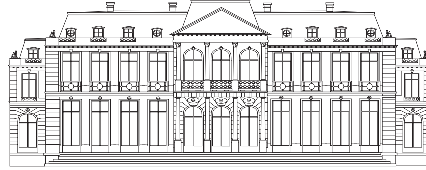
Organisation for Economic Co-operation and Development



Organisation de Coopération et de Développement Économiques

in co-operation with the Finnish Ministry of Trade and Industry

Twelfth Plenary Session of the OECD Advisory Group on Privatisation (AGP)

Mr Alberto HEIMLER
Autorità garante della concorrenza e del mercato
(Italy)

Competition and Regulation in Public Utilities

Helsinki (Finland)
17-18 September 1998

REGULATION, COMPETITION AND PRIVATISATION

Helsinki, 17 - 18 September 1998

COMPETITION AND REGULATION IN PUBLIC UTILITIES

ALBERTO HEIMLER[*]

I. Introduction

In public utility services it is frequently alleged that one single firm is able to operate with lower costs than it would be the case if more firms were supplying the same level of output. However these natural monopoly characteristics are not always present and, when they exist, are often strictly limited to some, not all, of the activities of the firm. In any case natural monopolies emerge naturally out of the working of a market process. There is no need to introduce legal barriers to entry in order to protect the monopolist from competition. Indeed, since the characteristics of different markets are not known in advance, free entry would allow coherence of supply with technology and demand conditions: market structures are endogenously determined.

Very often a number of constraints are imposed on a public utility company: a minimum level of services is to be provided to all and a prohibition of price discrimination in the face of differing supply costs. Especially this last obligation may entail the need for some sort of protection from entry: in fact if a new entrant is not obliged to serve all segments of the market, he could enter where unit costs relative to price

[*] Alberto Heimler is Director, Research Department, Autorità garante della concorrenza e del mercato, Via Liguria 26, 00187 Roma, Italy. The views expressed in this paper are those of the author and do not necessarily represent the views of the Autorità garante della concorrenza e del mercato.

Copyright © OECD All rights reserved

are lower. The consequent reduction of revenues by the company obliged to provide public services to all could be so strong as to make it unprofitable to stay in the market.

In most circumstances however the loss of revenues originating from cream skimming is over emphasised and the beneficial effect that competitive free entry can have on efficiency, quality of services and pricing far outweighs any burden on the dominant company deriving from the conflict between competition and public service obligations. Free entry into the industry is generally the optimal solution, with price regulation playing a marginal role in order to prevent the use of excessive market power in those markets where monopolistic conditions continue to prevail.

There is no definite theory as far as ownership of public utility companies is concerned. State ownership has been supported on the basis of its alleged ability to maximise allocative efficiency and, at the same time, to serve other important public interest objectives. However, the frequent interference of politicians and government officials in the actual running of government owned firms may distort the system of incentives, reduce the importance of budget constraints, and in the long run weaken the drive for efficiency. Furthermore, if a public utility is a statutory monopoly owned by the government, by restructuring it before privatisation it would be possible to create a competitive market structure in the face of market liberalisation.

For these reasons, and not because public ownership is bad in itself and necessarily leading to inefficient behaviour, there is a growing movement towards privatisation of public utilities. At the same time, there is greater concern about optimal regulation in order to make sure that there is strict coherence between social welfare and the private interest of the regulated firm. First of all this can be achieved by effectively separating regulators from producers, and improving the effectiveness of public controls. Where, regardless of the evolution of technical progress, potentially competitive activities continue to be regulated, competition and market mechanisms could be effectively introduced, attaining a "first best" outcome without the need for any regulatory control.

The purpose of government interventions in public utility services is to control not only the technical and qualitative aspects of service provision, but also economic performance, wherever market forces are ineffective or have only a marginal role. Until real competition has developed, market liberalisation should not necessarily lead to the lifting of price regulation. As competition starts to develop, antitrust policy can play an extremely important role in preventing firms from imposing restrictions on competition and abusing their dominant position.

This paper is organised as follows. After a short overview of the main Community rules and guidelines regarding the opening up of public utility services to competition, the most relevant steps that have been taken to encourage competition in the different public utility sectors are analysed. A brief discussion on

Copyright © OECD All rights reserved

how markets can be regulated follows, considering the various alternatives for controlling the process of tariff formation, making a clear-cut distinction between services provided in a monopolistic and in a more competitive setting. A short discussion on the close complementarity between regulation and competition policy concludes the paper.

/I. Legislative Role Of The European Authorities In The Liberalisation Process

The interest of the European Union towards public utility services was prompted by the strong segmentation of national markets, as a result of consolidated national monopolies protected by regulatory restrictions on market entry. The initiatives adopted in order to complete the process of integrating individual national markets and to fully implement the fundamental principles of the Treaty of Rome have fostered significant changes in public policies towards regulated sectors in most public utilities.

In these sectors, the Union objective of completing the single market is connected with the need to promote the development of genuine competition within Member countries. Therefore the Union recommendations have usually insisted on gradually removing domestic constraints, particularly of a legal and administrative nature, on the free operation of market forces. Taken as a whole, the measures adopted by the Community with respect to public utility services may be grouped under two main headings: the actions taken against Member countries in order to encourage competitive access to particular markets, and the reappraisal of criteria for implementing competition rules in regulated sectors.

The European Authorities have intervened quite extensively in the liberalisation process with a number of legislative tools aiming at promoting competition and preventing the segmentation of national markets. The instruments that the Community has at its disposal are differentiated according to their legal base and to the degree by which they constrain national governments:

Competition driven directives: they are based on article 90 of the Treaty (and on competition law) and imposed on Member States directly by the Commission, without any intervention from the Council of Ministers. These directives, particularly frequent in telecommunications, can be appealed at the Court of Justice.

Harmonisation directives: they set minimum standards and are usually based on the principle of mutual recognition. These Directives, which lead to the harmonisation of national legislation, are issued by the Council of Ministers. Furthermore they are usually not based on article 90 and on the competition rules, but derive their legality from the articles in the Treaty aiming at the creation of a unified market. These directives have led to the opening up of markets traditionally closed to (foreign) competition such as public procurement, banking, insurance, electricity, rail, airport services etc. At the same time they forced Member States to adopt more liberal regulations. These Directives cannot be appealed.

Copyright © OECD All rights reserved

Communications: the Commission on a number of specific issues, like universal service obligation, interconnection charges etc., has completed the Directives with not binding instructions to Member states on specific matters.

From the ten years experience that the Community has had with these liberalising tools it is quite difficult to clearly identify in what circumstances one instrument is preferred to the other. Article 90 directives have been common in telecommunications where there was a lot of consensus among Member States for the need to liberalise. On the other hand, where a common view was much more difficult to attain, the relevant directives have been issued by the Council of Ministers. For these reasons a sectoral classification of all Community interventions seems quite appropriate.

In the different sectors the actions usually taken or suggested by the Community have been mainly directed towards guaranteeing:

- a clear-cut distinction between the actual running of the companies and regulatory responsibilities;
- an accounting and organisational separation between monopolistic and competitive activities, should they be carried out by the same firm; and
- transparent and objective conditions for third party access to network facilities.

These developments in the European Union policy towards public utilities are intended to foster competition ultimately in order to prevent trade between Member countries from being restricted as a result of national regulations. Therefore the measures adopted by the European Union, while being extremely effective in encouraging the introduction of market mechanisms in sectors that have generally been protected from competition, merely deal with regulatory problems holding up the construction of the Single European Market. In other words they do not solve all the organisational and legislative problems relating to the opening up of regulated sectors to competition. Member countries are vested with the exclusive powers to identify the specific types of regulation needed, and the areas where it is possible to introduce competitive mechanisms. Also the issue of whether or not to privatise is left to the Member State to decide.

a) Telecommunications

The Commission has been quite active in the liberalisation of telecommunication services. The industry was characterised in most Member countries by restrictive legislation that would give the national operator of telecommunications special and exclusive rights even for those activities where public service obligations were not a real issue. The Commission started to liberalise these markets, minimising the

Copyright © OECD All rights reserved

degree of conflict. The first directive was issued in 1988 and it introduced competition in the market for telecommunications terminal equipment. According to the Commission it was no longer necessary for ensuring the provision of telephone services that statutory telephone monopolists to also maintain their monopoly in the distribution of handsets and terminal equipment for data transmission (modem). On the basis of article 90 the Commission maintained that these markets be immediately opened to competition.

The interesting phenomenon is that Member States participated fully in the discussions that led to the setting up of the Directive. However when the Directive came into force Member States were apparently taken by surprise and five of the members (France, Italy, Belgium, Germany and Greece) challenged it in the Court of Justice. The Court ruled in a very straight forward manner in favour of the Commission interpretation of article 90. After this decision the liberalisation process became much speedier and more effective. In 1990 the Commission issued directive no. 388 which liberalised value added services and data transmission. Only voice telephony was left as a monopoly. The Commission then published in October 1992 a review of the competitive structure of the telecommunications sector, offering for discussion to Member States two possible options: regulating the prices of vocal services or completely liberalising them. After France and Germany offered support for the option of full liberalisation, all Member States finally agreed on the “Principle and timetable for the liberalisation of telecommunications infrastructure” (Council resolution of December 22 1994). It was decided that by January 1 1998 the telecommunications sector would be opened up to full competition.

It is not enough for Member States to simply adopt the Directives. Such a process needs to be strongly supported by national governments in order to accommodate rules and procedures for the new market environment. In fact full liberalisation does not immediately lead to a competitive market. It takes time for entry. Before consumers can actually benefit from the existence of new suppliers, investments need to be planned and then carried out. In any case the regulatory structure needs to be in place well before competitors can actually become ready to supply, since for deciding whether to enter or not new entrants need to know all relevant costs, such as time delay for approval purposes, regulatory burdens related to the setting up of new lines, the level of interconnection charges, universal service obligations and so on. Most governments have been quite reluctant to introduce in a timely way a regulatory structure that would ease entry. Eight months after liberalisation in most Member States traditional monopolies are still the sole suppliers of voice telephony.

The 1998 liberalisation was conditional on the definition of minimum standards for public service obligations to which, according to a communication of September 1996 on services of general interest, Member States can add, but not subtract. In fact the existence of universal service obligations has been a very important constraint in the process of liberalising public utilities in Europe. Accordingly the Commission has put a great deal of effort in making sure that such schemes, when eventually adopted at the national level, would not conflict with competition law. However, even though the Commission has chosen to find workable definitions of universal service obligations (“the difference between the net cost for an organisation operating with and without universal service obligations”[1]), there are a number of difficulties in the practical application of such categories.

Copyright © OECD All rights reserved

First of all the existence of universal service obligations implies that some services need to be supplied to some users at prices below cost. Especially in telecommunications where most costs are fixed it is not really clear how such a test can be performed. In a situation where marginal costs are very close to zero it is very unlikely that prices would indeed be set at a level below marginal cost. In fact where there are common costs to a number of different activities, economic theory has proved that the most efficient way to allocate these costs among different uses is accomplished by considering the different demand elasticities involved (Ramsey prices). In most cases just allowing a company to price discriminate would lead to optimal results and universal service obligations would not be a burden for anybody. For example if low income people would be willing to have a phone only for emergencies and would be willing to pay very low prices (but still above marginal costs), for such services it would be profitable for the telephone company to set up a special tariff that would eliminate the possibility of making long distance calls for those users. The problem of universal service obligations would be solved by the profit motive, without having to resort to any sort of regulation. Indeed most universal service obligations are compatible with a competitive environment.

b) Electricity

The degree of consensus among Member States in relation to the need for introducing competition in telecommunications has not been in any way comparable to what happened in the electricity sector. In fact from December 1990 to June 1996 the initial Commission position to allow direct transactions between as many producers and consumers as possible in the electricity sector too, was blocked by the opposition of those countries that believed that a vertically integrated structure for the industry was quite beneficial to consumers. In June 1996 after a very long debate the Council of Ministers agreed on a draft Directive concerning common rules for the internal market in electricity. The directive, although it represents a clear improvement with respect to the competitive situation of most Member States, does not necessarily lead to a fully liberalised market, as in the telecommunications sector.

For instance the directive allows Member States either to allow for free entry in electricity generation, or to introduce a tendering procedure in order to identify the actual generator that enters the market, while maintaining central control on the technology to be used and of the timing of entry. Furthermore there can be either a grid operator responsible for transmission and for guaranteeing the physical equilibrium of the system or Member States can create a single buyer responsible for a centralised system of buying and selling. In both options an increasing share of consumers becomes eligible every year for purchasing electricity supplied by independent producers.

Indeed the electricity directive, opens the sector up to competition, although very gradually. In any case, national governments are left free to introduce as much competition as they like, keeping the provisions of the Directives as a minimum standard. Contrary to what happened in telecommunications, the electricity

Copyright © OECD All rights reserved

directive, by not identifying the organisation of the industry most appropriate for benefiting consumers, does not assure a level playing field in the Community. It might well be that in time, probably a very long one, the structure of industry would evolve in a common way in Europe. Indeed if countries were to choose different systems for the supply of electricity and if the most competitive systems were to show better results (as it already does, although for a limited number of countries), then reluctant Member States would be forced to move sooner or later along the competition oriented path.

c) Railways

Council Directive n. 440 of 1991 on the development of Community railways and the two complementary Directives 95/18 and 95/19 adopted in 1995 aim at creating a unified market of railways services throughout the Union. The system of regulation is based on common accounting rules, and in particular on a compulsory accounting separation between infrastructure and services, and on the creation of access rights to railways infrastructure for international services. Up until now these liberalisation directives have been quite ineffective in creating competition in rail services, probably also because scale and scope economies make it unlikely that a competitive system would emerge at all. Some countries, as in telecommunications and in electricity, have created, through privatisation, a potentially competitive system. However in most countries rail services continue to be monopolistically supplied, strongly regulated and very heavily subsidised.

In 1995 total revenues were around 30% of total costs in Italy, 46% in France, 50% in Germany and 80% in the UK. It seems that such poor financial results, especially in continental Europe, represent the major problem that is facing European rail services. The cause of such financial difficulties is not unrelated to the ownership structure of most rail companies: public authorities have required these companies to meet a number of objectives that are inconsistent with efficiency (employment considerations, maintaining the level of service irrespective of demand etc.). Furthermore because of the ownership structure many rail companies face a very soft budget constraint that reduces internal incentives for efficiency. Rail companies need to be restructured at the national level in order to push them along the cost minimisation path. In this respect it is not clear that the vertical separation in the Union proposal is the right solution. It can certainly make the calculation of access prices easier, but at the same time it eliminates the possibility of gearing tariffs to demand and might well lead to losses anyway[2].

In rail services, interventions at the European level are of a very general nature. The Directive makes it implicitly clear that competition can be quite limited in passenger service where co-ordination needs are very important, but it can provide lower prices and great quality improvements for freight transportation. In fact in 1997 European rail freightways (comprising Switzerland, but not France) were opened up. Along these lines railway operators may run freight trains, provided they purchase the rights to access the rail infrastructure. In the coming years, the Commission will intervene in order to open up the freight

Copyright © OECD All rights reserved

market to competition. To this end it will have to provide national governments with guidelines for proper calculation of access prices.

d) Airports and air transport

Starting from April 1 1997 there are no longer regulatory barriers within the European Community that prevent community carriers to operate in any Member State. Such a liberalisation was based on the objective of creating a unified market in Europe, and eliminating all unjustifiable restrictions to trade. It is too early to make an assessment of the beneficial effects of such a liberalisation move. Up until now however there have not been many new entries into the European markets. Many agreements however, between major European carriers, and between them and their US counterparts have been made. These agreements are under the scrutiny of the Commission in order to assess their restrictiveness and the impact that they may have on maintaining market segmentation in Europe.

From the analysis of these strategic alliances it is quite clear that competition in air transport can only be increased if airport capacity is not scarce. In congested airports this implies setting the incentives right in order for airports to find it profitable to increase capacity, while at the same time promoting inter airport competition. Furthermore it becomes necessary to introduce market mechanisms in the process of slot allocation (both in the primary and in the secondary markets), and to set up landing and take off charges in a way that leads to an efficient use of such scarce capacity.

Such developments in the airport industry are complicated by the existence of national carriers in every Member State that is considered to be part of national sovereignty, by grandfathering rights that implicitly allocate the property of existing slots to the carriers that have been using them for years, and by the difficulties involved in providing airports (usually government owned) with market oriented incentives. For such reasons the Community has not yet formulated a clear policy on these issues, that are so important for achieving a competitive system in air transport.

On the other hand the Community has been quite active in promoting competition in the markets for services provided at airports (ground handling and commercial services). In fact airport operators may have strong incentives to exploit their market powers by limiting competition and extracting rents with regards to the provision of these services. Council directive 96/67 sets the timetable for the liberalisation of ground handling services in the European Union which by January 1 2001 will all be liberalised.

III. A policy for efficiency and quality improvements in public utilities

For many years in most countries of continental Europe there was a widespread understanding that public ownership was sufficient to encourage the pursuit of efficiency and the attainment of satisfactory levels of quality in the provision of public utility services. It was thought that through public ownership monopoly

Copyright © OECD All rights reserved

profits would be eliminated and, at the same time, adequate investment would be carried out and reliable supplies guaranteed.

On the other hand, despite the fact that the relation between ownership and efficiency is by no means clear cut, the evidence from many countries has shown that State-owned enterprises have frequently failed to react adequately to changes in demand and to technological developments. Most of the times, public enterprises have actually been considered as being part of government. For this reason they have often been forced to pursue political objectives, such as keeping prices low irrespective of cost developments or keeping employment up, making it very difficult for them to behave consistently with a cost minimisation objective. As a result, incentives within the firm have been distorted, leading to high costs and low service quality.

The privatisation of these companies, which is being carried out at the national level without any Community intervention, may force them to be more efficiency oriented. Moreover, privatisation represents a very effective way to introduce competition in the market because it can allow for the setting up of a competitive industrial structure. This implies that before privatisation a detailed analysis, based on the prospects for a quick development of a competitive market, should tell us whether public utilities could be broken up and reorganised into a number of smaller enterprises that could be then sold to independent producers.

For example even though local distribution and long-haul transmission of electric power could be considered to be natural monopolies as a first approximation, technological progress has made it economically viable to build small electric power stations, so that each local distributor could be served by a sufficiently large number of electricity producers. It might be possible to sell off the various generation units to economically independent producers, that would compete for supplying electricity to different independent distributors. In such a way a wholesale competitive market for electricity could easily be established.

The state of technology in telecommunications has already made it possible to fully deregulate the basic telephony service, allowing any company to interconnect with the network, in exchange for a fee eventually subject to regulation. However the fixed network is becoming increasingly less essential, and competition among different networks is already taking place. For instance, where cable TV is sufficiently well established the television transmission network can easily compete with the telephone network (and vice versa). Moreover, cellular telephony is rapidly becoming a viable substitution for traditional telephony. If this is so, removing every kind of barrier to market access would make it possible to do away altogether with economic regulation.

Copyright © OECD All rights reserved

In such circumstances, which are common to many other public utilities, privatisation of a restructured former statutory monopolist can actually help to create a competitive market, especially in those situations where the amount of fixed investment needed to operate is large and gestation lags are long, so that a simple liberalisation policy (opening up the market to competitors) would take a long time to become effective.

a) Liberalising market access

An effective competition policy in public utility services requires an understanding of the reasons that in the past led many industrial countries to the introduce regulatory restrictions to entry. In fact natural monopolies should represent the outcome of a market process and in general do not require any protection from outside entrants. Only in very special circumstances, when a natural monopoly is not sustainable, the protection from outside entrants leads to efficient outcomes. However in public utilities, where sunk costs are large and the amount of investment needed to operate is quite high, the probability of an unsustainable equilibrium becomes minimal.

Therefore the reason for protecting the incumbent firm from the entry of outside competitors must be related to something different than natural monopoly considerations. In particular regulation often imposes the introduction of cross subsidies in the tariff structure for a certain public utility, so that some services are provided at a loss and others show high profit in order to make up for these losses. In such situations, should markets be completely opened up to competition without removing regulated cross subsidies, new companies might enter the market not because of any real advantages in terms of their efficiency, but simply in order to exploit the profit opportunities created by a distorted tariff structure. The resultant cream skimming of the most profitable areas of business by the incoming company would damage the incumbent firm, which might be forced out of the market.

In those situations where cross subsidies are imposed with respect to the tariff structure of a public utility, existing regulation generally prevents entry into the market. This protects the monopolist from cream skimming entry, but at the same time delays the introduction of technological progress in the provision of services and prevents the range of services to be supplied from being broadened and improved. A legally protected monopolist is in fact slow in innovating, especially when the assets with which it is operating are still economically viable.

Should it be necessary for the network operator or the dominant firm to provide services of general interest (such as stocking electric capacity for emergency), an access tax to the network might be imposed on all users in order to finance this general service. In those cases where cross subsidies are actually

Copyright © OECD All rights reserved

instruments of an income redistribution policy they should be eliminated and substituted by transfers funded through general taxation. They would have the advantage of not distorting relative prices.

b) Competition for the market

With respect to not contestable natural monopoly situations, where the presence of one firm in the industry would guarantee that costs of production are the lowest possible, many proposals have been advanced in order to eliminate price regulation by introducing competition for the market. In particular it has been argued that the use of competitive procedures for the assignment of the rights to operate in a certain market allows for an exact appraisal of the value of the activity which is put up for tender, avoiding discretionary decisions by regulatory authorities and thereby substituting other direct forms of regulation. However, assigning the right to perform a particular activity to the highest bidder will certainly not eliminate inefficiencies in resource allocation. For the consumer would in all likelihood have to pay the monopoly price, while competition for the market would tend to completely wipe out any extra profits that could be earned. Users would still have to pay the full monopoly price, but all profits would be transferred to the government.

In order to overcome these inefficiencies in resource allocation it is possible to introduce a tendering system under which the right to perform a particular activity is assigned to the bidder that promises to supply the service at the lowest possible price, thereby removing any possible monopoly profit through the tender procedure. However this solution implies considerable additional difficulties because the time horizon for investment in public utilities is generally quite long and the conditions which affect the provision of services cannot be known with certainty. It is then impossible to write down a complete contract and it becomes necessary to make provision for a certain degree of regulation.

Furthermore even if such difficulties could be overcome, the regular repetition of the bidding might distort the incentives for the incumbent firm to increase efficiency, especially at the end of the period for which the franchise has been granted. Finally, the bids made on the lowest price to serve the market are easily comparable only when the firm supplies a single homogeneous product. When the firm is multi-product the comparison among the different bids becomes very complicated (if not impossible), since detailed estimates of demand need to be available.

c) The promotion of competition and third party access

When the supply of public utility services is constrained by the existence of a fixed network which is not economically replaceable, it is essential to regulate the conditions for network access. More specifically, deregulating the markets for the services supplied through the network can only be effective if the owner of the network is under an obligation to permit access.

This is a particularly important issue when the network owner operates also in the market for services. Under these circumstances the owner of the network may have a vested interest in not allowing a

Copyright © OECD All rights reserved

competitor to enter the market, and may therefore impose particularly restrictive terms of access. Occupying an exclusive position in the market for services increases the profit opportunities of the owner of the network. If the prices for these services are not regulated, the carrier operating as a monopolist in these markets is in a position to appropriate all available profits, thanks to its direct information on market demand and user preferences and does not have strong incentives to allow third party access. If the price of services is regulated, profits of the regulated utility are maximised if the regulated monopolist is able to supply the whole market. Also in this case, incentives to provide access are quite weak.

In such circumstances it is necessary to regulate access conditions. When a multiple output technology is in place the optimal access price is not easily defined. Indeed it is possible to identify an interval, that has as a lower bound the marginal cost of production and as an upper bound the stand alone cost, where the access price should lie. In fact in the presence of economies of scope in production, the most efficient way to allocate common costs among different uses is accomplished by considering the different demand elasticities involved, an outcome that implies some sort of price discrimination and that cannot accommodate pricing rules solely based on cost considerations. If such a discrimination is not allowed the network owner may not even be able to recover its total costs of production.

Regulating access charges is sometimes not enough, since the network owner may abuse its dominant position by discriminating among users with non price instruments. Such a behaviour could be very effectively ruled out, provided that a structural transformation of the industry were carried out, separating the management of the network from the provision of services. Separating network management and service provision can create sufficient incentives for the network owner to encourage access to the network by anyone wishing to enter. This condition is not always guaranteed when the separation between the two is not a proprietary one, but is purely of an accounting nature, since in such a case it is much more difficult on the part of a regulator to implement full transparency. However, should economies of scope or other economies from integration be important, accounting separation can allow the exploitation of the related cost efficiencies.

d) Regulating tariffs

Liberalisation of market access does not exclude the need for tariff regulation even in services where there is a competitive potential. When competition in the market is still weak, it might become necessary to guarantee firms some limited freedom to fix their tariffs. However, as competition increases and consumers can choose among different alternative suppliers tariff regulation should be further relaxed, and once competition is sufficient it should cease altogether.

In this framework of progressive introduction of competition, price cap regulation tries to overcome the difficulties faced by rate of return regulation in providing the right incentive for efficiency improvements. In particular the regulator provides the company with a rule according to which the rate of increase of tariffs for a basket of services should not exceed the difference between the increases of input prices, measured by the retail price index[3], and the rate of growth of total factor productivity in the production of that particular basket[4,5].

Price-cap regulation has been proposed because it is considered easier to enforce, and is apparently less likely to produce inefficiencies. The method would also provide for considerable flexibility in laying down the prices of individual services supplied, since it is usually applied to a basket and not to individual services. The companies are obliged to comply with the aggregate pricing rule. The companies can then retain all profits that are generated as a result of the attainment of a level of efficiency which is greater

Copyright © OECD All rights reserved

than expected . In this manner the incentive to produce efficiently is enhanced and, even though profits might be greater than under alternative price regulation methods, service prices would be lower due to the greater level of efficiency achieved by the firm.

While price-cap regulation controls the process of adjusting tariffs to variations in cost, it does not offer any solution to the problem of setting optimal tariffs. It is therefore indispensable that before applying price-caps, current tariffs be geared to levels that make it possible to attain allocative efficiency, because otherwise price-caps applied to "wrong" tariffs would lead to a wholly inefficient tariff structure.

Adopting price-cap regulation is not without its difficulties. First of all, in order to carry out its task stringently and thoroughly, the regulator is required to have a detailed knowledge of the technological and cost conditions that are likely to prevail in the future, and this is extremely complex. From this point of view, price-cap regulation is not very different from traditional regulation under which companies are guaranteed a fair return on their investment. Furthermore, as with rate of return regulation, because of the concern with allocative efficiency, tariffs must be regularly adjusted to productivity variations, in order to prevent extra-profits, or alternatively to enable the company to earn adequate profits. Therefore, in order to conceal any extra-profits earned in a particular period, the regulated company might be induced not to adopt substantial technological innovations that would lead to considerable cost savings and thus bring about a more stringent price regulation in the following period.

e) The institutional structure of regulation

One of the most important aspects of the reform of regulation is the setting up of appropriate institutions. In particular the promotion of a sharp separation between firms and regulators makes it more difficult for the regulator to be captured, so that greater efficiency for the benefit of the consumer can be promoted. By placing a "distance" between regulators and regulated companies, there is a gain in transparency, but also in the efficiency of the controlling function.

Regulators should lay down the technical aspects for the provision of services (technical standards, minimum quality levels) and be responsible for controlling the process of tariff formation. Furthermore, since the competitive conditions of regulated industries do not remain stable over time, due to technological progress and changes in market conditions, it is important that regulators be required to advise the Government on the ways to promote an effective competition. In order to prevent any regulation from remaining in existence when it is no longer warranted A periodic review of the level of competition by competition authorities can be put in place to assess the situation. The purpose of this assessment is to remove any regulatory measures that act as a constraint on firm behaviour once the market structure is adequate to guarantee a fair degree of competition.

IV. Conclusions

Privatisation is not merely the sale of shares in a nationalised industry. The underlying intent is to improve industry performance by increasing the role of market forces. Therefore, privatisation should be accompanied by a number of other initiatives: a) restructuring of the former monopolist in order to achieve a market structure that could maximise net consumer benefits; b) full liberalisation; c) identify clear rules that would govern provision of uneconomic services.

Copyright © OECD All rights reserved

Removing barriers to market access may not be sufficient to introduce full competition. After the opening up of a monopolistic market, the former monopolist frequently maintains its dominant position for a long time due to its technical and financial advantages, or to the reputation which it has acquired with its customers. This implies that antitrust legislation is very important to discipline its behaviour. In general the existence of regulation does not imply the exemption from the application of competition law. For example, the European Community competition law is designed to establish the need for regulated companies to be subject to the rules of competition wherever possible. Only firm conduct which is strictly related to the attainment of specific goals of general economic and social interest may be excluded from the scope of the antitrust law.

The relationship between antitrust and regulatory authorities should be of a co-operative nature. Regulators could report to the antitrust authorities any violation of competition law by the regulated public utilities, and antitrust authorities could invoke the introduction of regulation, should their powers prove insufficient for the establishment of competitive conditions. Furthermore, since one of the goals of regulation is the attainment of a competitive environment, regulators should seek the advice of competition authorities whenever there is a structural change in the market, such as the issuing of a new licence, a change in the system of price regulation etc.

Finally, since bureaucracies tend to protect themselves and very rarely propose their own elimination, regular assessment of the competitive conditions in regulated public utilities could help to determine the need for continued regulation, and help promote the introduction of a [6]free market whenever possible.

Copyright © OECD All rights reserved

NOTES

[1] The Interconnection Directive, article 5(3).

[2] For an analysis of these issues see Kessides, I.N. and Willig, R.D. (1995), “Competition and regulation in the railroad industry”. In Frischtak, C.R. (Ed), *Regulatory Policy and Reform: A Comparative Perspective*, The World Bank.

[3] When assessing this form of regulation it should be borne in mind that price trends for the inputs of public utilities and services may be completely different from the retail price index.

[4] Precisely for this reason the system is generally indicated as the RPI-X method, where RPI stands for the Retail Price Index, and X is a percentage laid down by the government, which may be changed at the end of the reference period.

[5] There is also an alternative interpretation of the formula used in which RPI is the retail price index that approximates the output price while X is the difference between the productivity from supplying the service and the productivity of the reference aggregate.

Copyright © OECD All rights reserved