

# Fairness or Efficiency

## An Introduction to Public Utility Pricing

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## Chapter 10

# OVERVIEW

The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions.

John Maynard Keynes  
*Introduction to the Cambridge  
Economic Handbook*

A subtitle for this monograph could be, "can regulation really substitute for competition, especially with regard to pricing of the products and services of regulated firms?". Given our institutional and political structure, I have pointed out that regulation cannot directly substitute for competition in every respect. In fact, the institutional and political realities drive regulation toward emphases and points of view which differ from those of the competitive or market sector.

To appreciate the differences, one must first of all understand what competition does and does not do. In principle, at least, the competitive or market sector moves toward an economically efficient equilibrium, or equilibrium that exhausts all "gains in trade" or mutually advantageous rearrangements of resources. But this is not the only attraction of a competitive, market economy. It provides incentives for cost minimization

in production and for revelation of preferences in consumption. It also has a mechanism for planning, decentralized down to a level of a firm and the household, and, as in the case of price formulation, it accommodates to risk and uncertainty without concern over whether the risk bearing is just or fair.

However, these advantages of the competitive or market form of organization cannot be expected to occur automatically for all industries. In particular, because of inherent cost advantages, it may be the case that if matters are left entirely to market forces, one firm will dominate an entire industry and will be thus in a position to charge what it likes and realize exorbitant profits. In the United States, in such situations only certain firms are allowed to operate. They are given a monopoly franchise in return for governmental regulation on the prices they charge so as to assure that only a "fair" return on investment is obtained by the firms' owners.

This in turn means that in regulation matters which are automatically taken care of in the competitive market sector through the "invisible hand," must be accomplished through administrative procedures. The design of the proper administrative procedures raises many interesting practical as well as theoretical questions. In fact, the theoretical economics literature has paid scant attention to some of these issues. For example, there is little economic theory that deals with issues of planning in the regulated sector or the accommodation of consumer prices to risk.

However, a considerable literature has developed on how to attain economic efficiency in regulatory pricing. The basic theory is that of Frank Ramsey and dates back to 1927. The theory would arrange prices so that all mutual "gains in trade" are exploited. A difficulty in applying the Ramsey theory of economic efficiency, or its more refined discriminatory or two-part tariff variants, is the difficulty of arranging gains in trade or in compensations actually to take place. In general, one cannot expect compensation of losers by gainers to be possible. However, this does not negate the importance of the computation of economically efficient prices. For these prices still give the policy maker or regulator an important benchmark or reference standard for pricing of regulated industries.

When it comes to issues of economic or social justice, regulation's ability to effect social goals makes it potentially

more effective than the competitive market place. Unfortunately, the available economic justice theory falls short of what is desired. A positive theory which describes how the public in fact views economic justice is almost nonexistent. Although much work has been done on normative theories, they are at such a basic level as to offer only very general guidelines and concepts. As always, one must bear in mind the inherent conflict between economic efficiency, which satisfies a very minimum criterion of economic justice, and other possible justice or fairness viewpoints. In particular, it is easy in pursuing some superficially attractive economic justice idea to undermine economic efficiency. We saw this possibility, for example, in the older ideas of horizontal and vertical equity in taxation theory.

To be as effective as the competitive market place as regards both economic efficiency and justice or fairness, the regulated sector must properly cope with the vulnerability of the firm to competition by unregulated rivals. The monograph has described the recent theory that looks more deeply than did older theories at this question. In particular, the newer theory shows that the fact that a regulated firm can provide its services more cheaply than two or more firms does not guarantee stability or sustainability of its pricing structure. Even though the firm has a "natural monopoly" cost advantage, it may in fact be impossible to find prices that at the same time give the firm a fair return on its investment and are stable or sustainable.

Finally, the monograph briefly described some of the very recent approaches to the analysis of political institutions by means of the theory of public choice. This theory starts with the observation that in many of our deliberative institutions, such as legislatures, decisions are not made in isolation. Rather, decision makers confront a sequence of decisions stretching over a long time horizon. This allows for opportunities for "gains in trade". Thus, economic efficiency or exploitation of gains in trade need not occur with respect to each decision separately, but may occur when an entire family of decisions over some time horizon is considered. Again, little has been done to apply this theory to price setting in regulated industries, but at a minimum the theory indicates that a broader view of economically efficient pricing than has been taken heretofore may be in order.

What then, is the policy maker or regulator to get out of this "guided tour" of the salient problems of equity and efficiency in public utility pricing? Perhaps, most important, I hope he is able to get a sense of what problems are hard and which are comparatively easy, a sense of where he must fall back on his instincts and experience and where he can get help from experts and scholars. Thus, he can probably expect little help from others on questions of justice and social goals, at least not from economic scholars. On the other hand, economists have productively thought about issues of economic efficiency for at least two hundred years. Here, the policy maker can expect considerable help, although he may find that many economists gloss over the problems of vulnerability (stability or sustainability) of the regulated firm's prices, simply because this area is still so new to economics.

In summary, the monograph has not offered pat answers to the host of difficult issues that it has discussed. However, I hope that it has contributed towards as Keynes puts it, "a method rather than a doctrine, an apparatus of the mind, a technique of thinking".

## About the Author

Edward E. Zajac joined the Mathematical Research Department at Bell Laboratories in 1954 after obtaining a Ph.D. in engineering mechanics at Stanford. For the next ten years his research was principally in the fields of his training, including work on elastic wave propagation, elastic stability, dynamics and kinematics of submarine and aerial cable, dynamical system theory, and attitude control of satellites, and in neighboring fields such as numerical analysis. Starting in 1962 he made some of the earliest computer-animated films, including *A Pair of Paradoxes*, and he spent the academic year 1966-67 as Visiting Professor of Electrical Engineering at the Polytechnic Institute of Brooklyn working on the application of computer animation to science education films. Subsequently his research interests turned to economics, and in 1968 he started the first economics research group at Bell Laboratories. His published research on regulatory economics has appeared in the *American Economic Review*, *Journal of Public Economics*, *Journal of Economic Theory*, and the *Bell Journal of Economics*. Currently, he heads the Bell Laboratories' economics research effort.