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Competition Policy and Sector-Specific Regulation for Network Industries

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1. Introduction: Changing Paradigms of Network Industry Organization and Regulation

This paper discusses the respective roles of sector specific regulation and competition policy in network industries. The term “network industries” refers to industries like telecommunications, electricity, gas, railways, which involve an important element of natural monopoly because the provision of services to customers presupposes the use of a fixed network infrastructure, the costs of which are by and large sunk. If one wanted to be more precise, one would have to go into details, discussing, e.g., whether the existence of significant scale effects in mail distribution warrant the assessment of the postal system as a network industry – after all, the main input into mail distribution is labour, the costs of which are not sunk, but involve significant learning-by-doing effects. For the purposes of the discussion here, such details can be neglected. While acknowledging that the different network industries differ from each other in important and relevant ways, I want to focus on questions which are common to all of them.

Over the past two decades, the organization of network industries in Europe and the United States has undergone significant changes. In the past, these industries had mostly been organized as vertically integrated monopolies. Network management and service provision were usually handled by the same institution. Natural monopolies in networks were extended to services, sometimes through statutory regulation and sometimes through market foreclosure by vertical integration. In many instances in Europe, the vertically integrated monopolies were held in state ownership, in the United States, they were mostly in private ownership subject to sector specific regulation. Through government policy or regulation, final customers were usually charged cost-plus prices.

The changes that have occurred differ from industry to industry and from country to country. However, there are a few common trends marked by the privatization of companies in state ownership, the liberalization of entry into service provision, finally, in some cases, the vertical disintegration of network operators and service providers. Entry liberalization has been accompanied by the introduction of statutory rules requiring network operators to open their networks to competing service providers, so one cannot simply refer to the changes as “deregulation” (as in the holy triad of “privatization, liberalization, and deregulation”). Some regulation is looser, some is tighter than in the past – the overall system of oversight over these industries is simply different.

These developments have partly¹ been driven by a change of paradigm. The vision of network industries run by vertically integrated monopolies has been replaced by a vision involving monopolies upstream, in the organization and management of networks, and competition downstream, in the provision of services through the networks. The new vision is based on the recognition that natural-monopoly elements of the industry extend less far than had previously been thought. Whereas the networks themselves are natural monopolies in the technical sense of the word, many of the downstream activities which rely on the networks are not.

Characteristic examples are given by the telecommunications and electricity industries. In telecommunications, the local loop of the fixed-line network involves significant sunk costs, which make reduplication appear to be highly inefficient and warrant the classification of the “last mile” as a natural monopoly. However, long-distance lines and long-distance service provision do not warrant this classification. Thus in Germany, by now there are more than a dozen companies competing in long-distance service provision on the basis of their own long-distance networks; investment in long-distance networks is going on strongly. In the electricity industry, transmission and distribution grids are natural monopolies, transmission grids because of the need to manage the system so as to maintain a constant level of tension, distribution grids because of the inefficiency involved in duplicating the last mile. In contrast, the production and sale of electricity through these grids involve no special features that would warrant their classification as natural monopolies.

¹ The politics of the change are of course more complicated: Privatization provides scope for redistributing rents – to the finance minister or to politically interesting clienteles; opening network industries as part of the Internal Markets Programme provides the European Commission with a possibility to increase its influence at the expense of national regulators, and so on.

Apart from such abstract considerations of which activities are and which are not to be classified as natural monopolies, the change in paradigm has been furthered by the observation that the vertically integrated monopolists of the past have been slow in making use of new technological opportunities. Thus, Deutsche Bundespost in the nineteen-eighties was still insisting that anything but a wire-attached black phone with a traditional dial would pose a risk to the safety of its network – at a time when wireless touchtone phones were becoming the norm in the rest of the world. In the United States, the Public Utilities Regulatory Policies Act of 1978 uncovered the inefficiency of electricity production by incumbents when the environmentally motivated opening of the market to certain independent suppliers induced an unexpected rush of activity on the basis of new technology.

In addition to the change of views about the extent of natural monopoly in the technical sense of the word, there has also been a change of views about the networks themselves. The experience of the telecommunications industry has supported the vision that natural-monopoly features of networks themselves may be transitory, due to be eroded through technical progress. The vision of a network monopoly – with or without downstream competition – would then have to be replaced by a new vision of competing networks. The paradigmatic example is provided by mobile telecommunications where, in any given country, we see a handful of operators building up networks and acquiring customers in competition with each other. Another example concerns the competition between fixed line and the cable, in data transmission as well as voice communication. Notions of wireless local loop or powerline, i.e. the electricity grid, competing with the fixed-line local loop have also been part of this vision of natural monopoly being eroded by technical progress. However, economic change on the basis of these technologies has been somewhat slower than expected at the height of the IT boom a few years ago.

The change in paradigm concerning the role and the durability of natural monopoly in network industries has also led to a change of views about the role of regulation. In the past, the official task of sector-specific regulation in the United States has been to restrain the use of power of the vertically integrated monopolists without endangering the viability of the networks. Under the new paradigm, an important task of regulatory institutions is to promote the development of competition in downstream activities and in the networks themselves where possible.

Competition in downstream activities is promoted by *access regulation* requiring the owner of the network to provide downstream service providers with the opportunity to use the network at whatever are deemed to be reasonable conditions. Thus the owner of the local loop in fixed-line telecommunications is mandated to provide interconnection to competing providers of long-distance services or even local services. He may even be mandated to provide a competitor with access to the copper wire leading into a customer's house so that the latter, rather than the incumbent himself, can provide the customer with basic service.

The role of regulation in promoting competition of networks is more ambivalent: On the one hand, access regulation reduces barriers to entry by allowing competitors to enter the fray with some investment without having to duplicate the entire network of the incumbent monopolist. On the other hand, access regulation reduces incentives to build competing infrastructures. There is thus a tension between the promotion of competition in downstream activities through access regulation upstream and the promotion of competition in upstream activities themselves. To be sure, the promotion of competition upstream will also serve the promotion of competition downstream, if only because the competing infrastructures upstream provide a basis for downstream competition. However, the effects are likely to take longer than the effects of access regulation permitting downstream entry without upstream investments.

Given the tension between the promotion of competition in downstream activities through access regulation upstream and the promotion of competition in upstream activities themselves, the use of regulation for the promotion of competition involves difficult tradeoffs. Appropriate handling of these tradeoffs is likely to vary across industries, depending, in particular, on what the prospects for network competition are deemed to be. Whereas in the telecommunications industry, network competition is already important, in the electricity industry, it seems unlikely that, in the foreseeable future, we shall have a substitute technology competing with transmission and distribution grids. In the electricity industry, it would therefore seem to be less problematic than in telecommunications to focus mainly on access regulation and the promotion of competition downstream, without worrying about incentives to build competing networks.

For all the enthusiasm about the use of regulation for promoting competition, we should note that, where competition among networks is unlikely, there still is a problem of monopoly to worry about. If the owner of an electricity distribution grid ceases all electricity generation on his own account and merely sells the transmission through his grid to outside generators, final customers have a choice between electricity generators, but this competition between generators does not reduce the grid owner's monopoly power. Thus the traditional task of sector-specific regulation, namely to restrain the use of power of network monopolists without endangering the viability of the networks, has *not* become obsolete.²

2. The Boundary Between Sector-Specific Regulation

The change of views of the role of regulation of network industries also raises questions about a major issue concerning the relation between sector-specific regulation and competition policy for these industries. In the old world of vertically integrated monopolies and sector-specific regulation protecting consumers against abuses of power by these monopolies, the boundaries between regulated and unregulated activities were, by and large, clearly drawn. Within the regulated areas, abuse-of-dominance control by competition policy was replaced by outright price regulation; outside the regulated areas, firms were subject to general competition rules.

In the new world of monopolies upstream and competition downstream, the relation between sector-specific regulation and competition policy is not so clear. If the development of competition itself is seen as a major task of regulatory intervention, why shouldn't one use competition policy rather than regulation for the purpose? If downstream activities are *not* regarded as natural monopolies, consumers can be protected against abuses by having vigorous competition in these activities. Shouldn't one therefore replace consumer price regulation in these activities by competition policy, i.e. the kind of oversight that is deemed satisfactory in other sectors of the economy? Further, if the networks themselves are losing their natural-monopoly property, shouldn't the entire industry be taken out of the realm of

² A case in point is provided by the experience of the German Bundeskartellamt arguing that Stadtwerke Mainz, a local distributor, was charging excessive transmission fees and thereby restraining competition in downstream markets, and then hearing from the court that downstream electricity sales were handled by several different suppliers so the harm to downstream competition couldn't be so important. In this case, the fault is with the law treating promotion of downstream competition as the primary objective of the opening of grids for transmission while neglecting the problem of monopoly pricing.

sector-specific regulation and left to proceed on its own, with supervision from the competition authorities performing the same kind of function as in the automobile or the airline industry?

Considerations such as these have led to the notion that sector-specific regulation of network industries should be treated as a transitory regime, to be replaced by conventional competition policy once the promotion of competition through regulation had proceeded far enough. This notion underlies, at least in principle, several regimes of network regulation in Europe, most explicitly, in the new European-Union framework for the telecommunications industry.

The vision of competition policy eventually superseding sector-specific regulation is a tempting one. Sector-specific regulation has a history of regulatory capture leading to system of privileges, including in particular, the protection of monopolies, for the regulated companies. In contrast, competition policy, which applies the same set of rules to all industries in its domain, has relatively little room for special privileges. Indeed the uniformity of competition rules across firms and industries is an essential element of the juridification which allows competition policy to be practiced under a rule of law, with a perception of equal treatment under the law as a major source of legitimacy. Replacing sector-specific regulation by competition policy may therefore appear as a way of eliminating regulatory capture and strengthening the notion that monopoly privileges have no room in a market economy.

As one considers the possibility of replacing sector-specific regulation by competition policy, one must come to terms with a variety of substantive, procedural and institutional issues. At the substantive level, one must ask what are the pros and cons of handling a given matter through sector-specific regulation or through competition policy. For instance, what are the pros and cons of handling access to essential facilities through abuse-of-dominance prosecution under competition law, as is the case for all industries other than telecommunications, the postal system, and, in the future, electricity and gas? What are the pros and cons of handling predatory pricing through an *ex-ante* regulation of final customers' prices, as was the case of AT&T's long-distance rates until 1995?

At the procedural level, several questions arise: If a transition from a regime of sector-specific regulation to a competition policy regime is to take place, what procedure is chosen to

implement it? If this transition is to take place gradually, so that, at least for some time, parts of the industry operate under sector-specific regulation and parts of the industry operate under competition policy, what procedures will policy consistency across the different parts of the industry? At the institutional level, one may ask what is the relation between the institution in charge of sector-specific regulation and the institution in charge of competition policy.