Departing from Monopoly: asymmetries, competition dynamics and regulation policy

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DEPARTING FROM MONOPOLY:
ASYMMETRIES, COMPETITION DYNAMICS AND REGULATION POLICY

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Deregulation modifies old rules of the game in protected industries. One of the most important changes that deregulation brings, is the possibility of entry by new players into the markets formerly closed. Deregulation usually increases the intensity of competition and, subsequently, is able to contribute positively to the general social welfare.

However, theories which argue in favour of deregulation generally support the assumption that there exists a perfect symmetry between different actors who operate in the deregulated markets [e.g., BAUMOL, PANZAR and WILLIG, 1982]. There is no doubt that this assumption must be reconsidered, especially in a context of technical change or capitalistic industries which require delays in installation of capital equipments [CURIEN et GENSOLLEN, 1987, BENZONI, 1987].

The purpose of this paper is to investigate this problem as it applies to the telecommunications industry. This industry has experienced deregulation in different countries (U.S.A., United-Kingdom, Japan,…) and is furthermore characterized both, by technical change and capital intensive technologies. We will conduct our analysis in three steps.

- *part I* presents a model which simulates the entry of a new firm in the case of the monopolistic french long-distance communication(s) market;

- *part II* analyses, from this model, the nature of asymmetries and their consequences on competition dynamics;

- *part III* suggests some general conclusive remarks on the conduct of regulation policies in a market environment where asymmetries hardly determine the competitive process.

I/ ENTRY PROCESS IN THE TELECOMMUNICATION INDUSTRY: A SIMULATION

Transmission of any signal in the french public territory depends, since 1837, on the *Ministry of Posts and telecommunications* (P&T). Therefore, in France, the telecommunication(s) network and its basic services (telephone, telex, etc.) are run by a unique public operating company, the *Direction Générale des Télécommunications* (DGT).

General regulatory assumptions need to be made in order to set up the new competitive environment in which the entrant would take place. These assumptions are the following:

- Taking as an example the United-States, England and Japan, the French government has passed a law deregulating the current DGT monopoly on long-distance communications;
- Local and international communications remain the monopoly of DGT;
- It is given to one firm (and only one in a first stage) the opportunity to enter the "deregulated" market.

Taking the perspective of the entrant, we are going to describe the sequence of steps it needs to enter the market. In order to simplify notations, the entrant will be referred to as *New Operator* (N.O.) and the formely monopolistic firm as *Existing Operator* (E.O.). To that extent, we have set up a forecasted ten-year business plan for N.O.. Naturally, the sensitivity of N.O. profitability depends heavily on its competitive advantages compared with E.O.. So, N.O.'s profitability has to be be evaluated by modifying the values of the main exogenous competitive parameters within realistic extreme boundaries.

1-1/ Methodology and presentation of the model

For N.O., the decision of entry implies a market study which must cover both the demand and the supply sides. Let us consider successively these two sides.

a) *Supply: digital technologies*

On the supply side, the first step for N.O. is to examine which type of equipment can be used. Obviously, N.O. must chose the most modern technologies, and thus must adopt digital technologies and has to build a fully digitalized network (transmission and switching). A methodical comparison of the respective advantages between the different digital transmission means - optical fiber, satellite and microwave - was realized, in order to decide which of them will best adapt to the needs of potential consumers. Assuming that N.O. would not be backward integrated, the same type of analysis was conducted for the different kinds of switching equipment available or to be announced by the world's major manufacturers (A.T.T., Northern Telecom, Siemens, Ericsson, Alcatel). This broad review helped envision the technical trade-offs as well as the design of the fixed cost function for building a nationwide long-distance telecommunication network. Exibit 1 shows a comparaison beetween different means of transmissions.

Comparaison of different means of transmision

	ADVANTAGES	DISADVANTAGES
SATELLITES	Rapidity of installation Adaptability of capacities Wide territoriality Internationalwide network Low costs of investments	Poor quality of transmission "Double bonds" impossible Incertainty in the supply of Satellite channels High operating costs
OPTICAL FIBERS	Good quality of transmissions Economies of scale Low operating costs	Large investments Difficulties to overhaul the breaks Important landed infrastructure
MICROWAVES SYSTEMS	Rapidity of installation Modulated systems Using of existing infrastructure	Difficulties in setting of apparatus Sensitivity to the environment Scarcity of frequencies

In order to complete this first approach, we have developed an operating cost function. Finally, in integrating fixed and variable costs we have obtained a global function cost which essentially depends on three parameters : network scope and structure, maximum traffic per trunk, and level of access charges to the network of the E.O..

The network scope and structure determines total expenses for the construction and transmission equipments, while maximum traffic per trunk indicates variable equipment costs like multiplexers and personnel costs. Access charges depend on number of communications and unit level of the charge fixed by E.O. or regulatory authorities.

b) ***Demand: segmentation and large business users***

Two different types of information were analyzed in order to define which market segment(s) N.O. would target as its primary customer base.

We first broke up the data on market sizes and growth by type of products (telephone, telex, dedicated lines, data transmission, etc), by type of communications (local, long distance and international) and by type of customers (presidential users, small and large business users). This analysis provided important insights that are summarized in exhibit 2.

Exibit 2

Segments in the telecommunications market

Despite their limited number (approximately 2,000 in France), the large corporate users represent 10% of the total revenues in telecommunications. With a monthly telecommunication bill of FF 708,333 on average, their consumption per line is by far the highest and is mainly made of long-distance communications, the market of N.O.. Moreover, this market segment presents a high growth rate driven by an extensive use of advanced telecommunication services.

On the other hand, the other market segments do not seem as attractive for N.O.. Much more numerous in terms of total number of customers, and thus more difficult to reach and costly to serve, their consumption per line is lower and concentrated on local communications. The primary service that they use -the telephone- has entered a phase of maturity with a growth rate levelling off at around 5% (market saturated and no significant growth in consumption).

From this first analysis, we can conclude that N.O. would concentrate on the large business users. N.O. would also concentrate on long distance communications. This type of communications would have potentially the highest growth which also happens to be the most profitable for E.O. due to cross-subsidies between local and long distance communication. Then, in just building a long-distance network, the N.O. can rapidly offer its services on a nationwide basis and minimize its volume of investments and thus the financial and economic risks.

To determine how to penetrate the segment of long-distance communications for large business users, we conducted in-depth interviews with a sample of the largest corporate users from various industries, accounting for 30% of the total market for this specific segment. Two major factors concern the demand of these customers: quality/service and price. Because they view telecommunications as a critical element in their operations, they refuse to trade off quality for price. So in essence, N.O. should at least match the recognized quality of the existing operator. However, they need an incentive to switch to N.O. resulting from the risks involved. Interviews allowed us to "measure" this risk premium in the following way.

Firms representing 65% of the total comunications value of the sample are ready to switch to N.O. providing a 20% price discount over E.O. rates that N.O. would guarantee in the long run (Exibit 3). It is important to note that with a 10 to 20% price reduction, N.O. would not obtain new customers. The importance of fixed costs and investments necessarly implies, for N.O., to conduct a policy of signifiant discount to enter in the industry. On the curve represented in exibit

3, the point 20% price discount/65% market shares in terms of value (not in term of number of customers) seems a good target for the N.O..

In conclusion, the entry strategy for N.O. should be to specialize on long distance telecommunications for large business users and to differentiate on this segment by providing the same quality at a 20% price discount.

At this point, we think that it is important to understand that offering the same quality at a lower price is possible in this case. The reasons for it relate to a general pattern common to many industries. First, due to the technical change, N.O. can dispose equipments wich are more efficient than those generally used by E.O.. Second, it is not optimal to serve different needs from different customers with the same production and distribution organization. In other words, Rolls Royces and Renault Le Car cannot be produced cost effectively on the same production line. This view stands for the telecommunications industry as well. A strategy of network differenciation is foreseeable [for theorical principles e.g., HOTELLING, 1929, THYSSE and GABSCEWICZ]. For this reason, despite economies of scale, a more adapted network can produce, at lower costs, telecommunications services to a well defined customer group, provided that the revenue prospects are large enough to offset the fixed costs involved in this industry.

Exibit 3

Estimation of the N.O.'s demand function

total sample in
percentage

level of price discount

This curve indicates the percentage of firms in the sample which will switch to N.O. if it provides a X% price discount over E.O.

This curve indicates the percentage of telecommunications revenue in the sample wich N.O. captures if it provides a X% price discount over E.O.

1-2/ Main results

a) the network

Exhibit 4 shows the network of N.O., which links 15 major French cities. This network consists of a loop between Paris, Lyon, Marseille, and Bordeaux, with several single "extensions" to cover the northern and eastern industrialized parts of France. The loop, as well as the Paris-Nancy connection, figures a large capacity 4x140 megabytes per second fiberoptic trunk, while the capacity of the extensions is at 140 megabytes per second, using fiberoptic or microwave technologies. As large corporate users are heavily concentrated in large city surroundings, such a network would be able to serve most of their needs. The end line connection procedure assumed for the purpose of this study is similar to the equal access used in the United States. Moreover, bypass procedures are not allowed, but have been considered to set up an economically justifiable level of access charges.

Exibit 4

Physical network **hierarchical structure of the network**

point of presence

One central feature of this network is the existence of only 4 switching stations, which significantly reduce the costs. This has been made possible by two factors : an excess capacity in transmission and a small number of customers to serve. These stations are located in each of the major cities mentionned above.

b) the model

An economic model was conceived and implemented to forecast the revenues and profits of N.O. within the standard 10-year period of an investment of this nature. Exhibit 5 presents the synopsis of the model, which can be divided in three different parts.

The first two parts result directly from the supply and demand analysis of the new network. The demand function estimates volume of traffic between the cities on N.O.'s network over the time period considered. The fixed cost function determines the investment expenditure sequence necessary to built up the network. The operating cost function takes into account human, and administrative costs and technical costs resulting from demand parameters.

Demand forecasts in volume are compiled by applying the market share evolution forecasted N.O. to the traffic estimates in the demand bloc. The market share gained by N.O. on large corporate users follows a curve in two phases, corresponding to an initial progressive increase (the lead time necessary to convince clients to switch) and a levelling off going to the limit of 65% referred to in the interviews [see exibit 6].

Exibit 6

Market share evolution of N.O. in the segment of long distance communications for large corporate users

The evolution of tariffs in the marketplace then determines N.O.'s price function and pricing policy, which sets compound to the traffic forecasts to calculate revenues. Access charges go on the expense account of the income statement.

The third bloc estimates the evolution of the three dynamic factors set by market forces or regulation: *tariffs*, *market share*, and *access charges*. In the model, these variables are parameters for which the values are exogeneous. Changes in these values will influence N.O.'s profitability and will be used in the sensitivity analysis to built different scenarios.

c) Scenarios hypothesis

In order to run and test the model, a referential scenario was designed according to values of the exogenous parameters (demand, tariffs, access charges) that best represent, in our opinion, the most probable evolution in case of deregulation. This scenario brings, for the three parameters, the following values.

1/ The evolution of the telecom unit price assumes a sudden rise in the E.O.'s local rate accompanied by a decrease in the long-distance (- 40%) rate to partially eliminate cross-subsidies *before* N.O.'s network begins operations in 1989. This change in prices is simply supposed to modify the distribution of E.O.'s revenues without affecting its total revenues. The continued evolution after 1989 is driven by a two-year flat step curve accounting for a transition period followed by a steady 7% yearly decline due to productivity gains. N.O.'s price has been set up at 20% below E.O.'s long distance price throughout the period.

2/ The level of access charges paid by N.O. for each communication involving E.O.'s connections at the local level is respectively 0.3 of the local unit to access for N.O.'s network (thresshold above which bypass is cheaper for a typical N.O.'s customer) and 1 local unit to end the communication.

3/ N.O. obtains, as it has forecasted, a 65% market share with the price reduction of 20% relative to E.O.'s tariffs. To prevent the access of its network by small users, N.O. sets the monthly access charge at FF. 1800.

Even in this referential scenario, we have supposed that E.O.'s reaction is significant in terms of price [exibit 7].

Exibit 7

Price evolution of telecom unit in the referential scenario

of the 1986 price

Others scenarios have been studied with less or more hard reactions of E.O.'s in term of tariff policy, commercial actions (market share), and *sqeezing* behavior (level of access charge payed by E.O.) The values of all tested scenario are related in the following table.

Assumptions on the values parameter in the different scenarios

PARAMETERS	**Scénario 1**	**Scénario 2**	**Scénario 3**
PRICE local	1987-88: + 140% 1989-97: - 3%	1987-88: 0% 1989-97: - 3%	1987-88: + 70% 1989-97: - 3%
EVOLUTION long distance SCENARIOS[1]	1987-88: - 40% 1989-90: - 3% 1991-97: - 7%	1987-88: - 100% 1989-90: - 3% 1991-97: - 7%	1987-88: 0% 1989-90: - 3% 1991-97: - 7%
MARKET SHARES SCENARIOS [2]	N.O. 65 % E.O. 35 %	N.O. 55 % E.O. 45 %	N.O. 45 % E.O. 55 %
ACCESS CHARGES SCENARIOS [3]	1.3 Unit tariff of local communication	1.43 Unit tariff of local communication	1.17 Unit tariff of local communication

1 Market share: 65% for N.O., 35% for E.O.; level of access charges is 1.3 unit tariff of local communication.

2 For price evolution see scenario 1 in price scenarios, level of access charges is 1.3 unit tariff of local communication.

3 Market shares: 65% for N.O., 35% for E.O.; For price evolution see scenario 1 in price scenarios.

d) results of scenarios

In the referential scenario, the model indicates that N.O.'s net total cumulative profit on the 1988-1997 period is able to reach 1798 million of FFs. In this case, the net rate of return of investments is near of 14%. It is logical to conclude that the entry is profitable and thus probably foreseeable.

However, the different scenarios show the important sensitivity of N.O.'s profitability to its competitive environment. The three following exibits show the results obtained with the model in reference to the scenarios described above.

First, we can observe that price competition implies an important variation in N.O.'s net profit.

According to diverse price scenarios, it varies from 5527 to 217 millions of FF. So, a realistic conclusion is that the entry is certainly non-profitable in a case of quasi-disparition of cross-subsidies. On the other hand, the potential profitability of entry in case of low reactions from the E.O. explains the importance of lobbies in favour of deregulation. In one hand, firms which want to enter the industry can hope to win a lucrative business. On the other hand, the potential profitability can be used by some categories of users (e.g. large corporate business) or regulatory authorities as an argument to prove the bad ressource allocation in the telecommunication industry.

Second, the assumption of entry possibility given to one firm and only one is absolutely necessary to open effectively the telecomunications industry to real competition, i.e. a competition with an effective presence of new competitors in the market. For this purpose, we can observe, in exibit 8 that, for N.O., a 10% market share loss implies a total profit loss of near 6OO million FFs. The quasi-linearity of that relation (due in part to the underlying model) is fraught with consequences.

Let us suppose that two firms can enter the market, and that the three firms (2 N.O.'s and 1 E.O.) adopt similar commercial actions which have finally the same efficiency. Each one of them must obtain a 33% market share. For the three firms, their net profit will be null during the period 1988-1997. But, one of these firms, the E.O., is not specialized in the long distance communication for large businesses. E.O. operates too inside other market segments of the telecommunications industry, as well as local communications, and small business and residential long-distance communications. E.O. can survive the uncomfortable situation in the long distance communications market. However, the two N.O. will have certainly a lot of difficulties to survive. Maybe, in anticipating poor gains and failures, they prefer not to enter. The initial monopolistic structure of the telecommunication industry does not move despite or further because of deregulation process.

In the background, that are asymmetries between actors which induce these paradoxical results. For this reason, we are going to push the analysis in this way.

II/ ASYMMETRIES AND COMPETITION DYNAMICS

The simulation of competition has shown that the profitability of entrants relies heavily on the competitive environment. The model was developed in relation with basic conditions and structures of the french telecommunications market. But, similar results would certainly been found in other national telecommunications markets. Because, in background, the running of

telecommunication industries is quite the same. Cross-subsidies, differences in communications volumes consumed by each category of users, increase of long-distance communications consumption, evolution of technologies, diversification in services, etc., are common facts to all telecommunication industries in developed countries.

The competition process described in the first part does not differ from the one observed in countries where the telecommunications industry is deregulated. And reactions of dominant firms, such A.T.T., N.T.T. and B.T., to compete with new firms such as MCI, US-SPRINT, DAI-NI-DEN-DEN, MERCURY are the same that D.G.T will use to compete with N.O. on its profitable markets. In the new competition, two parameters seem particularly important: *price levels* and *market share*. On the other hand, access charge levels do not really influence the results of N.O.. We can note that, in all cases, *large users reactions* to new market conditions will become a determinant factor in the competition dynamics. This category of users will play a more and more important role in the world of telecommunications. This fact is not a minor consequence of deregulation.

In the simulation model, a distinction between market share and price level scenarios, has to be made. Market shares depend on E.O. *and* N.O.'s policies, but also on a possible entry of second or third new operator. Price levels just depend on E.O. which, as dominant firm, is the *price maker*. This evident asymmetry of market power between actors takes root in particular asymmetries which must be studied because they have substantial consequences in the competitive process, and finally, on the regulation of the industry.

2-1/ Nature of asymmetries

The following table summarizes diverse natures of market asymmetries which can favour both firms. Lines relate type of asymmetry, and columns relate which firm profits from asymmetry.

We can describe more precisely the roots and the economic nature of the asymmetries.

Existing firm has advantage:

- in terms of *experience* in the running and organization of complex technologies and it benefits from a positive effect of "learning by doing" in this field.

- in terms of *spatial distribution*, owing to the *nationwide* network owned by the dominant firm. Entering firms must progressively build their network. During a time they can only propose to users some dedicated lines.
- in terms of *image*, general features wich include the longevity and intensity of contract relations with users, the soundness of the firm, the quality products and services of its being well known, etc. Obviously, this type of advantage can favour the N.O. if the E.O.'s reputation is not good. But, in the french demand case, we have found, trough the interviews, that E.O. profits by a good reputation for a lot of its services and it
- in term of *scale* and *scope*, due to the number of connected users on the network, the diversity of services, the large system of commercialisation and distribution of services and products.

Entering firm profits advantage:

- in terms of *technology*, because of important technological advances, the last firm entering the industry uses up-to-date technologies and can sell a broader variety of services at lower prices than the existing firms. In other words, the telecommunications industry assumes a decreasing cost function in the long run;
- in terms of *segmentation*, in so far as the entering firm can select its customers, its trunk directions and it is not constrained to serve small users and aeras with low density population. The possibility of differenciation and segmentation is less easy for E.O. which continues to support, even after the deregulation, some obligations concerning public utilities .

THE DIVERSE TYPES OF ASYMMETRIES

Type of asymmetry	Competitive advantage to	
	Entering firm	**Existing firm**
Technology	**X**	
Experience		**X**
Market segmentation/ Structure	**X**	
Spatial Distribution		**X**

Public utilities obligations **X**

Image **X**

Scale **X** ----------

We are now going to study how those asymmetries can influence considerably the competitive process.

2-2/ Generic strategies

Without any asymmetry, i.e. with identity of production functions of all firms, with no differentiation of products and services, with no learning by doing, and so one, it is possible to show that, generally, deregulation can bring more social welfare.

But now, by using the results of the model, let us consider plausible strategies, in the case of *existence of asymmetries* fomerly described and in the case of *pure and perfect* deregulation, i.e. a come-back of ultra-free competition without any intervention of authorities. We will consider the E.O's strategic approach., and then that of the N.O..

a) *Strategies for the Existing Operator*

To deter entry, the existing dominant firm rationally might want to increase barriers to entry into the long distance communications market. The firm will certainly focus on price policies because it seems that it is one of the most determinant parameters to the competition in telecommunications (exibit 7, part I). Now, it is obvious that prices established in a regulated context on the market segment threated by N.O., will appear too high after market liberalization. Thus, deregulation is a special instance for which a rising of barriers to entry, generally and paradoxically, requires a *diminishing* of *limit-price*. The dominant firm will continue price-cuts until entry becomes uninteresting, because of non profitability (example developed as price scenario 2 in the model). This strategy will involve quasi-disparition of cross-subsidies between long-distance and local communications, supposing that E.O. balances earning losses in long-distance activities by increase of local tariffs. In this way, N.O. does not enter.

In this scenario, pure and perfect deregulation involves the *stability of a monopoly structure*, but prices for each type of communications (local and long-distance) have steadied down at the level of pure and perfect competition equilibrium. Pure and perfect deregulation results in conclusions of contestable markets theory, potential competition can be a sufficient threat to enforce monopoly firm to price as an atomistic and not a dominant supplier.

Unfortunately, business decision-makers described in this scenario are ruled by short-run reflections. It does not allow for real strategic behavior of a dominant firm making a price policy that maximizes long-run advantages, shaping the structure of the market within which will operate in future periods. So, in the former strategy, the leading firm erects efficient but very costly entry barriers. In fact, it doesn't optimize its market power. Other tactics are foreseeable.

Therefore, the dominant firm has not a stake to deter immediate entry by cutting out cross-subsidies. After promulgation of deregulation acts, E.O. can, in a first pass, maintain its price level and structure. Thus, for a potential N.O., entry will appear very profitable (price scenario 3). Also, N.O. will invest in the building of a nationwide network as refered in the part one. Then, when the N.O. network goes into service, the dominant firm announces drastic tariff reductions. Further, it can increase efficiency of strategy in accompanying this price-cut with various forms of discrimination.

For example, either due to *spatial asymmetries*, it might reduce tariffs only on trunks where the network of N.O. is going to run, or due to *asymmetries in scales*, it might rise tariffs for domestic users and reduce tariffs for business users. Dominant firm does not suppress the cross-subsidies but changes their nature to compete with N.O. more heavily. So, cross-subsidies between type of communications become cross-subsidies between principal and secondary trunks, or between domestic and business users, and so forth.

During the phase of cut-throat competition, dominant firm can adopt a strategy of predatory pricing and provoke its own losses during a significant time. Consequently, N.O. could rapidly fail. Here, the financial capacity of competitors will be determinant. In this area, the dominant firm is more credible than N.O. for investors, banks,…. In this case, it is obvious that N.O. will not withstand the competition. The efficiency of the leading firm's strategy is highly related to its competitive advantages due to asymmetries.

For the E.O., strategy using asymmetries is undoubtedly the most efficient to compete with N.O.. Indeed, on the supply side, the first entrant setback clearly points out market hazards to any

potential entrant. On the demand side, users will regard all potential N.O.'s distrustfully. Thus, the monopolistic firm prevents entry for a long time. Finally, due to asymmetries, full deregulation implies the possibility for the dominant firm to exert its market power in the long run without real entry threat.

To prevent this undesirable effects of deregulation, the only solution is to introduce a control of the competition process by the authorities. And this control might relate to tariffs, quality, network structures, access charge, access quality, cross-subsidies, etc…

Consequently, liberalization instigates new regulation to reduce consequences of asymmetries on competition process, especially to protect N.O. against the market power of monopolistic firm. But in fact, N.O. is not without weapons in the competitive process.

b) *Strategies for the New Operator*

The heterogeneous demand induces a progressive entry. Our demand analysis suggests a specialization of the N.O. in large corporate long-distance traffic. That specificity of the demand allowes a strategy of *niche* which is implemented by the E.O.. It is based on the high growth consumption of particular customers and the high sales concentration on a small client base.

Due to the custom characteritics, the market segmentation implies the building of nationwide network. But the N.O.'s network is not common, but spezialised and selective. A lot of services aivalable on the N.O.'s network (e.g. software defined network, direct access, centrex, videocommunications, ...) are dedicated especially to N.O.'s customers. The market segmentation is supported by specific technological choices (fully digitalized network, overcapacity of transmission, optical fiber trunks, up-to-date switching stations,....), and by specific commercial actions (a lot of technology salesmen, price discount, maintenance,...). In background, the competition is, in fact, based on differenciation in quality service, discount to attract customers (no to bring prices nearer costs) and technological innovations to create a captive market. For economic theory, that pattern of competition is not pure and perfect competition, but monopolistic competition [CHAMBERLIN, 1933]. Nothing proves that, in the long run, this situation will bring more welfare than a situation of regulated monopoly [for an application to the telecommunication industry: VOLLE, 1987].

On the contrary, the N.O.'s entry and strategy leads to perverse effects. The *creaming* of the profitable client base is only possible because the regulation autorithy, in imposing public service

commitment on the E.O. without counterparties for the N.O., promotes unfair competition. The bypass practice appears as an evident case of unfair competition, because it squeezes the E.O. who keeps up local communications tariffs at a low level (FF 1.10 in 1987, see annex 1) or else it losses a considerable volume of local traffic consecutively to the development of bypass organized by N.O.. So, the duplication of a local transmission system does certainly not imply the economic efficiency.

On the other hand, we have shown that N.O. can not support the pure and perfect deregulation because of E.O.'s market power. If, E.O. adopts conciliating behavior in helping N.O. to penetrate on the market, the two firms can implicitely or explicitely set up a gentleman agreement. But, if E.O. adopts an agressiv behavior to deter N.O.'s entry, subsequently regulatory authorities will incite to protect N.O., espacially if they have caused its creation. They follow implicitly the rules of the "Infant Industry theory" [LIST]. In this case, the authorities are bound by a tacit agreement with N.O., to prevent the cut-throat competition which will kill N.O.. It can try to promote rules of competition which favour its particular interest but not increase efficiency.

When asymmetries represent a major data of the market, the consequences of deregulation on social welfare are less clear. The increase of regulation seems necessary to correct distortions in competition process induced by asymmetries. Finally, we can asumme the following paradox: deregulation movements must always go with an increase of authorities control. More State's control to obtain less State's control!

So, to conclude this paper, we propose some reflexions about regulation policies.

III/ CONSIDERATIONS ON ECONOMIC BASES FOR REGULATION

The problem which comes from the previous analysis is the following: are there economic bases for a "good" regulation in a deregulated market? How can regulatory authorities define rules of fair competition when actors use asymmetries to create mobility barriers, deter entry, adopt pricing strategies to cut profit out looks?

In schematizing, a regulatory agency might to have a double role :

- Insure bases of the fair competition in order to select the most efficient firms.
- Prevent the uses and misuses of asymmetries to limit market power effects.

An optimal regulation needs principally to define operational standards in term of tariffs, access charges, unfair practises. We know that the protective strategy for the existing firm can take separate forms. The most important consists in using cross-subsidization by product, communication trunk, customer category, type of communication. To prevent this unfair practice, the nations where telecommunications are liberalized are engaged in different ways to control the firms.

The theoretical approach of this problem is simple. Regulatory authorities must impose a marginal cost rating for all services provided by telecommunications operators. The marginal cost rating eliminates cross subsidies in pricing strategies, but we have seen that it reduces the profit so drastically for potential entering firms that finally they do not enter. It is difficult to imagine a deregulation without entry of new competitors, because a lot of customers would think that the regulated monopoly became non-regulated. This opinion would be in part justified, because in fact, the marginal cost rating is impossible to control. For this purpose, we must note that it does not seem possible to etablish clear rules of accounting to charge fixed costs between different services provided by multiproduct firms such as telecommunication operators. Thus, two approaches can be observed in actual cases.

A first pragmatic approach is to edict a deregulation act where cross-subsidies are impossible because firms provide a single product. The deregulatory process in the United States is a good example of this practice. The Bell system has been broken up in two separate categories of telecommunication operators. Local operators (Regional Holding Bell Operating Companies) conserve the monopoly on the local traffic but they cannot provide long-distance and international telecommunication services, enhanced services, not can they themselves produce their own telecommunication equipment. On the other hand, long distance operators (ATT, MCI, and so one) compete on all telecommunication and information markets (services and equipments), but they cannot provide local communication services.

It is obvious that one of main goals of this regulation is to prevent the use of a monopolistic position by local telecommunication operators to subsidize other telecommunications activities. Thus local operators cannot misuse their monopolistic position but not can they use their knowledge and profits to invest in new fields of telecommunications (smart buildings, enhanced services, electronic transfer funds,…). Despite their technical and commercial advantages, local operators undergo the bypass, and are passive by standers with respect to the development of new services without tbeing able contribute to it. There is undoubtly an anomaly in this situation, because local operators do not run large economies of scope, important in the telecommunications

sector. It is not sure that this new type of regulation brings the most economic efficiency. For this reason local operators want the authorization to increase the scope of their activities, and bargain continually with regulatory authorities.

However, this type of regulation does not forbid, for long distance operators, the possibility of cross-subsidies between the service - telecommunications activities and others activities (equipment manufacturing and so on). A.T.T.-long-distance can profit by its dominant position and compete with small firms which meet difficulties to make their investments profitable. A.T.T. can run economies of scale and scope to investigate other activities such as information and data processing. After an intermediate pass, it is obvious that A.T.T. will subsidize all types of activity, except local telecommunications, principally by its profits in the long distance telecommunications market. The possible introduction of "Price Cap Regulation" to substitute the "Rate of Return" regulation is a step in this direction.

A second pragmatical approach of deregulation is given by the Japanese and British examples. The former monopolist firm (B.T., N.T.T.) continues to provide both local and long distance communications. The new operators choose only to provide long distance communications. The deregulation creates fundamental assymetry between actors, to favour the entry of M.O. To compensate for these assymetries , the regulatory authorities give always to the former monopolies some substantial advantages, such as the possibility of entering markets formerly forbid to them: manufacturing telecommunication equipment, all types of services, and so on. Two major consequences can be observed due to the new market rules.

- First, the former monopolies try always to increase the price of local communications to balance price cutting in long distance market due to competition. Consequently, the total profit is not reduced and now it is used more to improve rapidly many new activities than to increase the telecommunication basis services quality, essentially to the detriment of the small customers.

- Second, the regulatory authorities often adopt partial behavior to favour the emergence of one or more N.O.. Authorities are then implicated in a bargaining process with all the existing and potential competitors. Lobbying, political manoeuvring, international pressures are rapidly be coming a major aspect of the deregulation process.

In conclusion, whatever the type of deregulation, we observe that bargaining power becomes an essential parameter in the deregulation market revolution. It is important to note that the bargaining power level of an actor is not proportional to his market power. This importance of bargaining power comes directly from the impossibility of economic theory to define clear market rules in a deregulated market when large asymmetries exist between actors. Authorities are obliged to regulate the market but do not know which rules they must edict. This situation implies a lot of incomplete, contradictory, temporary measures to reduce imperfections of the initial deregulation act.

But finally, will the deregulation give rise to more competition or more regulation? or both?

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