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The Decline of Service in the Regulated Industries

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Preface

The quality of service from the regulated utility or transportation company has not often been a matter of great concern to the consumer. Service has been widely available and accessible on demand, except in natural gas and certain rail freight markets. In the last few years, however, it has become a matter of widespread attention: Service is not what it used to be, nor will it long be as good as it is now.

This analysis probes the causes and consequences of public policies relating to the quality of service in regulated industries. Previous studies have attempted to evaluate service and pricing in one or another of these industries. Here we compile, update, and extend these studies to provide a comprehensive explanation for the decline of service quality. Based on a systematic economic analysis of the process by which service offerings are determined, we project that there will be further declines unless public policies responsible for the present condition are substantially changed in the next few years.

These findings and predictions are based upon ongoing work as part of the Research Program on Government-Business Relations at the Yale School of Organization and Management. The program, which is funded by the General Electric Foundation, the JM Foundation, the Walker Foundation, the Gulf Foundation, the Pfizer Educational Fund, and the IBM Corporation, undertakes systematic evaluations of regulation and other public sector activities as they affect the private sector of the economy. The support provided by these sources is gratefully acknowledged. The sustained assistance of Curtis Spraitzar, Craig Stewart, and Eric Mankin of the research staff at Yale is sincerely appreciated. The critical reviews of the draft manuscript by Marvin Kosters of the American Enterprise Institute, by Robert Crandall of the Brookings Institution, and by Theodore

Keeler of the University of California were essential in developing this published version. James C. Miller III provided many valuable suggestions for content and presentation in the manuscript draft of this book. We are grateful for all of this assistance, and we look forward to further help from our readers in developing a greater understanding of the processes that determine service quality.

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Service Quality and Regulation

Regulated utilities and transportation companies set the pace for industrial growth and performance in the 1950s and early 1960s. No other sector of the national economy provided services more widely or of higher quality than theirs. Electric and telephone companies advertised their own dependability and promoted the low monthly charges available to residential customers. Natural gas distributors promised the cheapest, cleanest, and most reliable home heating and cooking equipment. The airlines were rapidly enhancing the speed, comfort, convenience, and safety of the most popular mode of intercity passenger transportation. All of these companies also stressed the assurance of fixed rates and expanding service offerings to meet the needs of both old and new customers. By the start of the 1970s, however, the regulated sector was clearly in trouble: rates were up, the quality of service was deteriorating, and availability was restricted in most of the public utility and transportation industries. Rather than extolling more and cheaper service, corporate pronouncements more often apologized for delays and shortages, and urged the consumer to conserve.

Why the reversal in a single decade? Explanations vary with the interests involved. Consumer groups blame the regulated companies for laxness in controlling operating expenses, for mistakes in selecting and adopting new technologies, and for a predilection to pass on to customers the costs of those mistakes. In reply, the companies do point to conditions affecting the economy as a whole, such as increased inflation and reduced productivity growth, but principally they blame their declining performance on the failures of regulation. Indeed, both consumers and producers have criticized the regulators for imposing controls that are time consuming, costly, and—if not unnecessary—at least excessive. The agencies maintain that their legislative mandates constrain them to follow procedures that cause these sluggish and unintentionally perverse responses to changing economic conditions.

Since the regulated public utility and transportation industries play a vital role in providing the infrastructure for productive activities throughout the national economy, it is important to determine the extent and the causes of declines in service. The pervasive attempts to affix blame suggest the existence of a villain with wanton or selfish motives. In our judgment, however, the answer is found in the intricate web of public and private sector activities that shape the performance of the regulated sector. This study describes the deterioration of service quality and economic performance in the regulated industries since the mid-1960s, the causes of those changes, and the means of improvement. The aim of the study is to provide the analytical framework for changes in policy that will lead these industries to restore reliable and efficient service.

Public policy toward this sector has already begun the process of change, spurred by consumer and industry dissatisfaction. As part of regulatory reform, Congress and a few state commissions have moved to address some of the problems. Whether recent reforms will reverse the decline in service quality remains an open question. This study, however, concludes that service in these industries is affected markedly by agency controls and remains a concern. Thus, the content of regulatory reform is a central issue.

The Role of Service Quality in Regulation

Ever since state control over railroads began in the 1860s, the regulatory agencies have directly addressed the service quality issue. Legislatures charged the regulators with the responsibility of guaranteeing service at reasonable prices, particularly for individuals and households otherwise prey to discriminatory or arbitrary offerings by a public utility. While not attempting to deal with all complaints about service for a particular flight, shipment, or repair call, the agencies have attempted to prevent discrimination against individuals within a given class of consumers. Beyond such questions of "fairness," the agencies have dealt with the important strategic issues of service quality in general, across classes of customers, and even across industries.

Regulation is responsible for the level of service quality for at least three reasons. These may be loosely classified as social, economic, and political. No factor by itself can account for the results observed. Rather, it will be seen that these forces combined to create a regulatory system that worked well enough in times of prosperity, but which was incapable of adjusting to reduced economy-wide growth and higher inflation.

The first, or "social," reason derives from the goals of regulation as set by legislation. The commissions controlling prices and service in the railroad, trucking, and airline industries and in the provision of electricity, natural gas, and telephones were instructed to operate in ways beneficial to consumers.[1] Prices should be set reasonably low, in keeping with the cost of service, and that service should be widely available to consumers. At the time of enactment, the new regulatory statute did not fail to promise lower prices, more quantity, and higher quality of service. Early in the development of the regulatory process, the agencies, following the dictates of their legislatures, began to demand wider service of the companies under their jurisdiction. Railroads and public utilities were required to extend their facilities "even if the return on the cost of complying with the order be conceded to be inadequate," as long as the ability of the company to render service was not impaired.[2]

Regulation was pushed further, however, in requiring improved

[1] English common law dating from the fourteenth century required all businesses serving the public to accommodate all applicants at reasonable prices. These rules were later carried over to the United States. By the middle of the nineteenth century, the requirement to serve had been abandoned by neglect or omission for most industries. It was recognized, however, that natural monopoly conditions occurred in two important sectors—common carriers and innkeepers—and their duty to serve was retained. Even so, the common law remedy was cumbersome and rarely used. Commissions were then established in a number of states to act as agents for the public. Some of the common carriers challenged these early state commissions. In a landmark decision, the Supreme Court gave states the right to regulate certain businesses (*Munn* v. *Illinois*, 94 U.S. 113, 161, 24 L.Ed. 77 [1877]): "Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large." The requirements on common carriers were then imposed at the federal level in the Act to Regulate Commerce (1887) and later legislation covering other industries. As time passed, the interstate transportation and communications industries were often perceived to generate external benefits—the value of the system to existing users increased as new customers were added. As regulation matured, the requirement to serve the public was taken to mean *all* the public (*Wolff Packing Co.* v. *Court of Industrial Relations*, 262 U.S. 522, 535–538, 43 S.Ct. 630, 67 L.Ed. 1103, 27 A.L.R. 1280 [1923]): "[T]he authority of a public grant of privileges . . . imposes the affirmative duty of rendering a public service demanded by any member of the public. Such are the railroads, other common carriers and public utilities." See also Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions. Volume I: Principles* (New York: John Wiley & Sons, Inc., 1970), pp. 21–25.

[2] *Woodhaven Gas Light Company* v. *Public Service Commission*, 269 U.S. 244, 46 S.Ct. 83, 70 L.Ed. 255 (1925), as quoted in W. K. Jones, *Cases and Materials on Regulated Industries* (Brooklyn: Foundation Press, 1967), p. 381. See also The Natural Gas Act, 52 Stat. 824, Section 7(a) (1938), as quoted in Jones, p. 384: "[T]he Commission . . . may by order direct a natural-gas company to extend or improve its transportation facilities . . . if the Commission finds that no undue burden will be placed on such natural gas company thereby."

service for particular classes of consumers. Rural and low-income users were often the intended beneficiaries, although the goal may have been characterized as assuring the provision of "basic" or "essential" services. The reasons for such favoritism included the advancement of economic development through lower-priced or better quality public utility services and, at times, the necessity of obtaining the support of a particular consumer group for the passage of the regulating legislation. More service to rural households, to small communities, and to industries favored for development had become the norm in the 1950s and 1960s.

Once the regulatory process began to favor specific groups, then both rate structure and service offerings had to put burdens on other buyers, the firm's shareholders, or both. Conceivably, the regulated firm might have had to offer some services at rates that did not even cover incremental costs.[3] The less profitable services had to be offset by higher returns elsewhere—their costs could not for long be shifted to the firm's stockholders without imperiling the company's existence. Over the long run, one set of users could be subsidized only if the regulatory authorities imposed higher prices on other consumers. As a result, a number of pricing schemes were established that became embedded in the rate structures of the regulated industries, particularly "value of service" and "cross-subsidy" pricing. In effect, this kind of regulation taxed certain classes of users to provide revenues for extending service to other classes of users.[4]

A second factor in the regulation of service quality may be termed "economic," in that rate controls cannot be administered effectively without some agency surveillance of service offerings. Given the maximum rates permitted by the regulatory commission, the company could increase profit margins by reducing the quality of service, and so its cost. Higher service quality, after all, is costly to the firm and valuable to the consumer. Whether measured in terms of reliability, availability, or some other attribute, to increase

[3] A distinction is made here between costs that, in the short run, are fixed and those that are variable (incremental). The company will not willingly undertake to provide a service for which the additional revenues fail to cover the incremental costs. At times, the firm may choose to sell services at rates that cover incremental costs but contribute little or nothing to the coverage of fixed costs. Yet, while regulators considered it to be in the public interest to provide service to certain classes of users at preferential rates, they were mindful of statutes proscribing "undue or unreasonable preferences or advantages." Civil Aeronautics Act, 49 U.S.C.A., Section 402(c).

[4] Richard A. Posner, "Taxation by Regulation," *Bell Journal of Economics and Management Science*, vol. 2, no. 1 (Spring 1971), pp. 23–29. Short of cross-subsidization, the case decision process used by the regulatory agencies was itself a factor in determining service quality. When making rate requests, companies that could demonstrate their success in extending service to new users were more successful in obtaining revenue increases than other companies.

the quality of a service is akin to providing "more" in a world of scarcity.[5] Thus, the commission must monitor quality of service to control rates effectively: Service quality is not to be reduced during the time between the firm's appearances before the agency; further, a proposal to improve or extend service may be sufficient grounds for a rate increase. Either way, the commission must deal with service quality as part of the price-setting process.[6]

The third, or "political," factor requiring the regulatory agencies to concern themselves with service quality can be found in the administrative procedures built up under regulation. While Congress and the state legislatures intended to establish impersonal, mechanical systems to control excessive prices and profitability in regulated companies, the commissions in practice confront problems of evidence and due process, as well as of interpreting the intent of their enabling statutes. The effect of established administrative procedures and political coalitions has been to create a system that favors preexisting patterns of prices and quantities and that adjusts only very slowly. Agency decisions on entry, prices, and service offerings are often based on historical practice and legal precedent. Current economic conditions and proposals for technical improvements in agency practice are only imperfectly reflected in regulatory actions. These decisions have cost and revenue implications for the companies, which in turn affect service.

Any one of these three factors could have involved the agencies deeply in the quality of services provided by the public utility and transportation industries. But the agencies have gone further and indeed have influenced service offerings and quality beyond the range of legislative mandates, beyond what was needed for effective price control, and beyond what may be explained by administrative friction. The influence has been substantial and in large part responsible for the reductions in service quality of the last several years.

[5] Indexes of service quality for the industries of interest here are developed and explained in chapter 2.

[6] Indeed, two distinguished analysts question whether, given service quality variations, regulation can ever be effective. George J. Stigler and Claire Friedland, "What Can Regulators Regulate? The Case of Electricity," *Journal of Law and Economics*, vol. 5 (October 1962), pp. 11–12: "The ineffectiveness of regulation lies in the regulatory body [being] incapable of forcing the utility to operate at a specified combination of output, price, and cost. . . . [T]he utility can reduce costs . . . by reducing one or more dimensions of the services which are really part of its output: peak load capacity, constancy of current, promptness of repairs, speed of installation of service. . . . Since a regulatory body cannot effectively control the daily detail of business operations, it cannot deal with variables whose effect is of the same order of magnitude in their effects on profits as the variables upon which it does have some influence."

To establish this thesis, we shall first describe the regulatory process and show how it affects company price and output decisions. We then consider the effects of regulation on five industries—the electric, natural gas, telephone, airline, and railroad companies—from 1958 to the present.[7] We shall show the direction and magnitudes of the changes in service quality, and the extent to which the stated objectives of the agencies were achieved. During the first third of this period, from 1958 to 1965, economic conditions and regulations produced one set of results; during the 1965–1979 period, however, markedly different economic and regulatory conditions generated quite contrasting results. Each period will be discussed in detail in a separate chapter, to be followed by a concluding chapter on prospects and problems in regulatory reform.

The Regulatory Process

Although each regulatory agency has a unique approach to particular problems, and despite differences across statute mandates and industries, the commissions have shared certain practices. Through rule making and case-by-case review, the agencies approve or disapprove company applications for service and price changes. The firm in turn selects the production methods and determines its own capacity to supply consumers in its designated market regions.

Similarities exist not only in what regulatory agencies control, but also in the decision processes used. Initially, the agency issues a "certificate" to the company selected to provide service across regions, to different classifications of consumers, and for particular

[7] Industries closely related to these (air freight, rail passenger, oil pipeline, intercity bus, urban transport) were omitted because they are substantially less important to the economy. Other major industries have recently been brought under regulation; for example, controls on crude and refined oil products have had some of the same immediate effects, but the controls have not been imposed for a long enough time to establish long-term trends.

Although regulated as to price and entry by the Interstate Commerce Commission, the motor freight transportation industry has also been excluded from this analysis. This is because trucking regulation is different in both technology and regulatory process. Profits are regulated as a percentage of sales rather than as a percentage of the capital stock. Trucking is not a capital-intensive industry; since few fixed facilities are specific to the firm, the trucking companies can adjust the quantity of their services to the profit opportunities. The motor freight industry thus has not been subject to the wide swings in productivity growth that have characterized the other regulated industries, and its modest capital requirements suggest that supply shortages are not a serious concern.

Regulation of broadcasting and financial markets have also been excluded for reasons of differences in process. The justification for regulation in these sectors, which embody only limited aspects of economic regulation of prices, is more social and political.

time periods. Commissions have, for example, established the number of gas, electric, and telephone companies to serve a region; designated classes of industrial, as contrasted with residential, consumers; and set service standards for peak demands as well as for seasonal consumption. Similarly, certification of surface freight carriers has determined the number of railroads hauling goods between two cities, by type of good carried and service offered.

The most important agency controls have been those that set price levels.[8] The first step has usually been to certify a tariff submitted to establish prices or "rates" on scheduled service. As a second step, rather than investigating the rates in thousands of rate schedules in any one company, the regulatory commissions have indirectly but effectively controlled prices by accepting or rejecting company requests for general revenue increases.[9] The agencies approve requests when sufficient evidence is presented to document legitimate cost increases, justified by increased operating costs or by higher depreciation allowances and capital returns required by bond and stockholders. The agency responds to the requests by reviewing studies indicating the nature and extent of these cost and profit increases. In these reviews, the central issue has been whether companies were earning profits sufficient to attract investors and thereby to maintain current and prospective inflows of the capital necessary to maintain and expand service. The proposed increases in profits are measured against the "fair" rate of return on the capital "rate base." In deciding on fair return, agencies have employed measures of the rate base that included the previous capital outlays for plant and equipment used in regulated operations, calculated according to their original costs less depreciation. The agencies have set the fair rate of return within a range established by the testimony of experts. Witnesses for the company and for other interested parties present evidence on what the company should earn to compete successfully for the funds required to replace and, if necessary, to expand capacity. Since these funds must be obtained from prospective debt and equity holders, the determination revolves around what companies have to pay in interest, dividends, and (implicitly) stock price appreciation to maintain the desired level of investor outlays.

The regulatory agencies have focused their attention on profit

[8] Controls on market entry and exit are also important, of course. They are always found in conjunction with price regulations, however, so the effects of nonprice economic regulations can be incorporated into those attributable to price controls.

[9] The request for increased overall revenues of course results in hundreds of individual rate increases, which are changed by means of revised individual service tariffs submitted to the agency at a later date.