allow the FCC to conclude that any single tariff was justified." Crandall, *supra* note 4, pp. 19-20.

6. Crandall, *supra* note 4, p. 20.

7. *Supra* note 4, p. 21.

8. AT&T had argued that "[t]he Bell System's fundamental defense is that defendants' behavior reflects not a continuing course of conduct to monopolize any market but instead a good faith effort to . . . compete fairly and thereby mitigate the creamskimming effects of new entry in segments of the market that have been opened to competition and to refuse to become a party to the expansion of creamskimming into segments of the market where responsible regulatory agencies have not yet certified entry to be in the public interest." AT&T, *Defendants' Third Statement of Contention and Proof, U.S. v. AT&T*, quoted in Brock, "Creamskimming," in Evans, ed., *Breaking up Bell*, 1983, 61-94, p. 62.

9. In 1986 there were eight independent U.S. domestic satellite entities. This number had fallen to four by 1991, principally because of mergers and acquisitions. *See* OECD, *Satellite Communication: Structural Change and Competition*, October 1993, p. 39.

10. As discussed below, however, the directions of the cross-subsidies created by this pricing structure are not always as one might predict.

11. Hahn and Krozner, "Lost in Space: U.S. International Satellite Communications Policy," *Regulation (The Cato Review of Business & Government)*, Summer 1990, 57-66.

12. Orion, for example, was permitted to provide trans-Atlantic satellite services only after the United States and Great Britain assured INTELSAT that Orion would offer only a very limited and specialized set of services.

13. On October 12, 1995, the FCC found that AT&T lacks market power in the interstate, domestic, interexchange telecommunications services market, and therefore concluded that continued regulation of AT&T as a dominant carrier is no longer necessary or appropriate. The FCC found that, while the domestic, interstate, long-distance market is not perfectly competitive, AT&T neither possesses nor can exercise individual market power within that market as a whole. In evaluating whether AT&T possessed market power within the relevant product and geographic market, the FCC considered AT&T's market share, the supply elasticity of the market, the demand elasticity of business and residential customers, and AT&T's size and resources. Based on its review of the record, the FCC concluded that AT&T's competitors in this market possess, or could quickly acquire, the capacity needed to take away enough business from AT&T to make unilateral price increases by AT&T unprofitable.

14. The "economic harm" test has been eliminated for any systems not connected to the public switched network; for those that are connected, the economic harm test applies only to systems with more than 1,250 circuits. This threshold was to have been raised to 8 000 circuits in 1995. *See Testimony of Reed E. Hundt*, Chairman, Federal Communications Commission, Before the House Subcommittee on Telecommunications, On the Global Information Infrastructure and the Role of Satellites, July 28, 1994.

15. Mueller, "INTELSAT and the Separate System Policy: Toward Competitive International Communications," *Cato Institute Policy Analysis No. 150*, March 21, 1991, p. 4. As discussed further below, the U.S. unilaterally has taken steps towards increasing competition by deciding to eliminate by 1997 any restrictions on PSN access by separate systems. *See* Frieden, "Should INTELSAT and INMARSAT Privatize?," *Telecommunications Policy* 18 (1994), 679-86, p. 682. But the inability of satellite entrants to obtain "landing rights" in other countries might still present a formidable entry constraint. The importance of this constraint was succinctly articulated in a recent interview with Michael T. Smith of Hughes Electronics Inc. regarding INMARSAT-P (*Space News*, October 9-15, 1995, p. 22). When asked why the INMARSAT-P will be successful against other satellite competitors (such as Iridium and Globalstar), Mr. Smith said that "there are other factors besides [satellite system] cost and quality that you have to look at when you have a world-wide system. Which one of these systems offers the most opportunity to have the proper landing rights in various communities? With the kind of signatories INMARSAT has, you have an advantage over other systems. We are going to be able to operate in a lot of places where some other systems will not be able to get in. There is a competitor to INMARSAT-P that is having a hard time because they do not have the right to operate everywhere they want."

16. *See* Baumol, Panzar, and Willig, *Contestable Markets and the Theory of Industry* Structure, 1982, pp. 192-3. For examples of some sources of unsustainability, *see* Baumol *et al.*, pp. 29-32, Sharkey *The Theory of Natural Monopoly*, 1982, pp. 88-89; and Brock and Evans,

"Creamskimming," in Evans, ed., *Breaking Up Bell*, 1983, 61-94, pp. 69-76.

17. Two possibilities seem potentially relevant here: (1) the monopolist sells multiple products, each characterized by strong product-specific scale economies but weak scope economies, or (2) regulations oblige the incumbent, but not entrants, to serve all customers at uniform prices. In the former case, specialized entrants can profitably exploit the product-specific scale economies (even though their entry raises total production costs); in the latter, creamskimming (inefficient) entrants enter only the market in which prices exceed average cost, thus depriving the incumbent of the revenues necessary to cover the costs of serving the particular favored customers. Baumol *et al.* (*supra* note 16, p. 476) provide the example of where cross-subsidies are deliberately imposed "to benefit groups considered particularly meritorious (*e.g.,* 'lifeline rates' for the elderly or geographic rate averaging that benefits isolated communities which are particularly expensive to serve.)"

18. When entry requires the creation of market specific assets, "the nonsustainability of natural monopoly means that a monopoly cannot find prices that permit it to earn rent equal to the [sunk] entry costs and prevent wasteful entry simultaneously. But that does not preclude the possibility that a natural monopoly can find prices that yield a slightly lower rent and leave it vulnerable to entry. In such a case, despite the unsustainability, the threat of entry may still force the monopoly to behave better than it otherwise would have." Baumol *et al*., *supra* note 16, p. 221. Baumol *et al.* (p. 222) take pains to "deny emphatically that [their] analysis is intended to support restrictions on freedom of entry -- a conclusion that [would be] virtually the reverse of the truth. Our analysis, if anything, should lend itself to interpretation as a powerful argument for freedom of entry . . . we feel that cases in which entry may lead to some social inefficiency should not be taken to tilt the scale against the presumption that freedom of entry is socially beneficial."

19. Assessing the degree of asset specificity associated with a satellite operation requires a bit of care, however. Although a telecommunications satellite obviously is highly specific piece of capital equipment, it is not necessarily specific to any particular geographic market (*e.g*., the trans-Atlantic region). According to some authors, INTELSAT and other satellite operators frequently relocate their satellites to other orbits (*see* Rourk, "Analysis of the Technical and Economic Issues Raised in the Consideration of International Telecommunications Satellite Systems Separate From INTELSAT," *Federal Communications Law Journal* 46 (1994), 329-46, p. 337). Such relocation is not costless, however. To relocate, a satellite must burn fuel that is necessary to maintain its geostationary orbit, thereby reducing its effective life. Also, new satellite locations often will require new earth stations.

20. Vickers and Yarrow, *Privatization (An Economic Analysis)*, 1988, p. 58.

21. When a firm produces several products, it becomes very difficult to determine whether the firm is a natural monopoly. This difficulty arises because multiproduct production makes costs dependent upon the mix, as well as the quantities, of the different products produced. The theoretical literature on multiproduct natural monopoly has developed a set of necessary conditions and sufficient conditions that must be satisfied if it is to be concluded that an industry is a natural monopoly. There is also a set of necessary conditions and sufficient conditions to establish whether a natural monopoly is sustainable. Whether the necessary conditions and sufficient conditions for the existence of a natural monopoly are satisfied in any given industry can, in principle, be assessed empirically via the estimation of cost functions. However, the data requirements for conclusively determining whether an industry is a sustainable natural monopoly are formidable. Specifically, to establish subadditivity of the cost function, a researcher would require enough data to estimate the properties of a cost function over a wide range of possible output levels. In practice, the investigator will only have data on the output levels that the firm has actually produced.

22. It is relatively easy to evaluate whether the conditions necessary for natural monopoly are present; it is far more difficult to establish the presence of sufficient conditions for natural monopoly. *See* Evans and Heckman, "A Test For Subadditivity of the Cost Function With An Application to the Bell System, *American Economic Review* 74 (1984), 615-23.

23. Waverman, "It Takes Two to Tango: The International Marketplace for Telecommunications, Why Bilateral Relationships Dominate, and What to Do About It," *AEI Studies in Telecommunications Deregulation Working Paper*, June 1995.

24. Neven, Röller, and Waverman, "Sunk in Space: The Economics of the European Satellite Industry and Prospects for Liberalization," *Economic Policy (A European Forum)* 17 (1993), 402-32.

25. These scale effects must be distinguished from what they term economies of "fill" (usually referred to in the literature as economies of density), which refers to the fact that the unit costs of operating a satellite will fall as the satellite is more intensively used. As Neven *et al*. emphasize, these "fill" economies have no relevance to the current debate, since any satellite, whether operated separately or jointly with other satellites, will exhibit them.

26. Neven *et al*., *supra* note 24, p. 408.

27. Neven *et al*., *supra* note 24, p. 408.

28. VSAT refers to non-voice services used for point-to-multipoint, multipoint-to-point, and multipoint-to-multipoint services.

29. Snow, "National Monopoly in INTELSAT: Cost Estimation and Policy Implications for the Separate Systems Issue," *Telematics and Infomatics*, 1987; "An Economic Issue in International Telecommunications: National Monopoly in Commercial Satellite Systems," in Macauley, ed., *Economics and Technology in U.S. Space Policy*, 1987.

30. First, the quality of his data was highly questionable. Total cost could not be measured directly, but was instead proxied by total operating income. Income will not measure costs accurately when the seller has considerable monopoly power, as INTELSAT almost surely did during the estimation period. Also, output could not be measured directly; instead, Snow use data on capacity. Capacity is a poor proxy for output when substantial excess capacity is present, as was the case for INTELSAT during the sample period.

    Perhaps as a consequence of these problems, Snow's findings are not persuasive. First, his estimates of the scale elasticity seem implausibly large. Second, as Neven *et al*. note, Snow's cost function appears misspecified, in that his regression specification does not allow him to differentiate between "fill" economies and multi-satellite scale economies, causing him to misclassify the former as the latter. This is common error that has plagued cost analysis in other regulated industries. For example, Braeutigam *et al*. (p. 4) observe that most estimates of railroad cost functions fail to distinguish between scale and density economies. *See* Braeutigam, Daughety, and Turnquist, "A Firm Specific Analysis of Economies of Density in the U.S. Railroad Industry," *Journal of Industrial Economics* 33 (1984), 3-20. Braeutigam *et al*. note that "the distinction between the two is crucial since economies of density neither imply, nor are implied by, economies of size in cost function estimation.

    It should be pointed out, however, that the Neven *et al*. estimation method is not free from flaws either. Neven *et al*. commit a error common to many published cost function estimates in that they include both an output measure and a capacity measure on the right-hand-side of the cost equation, interpreting the parameter corresponding to the output variable as the short-run "density"

effect, and the capacity parameter as the long-run "scale" effect. Strictly speaking, this is not a valid inference. Including a capital stock input (or, more generally, a fixed input) on the right hand size of the cost equation, the analyst is really estimating a short-run total cost function, not a long-run cost function. A true long-run cost function is written as a function only of output and input prices, not input levels. Interpreting the capital stock parameter as a measure of long-run scale effects implicitly assumes that the capital stock is always at its long-run equilibrium value. If it is not, then the appropriate method for deriving the long-run cost function is to estimate a variable cost function, and then construct the "envelope" of these functions using price data on the fixed factor (in this case, the satellites and earth stations). (For a general discussion of these estimation issues, *see* Cowing, Holtmann, and Powers, "Hospital Cost Analysis: A Survey and Evaluation of Recent Studies," in Scheffler and Rossiter, eds., *Advances in Health Economics and Health Services Research*, 4 (1983), p. 65). *Also see* Braeutigam and Daughety, "On the Estimation of Returns to Scale Using Variable Cost Functions," *Economics Letters* 11 (1983), 25-31. For an example of this procedure, *see* Braeutigam *et al*., *supra* note 30.

31. *Report* of the INTELSAT 2000 Porlamar Working Party to the Twentieth Assembly of Parties, June 27, 1995.

32. IPWP *Report*, p. 2.

33. According to the IPWP *Report* (p. 19), INTELSAT receives most of its revenues from international PSN and international and domestic video services.

34. Authors of the statute argued that "[t]he contract carrier may differ from the common carrier only in the fact that he undertakes to skim the cream of the traffic and leave the portion which lacks the butterfat to his common-carrier competitor. Obviously such operations can have very unfortunate and undesirable results." *Report of the Federal Coordinator of Transportation, 1934*, quoted in Kahn, *The Economics of Regulation (vol. II)*, 1971, pp. 8-9.

35. In 1955 Tipton and Gerwitz (quoted in Kahn, *supra* note 34, p. 9) contended that without entry limitations, "the quantity of service and the extent to which service has been provided to different and less populated areas of the United States would have been curtailed substantially. Or, to put it differently, an overwhelming majority of the cities to which the airlines provide service just do not generate enough traffic to warrant operations if air transport were not regulated and was subject only to the 'rules' of the free marketplace . . . [were entry and exit to be deregulated], the industry would abandon service to roughly some 500 of the cities to which it is now certificated, and operate only between the 50 most profitable pairs of points."

36. *See* Brock and Evans, *supra* note ?, p. 62.

37. *See, e.g.*, Morrison and Winston, "Enhancing the Performance of the Deregulated Air Transportation System," *Brookings Papers on Economic Activity* (1989), 61-123. *Also see* Ogur, Wagner, and Vita, "The Deregulated Airline Industry: A Review of the Evidence," *FTC Bureau of Economics Issues Paper*, January 1988, p. 12; and Owen, "Deregulation in the Trucking Industry, *FTC Bureau of Economics Issues Paper*, May 1988, pp. 8-10.

38. *See* Beilock and James, "Deregulated Motor Carrier Service to Small Communities." *Transportation Journal* (Summer 1984); and Beilock and James, "Florida Motor Carrier Deregulation: Perspectives of Urban and Rural Shippers/Receivers." *American Journal of Agricultural Economics* 66 (1984), 91-98.

39. *See* Federal Energy Regulatory Commission *Notice of Proposed Rulemaking* in the Matter of Promoting Competition Through Open Access, FERC Dkt. Nos. RM95-8-000 and RM94-7-001, *Federal Register*, p. 17662, April 7, 1995.

40. Whether a set of subsidies is necessary to attain a network of efficient size is open to question, however. As noted by Stiglitz, Schwartz, and Wolff ("Towards Competition in International Satellite Services: Rethinking the Role of INTELSAT," Council of Economic Advisers, Washington, D.C. 20500, draft, June 1995, p. 15), private providers should be able to internalize such externalities by operating in all countries.

41. Hahn and Krozner, *supra* note 11. Johnson ("The Future of INTELSAT in a Competitive Environment," *RAND Note N-2848-DOS/RC*, December 1988, pp. 45-46) observes that although it is generally assumed that subsidies flow from high- to low-density, routes, this will not always be true. He cites the pricing of "cable circuit restoration" (i.e., using satellite services as a backup to cable) as a possible example, noting that cities that rely almost entirely on satellites for international telecommunications (*e.g.*, Nairobi) would attach virtually no value to this, while cities like New York and London would. If the latter do not pay the incremental cost of this service, they would be receiving a subsidy from the former.

42. Mueller, *supra* note 15, citing Snow, *International Satellite Communications: Economics and Political Issues of the First Decade of INTELSAT*, 1976, Table 5.3, p. 90, suggests that at various times during the 1970s the costs of the Atlantic region exceeded systemwide average costs, and that during the same period, the average costs of the "thin" Indian Ocean region were below the systemwide average.

43. For example, in 1986 Snow claimed that "[b]y interpreting its agreements regarding global and nondiscriminatory pricing strictly, INTELSAT has indeed made itself vulnerable to creamskimming by competitors planning to enter its lower cost, high traffic routes such as the North Atlantic." Snow, "Competition by Private Carriers in International Commercial Satellite Traffic: Conceptual and Historical Background," in Demac, ed., *Tracing New Orbits (Cooperation and Competition in Global Satellite Development)*, 1986, 33-57, p. 47.

44. It is possible that PanAmSat would have preferred to enter the North American market, but was precluded from doing so because of the entry barriers previously discussed. This notwithstanding, PanAmSat's ability to profitably enter the North America - South America route suggests that the customers on this route were not receiving a subsidy from customers on other routes.

45. *See, e.g.*, Stiglitz, *Economics of the Public Sector*, 1988, p. 328.

46. A related criticism of cross-subsidies is that "in-kind" transfers are inherently less efficient than direct cash transfers. As noted by Stiglitz *et al.*, *supra* note 40, p. 14), use of the former can sometimes be defended as "specific egalitarianism;" i.e., when recipients of a subsidy are less well-informed than the donor about the benefits from consuming a particular service (*e.g.*, medical care). As Stiglitz *et al*. note, however, this argument is unpersuasive in the current context, as it is difficult to argue that poor countries do not value the benefits of global telecommunications.

47. Indeed, it appears that INTELSAT does not know how large these subsidies are. According to an INTELSAT-commissioned consulting report:

> "Most important, our overall examination of INTELSAT operating and cost characteristics clearly demonstrates the inherent misdirection and futility of any attempt to identify and/or measure INTELSAT cross-subsidies through such cost allocation methods."
>
> Walter Hinchman Associates, Inc., "The Economics of International Satellite Communications (Summary Report), in FCC Dkt. No. 84-1299 (May 18, 1984), cited in Rourk *supra* note 19, p. 340.

48. Stiglitz *et al.*, *supra* note 40, suggest the possibility of creating a universal service fund targeted to particular countries or services as a means of efficiently ensuring universal service.

49. INTELSAT would, however, retain indefinitely a "Golden Share" that would prevent changes to the subsidiary's key statutes without INTELSAT's approval. *See IPWP Report*, p. 25.

50. *See* Brennan, "Why Regulated Firms Should be Kept Out of Unregulated Markets: Understanding the Divestiture in *U.S. v. AT&T*," *Antitrust Bulletin* 32 (1987), 741-93. There are two possible objections to the divestiture policy. A (potentially) valid criticism of this policy of separation is that it may result in lost scope economies. If such economies are present, policymakers must evaluate whether the gains in welfare obtained from attenuating regulatory evasion more than offset the welfare losses suffered from foregone scope economies.

51. For another succinct statement of the sorts of competitive problems that can arise from cross-subsidization and discrimination, *see* letter from Vonya McCann, U.S. Coordinator for International Telecommunications and Information Policy, U.S. Department of State, and Larry Irving, Assistant Secretary for Communications and Information, U.S. Department of Commerce, to Reed Hundt, Chairman, Federal Communications Commission, *In re Application of COMSAT Corporation for Authority to Participate in the Procurement of Facilities of the I-CO Global Communications Limited System*, September 29, 1995.

52. *See* Stiglitz *et al.*, *supra* note 40, p. 16.

53. Some have argued that the presence of two successive monopolies (*i.e.*, INTELSAT and the PTTs) creates an efficiency from vertical integration -- namely, the elimination of "double marginalization" -- that would be foregone were the two entities separated. However, if the separation of the PTTs from INTELSAT results ultimately in a competitive satellite market, this issue becomes moot, as competition will have eliminated the monopoly mark-up on the price of satellite services.

54. The use of price cap regulation may curtail cross subsidization opportunities as well as limit market power. *See* Ronald Braeutigam and John Panzar, "Diversification Incentives Under 'Price Based' and 'Cost Based' Regulation," *RAND Journal of Economics* 20 (1989), 373-91.

55. Brennan, *supra* note 50, p. 760.

56. In this context, it should be noted that INTELSAT frequently has been accused of predatory behavior with respect to private satellite entrants (*see* Hahn and Krozner, *supra* note 11, p. 63; Johnson, "Use of Excess Capacity in International Telecommunications to Deter Competitive Entry," *RAND Note N-2792-MF*, October 1988). The existence of uniform "globally averaged" rates might initially seem inconsistent with these accusations. According to Hahn and Krozner, however, INTELSAT circumvents this restriction by creating new categories of service and charging uniform rates for those particular services. For example, they allege that INTELSAT responded to PanAmSat's entry into the Caribbean/South America region by creating new categories of nonswitched service to those regions together with new tariffs that were far lower than those previously available.

    Whether INTELSAT has actually engaged in predation is difficult to say. Rational predation cannot be ruled out on theoretical grounds (*see, e.g.*, Milgrom and Roberts, "New Theories of Predatory Pricing," in Bonanno and Brandolini, *eds.*, *Industrial Structure in the New Industrial Economics*, Clarendon Press, 1990.) Indeed, the possibility of predation may be more credible here than in other settings because of INTELSAT's status as an inter-governmental organization (IGO). Lott ("Predation by Public Enterprises," *Journal of Public Economics* 43 (1990), 237-51)

has argued that because publicly-owned firms may be motivated by factors other than profit maximization (*e.g.*, output maximization), they "face higher returns to predation and higher returns to making credible the threats that are necessary for predation to succeed." This notwithstanding, it is difficult to distinguish competitive from predatory pricing responses to entry.

57. George Priest has suggested a privatization plan whereby no current signatory could own more than two per cent of any successor entity to INTELSAT. *See* Priest, "How to Privatize INTELSAT," draft, September 14, 1994.

58. Under the terms of the INTELSAT Agreement, INTELSAT is exempt from all national income, corporate, sales, excise, value-added, capital gains, personal property, and real estate taxes. *See* Frieden, *supra* note 3, p. 683.

59. It should be recognized, of course, that INTELSAT faces competition not just from other satellites, but from submarine cables. Cable is a good substitute for satellites in some uses (most notably, telephony; *see* "Competition in the Market for Trans-Oceanic Facilities-Based Telecommunications Services," consulting report prepared for COMSAT by the Brattle Group, June 24, 1994), but not others (*e.g.*, video, point-to-multipoint, and mobile applications). But it is also important to note that much of this cable capacity is owned by the same PTT's that own INTELSAT. Thus, as Hahn and Krozner note (*supra* note 11, p. 62), "the scope for vigorous competition between the two modes is much narrower than the technical comparison may make it appear."

60. There are, of course, other communications satellites other than those owned by INTELSAT. For the most part, however, these other systems do not offer global coverage, are costly to reposition, and, in many cases, are owned by the signatories to INTELSAT.

61. *See* Waverman (*supra* note 23) and Neven *et al*. (*supra* note 24).

62. *Supra* notes 61 and 57.

63. *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1 (1911).

64. *See* Posner, *Antitrust Law (An Economic Perspective)*, 1976, pp. 85-86.

65. In contrast, the AT&T settlement replaced a single national monopolist of local exchange services with a series of regional monopolies. This outcome was unavoidable, however, because the local exchanges were true natural monopolies.

66. *See* Priest, *supra* note 57.

UNITED STATES

INTELSAT: **An Update**

[Prepared Remarks of Hon. Christine A. Varney[1]
Commissioner, United States Federal Trade Commission]

Last November I discussed various proposals for restructuring INTELSAT[2] from a competition policy perspective At that time, I suggested that exposing international satellite telecommunications markets to competition would create substantial benefits. These benefits, could be realized without compromising INTELSAT's historic mission of ensuring universal access and connectivity.

I believe that one way to introduce competition into this market, short of outright and complete privatization, is to create one or more INTELSAT subsidiaries. Under this proposal, some of INTELSAT's assets would be dedicated to the provision of so-called "lifeline" services. These assets would remain under the control of an intergovernmental organization, or IGO. One or more commercialized subsidiaries would then compete in the markets for competitively-supplied services. However, we cannot expect to achieve the benefits of competition if control of these "commercialized" subsidiaries remains with INTELSAT and its Signatories. The incentive and opportunity to harm efficient private competitors are too strong in this situation.[3]

Since November, a great deal of analysis and reflection has been applied to the competitive concerns surrounding a restructuring of INTELSAT. Although I continue to believe that the first-best approach to restructuring INTELSAT is to create multiple subsidiaries, I believe it is certainly possible that the benefits of competition could be realized within a properly-structured single subsidiary. The critical question is, of course, what constitutes a "proper structure" for a commercial subsidiary? There are three related aspects to this question. First, who shall own the subsidiary? Second, how will this subsidiary be governed? And last, what shall be the nature of transactions between INTELSAT and this subsidiary?

The ownership interest of INTELSAT's Signatories in any commercial subsidiary should be minimized -- certainly no more than, say, 20 per cent. Any greater amount would provide INTELSAT's Signatories with sufficient control of the subsidiary to affect the latter's behavior in ways harmful to our shared competitive goals. Ideally, the external investment in the subsidiary would occur at its inception. However, if appropriate external capitalization is not possible at the inception of the commercial subsidiary, INTELSAT should undertake a binding commitment to reach the desired level within a specified time period.[4] The governance structure adopted for the subsidiary must be one that allows for the complete commercial independence of the subsidiary.

Finally, traditional "firewall" measures must be in place between INTELSAT and any commercial subsidiary to assure that the two's transactions are truly "arms length." The U.S. antitrust agencies have considerable experience in crafting such arrangements to address competitive problems in settings where structural divestiture is not a viable remedy. Without going into specifics, I note only that such arrangements typically entail the adoption of specific accounting measures (*e.g.*, to keep separate the costs of the two entities); some form of physical separation between the two entities; and prohibitions against certain (presumptively tainted) contractual arrangements.

Determining the precise details of INTELSAT's restructuring will require long, patient, and careful deliberations by the relevant parties. Ultimately, the product of these efforts must be judged by its contribution to two overriding goals: first, protecting INTELSAT's ability to provide global connectivity at non-discriminatory prices; and second, promoting market competition as a way to expand the variety of

international telecommunications services at lower prices throughout the world. I am confident that this is how the U.S. will assess this outcome -- when, for example, the FCC must decide whether the INTELSAT subsidiary satisfies the "public interest" test necessary for licensure under U.S. communications law.

The INTELSAT Board of Governors meets this March. The joint Party-Signatory Working Party meets in April, and then again in June. I hope and expect that these meetings will yield the outlines of a restructuring proposal that meets the criteria that I have outlined above. Your voices will be critical in this debate. I hope that you will work aggressively to help bring about a restructuring proposal that advances the twin goals of global telecommunications access at nondiscriminatory prices and sound competition policy.

Notes

1. The views expressed are those of the Commissioner and do not necessarily reflect the views of the Federal Trade Commission or any other Commissioner or staff.

2. See "The Future of INTELSAT: A Competition Policy Perspective," *Remarks of Christine A. Varney*, Commissioner, U.S. Federal Trade Commission, November 1995.

3. Id., § III.

4. In my November 1995 remarks, I described in greater detail the competitive risk that would be posed by allowing INTELSAT's Signatories to maintain an ownership interest in the commercial affiliate. *Id*., pp. 23-24.

AIDE-MEMOIRE OF THE DISCUSSION

Note by the Secretariat

The delegate from the United States noted that there were enormous changes in international satellite organisations due to increased globalisation and technological advances. Competition to satellite systems is emerging, particularly from undersea cable. These drive the technology of provision of services to users rather than interconnectivity.

The International Satellite Organisation (INTELSAT) is owned by governments or entities set up to hold governments' ownership shares. It generally has exclusive access to public switched networks (PSN) and is immune from regulation, taxes and antitrust enforcement. Now, INTELSAT's monopoly status is diminishing due to: (1) competition in the United States from domestic satellite markets; (2) increased trans-Atlantic underwater cable capacity; (3) private satellites offering international connections. INTELSAT wishes to reorganise itself. The United States Government believes that sound competition policy requires some privatisation and divestiture.

The INTELSAT Assembly of Parties met in Copenhagen in August 1995 to begin discussion of INTELSAT reorganisation. The Assembly created a new Working Group with instructions to submit a specific recommendation for a commercial subsidiary or affiliate and some form of ownership for that at its April 1997 Assembly of Parties. This working group next meets in December 1995 in Washington. The Working Group will consider issues of affiliation, divestiture and ownership structures. This is believed to be an unparalleled opportunity to develop healthy competition in international satellite service. As the United States' paper argues, competition here is believed to be both feasible and desirable. It is feasible because international satellite service provision is not a natural monopoly. It is desirable because the INTELSAT monopoly forces its users to pay too much and offers no choice. But competition will not likely be introduced into this market without the urging of member countries' competition authorities.

The delegate from the United States reiterated that competition in international satellite services will not happen without the efforts of competition authorities working with the telecommunications agencies, and that the United States competition authorities would be happy to work with their counterparts towards that goal. He noted that the government agencies ordinarily involved in decision-making on international satellites services do not pay attention to competition concerns. As a result, some have argued in the working groups of INTELSAT for privatisation for its own sake, not privatisation in order to create competition. A purely privatised subsidiary or affiliate controlled by INTELSAT would reinforce the monopoly position of INTELSAT, not create competition. Further, the terms of reference for the Group leave open many important details on which the future of competition in these markets will depend.

The Italian delegate said that Italy provides an example of the distortions that arise under the current arrangement for access to the space segment and how the interactions with the monopoly position of the PTOs to create very large barriers to competition in that sector. In Italy, there are two satellite operators, *Telecom Italia*, which is the national PTO (holding a legal monopoly over long distance and local telephony), and *Nuova Telespazio*, which provides a range of satellite services which are included in those liberalised under EC Directive 94/46, which has not yet been adopted by the Italian government. *Nuova Telespazio* is 50 per cent owned by *Telecom Italia* and 50 per cent by the parent company of *Telecom Italia*.

Telecom Italia is the only ISO Signatory authorised by the Italian Post and Telecommunications Ministry and is therefore the only Italian company having direct access to the ISO space segment. Since neither private or public separate satellite systems currently exist in Italy, the PTO's exclusive right to

access the capacity of ISOs entails full control over the totality of existing satellite transmission capacity dedicated to the Italian territory. In addition, *Nuova Telespazio* has taken options on the majority of EUTELSAT's Hotbird 2 transponders, staking a claim on future satellite capacity as well. All earth stations connected with the public switched network are owned by, and exclusive access rights are held by, the national PTO. *Nuova Telespazio* exclusively manages existing VSAT networks. Finally, *Nuova Telespazio*, being a partner in *Motorola*'s Iridium project, has a strong claim in the new market for mobile satellite services.

In TV broadcasting services, the situation is not more favourable to competition. Spectrum frequencies are allocated without attention to competition policy issues such as access by new entrants and the design of market mechanisms for allocating residual frequencies. The state-owned national TV company, *Rai*, has exclusive rights over live satellite broadcasting. Given the overall restrictive regulatory environment, the potential for entry into the domestic market for satellite TV services appears to be extremely limited. However, given that small dimension TVRO earth stations have been liberalised, satellite TV services aired by European satellite operators can be received in Italy although they are not directed to the Italian market.

According to the Italian delegate, the method for allocating frequencies and stationary orbital slots needs to be reconsidered. The United States' experience with market mechanism to allocate frequency spectrum is interesting. Regarding the restructuring of the intergovernmental satellite organisations, he very much agrees with the spirit of the United States delegation's position: he is a bit suspicious of the creation of a commercial affiliate which remains connected with an entity which holds monopoly rights in satellite services because there are subtle ways of barring access to other competitors which are not necessarily linked to cross-subsidies or pricing practices. Whether ISOs are privatised or just unbundled, it is important that the satellite network owned by ISOs be divided among several operators, leaving each of them with the minimum number of satellites needed to provide their services in order to prevent the persistence after privatisation of significant market power leading to barriers to competition in this market.

The adoption of EC Directive 94/46, a priority in Italy, will be a powerful tool to open access to the space segment and to liberalise the connection of earth stations to the public switched network in view of the 1998 liberalisation of voice telephony. However, both the liberalisation of voice telephony and adoption of 94/46 would still leave *Telecom Italia* in a dominant position. Therefore, the possibility should be considered to have temporary rules to facilitate non-discriminatory access by new providers of satellite services to the existing network of earth stations.

Finally, there should be monitoring of plans by *Telecom Italia* to build a national fibre optic system because, given its monopoly position in satellite transmission market, such a network could lead to significant market distortions and could severely limit competition in telecommunications services and TV services markets and prevent access by new entrants wishing to use alternative networks after voice telephony liberalisation in 1998. Further, liberalisation of resale of satellite capacity to third parties may allow the substantial differences in price of such access among European countries to be arbitraged away.

The delegate from New Zealand agrees also with the spirit of the United States proposal, including the involvement of competition officials in the issue back in their capitals. His understanding of INTELSAT's problem is that its bureaucratic structure renders it unable to exploit the new technologies although a single commercial subsidiary, with commercial flexibility, would allow it to pursue the new market opportunities. His understanding is that a disadvantage of the United States proposal is that it would require a re-writing of treaty text, a process that would require a minimum of three years after Assembly approval. Therefore, there is a question of what is achievable now versus what might be desirable in the long-term. It may well be that the best short-term option is to adopt the single commercial subsidiary option and that the longer term prospects for possible divestiture may be examined once that option has been implemented.

The Chairman noted that one problem for some governments is that the legal monopoly PTO is the representative at INTELSAT which decides on matters regarding access and new services. With the advent of competition in telecom, it is important that this position be filled not by the PTO but by government officials.

The delegate from the United Kingdom is the United Kingdom delegate to the working parties of INTELSAT, EUTELSAT and INMARSAT and was at the Copenhagen meeting. He notes that the perspective from inside the organisations is different. INMARSAT is expected to continue for quite some time to provide mobile services from geostationary orbits, but the discussion regarding its restructuring is a bit behind that in the other two organisations. INTELSAT is studying a series of options, including setting up a commercial subsidiary, and is looking ahead to a 1997 Assembly of Parties to implement the results of the studies. It is true that the organisations have not considered competition issues, but it was first necessary to convince the 140 Parties that a change was needed. (The 140 member country structure limits the restructuring of the organisation.) Competition will be an important issue during the twelve months leading up to writing a report in December 1996.

The INTELSAT treaty allows for the setting up of subsidiaries without major amendments, and setting up multiple subsidiaries is not legally more difficult than setting up a single subsidiary. Treaty amendment would take a considerable amount of time.

EUTELSAT could be reformed before 1998. The competition concerns with EUTELSAT are much smaller than with INTELSAT. About 75 per cent of its output is in television broadcasting, a fiercely competitive market. (EUTELSAT is not active in telecommunications because Europe is fully cabled and PTOs prefer terrestrial routes.) The few areas -- mostly in the east of Europe -- where EUTELSAT is the lifeline provider of telecom services will almost certainly soon be cabled. Therefore, EUTELSAT will be nowhere the dominant or only provider of a service. One of the options being studied is a simple privatisation. There will be two meetings of the Assembly of Parties in the next ten months. The second meeting, in mid-1996, will be the one at which major decisions about the future structure of EUTELSAT will be made. So anything coming out of OECD on competition concerns will have to take that timetable into account.

In each of the three international satellite organisations, the working parties considering the future structures were set up by the Assembly of Parties, a government-level organisation that sets broad policy and amends the basic instruments. The working parties are joint Party-Signatory committees and the PTOs sit alongside the governments.

The delegate from the United States suggested that the next meeting of WP2 received an updated report of the December meeting. She expressed hope that the ISO working parties would look at the ownership of subsidiaries as well as at their number and hope that they would come up with practicable steps to competition in the international satellite markets.

A delegate from the United States, responding to the comment from the New Zealand delegate, said that he believed it is important not to privatise in a way that does not create competition. The bureaucratic structure of INTELSAT creates special problems in that, if INTELSAT is privatised in a way that does not create competition, then it can better exploit its avenues for preventing the development of competition.

A delegate from the United States said that what is achievable is partly a function of the level of involvement of competition authorities. Meetings focus on health and financial performance of INTELSAT and do not focus on the interests of users or the benefits that would accrue to those users of market competition.

The Italian delegate asked what has been and is intended to be done on: 1) separating regulation and service provision, given the presence of PTOs in ISOs; 2) ensuring non-discriminatory access to the transmission capacity of ISOs, particularly eliminating the "consulting procedure" and the provision of the treaty that someone can be excluded from capacity if he can cause economic damage to the organisation; 3) disclosure of prices of capacity to PTOs and non-Signatories of ISOs; 4) provisions of the treaty that guarantee immunity from national competition laws.

The delegate from the United Kingdom replied that the UK Signatory has proposed an amendment to the EUTELSAT so that approval of earth stations can be requested directly from the ISO, eliminating the need to go through the Signatory. In the UK, the separation of regulation from service provision has a second-best solution by requiring BT to set up a "Signatory Affairs Office" so that BT would not be given commercially sensitive information by its competitors who wanted access to EUTELSAT capacity. This has been seen as an interim measure to use until direct access to EUTELSAT was possible.

Formerly, the access and "economic harm" provisions of the treaties provided that, if someone wanted to set up a competing system to INTELSAT or EUTELSAT, he had to ask for permission and those entities had to agree only if it could be shown that the competitor would not cause harm. These have been progressively weakened by setting a threshold below which there was a presumption of no harm. This threshold has been progressively raised to a point where none of the private competitors complain.

Regarding the disclosure of prices, some progress has been made at INTELSAT. Because there are direct access arrangements in 17 or 18 countries, it is possible for a company that wants direct access to go to one of those countries and receive almost all documents available to Signatories.

The issues of immunities and privileges, no taxes, etc. will be more of a problem as the entities become more commercial. One view is that these balance the inefficiencies from the governance structure.

The Chairman noted that competition authorities should be aware of what is going on in the ISOs since they have extensive effects on competition in domestic telecommunications and broadcast markets. Participants in the ISO meetings are not very interested in the effects of competition. Now is the right time to come up with positions to influence the governments and representatives at the ISOs.

The French delegate noted that INTELSAT had a double function, that of a regulator and of an economic actor as a provider of services. He believed that this discussion demonstrates the need, yet again, to think about an international structure for the control of competition.

AIDE-MÉMOIRE DE LA DISCUSSION

Note du Secrétariat

Le délégué des Etats-Unis a noté que la globalisation croissante et les progrès technologiques ont entraîné d'énormes modifications dans les organisations internationales de satellites. Les systèmes de satellites sont soumis à une vive concurrence, de la part, en particulier des câbles sous-marins. Ces évolutions concernent la technologie de la prestation des services aux usagers plus que l'interconnectivité.

L'Organisation internationale des télécommunications par satellites (INTELSAT) est la propriété des gouvernements ou des entités créés pour détenir les parts détenues par les gouvernements. Elle a en général l'accès exclusif aux réseaux publics commutés (RPC) ; les réglementations, les taxes et le droit antitrust ne lui sont pas applicables. A présent, INTESLSAT voit son monopole réduit en raison : (1) de la concurrence exercée aux Etats-Unis par les marchés de satellites intérieurs ; (2) de la capacité accrue du câble sous-marin transatlantique ; (3) des satellites privés proposant des connexions internationales. INTELSAT souhaite procéder à sa réorganisation. Le gouvernement des Etats-Unis estime que la politique de la concurrence, pour être saine, nécessite une certaine privatisation et un dessaisissement.

L'Assemblée des Parties d'INTELSAT s'est réunie à Copenhague en 1995 pour entreprendre l'examen de sa réorganisation. L'Assemblée a créé un nouveau Groupe de travail chargé de soumettre, lors de l'Assemblée des Parties prévue en avril 1997, une recommandation spécifique définissant le statut d'une société commerciale subsidiaire ou affiliée commerciale et la forme de propriété qui pourrait lui être accordée. Ce Groupe de travail s'est ensuite réuni à Washington en décembre 1995. Il va examiner les problèmes de l'affiliation du dessaisissement et des structures de propriété. C'est là, croit-on, une occasion sans précédent d'introduire une concurrence saine dans le service international de satellites. Comme le soutiennent les Etats-Unis dans leur document, la concurrence dans ce secteur est à la fois possible et souhaitable. Elle est possible car la prestation du service international de satellites n'est pas un monopole naturel. Elle est souhaitable parce que le monopole d'INTELSAT oblige ses abonnés à payer trop cher et qu'elle n'offre aucun choix. Mais il est probable que la concurrence ne sera pas introduite sur le marché si les autorités qui en sont chargées dans les pays Membres n'oeuvrent pas en ce sens.

Un délégué des Etats-Unis a rappelé qu'il n'y aura pas de concurrence dans les services internationaux de satellites si les instances chargées de la concurrence au sein des agences de télécommunications ne déploient pas d'efforts en ce sens ; et il a aussi rappelé que les autorités responsables de la concurrence aux Etats-Unis seraient heureuses de travailler avec leurs homologues à la réalisation de cet objectif. Il a noté que les agences gouvernementales qui interviennent généralement dans la prise de décisions intéressant les services internationaux de satellites ne tiennent pas compte des préoccupations de la concurrence. C'est pourquoi, certains, au sein des groupes de travail INTELSAT, ont plaidé en faveur de la privatisation en tant que telle, non pour une privatisation visant à créer la concurrence. Une agence subsidiaire ou une filiale purement privatisée contrôlée par INTELSAT renforcerait la position de monopole de cette dernière, donc elle ne créerait pas de concurrence. En outre, le mandat du Groupe laisse dans l'ombre plusieurs détails importants dont va dépendre l'avenir de la concurrence sur ces marchés.

Le délégué italien a déclaré que l'Italie est un exemple des distorsions découlant de la façon dont est actuellement organisé l'accès au secteur spatial et dont les interactions au sein du monopole des EPT créent des barrières très importantes à la concurrence dans ce secteur. En Italie, on compte deux opérateurs de satellites : *Telecom Italia*, qui est l'exploitant public national de télécommunications (et qui détient un monopole juridique sur les communications longue distance et sur la téléphonie locale), et *Nuova*

Telespazio, qui offre une gamme de services de satellites figurant dans la liste des services libéralisés en vertu de la Directive communautaire 94/46, Directive que le gouvernement italien n'a pas encore adoptée. *Nuova Telespazio* appartient à 50 pour cent à *Telecom Italia* et à 50 pour cent à la société-mère de *Telecom Italia.*

Telecom Italia est la seule Signataire de l'organisation internationale de télécommunications par satellite (ISO) agréée par le ministère des Postes et des Télécommunications ; et elle est donc la seule compagnie italienne à pouvoir accéder directement par secteur spatial de l'ISO. Comme il n'existe actuellement en Italie pas de systèmes satellites distincts, ni privés ni publics, le droit exclusif de l'entreprise publique de télécommunications à accéder à la capacité de l'ISO lui permet de contrôler la totalité de la capacité existante de transmission par satellite attribuée au territoire italien. De plus, *Nuova Telespazio* a pris des options sur la majorité des deux répéteurs Hortbird d'EUTELSAT, et elle revendique de la même façon un droit à la capacité des satellites futurs. Toutes les stations terrestres connectées aux réseaux publics appartiennent à l'ETP national qui détient sur eux des droits d'accès exclusifs. *Nuova Telespazio* gère en exclusivité les réseaux VSAT existants. Enfin, en tant que partenaire du projet Iridium de *Motorola*, elle revendique le nouveau marché des services de satellites mobiles.

Dans les services de radiodiffusion et de télévision, la situation n'est guère plus favorable à la concurrence. Les fréquences sont attribuées sans qu'il soit tenu compte des problèmes de concurrence, notamment l'accès de nouveaux entrants et la conception des mécanismes du marché utilisés pour attribuer les fréquences résiduelles. La *Rai*, compagnie nationale de télévision, a des droits exclusifs sur la diffusion par satellite en direct. En raison des réglementations restrictives, les possibilités d'accéder au marché intérieur des services distribués par satellite paraissent extrêmement limitées. Mais, étant donné que les stations terrestres TVRO ou de petites dimensions ont été libéralisées, les services de télévision par satellite diffusés par les opérateurs européens de satellites peuvent être reçus en Italie bien qu'ils ne soient pas destinés au marché italien.

Selon le délégué italien, il faut reconsidérer la méthode appliquée pour attribuer les fréquences et les créneaux des stations orbitales. La façon dont les Etats-Unis utilisent les mécanismes du marché pour attribuer les fréquences est intéressante. En ce qui concerne le restructuration des organisations inter-gouvernementales de satellites, il est en complet accord avec la délégation des Etats-Unis : il redoute un peu la création d'une filiale commerciale qui resterait liée à une entité détenant des droits de monopole dans les services satellites car il existe, pour barrer l'accès aux autres concurrents, des façons subtiles qui ne sont pas nécessairement liées à la péréquation des tarifs ou aux pratiques de fixation des prix. Que les ISO soient privatisés ou simplement dégroupés, il est indispensable que le réseau de satellites dont les ISO sont propriétaires soit réparti entre plusieurs opérateurs en laissant à chacun d'entre eux le nombre minimum de satellites nécessaires pour assurer leurs services et empêcher ainsi que ne subsiste après la privatisation un pouvoir de marché important qui créerait des obstacles à la concurrence sur ce marché.

La Directive communautaire 94/46, dont l'adoption figure parmi les priorités en Italie, constituera un instrument puissant qui permettra d'ouvrir l'accès au secteur spatial et de libéraliser la connexion des stations terrestres avec les réseaux publics connectés en prévision de la libéralisation de la téléphonie vocale en 1988. Mais ni la libéralisation de la téléphonie vocale ni l'adoption de cette Directive ne mettront fin à la position dominante de *Telecom Italia*. Il convient donc d'envisager la possibilité d'adopter des règles temporaires pour faciliter l'accès non-discriminatoire des nouveaux prestataires de services de satellites au réseau des stations terrestres existantes.

Enfin, les projets de *Telecom Italia* de mettre en place un système national de fibres optiques devraient être soumis à surveillance car du fait de sa position de monopole sur le marché des transmissions par satellite, un tel réseau pourrait provoquer des distorsions importantes du marché, réduire gravement la concurrence dans les services de télécommunications et les marchés des services de télévision, et empêcher par ailleurs l'accès de nouveaux entrants qui souhaiteraient utiliser d'autres réseaux après la libéralisation de la téléphonie vocale en 1988. En outre, la libéralisation de la revente de la capacité sur satellite à des

tiers permettrait de régler les écarts substantiels de prix appliqués dans les divers pays européens à cet accès.

Le délégué de la Nouvelle-Zélande a exprimé son accord avec l'esprit de la proposition des Etats-Unis, notamment sur la nécessité de faire intervenir les responsables chargés de la concurrence lorsqu'ils regagneront leur capitale. A son avis, le problème d'INTELSTAT vient de sa structure bureaucratique qui la rend inapte à exploiter les nouvelles technologies, alors qu'une seule filiale commerciale, avec la souplesse qu'elle comporte, permettrait de rechercher les nouvelles possibilités offertes par le marché. La proposition des Etats-Unis paraît présenter un inconvénient car elle nécessiterait de réécrire le texte du traité, procédure qui nécessiterait un minimum de trois ans après l'accord de l'Assemblée. Il s'agit par conséquent de savoir ce qui est réalisable dès à présent plutôt que de rechercher ce qui pourrait être souhaitable à long terme. La meilleure solution apportée est peut-être d'adopter la solution de la filiale commerciale unique, et une fois que cette solution aura été mise en oeuvre, d'examiner les possibilités à plus long terme de procéder à un dessaisissement éventuel.

Le Président a fait observer que pour certains gouvernements, le problème tient au fait que l'ETP détenteur du monopole légal est le représentant au sein d'INTELSAT, où sont examinées les questions concernant l'accès et les nouveaux services. Avec l'avènement de la concurrence dans les télécommunications, il importe que ce ne soit pas l'ETP qui occupe cette position mais les fonctionnaires du gouvernement.

Le délégué du Royaume-Uni, délégué de son pays auprès des groupes de travail d'INTELSAT, d'EUTELSAT et d'INMARSAT, a participé à la réunion de Copenhague ; il a fait observer que la perspective telle que la voit chacune des organisations est différente. INMERSAT devrait continuer pendant un certain temps encore à fournir les services mobiles à partir des orbites géostationnaires, mais le débat concernant sa restructuration se situe légèrement en retrait par rapport aux deux autres organisations. INTELSAT étudie diverses solutions, y compris la mise en place d'une filiale commerciale, et on attend l'Assemblée des Parties qui doit se tenir en 1997 pour mettre en oeuvre le résultat des études. Certes, les organisations n'ont pas examiné les problèmes de concurrence mais il fallait commencer par convaincre les 140 parties de la nécessité d'introduire des modifications. (La structure qui comprend 140 pays Membres limite la refonte de l'organisation). Pendant les 12 mois qui doivent aboutir à l'établissement d'un rapport en décembre 1996, la concurrence sera l'une des questions importantes.

Le traité instituant INTELSAT autorise sans amendement majeur la création de filiales et mettre en place des filiales multiples n'est pas plus difficile juridiquement que d'en créer une seule. Modifier le traité prendrait énormément de temps.

EUTELSAT pourrait être réorganisé avant 1998. Les préoccupations concernant la concurrence sont moindres dans le cadre d'EUTELSAT que dans celui d'INTELSAT. Soixante-quinze pour cent environ de sa production sont destinés à la radiotélévision, un marché où la concurrence fait rage. (EUTELSAT n'a pas d'activité dans les télécommunications car l'Europe est entièrement câblée et les EPT préfèrent les routes terrestres). Les quelques domaines -- situés pour la plupart dans l'est de l'Europe --, où EUTELSAT est le principal prestataire des services de télécommunications, seront presque certainement câblés très bientôt. Par conséquent, dans aucun des pays, EUTELSAT ne sera le principal ou l'unique prestataire d'un service. L'une des solutions à l'étude est la simple privatisation. L'Assemblée des Parties doit se réunir deux fois dans les dix mois qui viennent. La seconde réunion, au milieu de 1996, sera celle où seront adoptées les principales décisions sur la structure future d'EUTELSAT. De ce fait, toute position que pourrait adopter l'OCDE au sujet des problèmes de concurrence devra tenir compte de ce calendrier.

Au sein de chacune des trois organisations internationales de satellites, les groupes de travail qui étudient les structures futures ont été créés par l'Assemblée des Parties, organisation au niveau gouvernemental qui définit les grandes orientations et modifie les instruments fondamentaux. Les groupes de travail sont des comités réunissant les parties signataires et les EPT siègent aux côtés des représentants des gouvernements.

Le délégué des Etats-Unis a proposé que le rapport, mis à jour, de la réunion de décembre soit soumis lors de la prochaine réunion du Groupe de travail n°2. Elle a exprimé l'espoir que les groupes de travail ISO examineront quels sont les propriétaires des filiales ainsi que leur nombre et qu'ils proposeront des mesures concrètes propres à instaurer la concurrence sur les marchés internationaux de satellites.

Répondant aux commentaires du délégué de la Nouvelle-Zélande, un délégué des Etats-Unis a déclaré qu'à son avis, l'important est de ne pas privatiser d'une façon qui ne créerait pas de concurrence. La structure bureaucratique d'INTELSAT crée des problèmes particuliers en ce sens que si l'Organisation fait l'objet d'une privatisation dont serait absente la concurrence, elle pourra alors mieux exploiter les moyens dont elle disposera pour empêcher le développement de la concurrence.

Pour le délégué des Etats-Unis, ce que l'on peut réaliser dépend en partie du degré de participation des autorités chargées de la concurrence. Les réunions portent essentiellement sur les résultats financiers et la santé d'INTELSAT et négligent les intérêts des usagers ou les avantages que leur permettrait d'obtenir la concurrence sur le marché.

Le délégué italien a demandé ce qui avait été fait et ce que l'on avait l'intention de faire en ce qui concerne : 1) la dissociation de la réglementation et de la prestation de services, étant donné la présence des EPT au sein des ISO ; 2) l'accès non discriminatoire à la capacité de transmission des ISO, en supprimant la "procédure de consultation" ainsi que la disposition du traité, stipulant que l'on peut être exclu de la capacité si l'on risque de causer un préjudice économique à l'organisation ; 3) la divulgation des prix de la capacité aux EPT et aux non-Signataires des ISO ; 4) les dispositions du traité qui garantissent l'immunité à l'égard des lois nationales sur la concurrence.

Le délégué du Royaume-Uni a répondu que son pays, signataire du traité, avait proposé un amendement à EUTELSAT aux termes duquel on pourrait demander directement à l'ISO d'agréer les stations terrestres sans avoir à passer par le Signataire. Au Royaume-Uni, la séparation de la réglementation et de la prestation de services offre une solution de deuxième choix consistant à demander à BT de créer un "Signatory Affairs Office", de façon que ses concurrents souhaitant accéder à la capacité d'EUTELSAT n'aient pas à lui fournir d'informations sensibles sur le plan commercial. C'est là une mesure transitoire que l'on a estimé pouvoir utiliser en attendant l'accès direct à EUTELSAT.

Précédemment, les dispositions des traités relatives à l'accès et au "préjudice économique" stipulaient que quiconque souhaitait créer un système concurrent d'INTELSAT ou d'EUTELSAT devait en demander l'autorisation et ces entités ne devaient l'accorder que s'il était démontré que le concurrent ne causerait pas de préjudice. Ces dispositions ont été progressivement atténuées par la fixation d'un seuil en-deçà duquel il était présumé qu'il n'y avait pas préjudice. Ce seuil a été progressivement relevé jusqu'à un niveau tel qu'aucun des concurrents privés n'a des raisons de se plaindre.

Un léger progrès a été réalisé à INTELSAT en matière de la divulgation des prix. Comme des arrangements d'accès direct ont été conclus dans 17 ou 18 pays, les sociétés qui souhaitent un accès direct s'adressent à l'un de ces pays et reçoivent presque tous les documents dont disposent les Signataires.

Les questions liées aux immunités et privilèges, l'exonération fiscale, poseront davantage de problèmes à mesure que les entités deviendront plus commerciales. Selon certains, la présence de ces entités compense les inefficiences résultant de la structure de gestion.

Le Président a fait observer que les instances chargées de la concurrence ne devraient pas ignorer ce qui se passe dans les ISO car celles-ci ont des effets très importants sur la concurrence dans les marchés intérieurs des télécommunications et de radiodiffusion. Les participants aux réunions des ISO ne marquent pas beaucoup d'intérêt pour cette question. Maintenant, le moment est venu de présenter des points de vue qui pourraient sensibiliser les gouvernements et les représentants au sein des ISO.

Le délégué français a noté que l'Organisation INTELSAT avait une double fonction, celle de régulateur et celle d'agent économique puisqu'elle est prestataire de service. Il estime que ce débat montre une fois encore la nécessité de réfléchir à une structure internationale qui permettrait de contrôler la concurrence.

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