

AN INTERNATIONAL REMOTE SENSING CARTEL?

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Abstract.

In the last fifteen years, the distribution of remote sensing images at the international level is considered as a competitive and commercial activity. Marketing is performed by a limited number of participants and most of them are private companies but with strong State participation.

The research, development and operational costs of the space segment are State financed, but the products are handed over to private companies for their marketing. Product prices do not reflect their actual production costs.

A coordination among participants is evolving in order to develop the current incipient market. Price-fixing and geographical allocation, through concerted actions have become evident.

So far this coordination seems not to have been checked on (national) antitrust rules, although some characteristics of a remote sensing cartel cannot be denied.

1. Introduction.

At the beginning of the space era, space activities were not commercial but science or military oriented. At that time, all space activities were State financed. With the reduction of space budgets in the 70's and 80's, space agencies attempted to make certain space sectors more competitive and tried to transform them into commercially viable activities⁽¹⁾.

Consequently, in the last decade, there was the trend to establish the distribution of remote sensing images as a competitive and commercial activity. But it seems to be forgotten today that the development of the space segment was not financed under the same commercial terms, but under public or military programs.

An example of this are the Soviet space remote sensing programs, which were completely under military control. In the meantime, these programs have been adapted to the commercial environment. The images from the Mir station and from the radar Almaz satellite and other reconnaissance satellites, were developed under military programs and their products are marketed by several Russian institutions at the international level.

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A second example of this trend is the U.S. American Landsat System, which was created under a scientific program with public funding. Six years after the launching of the first Landsat satellite, the Government considered the system mature enough for its privatization.

A third example is the French Spot system which is an illustration of a classical French industrial development program with State support. The system is designed and developed by the State, the satellites are operated by Centre Nationale d'Etudes Spatiales (CNES), a public entity, but the data derived from the system is handed over to private hands for their commercial exploitation. The research, development and some operational costs of the space segment are not borne by the private companies which do the marketing.

Because the price of products does not contain the actual research, development and operational costs of the systems, it must be questioned if marketing of the remote sensing images in its present form is really a viable commercial industry. However, if remote sensing is a commercial and competitive activity, as is always pointed out by the remote sensing industry today, then it must meet market requirements and must comply with all applicable national competition rules ⁽²⁾ or, in the case of the European Economic Community (EEC), supranational rules ⁽³⁾.

Although the implications of the various (national) antitrust legislations cannot be discussed here, some general antitrust principles relating to typical oligopolies and cartels shall be highlighted in the context of the marketing of remote sensing images.

2. Oligopoly and Market Concentrations in the Industry.

An oligopoly can be defined as an industry in which a few large sellers of substantially identical products dominate the market.

a) Limited Number of Competitors.

In the first years, space activities were undertaken by only two countries. Currently, the number of space faring nations is still limited. Thus, space commercial ventures today are in a worldwide oligopoly scenario with limited competition. It is also possible to qualify the remote sensing sector as a natural oligopoly, because this industry is relatively new.

Only five countries and one international organization own and operate remote sensing satellites ⁽⁴⁾ and the distribution of the product to the public is performed by more than a dozen of institutions, acting as primary distributors, two thirds of which are private companies ⁽⁵⁾.

Although there are few remote sensing systems, their functions are diversified and their products are heterogen, covering different aspects of teleobservation:

Landsat (U.S.A.): optical, multispectral system/35 m. resolution.

Spot (France): optical/ stereoscopic pairs/10 m. resolution.

IRS (India): optical/73-36 m. resolution.

Bhaskara (India): optical/1 km. resolution.

MOS (Japan): optical/50 m. resolution.

JERS (Japan): optical, resolution 18 m. and radar capabilities.

ERS (ESA): radar/12 m. resolution.

Almaz (Russian Fed.): radar/15 m. resolution.

Diverse reconnaissance sat. (Russian Fed.): optical/5 m. resolution/only in photographic media.

b) Market Concentration:

Landsat/Spot Merger Failed.

Recognizing the commercial environment of the marketing of remote sensing images, it is not surprising that Landsat and Spot were intended to merge into an international commercial endeavor.

Before the envisaged merger, the Department of Commerce of U.S.A. had signed an agreement with the private company "Earth Observation Satellite Corporation" (EOSAT) in September 1985, to privatize the Landsat System. EOSAT received the exclusive marketing rights for the data, but the National Oceanic and Atmospheric Administration (NOAA) still operated the satellites. It was intended that EOSAT would take fully over the financial load of the development and operation of the Landsat System in the close future.

After a series of financial and political problems, which led the Landsat system into a crisis, in 1988 the Congress asked NOAA to explore "international cooperation" in order to reduce commercial costs of Landsat ⁽⁶⁾. At the beginning of 1989, it was disclosed that NOAA had held secret talks with the CNES of France to merge the Landsat and the Spot systems into an international commercial endeavor. This merger was planned for the mid-1990's with the aim of saving these two countries several hundred million dollars annually in operating costs. This move also intended to consolidate the customer base. But NOAA did not receive the approval of the Department of Commerce. NOAA was accused of "excess of authority" and the main concerns which were raised by the authorities were implications for U.S. foreign policy, national security and space policy. U.S. managers were concerned about the Landsat system which would go to help a foreign competitor. As a result of this controversy, the talks were cancelled.

Judging from press releases at that time, the antitrust aspects of the merger seem to have been only considered as a side aspect, if it was considered at all, although the two strongest remote sensing systems were involved. This point is hardly understandable in a country which is traditionally very sensitive to restrictions of competition.

The U.S.A. was the only country who had a civilian remote sensing system for 14 years. Landsat was a monopoly for this period. The U.S. government did not accept the idea of getting financial support from other countries and to lose its independence. Thus, it was more a matter of national prestige than of antitrust considerations that stopped the merger of the two systems.

3. Is there a Cartel for the Distribution of Remote Sensing Images?

A cartel has similar characteristics as an oligopoly, but in addition there are agreements or concerted practices among the few participants, like price-fixing or the geographical allocation of markets to reduce competition.

One of the reasons for a cartel is "to increase the output and to reduce the price, to a competitive price (marginal cost)" ⁽⁷⁾.

a) Price fixing.

Price fixing agreements can prevent predatory prices. Many cartels set the prices at "marginal cost levels", ⁽⁸⁾ because "as long as the price at least equals marginal cost, increased revenues generally will bring increased profits" ⁽⁹⁾.

The few participants of the remote sensing industry meet at several levels. One of these levels is the Committee on Earth Observation Systems (CEOS) which

has as members the public entities which operate the remote sensing systems. CEOS is fulfilling two tasks. One is the establishing of technical standards of the data formats worldwide, which helps to enlarge the international market faster. Also strategies for the introduction of new remote sensing products, like the radar images, are proposed to facilitate their acceptance in that market. The technical coordination has no antitrust implications.

The other task of CEOS is more suspicious with regard to antitrust. In CEOS marketing policies, which include prices, are discussed. One of these recommended practices in CEOS is the two-tiered price policy: under this policy the products are distributed to researchers and public services at "marginal costs", but for the products sold to private companies higher prices can be charged. This policy is already adopted by most of CEOS' members. However, even prices calculated at "marginal costs" already bring profits to the sellers⁽¹⁰⁾. The two-tiered price policy was also adopted by Spot Image S.A. (France), Eurimage (Italy) and Radarsat International Inc. (Canada), although they do not directly participate in CEOS.

So far the participants deny that they are bound by price fixing agreements. But unquestionable they follow recommended practices for prices, as evidenced by their two-tiered price structure, commonly applied in the market. This structure warrants marginal cost prices as minimum prices. The argument that price fixing by CEOS is not binding is not valid, because it is generally recognized that concerted practices suffice the requirement of cartel agreements⁽¹¹⁾.

How critical price fixing can be under antitrust considerations, shows the famous precedent in the

airline industry: The International Air Transport Association (IATA), lost its antitrust exemption to establish tariffs after 32 years of activities.⁽¹²⁾

Most of the CEOS participants are the public entities which operate the systems, but do not perform the marketing activities. It is almost impossible to distinguish this institutional setting from cartels like OPEC, where national oil ministers participate to fix prices.

b) Geographical Allocation of Markets.

(Cartel) agreements among participants can also allocate markets geographically or assign types of customers to certain sellers. In this way, production facilities can be concentrated, distribution costs can be reduced and specialization can be justified⁽¹³⁾. It is generally perceived that market allocation has more impact than price-fixing because the service, quality and innovation can be improved⁽¹⁴⁾.

No market allocation agreement was disclosed until today in the remote sensing industry. However, regional market concentration exists.

A good example of regional market concentration is the Canadian company Radarsat International Inc. which has the exclusive marketing rights of the following products:

- i) Landsat products in Canada.
- ii) Spot products in Canada.
- iii) ERS products in Mexico, U.S.A. and Canada.

Not to mention the products of the Radarsat satellite which is not yet in orbit.

The combination of these products in one hand on an exclusive basis in Canada creates a dominant position in this market, since the Landsat, Spot and ERS remote sensing systems are the strongest systems. This horizontal concentration at the distributor level in the Canadian market could pose antitrust problems

under Canadian Law, unless approved by the responsible antitrust authorities. It is very unlikely that the system operators and agencies involved in the marketing of the images, who meet in CEOS regularly, did not know about this concentration when they gave Radarsat International the exclusive rights for Canada.

c) Reasons for Market Coordination.

The participants of CEOS have recognized their mutual dependence mainly because the size of the market for optical data is too small and the present market for radar data is even smaller. In times of recession not only the funding of the remote sensing systems is endangered, but also the market. Reduced demand results in the shrinking of the market and a deterioration of the systems. The participants coordinate their activities in order to maintain and develop today's rudimentary market.

4. Conclusions.

In connection with remote sensing activities, the participant States face a conflicting situation. On one hand they are system operators, on the other hand they are market regulators. In the shrinking market for remote sensing images, a market coordination is applied which has at least some cartel characteristics. That research, development and operational costs are not included in the product price structure, means nothing else but subsidizing the systems by the operator States. Yet, under budget constraints in the last fifteen years, governments coined their (private) remote sensing marketing as commercially viable activities. Despite its commercial label, the remote sensing market cannot withstand market forces today.

Subsidies and reduced competition are the characteristics of this market. The commercialization of the marketing of remote sensing images was initiated too early. The existing commercial activities can only exist, because the antitrust mechanisms to ensure free competition are not applied.

The time has come to admit openly that remote sensing is not commercially viable at present.

Footnotes:

(1) An example of this is the Space Shuttle program, for which the financial profitability was overestimated in the development phase and therefore other space launcher programs were cancelled.

(2) E.g. the Sherman Act, 15 U.S.C.A. §§ 1-7, the Clayton Act, 15 U.S.C.A. §§ 12-27, and Federal Trade Commission Act, 15 U.S.C.A. §§ 41-58, in the United States of America.

(3) Articles 85 and 86 of the Treaty of Rome of 25 March 1957 (BGBI. II p. 766)

(4) Until now there is no private company operating remote sensing satellites.

(5) And a larger number of resellers at lower distribution levels.

(6) Covault Craigh, Landsat/Spot Merger Talks Spark Debate on Commercial Venture; Aviation Week and Space Technology; January 23, 1989, p. 20.

(7) Gellhorn Ernest, Antitrust Law and Economics in a Nutshell; p. 146 (West Publishing Co., 1981)

(8) Marginal cost is the amount of money one extra unit of production will add to the total cost of production.

(9) Supra note 7.

(10) Supra note 8.

(11) See Art. 85, par. 1 of the Treaty of Rome.

(12) The IATA fixed fares on almost all international airline routes and had to face the U.S. antitrust law in

1978 with the "show-cause" order.
Dresner Martin and Trethewey
Michael, *The Changing Role of IATA:
Prospects for the Future*, in *Annals
of Air and Space Law*, p. 15. (Ed.
Fedone, 1988).

(13) *Supra* note 7, at p. 182.

(14) *Id.*