

Telecommunications: Pressures and Policies for Change by Organisation for Economic Co-operation and Development
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This slim but densely informative volume is a case study of the worldwide telecommunications equipment industry, which for all practical purposes is co-extensive with OECD member countries. Despite its publication date of 1983, the study is current only to mid-1981, at which time it was completed after a year's work by OECD personnel drawn from the organisation's Information, Computer, and Communications Policy Division and from its Industry Division.

The telecommunications equipment industry, as this study explains in detail, possesses a number of unique characteristics which make it an object of particular interest and examination. Highly oligopolistic, it generally faces a single 'service provider', typically a PTT ministry, which has monopsonistic procurement powers. In an environment of worldwide recession and economic stagnation during the 1970s and early 1980s, its output, though not its employment, expanded rapidly. Due to the almost universal provision or regulation of telecommunications under state auspices, the industry finds itself astride a rapidly growing technology, but thwarted by a patchwork of anti-competitive regulations which, though varying from country to country, have been enacted to do such things as protect domestic markets, subsidise certain groups of telecommunications users, increase employment or prevent its erosion, secure the uniformity, integrity, and universality of the public network, and so on. In almost all cases, the study recommends a relaxation of regulatory rules and a stiffer dose of economic competition to improve the industry's performance.

Following a summary of major conclusions in Chapter I, to be enumerated later, the second chapter provides an overview of the telecommunications equipment industry. Sales figures are broken down by product line and world region, and growth rates of sales, output, and prices are presented. Within the OECD region, country-to-country trade is summarised. Much of this information was gathered by questionnaire specifically for the report.

Chapter III treats the structure and performance of the industry, and its dependence on peculiarities of the service providers and their regulators. A rather technical section investigates market structure country by country, examining such issues as captive sales, potential collusion, market shares, and barriers to entry. The uniquely close and continuous contact between the industry and the service providers has given rise to what the authors call 'quasi-integration' of the two, the causes and ramifications of which are touched on at some length.

Against this backdrop, Chapter IV examines pressures for change in the equipment industry. The switching, transmission, and terminal equipment markets are described and differentiated in useful detail. Any readers other than telecommunications engineers will profit from this insightful exposition. Optical fibres are dealt with here and in an Annex as a special case. Summarising terminal equipment trends, the study notes the emergence of two features: a differentiation of demand for services, as well as a convergence of technologies (digitalisation in particular). Responding to these new markets and technologies, a new generation of more specialised equipment

manufacturers (and service providers as well) has emerged, challenging the older structure of oligopoly and monopsony.

A lengthy final chapter presents policy implications and recommendations. These are proposed in the context of competition and regulatory policy, and, as noted, are almost uniformly supportive of what has come to be known as deregulation or liberalisation of telecommunications. While industry groups — at least those outside the cozy inner circle of established suppliers — might be charged with self-interest in recommending such a course, the OECD as an intergovernmental research body, lends new urgency and authority to these proposals. It does not hesitate to exhort its member governments and their PTTs and regulatory authorities to reduce their collective interventions in the market economy, and to allow competitive breezes to blow more briskly.

Few, if any, of the report's recommendations are wholly new. Many, for example, had previously been made by the Monopoly Commission reports in West Germany or by Professor Beesley's findings in Great Britain, which were issued at about the same time. These proposals include the following: competition of private suppliers in terminal equipment markets; international consortia bidding for overseas supply contracts, particularly to developing areas; relaxation of trade barriers between developed countries in telecommunications equipment under GATT auspices; greater competition among domestic suppliers; relaxation and uniformity of certification requirements for network access of terminal equipment; international technical standardisation; increased use of open and competitive bidding procedures; transparency of final links between competitive and non-competitive activities of service providers, and extension of antitrust legislation to such providers; resale or 'value added' competition on existing networks; facilities competition using satellites or optical fibres to extend those networks; dismantling of incentives for cream-skimming and cross-subsidisation by aligning costs more exactly with prices; more reliance on external financing for telecommunications equipment investment; and retraining and refresher courses for displaced labour in the face of more capital-intensive modes of production.

As it properly should, this volume raises a number of questions which must be answered elsewhere. In some instances, however, a more explicit recognition of theoretical and conceptual issues would have been desirable. An example is the continued emphasis on static economies of scale, always, it seems, in the conventional single-output mode, despite the narrative emphasis on the diversity and variety of new markets in telecommunications equipment and services. Here, the framework of recent theory of sustainability of natural monopoly and contestability of market structure might have been useful. In particular, the use of multi-product production functions, leading to economies of scope as well as scale, might have affected some of the descriptive and policy content. A report submitted to the West German Monopoly Commission, for example, argues convincingly that economies of scope — basically, complementarities of large-scale production of many individual outputs — can, if determined empirically to exist, justify retention of a single network service provider. It suggests, further, that the best empirical test of a service provider's ability to compete with private suppliers in terminal equipment markets is simply to allow such competition to occur. The market itself would determine whether the service provider's economies of

scope would prevail against its competitors' economies of scale in individual service lines. Accounting safeguards and cost transparency would prevent predatory pricing by the major service provider.

In addition, sustainability of monopoly arguments — developed in large part at Bell Laboratories in the United States — were used extensively by the American Telephone and Telegraph Company in antitrust proceedings before the US Department of Justice to justify its market position and behaviour. Unfortunately, AT&T's failure to convince the Department of Justice — and its subsequent divestiture, first ordered early in 1982 and carried out on 1 January 1984 — occurred after the volume under review was completed. These developments would certainly have tempered some of its conclusions and recommendations.

Although the nexus between the telecommunications equipment and service industries is examined in detail, links between this complex of economic activity and broader markets are not examined. In particular, the effect of the progressive merger of telecommunications with computing is not pursued; nor is an effort made to put the report into the context of 'information economy' studies and perspectives. Surely more specific questions of structure, behaviour, and performance of the telecommunications equipment industry are influenced in large measure by such considerations. It is not enough to note, as the study does, that demand for telecommunications equipment is derived from demand for telecommunications services. The latter demand, in turn, has been massively fuelled by the emergence of a much more diffuse and vibrant market for information-related products and services, including computing and data processing.

Finally, the report urges greater state participation in basic or 'fundamental' research in telecommunications. This proposal, however unobjectionable, is at odds with the pro-competitive tenor of other policy conclusions, and seems insufficiently justified. Why not allow these same competitive forces to allocate the optimal amount of research, basic and otherwise, to individual firms or consortia? The answer lies in the nature of basic research as a public good, its appropriability and consequent unattractiveness to private firms afraid of imitation by 'free riders', and so on. This matter bears more exposition.

Telecommunications is informative and enlightening reading suited to a broad range of professionals interested in this inherently transdisciplinary complex of issues. It deals knowledgeably with an industry which, however important an engine of growth in the private economy, continues to have peculiarly strong links to governmental policy, regulation, and entrepreneurial activity in the industrialised countries. Its careful dissection of markets, technologies, and policies into well-described component parts is particularly lucid for the reader, who cannot reasonably hope to be a specialist in more than one or two of the many areas and perspectives covered: engineering, regulation, competition policy, technological change, and so on. Yet there is no fallacy of composition, and one glimpses how much more the whole is than the sum of its parts.

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