

# **HISTORICAL ANALYSIS OF DIRECT PUBLIC INTERVENTION**

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Public offer concerns a set of measures and state interventions that allow citizens, or a specific part of them, to benefit of particular goods and services in different ways than would be realized in the market left to itself. Those ways of access may be facilitated if you believe this is meritorious or about public utility (such as health care, welfare, education and network utilities that will deepen), or may be discouraged and inhibited, if considered a source of social damage (such as emission of polluting gases).

The real production of those particular goods and services may be either public or private or mixed. The set of those ways of offer forms the backbone of the public offer and this, in turn, defines the welfare state model of every community.

Since the mid of 1700, in almost all European countries and in North America the rapid industrial growth is accompanied by an increasing degree of concentration of capital and industrial power. In certain cases, this concentration is the result of aggressive competition that eliminates the weaker, in other cases of collusion, of fusions of cartels.

Many liberals, including Smith, theorized the state intervention as guarantor and regulator in areas where some groups were blocking the development of the economy and the free expression of competing forces.

In this sense, the anti-trust legislation's main objective is to transfer power to a central government against the claims of the free market supported by aggressive capitalists like Morgan, Carnegie, Rockefeller, to Henry Ford few years after. Sherman act reiterates that the market economy, to be such, can not be limited by any kind of monopoly and cartel.

## **BORN OF SHERMAN ACT**

We have one early antimonopoly policy on which to test the attitudes of the classical economists. A host of earlier laws were codified into the Combination Acts of 1799 and 1800, which forbade either employers or employees to join to influence the wage bargain. The passage of those acts did not attract the attention of any economists (who were few indeed in those years) but their repeal in 1824, which was engineered by Francis Place, did receive modest attention.' That McCulloch wrote strongly in support of the repeal of the acts is a plain expression of the remoteness from the economists' thoughts of an active antimonopoly program.' This well-informed writer ("We should never have done were we to attempt to lay before our readers a tithe of the information of which we are possessed"), in the course of a discussion marvelous for its insights as well as its inconsistencies, remarks.

The omission of a theory of monopoly and oligopoly began to be remedied in the last third of the century. The remarkable work of Cournot and Dupuit began to enter English economics, in particular through Edgeworth, Sidgwick, and Marshall." Putting aside the intractable problem of oligopoly, substantial advances were made in the theory of monopoly and price discrimination.

A careful student of the history of economics would have searched long and hard, on the unseasonably cool day of July 2 of 1890, the day the Sherman Act was signed by President Harrison, for any economist who had ever recommended the policy of actively combatting collusion or monopolization in the economy at large.

Sherman law was primarily a law against trusts. The Clayton Act did not even concern itself with conspiracies, with the exception of the prohibition of interlocking directorates. Gradually the

emphasis of the enforcement of the laws shifted toward the conspiracies in restraint of trade. In historical retrospect there have been many conspiracy cases for every attempt to prevent or dissolve a monopoly. That shift in focus had an important consequence for professional opinion. Collusion cases do not raise the question of economies of scale, at least in any easy or explicit way. All the fears that dissolution of large firms would lead to great inefficiencies seem to fall by the side in collusion cases. The defender of antitrust policy as it was practiced need not offer defences against a charge of economic inefficiency or obstruction of great historical forces. As the main content of the effective definition of monopoly changed, it became easier to oppose monopoly.

Actually, Sherman Act shows limits and gaps evident in the early 1900. The rules were easily bypassed or were applied to cause confusion and uncertainty, despite the efforts of some governments that have operated in the first 10 years of the law, there have been in the early years also arbitrary application and away from the spirit of the rule.

Against this situation, in all the country, the need to carry out additions or improvements to current antitrust regulations resulted as a priority. The first step in this direction was the approval, in 1914 by the US Congress. The text prepared by congressman Henry De Lamar Clayton, who intended to clarify the ambiguities and uncertainty due to the application of the Sherman act.

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The three main regulations governing anti-trust policy in the United States are the Sherman act (1890), the Clayton Act (1914) and the Federal Trade Commission Act (1914). Over the years there have been additions, deletions and amendments to these laws. Even before the approval of the Sherman Act, however, there was legal principles that governed the competition between companies. According to the common law (based on the previous decisions of the courts in absence of explicit laws).

Antitrust laws were passed in a heavy period of change in American industry. Around 1890, when the Sherman Act was approved, in United States were formed through mergers large enterprise, which can achieve economies of scale. In the last decade of the nineteenth and early twentieth century, the wave of mergers was the most significant in American history

Sherman Act, the first antitrust legislation in the United States, was in part a reaction to these changes in the US economy. The first section of Sherman Act prohibits cartels explicit, stating that all contracts, any association in form of trust or otherwise, of any conspiracy to restrict competition between the states (of the United States), or foreign nations, is declared illegal.

The second section states that every person who monopolize or attempt to monopolize, or to associate with one or more persons conspire to monopolize any aspect of trade between the states (of US), will be found guilty of a serious crime.

As you can interpret the second section as a prohibition of monopoly, de facto the authorities have proved a different interpretation. As we will explain later, is not a crime monopoly form until the monopolist does not commit “reprehensible”.

Federal Trade Commission Act created a new government agency, the Federal Trade Commission (FTC), which, more than other tasks, ensure the application of antitrust laws and judges disputes within its competence. The main disposal of the Federal Trade Commission Act is contained in the fifth section, which prohibits form of “unfair” competition. The responsibility of consumer protection and the prevention of misleading advertising falls in the FTC. It often happens that a case involves the violation of various antitrust laws: an antitrust dispute could violate the Sherman and the Clayton Act.

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#### EFFECT OF ANTITRUST POLICY

The main methods of controlling economic activity alternative to the market are public regulation and ownership. It would be very easy to say that growing disenchantment with political controls of economic activity has increased the desire of economists for market solutions. The reputations of the NRA, incomes policies, and general price controls-to say nothing of the poet office-are not of the best. The reputation of industry regulation of transportation and agriculture is no better. Yet I am unwilling to press this case: for every criticism of the failures of political controls, I suspect that I can still find two or three allegations of market failure

The direct demand for the services of economist in implementing antitrust policy-particularly in litigation-has already been referred to. No one has repealed the aphorism about pipers and the tunes they play: I would conjecture that the influence of direct employment is neither negligible nor large. I suspect that the large number of economists who are beneficiaries of the Bell system (including its journal) are less prone to criticize that system than they would otherwise be. Again, antitrust experts surely lose one or two degrees of freedom in dealing with the effects of concentration or the definition of a market in each antitrust case in which they appear.

Only the economist who withdraws completely from all policy discussions is insulated from such influences, and insulated also from much of the real world.

I find this relative decline in the measure of our interest less surprising, and not at all disturbing, compared to the minor influence that our antitrust policy has had upon fundamental economic research.

Depending on who convinces the judge, the concentration ratios will be awesome or trivial, with a large influence on his verdict. My lament is that this battle on market definitions, which is fought thousands of times what with all the private antitrust suits, has received virtually no attention from us economists. Except for a casual flirtation with cross-elasticities of demand and supply, the determination of markets has remained an underdeveloped area of economic research at either the theoretical or empirical level.

Other branches of antitrust economics, such as vertical mergers and franchising and leasing, have been almost equally neglected.

It would not be proper to conclude that our antitrust policy has had no effect upon economic research. A literature such as that on workable competition or administered prices-neither an ornament to our science-was created to give advice on monopoly policy. The data supplied to the scholars by litigation have provided a wealth of materials, which have yielded among other good things innumerable dissertations on as many industries. Industrial organization was a much more active field in the United States than elsewhere between the two World Wars, and our antitrust policy was surely the main reason for this difference. Yet this history is an unnecessary reminder that active public policy carries no assurance that fundamental economic research relevant to that policy area will flourish.

## CONCLUSION

The only conclusion I shall seek to draw from this survey of the relationship between economics and antitrust policy is that the attitude of economists toward monopoly policy is strongly influenced by the corpus of technical price theory. Our present support for procompetitive policies is due in good part to the strong virtues we attach to competitive markets and incidents. That point is illustrated rather than contradicted by our historical survey. Competition is now much more vigorously supported than it was in 1890 primarily because we understand it much better today. In 1890 competition was a commonsense notion in economics, more a loose description of economic behavior than an analytical concept. In no sense was the supremacy of competition challenged by the then small, emerging literature on monopoly. A concept without enemies, however, is also a concept without informed friends. The content and power of competition have become much better understood after several generations of far-ranging debate about monopolistic and imperfect competition and oligopoly—a word unknown to the profession in 1890. Consider one small example: The earlier literature of predatory competition had the predator cut prices in the vicinity of the prey and raise prices elsewhere to recoup the loss. Today it would be embarrassing to encounter this argument in professional discourse. I once encountered a vigorous criticism when I argued the related thesis that professional economists are more favorable to the use of a price system than other academic people." Even the urbanity of Harvard economists was ruffled at the suggestion that they leaned more than intellectuals generally toward more use of the price system and less use of the political system in dealing with economic problems. Quite independently of the question of how one should lean, I believed then, as I do now, that it is a tribute to the strength of the corpus of knowledge in a discipline if its practitioners accept it even in areas outside their professional work. We have trouble enough showing how economics influences our society, so it is of some consolation to assert that it influences us!

From the second half of the 19<sup>th</sup> century begins to prefigure to foreshadow a differentiation both theoretical and practical in paths of economic doctrine between the United States and Europe.

Across the ocean it was delineating the model of regulatory state that still prevails while in the old continent was formulating a "strong" model of state and big government that then, after World War I, will be realized in policies dirigisme in some central European countries, in the formation of welfare states and in various processes of nationalization.

## BAUMOL – CONTESTABLE MARKETS

The theory of contestable markets was advanced as a generalization of the theory of perfectly competitive markets, and a generalization that (in contrast with the previous literature) endogenizes the determination of industry structure. Thus (Baumol, 1982)

*in the limiting case of perfect contestability, oligopolistic structure and behavior are freed entirely from their previous dependence on the conjectural variations of incumbents and, instead, these are generally determined uniquely. . . by the pressures of potential competition. . . .*

Further, the theory of contestable markets was presented as suggesting an improved set of guidelines for determining when government intervention in the market is called for, and for the conduct of such activity when it is undertaken.

This theory, associated primarily with its 1982 proponent William Baumol, holds that there exist markets served by a small number of firms, which are nevertheless characterized by competitive equilibria (and therefore desirable welfare outcomes) because of the existence of potential short-term entrants.

The biggest contribution of this theory is from three economists: Baumol, Willing, Panzar. Their analysis, provides a generalization of the concept of the perfectly competitive market, one which we

call a “perfectly contestable market”. It is, generally characterized by optimal behavior and yet applies including even monopoly and oligopoly.

A perfectly contestable market has three main features. It is a market that has:

- No entry or exit barriers
- No sunk costs
- Access to the same level of technology (to incumbent firms and new entrants)

In saying this, it must be made clear that perfectly contestable markets do not populate the world of reality any more than perfectly competitive markets do, though there are a number of industries which undoubtedly approximate contestability even if they are far from perfectly competitive. Instead, we talk about the degree of contestability of a market. The more contestable a market the closer it will be to a perfectly contestable market. In our analysis, perfect contestability, then, serves not primarily as a description of reality, but as a benchmark for desirable industrial organization which is far more flexible and is applicable far more widely than the one that was available to us before.

I will show that, in contrast, in perfectly contestable markets behavior is sharply discontinuous in its welfare attributes. A contestable monopoly offers us some presumption, but no guarantee, of behavior consistent with a second best optimum, subject to the constraint that the firm be viable financially despite the presence of scale economies which render marginal cost pricing financially infeasible. That is, a contest-able monopoly has some reason to adopt the Ramsey optimal price-output vector, but it may have other choices open to it.

In short, once we leave the world of pure or partial monopoly, any con-testable market must behave ideally in every respect. Optimality is not approached gradually as the number of firms supplying a commodity grows. As has long been suggested in Chicago, two firms can be enough to guarantee optimality (see, for example, Eugene Fama and Arthur Laffer).

The older theoretical analysis seems to have considered the invisible hand to be a rather weak intratemporal allocator of resources, as we have seen. The mere presence of unregulated monopoly or oligopoly was taken to be sufficient per se to imply that resources are likely to be misallocated within a given time period. But where the market structure is such as to yield a satisfactory allocation of resources within the period, it may have seemed that it can, at least in theory, do a good job of intertemporal resource allocation. In the absence of any externalities, persistent and asymmetric information gaps, and of interference with the workings of capital markets, the amounts that will be invested for the future may appear to be consistent with Pareto optimality and efficiency in the supply of outputs to current and future generations.

## **I. Characteristics of Contestable Markets**

A contestable market is one into which entry is absolutely free, and exit is absolutely costless. We use "freedom of entry" in Stigler's sense, not to mean that it is costless or easy, but that the entrant suffers no disadvantage in terms of production technique or perceived product quality relative to the incumbent, and that potential entrants find it appropriate to evaluate the profitability of entry in terms of the incumbent firms' pre-entry prices. In short, it is a requirement of contestability that there be no cost discrimination against entrants. Absolute freedom of exit, to us, is one way to guarantee freedom of entry. By this we mean that any firm can leave without impediment, and in the process of departure can recoup any costs incurred in the entry process. If all capital is salable or reusable without loss other than that corresponding to normal user cost and depreciation, then any risk of entry is eliminated.

Thus, contestable markets may share at most one attribute with perfect competition. Their firms need not be small or numerous or independent in their decision making or produce homogeneous

products. In short, a perfectly competitive market is necessarily perfectly contestable, but not vice versa. The crucial feature of a contestable market is its vulnerability to hit-and-run entry. Even a very transient profit opportunity need not be neglected by a potential entrant, for he can go in, and, before prices change, collect his gains and then depart without cost, should the climate grow hostile. Shortage of time forces me to deal rather briefly with two of the most important properties of contestable markets-their welfare attributes and the way in which they determine industry structure. I deal with these briefly because an intuitive view of the logic of these parts of the analysis is not difficult to provide. Then I can devote a bit more time to some details of the oligopoly and the intertemporal models.

### **A. Perfect Contestability and Welfare**

The welfare properties of contestable markets follow almost directly from their definition and their vulnerability to hit-and-run incursions. Let me list some of these properties and discuss them succinctly. First, a contestable market never offers more than a normal rate of profit-its economic profits must be zero or negative, even if it is oligopolistic or monopolistic. The reason is simple. Any positive profit means that a transient entrant can set up business, replicate a profit-making incumbent's output at the same cost as his, undercut the incumbent's prices slightly and still earn a profit. That is, continuity and the opportunity for costless entry and exit guarantee that an entrant who is content to accept a slightly lower economic profit can do so by selecting prices a bit lower than the incumbent's. In sum, in a perfectly contestable market any economic profit earned by an incumbent automatically constitutes an earnings opportunity for an entrant who will hit and, if necessary, run (counting his temporary but supernormal profits on the way to the bank). Consequently, in contestable markets, zero profits must characterize any equilibrium, even under monopoly and oligopoly.

### **B. On the Determination of Industry Structure**

I shall be briefer and even less rigorous in describing how industry structure is determined endogenously by contestability analysis. Though this area encompasses one of its most crucial accomplishments, there is no way I can do justice to the details of the analysis in an oral presentation and within my allotted span of time. However, an intuitive view of the matter is not difficult. The key to the analysis lies in the second welfare property of contestable equilibria their incompatibility with inefficiency of any sort. In particular, they are incompatible with inefficiency in the organization of an industry. That is, suppose we consider whether a particular output quantity of an industry will be produced by two firms or by a thousand. Suppose it turns out that the two-firm arrangement can produce the given output at a cost 20 percent lower than it can be done by the 1,000 firms. Then one implication of our analysis is that the industry cannot be in long-run equilibrium if it encompasses 1,000 producers. Thus we already have some hint about the equilibrium industry structure of a contestable market.

here the invisible hand proves incapable of protecting the most efficient producing arrangement and leaves the incumbent producer vulnerable to displacement by an aggressive entrant. I leave to your imaginations what, if anything, this says about the successive displacements on the world market of the Dutch by the English, the English by the Germans and the Americans, and the Americans, perhaps, by the Japanese. The proof of our proposition.

### **III. Intertemporal Vulnerability to Inefficient Entry**

Having so far directed attention to areas in which the invisible hand manifests unexpected strength, I should like to end my story by dealing with an issue in relation to which it is weaker than some of us might have expected. As I indicated before, this is the issue of intertemporal production involving durable capital goods.

Suppose that in every particular period our producer is a natural monopolist, that is, he produces the industry's supply of its one commodity at a cost lower than it can be done by any two or more enterprises. Then considering that same product in different periods to be formally equivalent to different goods we may take our supplier to be an intertemporal natural monopolist in a multi-product industry.

#### **IV. Concluding**

Comments Before closing let me add a word on policy implications, whose details must also be left to another place. In spirit, the policy conclusions are consistent with many of those economists have long been espousing. At least in the intra temporal analysis, the heroes are the (unidentified) potential entrants who exercise discipline over the incumbent, and who do so most effectively when entry is free. In the limit, when entry and exit are completely free, efficient incumbent monopolists and oligopolists may in fact be able to prevent entry. But they can do so only by behaving virtuously, that is, by offering to consumers the benefits which competition would otherwise bring. For every deviation from good behavior instantly makes them vulnerable to hit-and-run entry. This immediately offers what may be a new insight on antitrust policy. It tells us that a history of absence of entry in an industry and a high concentration index may be signs of virtue, not of vice. This will be true when entry costs in our sense are negligible. And, then, efforts to change market structure must be regarded as mischievous and antisocial in their effects.

The theory of contestable markets has been used to argue for weaker application of antitrust laws, as simply observing a monopoly market may not prove that a firm is exploiting its market power to control the price level. Baumol himself argued based on the theory for both deregulation in certain industries and for more regulation in others.

### **PUBLIC UTILITIES**

Most traditional reason of public policy is conventionally based on the need to alleviate the problems of efficient allocation and natural monopoly, which has tried to remedy or intervention on the rules (regulations) or directly on the property (nationalization). The railway sector, gas and electricity, telecommunications, air transport and so on, were the most traditional cases of monopoly.

The private monopoly is an incurable source of conflict between legal public authorities and private, owner of the legitimate right to operate in a given sector.

John Stuart Mill recognized the baneful effect of small numbers on the vigor of competition: "Where competitors are so few, they always end up agreeing not to compete." In such industries as water supply, therefor, although the state must control entry to prevent waste, it must also sooner or later regulate and possibly operate such enterprises. In keeping with custom, Mill saw no way for the state to support competition other than by failing to create monopolies.

The second tradition that all important monopolies were created by the state-began to be eroded in the nineteenth century with the development of railroads and other large. Scale utilities, as Mill's practice has already told us. We now had a class of monopolies which might, and usually did, get grants of power (eminent domain) and more merchandisable assets from the state, but whose existence rested chiefly on important economies of scale. The recommendation, first of publicity of accounts, and then regulation or public ownership, became general. "I am coming to admire Henry Sidgwick almost as much as the other two. His Principles of Political Economy (1883; 3d ed., London: Macmillan, 1901) has two chapters which are among the best in the history of microeconomics, dealing with the theories of human capital and noncompetitive behavior. By 1890 Britain and the United States were the only important nations in the world with privately

owned railroad. Before that date little attention was paid in the English or American economics to monopoly in the manufacturing or trading sectors. So Smith's second tradition had bifurcated into state created monopolies and those created by economies of scale, and the latter constituted the public utility sector of the period.

The first decades of this century have witnessed the emergence of technologies characterized by a high intensity of capitals and large industrial concentrations generated oligopolistic cartels that monopolized many markets. Not only the concentration in the hands of a few private of the most important areas of economic activity of a country objectively creates a problem of mixing of private interest on the progress of social development, requiring public control.

The rationality of the public intervention comes, then also by the need to ensure social development free from particular conditions purely oligopolistic.

Now, the reinforcement of the private power is made possible by the presence of barriers to entry, asymmetries and tangible and intangible that feed concentration risk and reinforcement of private monopoly powers.

It should be noted that this last conflict for definition with the role and prerogatives of the legitimate sovereign authority.

No wonder, the history shows several solutions to this problem: from nationalization (public authority absorbs the private power defining born of a public enterprise instead of a private one), to granting of some kind of right of exclusivity (that highlights the implicit acceptance of the second part of the first).

Examples are nationalization of the railways at the beginning of the century.

The question of the vertical integration of enterprises of collective importance, arises, then, especially when it comes to areas that need major investments, especially type sunk (non-convertible) and/or infrastructure (with obvious implications about the diffusion of services conveyed in the territories) and/or complex and technologically innovative. In such cases it is already very difficult to find private companies engaged in order without massive subsidies and government guarantees (the history of Europe is the history of public investment in the sectors related to capital-intensive infrastructure).

Railway sector is well suited to the analysis in question. In it we find all the characteristic features of the reasons for state intervention in network public utilities: relevance and not duplicated, network and related technologies, major investments with low economic returns and diluted over time, mapping of infrastructure caused by the logic of planning urban settlements developments and cities nationwide, obvious synergies in the development of national industrial areas, and will need to ensure universal services affordable to the whole community, etc.

All this has led European nations adopt the model of the national railway vertically integrated. The lock-in option has historically prevailed in no vertically option.

The construction of the common European markets in different sectors of public interest (rail transport, electricity, telecommunications, etc.), has prompted the end of the maintenance of vertically integrated national monopolies for the offer of public utilities of national importance and the start of a process of opening up of national markets in order to achieve common European market competitive one. The progressive European integration, then, has focused on the free movement of services and therefore the liberalization of supply of public services in Europe. The existence of monopolistic input structurally and/or not rationally duplicated is wearing the affirmation of the principle of Third Party Access (TPA) to networks, systems and other functional equipment to free movement and modulation services to the community and national interest.

In closed and limited markets, as has historically been the case of the countries member of the European Community, the exploitation of economy of scale can not be possible on the national/local without inducing the trade-off mentioned above, a dilemma between technical efficiency and allocative efficiency.

Looking ahead, it is possible to predict strategies overcome this problem through the expansion (institutional) of the target market.

The ways in which state intervention is carried out in every degree and institutional level are different from country to country. If in Europe it is often achieved through nationalization and the creation from creation of publicly owned companies, the US experience has, however, done more often use of interventions on the rules, favoring the instrument of the regulation of private companies. The reasons for these differences are due to the different perception of the market and, consequently, the different confidence placed on its self-regulatory mechanisms of the market. The levels of effective competition experienced in an economic arena as large as the United States were certainly higher than those observed in other European states. In European countries the problems of scarcity and / or limitations of the actors in certain sectors (including natural monopolies which are the extreme case) we came to spread the issue of control of many national natural monopolies.

The historically reasons given to justify the varied range and articulation of nationalization in other countries, even in areas that do not provide public goods of particular social, often hide the need to replace the private sector in public ownership and management of activities for which no can define other guidelines indirect intervention, this emphasizes the affirmation of an organismic approach of public intervention in utilities: they do not qualify only activity, but also the organization and, therefore, its ownership and control.

## PUBLIC UTILITIES AND THE INTERNATIONALIZATION OF THE ECONOMIC SYSTEM

### **1. The heterogeneity of public utilities supply models in Europe**

The evolution of state intervention in the economies of European countries has produced a heterogeneous system of public regulation.

Public enterprise, for instance, has played different roles in different national contexts, and has often been considered a tool of economic policy. The different institutional outlines of national and local public utilities produce a regulative heterogeneity on the European continent, and this situation creates problems both for the economic and the institutional integration of European states.

NPU (network public utilities), include sectors such as: telecommunication, production and supply of electricity and natural gas, rail and air transport, and postal systems, all characterized by the presence of a network system as a fundamental input.

Until a few years ago, the different institutional solutions for NPU were mostly based on the model of the vertically integrated public enterprise. For sectors of national relevance, this kind of public enterprise operated in a regime of legal monopoly often reinforced by the exclusive right on imports.

Even though the situation of NPU sector has been changing over the last few years (partly due to the European Commission's directives) there is still contrast with the situation of manufacturing industries: whereas the NPUs are to large extent intrinsically linked to the national context, the

latter operate in a completely internationalized context. This divergence has a double explanation: on the one hand, the existence of natural monopoly conditions (network specificities, large economies of scale relative to limited national demand, and so on) frequently led to a vertically integrated monopolistic public enterprise; on the other, several tasks were assigned to the suppliers of public utilities. They had to build up and maintain a nationally integrated infrastructure of crucial importance to the development of the rest of the economy, like, for instance, the electricity industry and telecommunications. The tasks assigned defined the practical application of the national general interest for each single country. Usually, general interest is identified with continuity, safety and universality of services (frequently translated into the 'meet all demand' condition).

The model of the public utility enterprise – vertically integrated in the stages of production and distribution of the services – has allowed the diffusion of the service all over the territory with the goal of attaining a universal spread of such services.

The prerogatives of universality and the magnitude of required of the integrated model. Besides, the unity of the networks for transportation and distribution of the services and the difficulty of their storage required the coordination of a single decision maker and planner. These circumstances have fostered configurations in the different national industries following the traditional schemes of the national monopoly. In a large number of countries, such natural monopolies are reinforced by legal monopolies.

As already mentioned, manufacturing industries are increasingly opening up to international competition. The NPU sector, on the contrary, is frequently still closed within the national borders.

In the past few years, in fact, important innovations have been introduced in the supply models of public services, both locally and nationally. The activity differentiation of firms operating in the NPU sector is always growing, with acquisitions of activities abroad and expansions to sectors with similar consumption or technological synergies (from the development of different services or goods transported on rail or road to the production of electricity by firms specialized in waste disposal or gas distribution).

It is even possible to see differentiation strategies with regard to the activities within the NPU sector, based on the exploitation of synergies between financial capability and the possession of so-called network skills. Such examples underline the need to consider the effects of technological innovation and globalization of economic relations on the strategic choices of single firms to how to exploit economies of scope and economies of scale.

## **2. Globalization of markets, technological innovation and the evolution of production models**

The evolution of production technologies and managerial models of production has interacted with the opening up of national markets.

This operates at two levels: either on the entire world market or, more often, on geographical subsets that define new communities, such as the EU. Technological evolution has, in this way, interacted with choices of a political and institutional nature. Together, they have contributed to the globalization of markets.

The effects of globalization have changed the models of state intervention in the national economies and the ways of regulating. From their creation around the turn of the century onwards, the NPUs have adopted technologies characterized by huge economies of scale which, with regard to a rather limited national market, have ended up presenting configurations of a natural monopoly. This natural monopoly asserted itself by reason of the strong synergies between the different stages of the production processes, and thus, paved the way for the assertion of the model of the vertically integrated firm.

The evolution of the different NPU industries is coherent with a 'Fordist' vision of production organization, the one that prevailed until a few decades ago.

This model is characterized by a rigid hierarchical control of the entire vertically integrated production and aims at the exploitation of economies of scale. Such a model could not be exposed to competitive pressures from open markets.

The globalization of markets has increased the difficulties and the inconvenience we have to take into account if we maintain the model of the vertically integrated national monopoly for NPU supply.

We can only briefly recall here the main explanations that have been put forward in the theoretical debate on the origins of globalization.

1. The integration of financial markets and the diffusion of their interactions thanks to the new information technologies and telecommunications that have reinforced the centrality of financial structures along which the credit circuit is implemented and on which production is based.
2. the extremely quick diffusion of successful technological innovations worldwide.
3. The centrality of competitive capacity in the knowledge structure, in coherence with the exploitation of network opportunities. This explains the progressive affirmation of new big differentiated oligopolies, both plurisectoral and plurinational.
4. The intensification of the processes of globalization of communication and exchanges makes it possible to discover the birth of 'islands' that are culturally and sociologically homogeneous all over the globe, independent of their physical location.

The vertical do-integration of production processes goes, thus, hand in hand with the decentralization of decision-making.

The underlying vision of globalization in the scenario of flexible specialization is based on the idea that the 'Fordist' scenario is completely set aside by the process of globalization.

Indeed, the 'Fordist' model, based on the exploitation of economies of scale and the vertical integration of production processes, is radically changing because of three important changes: the revolutions in communications and transport, the affirmation of the so-called information society, and the progressive opening up of national markets. The main consequences of the new 'soft' technologies are the economies of scope and the network economies. Undoubtedly, they have encouraged the de-verticalization of firms and the internationalization of production. The multiproduct network enterprise is perhaps the most obvious consequence.

The new model for the organization of production that seems to emerge exploits both economies of scale and economies of scope. Thus, instead of substituting the former with the latter, the new model seems to find equilibria which present both economies of scope and economies of scale. The trend towards industrial concentration and mergers between firms that are specialized on a world scale remains. The main reason, however, is no longer the search for new critical masses of production, but the search for new strategic synergies between different sectors and different markets.

Therefore, the globalization of markets thrives on the spatial distribution of the processes and of the products' transmission but, in the meantime, the process underlines the strategic character of network control. In a global economy, the local network becomes the core business, the source of asymmetries between incumbents and entrants.

We have to remember that globalization is not homogeneous across all markets and all sectors of economic activity. Some, in fact, remain in a situation of legal monopoly at the national level, often

by reason of their original natural monopoly. NPUs in some countries are still important examples of these circumstances.

### **3 European integration and the creation of markets for NPU supply**

The progressive economic and institutional integration of the countries of the EU obviously presents strategic aspects, namely the need to reinforce the scale of economic and industrial policies to face the challenges emerging from globalization.

In this new era, it is necessary to overcome nationalistic isolation in order to lay the basis for a network of broader and more articulated strategic relations. The explosion of global competition encourages also a so-called 'club' creation, and the EU is a clear example of this.

The idea of a European community came about when the simple logic of the European customs union gave way to a new institutional actor with its own rules. This meant the beginning of a difficult process of integration of national rules and reference standards. The integration of the different national models of public supply and NPU regulation is one of the most complicated and controversial problems, not least because of the effect NPUs have on the life of citizens and efficiency of firms.

The drafters of the Treaty of Rome were already conscious of this problem in 1957. They laid the basis for the construction of a common European market through the integration of national markets of member states, that is, through the realization of a club of countries among which it was possible to abolish internal borders and with free movement of persons, services, goods and capital. The application of the treaty in the NPU sector initially met resistance from member states.

The big NPUs have developed within the borders of the member states. In fact, they have been called 'excluded sectors'. The process of liberalization was applied only to the manufacturing sector, but it was not applied to NPUs, because of their national connotations of public utility and because it was declared that a process of liberalization was inopportune in the light of the market failures that distinguished the different national markets.

The Court stated the urgent need to introduce measures in the NPU sector, and from the beginning of the 1990s onwards, those measures have thoroughly shaken the organizational and institutional order of the NPU sector (Bognetti and Fazioli 1996).

The new European reform of national NPUs is based on the following principles: non-discrimination, full accessibility, interconnection and integration. They constitute the guidelines both for the promotion of European markets for the NPUs, and for antitrust. The EU took a series of normative initiatives that paved the way for liberalization in the field of NPUs, that is, sectors in which output is distributed to the consumption through fixed network systems. The actual and probable disagreements regarding the opening of national networks may be worrying. One only has to think of the conflict between the nature of the process of European integration and the maintenance of the exclusive rights of production, transport, and distribution of the many NPUs in the different member states.

The opening up of sectors with an important public relevance to competitive principles requires two kinds of measures:

(i) The transposition of the competitive scenario from national areas to the European one, in order to increase the number of potentially interacting subjects, that is, to overcome the restrictions of the national markets that have historically justified the development of national legal monopolies.

(ii) The sectors with structural market failures, for instance because the networks are unique and specific, need measures that can make access to those markets more competitive. The logic of the common carrier is of central importance in the NPU sector.

As far as regulation policies are concerned, the step from so-called 'conduct regulation' to 'structural regulation' indicates the move from a merely national regulation to a supranational, communitarian one.

In the NPU sector, structural regulation finds its best expression in the adoption and diffusion of the principle of non-discrimination in access to the networks, that is the third-party access (TPA) principle.

The aim is to stimulate the diffusion of efficiency incentives by introducing potential competition in the supply of services, at least on European scale (Hart 1983, Tirole 1988).

This is to be implemented through the separation of the subjects managing the networks from the subjects marketing the NPUs by using the networks. The introduction of competitive principles weakens the force of the traditional policy of discrimination of network access in favour of the

national monopolist, and encourages, thus, the liberalization of access to the networks (Laffont and Tirole 1994).

The characteristics of public services have not been neglected by the European Union, in the light of article 90 in the Treaty of Rome, but they are not necessarily a hindrance to competition (CEEP 1995b).

The problems of the implementation of competitive models for all sectors of economic activity are, indeed, different from the ones regarding the policies of public subsidization of merit goods and services.

It is evident that the efficiency improvements that are expected from liberation in the EU cannot be the same in every member state. The relatively closed national model, typically big monopolistic public enterprises that are vertically integrated, has presented and continues to present in some countries, such as France, empirical evidence of stability and efficiency.

The main obstacle to effective competition between more actors in the NPU sectors is the national networks. In those sectors, however, a potential competition can be stimulated by enlarging the possibility of network access for third parties. As far as NPUs are concerned, the opening up of competition at the EU level overcomes many, if not all, of the problems of market failures that were at the root of the traditional solutions of public ownership.

The transposition of the competitive scenario from the national to the European level has produced a potential increase in the number of interacting subjects, and this have already made it possible to overcome the problems connected with narrow national markets that have traditionally justified the development of national legal monopolies. If the network system could become effectively integrated at the level of the EU, then the reference market for each interested industry would become at least the EU one and not the national one.

#### **4 Some consequences of globalization for the creation of a new European policy for NPUs**

Globalization and technological innovation are now also affecting the NPU sectors that were traditionally framed in vertically integrated monopolies, operating within the territory of one country. This process is creating dangerous tensions between a coalition fighting for the protection of the national interest and a coalition hoping to benefit from the expansion of competition and the multiplicity of suppliers.

The step from national policy models to international competition and policy models raises problems of redistribution. It is true that principles of non-market allocation have prevailed in those sectors, but this was based on the need to apply redistributive policies among consumers, both citizens and firms.

In Europe, the model of non-market allocation had undoubtedly the merit of presenting a solution for the problems of asserting, developing and protecting the general interest of citizens and firms, and it made the adoption and development of new technologies and important infrastructural investment possible. The affirmation of the logic of market allocation requires today two things: non-discriminatory rules to enhance competition and thus a 'natural' solution among more actors, and the possibility of finding, politically, a way to compensate for the inevitable redistributive effects.

It will be necessary to establish on the one hand a common body for the political assessment of any negative effect on single participants and on the other hand convergence schedules that allow time and the possibility of reconversion of the plurality of different national models. A 'cooperative approach' to integration, in fact, depends also on the distribution and the size of costs and benefits to the participants.

The model of TPA or unbundling the vertically integrated forms of the NPU sector is one way to enhance competition. A gradual approach could guarantee success. Indeed, the immediate liberalization of the NPU sector, with the abolition of national norms of public monopoly for the imports of energy products (natural, gas, electricity) could cause serious problems, such as skimming of markets, or undesired redistribution of costs and benefits among consumers. These problems could probably be partly overcome by a policy determining the market shares that are open for competition and, in the meantime, by monitoring at the European level the emergence of opportunities for free competition through special European authorities.

At an institutional level, the implementation of TPA principle cannot unequivocally be defined as a simple activity of legislative production. In fact, we could think of an extreme version of TPA, according to which the general principle has only to be translated into a drastic deregulation and privatization of the rules of the game.

Examples of necessary regulation can be found in the supply of electricity and the coordination of railway services, that is, continuity, regularity, reliability and universality of the service, are not necessarily coherent with the allocative logic of the deregulated market.

In the light of what has been said before, the TPA principle can be applied even in the presence of a vertically integrated incumbent firm, provided that through public regulation customers are allowed

access to the network, and that antitrust norms pursue the abuse of dominant positions. It is, thus, up to the European policy maker to integrate, harmonize and overcome the inconsistencies of the national normative systems, focusing on the reduction of the many exclusive rights for the management of national networks according to the TPA principle. On the other hand, discretion regarding the definition of public interest of every single NPU remains in the hands of the national policy maker. This also requires that the relations between public subsidy, the nature of the obligations of the public services (such as regularity, continuity and reliability of service, and non discrimination between consumer etc.), and the fundamental anonymous character of the subject that actually delivers these services is explicit, in order to make their supply accessible to third parties without discrimination.

## **5. Conclusions**

National NPUs are today the centre of important organizational and technological revolutions that often lead to a radical revisitation of the boundaries delimiting sectors. The opening up of NPU industries may allow for new entrants, who may exploit either their skills or intersectoral synergies.

Therefore, in order to enhance the competitive potentialities of globalization of national NPU markets, it is necessary to start working on the realization of network integration. This involves spatial redefinitions of networks and technological problems regarding the nature of the networks to be integrated.

To solve these problems, political decisions are required – the EU cannot limit itself to interventions of an exclusively legislative nature, or to some structural investment. It also has to face the problems concerning the composition of the different national interests: in other words, to make visible the process of rule formation, both by reinforcing political power and by rendering explicit the normative role of the European policy maker.

Linked with the processes of globalization, the need to reinforce the European policy becomes clear, and this underlines its club connotations. Indeed, the specialization that seems to concern every actor in more globalized, open and interconnected markets finds its reason precisely in the possibility of exploiting the advantages arising from operating within a system or an environment that can offer advantages and opportunities.

The industrial policy of a country or a community of countries is, in this perspective, seen as a series of actions for the restructuring of the production system as a whole by seeking to strengthen the capacity to generate positive externalities on its components. Such observations induce a reflection on the capacities of the production system of the EU to renew itself, to develop competitiveness in sectors where:

- (i) innovation is crucial and, as a consequence, international competition is not based only on cost factors,
- (ii) redistributive effects are fundamental in public regulation design.

Globalization in the NPU sector demands new public strategies to implement policies aimed at guaranteeing participation to different actors and realistic convergences of different intervention schemes. European TPA may be introduced in a step-by-step strategy on progressively enlarged shares of liberalized NPU sectors.

