

Preface

The essays in this volume were presented at a conference on public regulation sponsored by Carnegie Mellon University under a grant awarded by the National Science Foundation (NSF). The conference marked a decade of research funding by NSF's Regulation and Policy Analysis program. Sadly it also marked the end of its existence. Since there is not likely to be another occasion quite so auspicious as this one, I wish to thank Laurence Rosenberg of the NSF for his accomplishments in managing this program. Under his stewardship the program achieved several significant contributions of lasting importance.

First, the program nurtured a generation of scholars. It provided funds and an imprimatur of excellence for their research. It helped researchers, as graduate students and young professors, to believe that the phenomenon of regulation creates an extremely important and intellectually challenging area for research. It gave stature and excitement to such research.

Second, the program opened new frontiers of knowledge about regulation. It sponsored research that provided evidence for the mid-1970s' debate on banking regulation, on issues of consumer credit, on competition for financial services and the impact of technology. It funded research about efficient pricing in regulated industries, about productivity measurement, about the inefficiency of regulation in surface and air transportation, and thereby laid the framework for regulatory reform and deregulation. It also supported significant advances in knowledge about health and safety regulation, the measurement of costs and benefits in environmental regulation, and the political economy of regulation and its distributional aspects.

Third, the program sponsored a series of conferences that assembled about as influential and interesting a group as one could imagine of those who have thought about and, in many cases, practiced their ideas about regulation. The community included economists, lawyers, political scientists, and policymakers. The first such conference, organized by Gary Fromm, took place in 1977. The conference volume, *Studies in Public Regulation*, was subsequently published in this MIT Press series. Other conferences followed. In 1980 a small group of distinguished scholars was convened to consider the possibilities for further attracting social scientists to regulation research. This led to a 1982 conference on social science and regulatory policy, organized by Roger Noll, and to a 1983 conference on

administrative law and political economy, organized by Susan Rose-Ackerman. The last NSF regulation conference, held in 1985, is represented by this volume.

As in the first conference, papers to be presented were selected in an open competition. A call was issued and more than 120 abstracts were received. These were reviewed by a steering committee of experts on public regulation. The committee discussed the merits of the leading candidates, so as to choose papers that would lend new perspectives on the formulation, analysis, and evaluation of regulatory institutions and policies. During the conference each paper was critiqued by an outstanding scholar in the field. After the conference each paper was sent to a referee who offered further suggestions for revisions. Decisions were then made about which papers were to be included in the proceedings volume.

The fine group of essays that constitutes this volume is a testimony to the importance, quality, and interdisciplinary nature of research on issues of regulation. The papers fit into two broad categories. The first category consists of papers that address the design and formulation of regulatory regimes. The papers portray vividly the collective (multistage, multiplayer) aspects of regulatory structure and decisions. David E. M. Sappington and Joseph E. Stiglitz review a new literature concerned with the interaction between regulators and regulated firms under imperfect information. The primary vehicle for analysis is the principal-agent model, familiar to readers of research on information economics. The authors do an excellent job in outlining the relation of informational problems to regulatory behaviors and in making the modern theoretical tools in this area accessible to the reader. Judge Stephen G. Breyer deals with the institutional capabilities of the independent agencies and the courts. He makes an important contribution to legal research with his argument that courts are beginning to be relied on for policy decisions, rather than for decisions pertaining to law, while the reverse is becoming true for agencies. Unfortunately such a division is likely to make matters worse because courts have a poorer information base than the agencies and a deeper legal expertise.

The last two papers in the section deal with formation (rather than design) of regulatory policy. Both are presented from the political science perspective. Thomas Romer and Howard Rosenthal survey the current base of theoretical and empirical research on policy formation, focusing particularly on optimization models. They offer the view that unidimensional (liberal-conservative) models of voting can be fruitfully applied to study the formation of regulatory policy. In contrast, Elizabeth Sanders offers a provocative essay where the intention is to describe the broad

alliances that have historically stood behind the movement for regulation. The alliances are portrayed as issuing from an industrial core and an extractive periphery, which set the scene for decisions about regulation.

The second broad category of essays deals with methods for assessing the benefits and costs of regulation. The first three papers focus on the development of theory and methods. Dale W. Jorgenson and Daniel T. Slesnick offer an important applied econometric perspective on classical welfare economics. They develop creative and attractive computer-based tools for practical normative analysis within a general equilibrium framework, and then apply these tools to compare three regulatory policies of natural gas supply. Glenn W. Harrison reports on the design and results of a series of laboratory experiments aimed at testing the contestable markets hypothesis and finds that experiments offer support for the robustness of the theory. M. Elisabeth Paté-Cornell discusses the role of risk assessment in regulatory analysis. She outlines the joint role of engineering and economics in achieving resolution of problems in nuclear power industry regulation.

The final group of papers focuses on performance and effects of current regulatory and deregulatory policy. Jonathan A. K. Cave and Stephen W. Salant use game theory to study the operation and economic consequences of a voting mechanism used by firms that take part in an agricultural marketing cartel. The cartel operates with immunity from the antitrust laws. Their basic premise is that the operation of the voting mechanism leads to equilibrium outcomes that are not cartel joint-profit maximizing. Douglas W. Caves, Laurits R. Christensen, Robert J. Windle, and Michael W. Tretheway use modern cost-function analysis techniques to compare the productivity and unit-cost trends of U.S. and foreign air carriers before and after deregulation. Leslie I. Boden and Carol Adaire Jones address yet a third regulated sector, that of occupational health and safety. They analyze the asbestos problem and convey interesting empirical results. Andrew F. Daughety and Robert Forsythe use experiments to show that periods of active and extensive cooperation between firms (periods of regulation) have effects on behavior that persist beyond the period of formal cooperation (into periods of deregulation).

Overall, then, the volume addresses both how regulatory institutions and policies come about and whether these institutions and policies perform and work well. Many of the essays go beyond traditional tools used by regulatory researchers—we encounter here general equilibrium theory, experimental research methods, the integration of rational expectations and game theory tools with regulation, the use of new cost function

techniques, and the introduction of probabilistic risk analysis. The papers combine these theoretical advances with rich empirical analyses. Clearly many of the leading scholars now doing research in the regulation area have made an investment in institutional knowledge; yet their research is based solidly on economic theory and other social science and law disciplines. This new and important perspective lends an exciting richness and freshness to this volume.

Much is owed the program participants and referees for the high quality of this volume. The group consisted of Elizabeth E. Bailey, Chair, Carnegie Mellon University; William F. Baxter, Stanford University; Ronald R. Braeutigam, Northwestern University; E. Gerald Corrigan, Federal Reserve Bank of New York; Robert W. Crandall, The Brookings Institution; Christopher C. DeMuth, Lexecon, Inc.; George C. Eads, University of Maryland; Morris P. Fiorina, Harvard University; Ann F. Friendlander, Massachusetts Institute of Technology; Benjamin M. Friedman, Harvard University; Dale W. Jorgenson, Harvard University; Paul L. Joskow, Massachusetts Institute of Technology; Lester B. Lave, Carnegie Mellon University; Michael E. Levine, University of Southern California; Paul W. MacAvoy, University of Rochester; Thomas G. Moore, Council of Economic Advisors; William A. Niskanen, The Cato Institution; Roger G. Noll, Stanford University; Thomas R. Palfrey, Carnegie Mellon University; John C. Panzar, Northwestern University; M. Elisabeth Paté-Cornell, Stanford University; Sam Peltzman, University of Chicago; William H. Riker, University of Rochester; Thomas Romer, Carnegie Mellon University; Susan Rose-Ackerman, Columbia University; Laurence C. Rosenberg, National Science Foundation; Howard Rosenthal, Carnegie Mellon University; Steven C. Salop, Georgetown University; Richard Schmalensee, Massachusetts Institute of Technology; Alan Schwartz, University of Southern California; David S. Sibley, Bell Communications; Vernon L. Smith, University of Arizona; A. Michael Spence, Harvard University; Barry R. Weingast, Washington University; and Robert D. Willig, Princeton University. Thanks are also due to Ann Grekila of Carnegie Mellon University, who did an exceptional job of conference planning and administration.