

CHAPTER 5

Rethinking Regulation

GOVERNMENT REGULATION can have a dramatic effect on economic growth and productivity. Strong economic growth can be expected when governments promote markets by enforcing property rights and encouraging commerce. On the other hand, poor economic performance usually results when governments play an active role in regulating prices and output. The U.S. Government has tended to leave most pricing and output decisions in the hands of the private sector. As the United States becomes a wealthier country, however, demands increase for regulating marketplace activities that affect environmental quality, health, and safety. It is critical that the Nation meet these challenges by designing regulatory institutions that facilitate innovation and foster competition.

Regulation of economic activity is hardly a new phenomenon. Over the past century, Federal, State, and local governments have played an increasingly important role in regulating the lives of individuals and the activities of business. The average consumer need not venture beyond the home to see the extent of regulation. There are labeling requirements for food and appliances, standards for the paint in the living room, pollution control requirements and energy standards for the car, standards for gas and portable electric heating systems, and safety requirements for bicycles. Today regulation is so pervasive that it is difficult to imagine a world in which Federal regulation was not a dominant force. Currently more than 100 Federal agencies are responsible for administering a staggering array of regulations.

Much regulation is motivated by a perception that the marketplace does not adequately address a particular economic or social problem. For example, child labor laws help prevent the exploitation of children. Environmental legislation tries to improve the quality of the air people breathe and the water they drink. Safety legislation to protect coal miners was enacted to help reduce on-the-job injuries. In other cases, legislation was introduced to limit what was viewed as potentially "destructive competition," or to help save a cherished institution, such as the family farm. While many of these regulations had beneficial effects, they were not without their costs.

The success of regulatory programs can be measured by quantifying the costs and benefits of regulation. Regulatory costs imposed on the economy have been estimated to be in the neighborhood of \$100 billion annually. The benefits of regulation are more difficult to measure, but nonetheless are real, particularly for programs designed to promote environmental quality, health, and safety. Critics say that the costs are too high, arguing that regulation tends to favor special interests and is generally inefficient. Proponents of an increased government role in the marketplace point to the myriad of social, environmental, and economic problems that have not been adequately addressed.

To move beyond such general debates, it is necessary to examine the economic and social impacts of specific regulations and policies. Such analysis reveals that some regulatory activities have led to unambiguous increases in consumer welfare, but that many regulations have had a neutral or adverse effect on consumers. Examples of regulations that have had significant adverse economic impacts on the general public include wage and price controls, regulations on interstate trucking and railroads, and regulations on ocean shipping. Although there are notable exceptions, such as the abolition of the Civil Aeronautics Board (CAB) and the breakup of the American Telephone & Telegraph Company (AT&T), changes in the regulatory environment have often favored special interests at the expense of the general public.

There are signs, however, that some important aspects of the regulatory process are undergoing a fundamental reexamination. Over the past two decades, numerous reforms have been aimed at deregulating or partially deregulating several industries. The transportation industries, most notably trucking, railroad, and air transport, have experienced tremendous gains as a result of deregulation. One study estimates that the benefits of trucking deregulation are between \$39 billion and \$63 billion annually, while another estimates the benefits of airline deregulation at \$15 billion per year. A third study found that the partial deregulation of railroads has led to efficiency gains of between \$9 billion and \$15 billion annually. These gains, which have largely occurred in the 1980s and have helped produce the improved economic performance of the past 6 years, have translated into lower prices and a wider range of services for consumers. Where increased competition has been promoted in other sectors, a similar story emerges. The widespread introduction of money-market accounts that followed reduced financial industry regulation has allowed consumers to obtain a higher return on their savings. The introduction of increased pricing flexibility for stock commissions has helped to promote a booming discount brokerage industry. The relaxation of

the restrictions on overnight mail delivery has led to dramatic increases in the provision of next-day-delivery services by private companies.

The movement toward deregulation represents one kind of regulatory innovation. More recently, other efficiency-enhancing innovations in the regulatory process, although not completely removing regulation, have been aimed at fostering greater innovation in the marketplace. For example, the U.S. Environmental Protection Agency (EPA) has pioneered the development of market-based approaches designed to achieve a given level of environmental quality at lower cost. These approaches have resulted in cost savings in the billions of dollars over the past decade.

Another area undergoing a great deal of change is the regulation of public utilities, such as phone companies, gas companies, and electric utilities. In many cases the fundamental rationale for public utility regulation has been called into question. The general thrust of these changes is to develop institutions that encourage firms to operate more efficiently. Thus, where new electric generating capacity is needed, for example, some state public utility commissions now encourage competitive bidding for constructing new generating capacity. Formerly, a single company that served the area was given a monopoly over the right to build new capacity. In some cases States are also allowing utilities to provide economic incentives for energy conservation as an alternative to building additional capacity.

The reasons for the evolution of the regulatory process are complex and only partially understood. In contrast, the relationship between the adoption of a particular regulatory approach and the resulting economic performance is fairly well understood. On the whole, greater reliance on market forces has led to a more efficient industry structure and large gains for consumers. The result of deregulatory efforts and efficiency-enhancing regulatory innovations has been to increase the overall size of the economic pie, and to make the average citizen better off. A critical element in promoting U.S. competitiveness in the years to come will be the implementation of regulatory strategies that encourage competition and innovation.

This chapter provides a selective review of regulatory activity, highlighting those aspects of Federal regulatory policy where exciting reforms are taking place. It also points out some areas, such as the banking industry, where additional reform is needed. The analysis demonstrates how the regulatory environment in which firms operate can have a dramatic effect on the performance of particular industries as well as the overall economy. In addition, it suggests how some fresh approaches to regulatory design can foster economic growth and promote technological change in the decades ahead.

REGULATION: AN OVERVIEW

Economists have identified two broad classes of regulation. The first, sometimes referred to as "economic regulation," usually covers the regulation of specific industries. This regulation takes three basic forms. The first places restrictions on the prices a firm can charge or which firms can enter a particular industry. For example, prior to 1978 airlines needed approval from the Civil Aeronautics Board for specific routes and fares. Truckers and railroads still have to file rates with the Interstate Commerce Commission. These transport industries represent a more general category of industries that could operate more efficiently in the absence of price and entry restrictions. Fortunately, much of this regulation has been removed in recent years, resulting in lower prices and an expanded menu of services for consumers.

A second form of economic regulation concerns industries for which it is less costly to have a single large firm provide a product than to have several smaller firms provide the product—i.e., so-called "natural monopolies." Industries thought to have elements of natural monopoly include local telephone networks and transmission and distribution systems for electricity and natural gas. For example, it is sometimes cheaper to build one large natural gas pipeline than several small ones. Some industries with natural monopoly elements, such as electric utilities, are regulated by Federal and State agencies. The typical approach of these regulators is to provide limitations on the overall return on investment that firms are permitted to receive.

A third form of economic regulation, which has often been overlooked in the scholarship on regulation, involves the direct government provision of services. For example, the government provides mail services through the U.S. Postal Service and prohibits others from competing for those services. This type of regulation can be viewed as an extreme form of price and entry regulation where the government is the sole supplier of certain services.

The second broad class of regulation, referred to as "social regulation," is aimed at tackling problems that are not always adequately addressed by the marketplace. Examples include health, safety, and environmental regulation. This regulation is not directly related to issues of prices and market structure, but rather attempts to address problems where there is a perceived "market-failure." For example, a firm may generate too much pollution because it does not include in its costs the effect of its pollution on others. Unlike much economic regulation, social regulation is rarely targeted at specific industries.

Although the preceding taxonomy of regulatory activity covers a lot of ground, it is far from complete. For example, not all economic

regulation is targeted at specific industries; minimum-wage laws clearly represent a form of economic regulation that applies to almost all industries in one form or another. Similarly, antitrust policy, whose purpose is to promote competition by placing limitations on different kinds of business conduct and policies, is also an important form of economic regulation. Despite such drawbacks, the preceding classification scheme provides a convenient lens through which to analyze the activities of a wide variety of Federal regulatory agencies.

RATIONALES AND MOTIVATIONS FOR REGULATION

Many justifications have been offered in defense of regulation. Economists quite naturally tend to focus on those justifications motivated by potential gains in economic efficiency. The primary efficiency rationale for economic regulation is that of natural monopoly. However, it is important to recognize that just because, in theory, an industry consisting of a single regulated firm might be able to sell its output at a lower cost does not mean that, in practice, it will. Just as the marketplace may be imperfect in the case of natural monopoly, so too are the tools at the disposal of government regulators.

The economic rationale for social regulation is that firms or individuals may impose costs or benefits on other individuals that are not adequately accounted for in the marketplace. Such costs or benefits are sometimes referred to as "externalities." Examples of externalities include smoke from a factory that contributes to respiratory illness of nearby residents, and the costs an individual might impose on others by driving while intoxicated. Externalities are often viewed as examples of market failure. Until recently many economists viewed market failure as a sufficient rationale for government intervention. Because it is now widely recognized that government intervention is not without its pitfalls, however, market failure is seen as a necessary, but not sufficient, condition for government intervention.

Economists sometimes refer to situations where government intervention results in a less efficient policy as "government failure." Such failures can arise in cases of both social and economic regulation. This is because what economists see as reasonable grounds for government intervention and regulation, and what actually happens when regulations are implemented, are often different. For example, many firms attempt to use the regulatory process to enhance their competitive position. Barriers to entering an industry may increase with the introduction of new regulations, not only increasing profits for regulated firms, but also yielding a less efficient industry structure. The existence of incentives for firms and individuals to manipulate the political process means that regulatory programs may not be

implemented so as to promote economic efficiency; nor is such efficiency necessarily an important criterion for politicians designing such programs.

Over the past 20 years some economists and political scientists (especially those of the "public choice" school) have attempted to understand what motivates different approaches to regulation. A key insight from this research is that much regulation can be explained by an interest in redistributing wealth from the general public or taxpayers to special interest groups. The motivations for some social regulation are more difficult to disentangle, but here, too, there is a strong political element related to the redistribution of wealth. For example, the legislation requiring scrubbers on power plants appears to have been motivated as much by the self-interests of environmentalists and high-sulfur coal miners as by a desire to promote cleaner air.

Notwithstanding the growth in understanding of both the politics and economics of regulation, some important parts of the puzzle still defy a simple explanation. Most notable among these is the wave of deregulatory activities that has taken place over the past two decades. The fact that many of these activities were characterized by diffuse benefits for a large group of consumers and concentrated costs for some well-organized interest groups makes it difficult to explain why they were adopted.

Several factors appear to have contributed to this dramatic change in the approach to regulation. First, an outpouring of research on economic regulation suggested that the costs of regulation were quite high. Second, some "natural" experiments provided further evidence that deregulation would result in large benefits. For example, in the case of airlines almost all intrastate markets were unregulated whereas interstate markets were heavily regulated. A comparison of the fares between Los Angeles and San Francisco with those between New York and Washington, D.C. suggested that people in the latter market were paying much higher fares as a result of regulation. Third, technological changes in industries such as telecommunications and electric utilities led some firms to lobby for a reduction in the entry barriers that protected existing firms. Finally, as the social costs of regulation grew, some politicians may have seen an opportunity to claim national credit by promoting policies that would result in significant gains for a large group of consumers. Although these factors help to motivate the movement toward deregulation, they do not explain why a wave of such activity began in the 1970s; nor do they explain what is likely to be in store for the future.

TRENDS IN REGULATION

The scope of regulation has broadened considerably since the first Federal administrative agency, the Interstate Commerce Commission (ICC), was established in 1887. The Sherman Antitrust Act became law in 1890. This was followed by the Federal Trade Commission Act and the Clayton Act in 1914, which were designed to protect consumers and to regulate competition. The New Deal period witnessed the creation of several financial regulatory agencies, including the Federal Deposit Insurance Corporation, the Securities and Exchange Commission, the Federal Home Loan Bank Board, and the Farm Credit Administration as well as other regulatory agencies, such as the Civil Aeronautics Authority (later the CAB) and the Federal Communications Commission. Prior to 1960 Federal regulation was primarily aimed at affecting the market structure of specific industries. For example, the Interstate Commerce Commission regulates the rates of truckers and railroads involved in interstate commerce. The now defunct Civil Aeronautics Board regulated prices and entry into various domestic airline markets (discussed in Chapter 6 of the 1988 *Report*). In short, the focus was on economic regulation.

Although economic regulation was predominant prior to 1960, some Federal agencies were charged with addressing health and safety issues during this period. For example, the Food and Drug Act of 1906 required inspection and labeling of certain foods and drugs. The Federal Aviation Administration was created in 1958 to help ensure safe air travel. These agencies have played an important role in shaping the structure of the industries they regulate.

Since the mid-1960s the focus of new regulatory activity has changed. While traditional regulation of prices and entry still exists in some industries, there has been a virtual explosion of social regulation concerned with safety, health, and environmental quality. The Consumer Product Safety Commission sets safety standards for consumer products from carpets to cribs. The Environmental Protection Agency develops environmental standards and approves State pollution control plans. The Occupational Safety and Health Administration regulates hazards in the workplace. The growth in this type of social regulation has led to an increased Federal presence not only in business activity, but also in the day-to-day activities of the general public. Indeed, some studies argue that social regulations have led to a measurable decline in productivity (discussed in Chapter 1).

THE EFFECTS OF REGULATION

The dramatic increase in regulation has been accompanied by an increase in understanding of the beneficial as well as harmful effects of this type of government intervention. Regulatory policy has an im-

portant effect not only on specific sectors of the economy, such as transportation and finance, but also on the Nation's ability to compete in the global marketplace. For example, if the United States chooses to adopt environmental and safety regulations that are more stringent than those of the rest of the world, it may encourage some types of industries to move facilities abroad. In other cases social regulation can serve as a form of protectionism. For example, if a foreign manufacturer must meet a complex set of U.S standards, it may choose not to compete in this market. In this way some pollution and safety regulations can work to benefit domestic manufacturers, although consumers ultimately must pay higher prices. At the same time such regulations can yield benefits for consumers in the form of a cleaner environment and increased safety.

There have been several estimates of the scope of regulatory activity. One measure frequently cited is the increase in the number of pages in the *Federal Register*. Unfortunately, this measure is not very informative because it fails to account for differences in the impact of regulations as well as changes in the composition of the *Federal Register* over time. A somewhat more informative measure is given by the amount of direct Federal outlays for regulatory activity. Chart 5-1 shows how these costs have varied in real terms over the past 19 years. The chart reveals that the administrative costs of social regulation grew rapidly in the 1970s, fell slightly in the early 1980s, and then began to rise again. Activities associated with economic regulation, which represents only a small fraction of these administrative costs, have grown slowly over this period. A similar picture emerges from an analysis of administrative staffing requirements and costs as a fraction of gross national product.

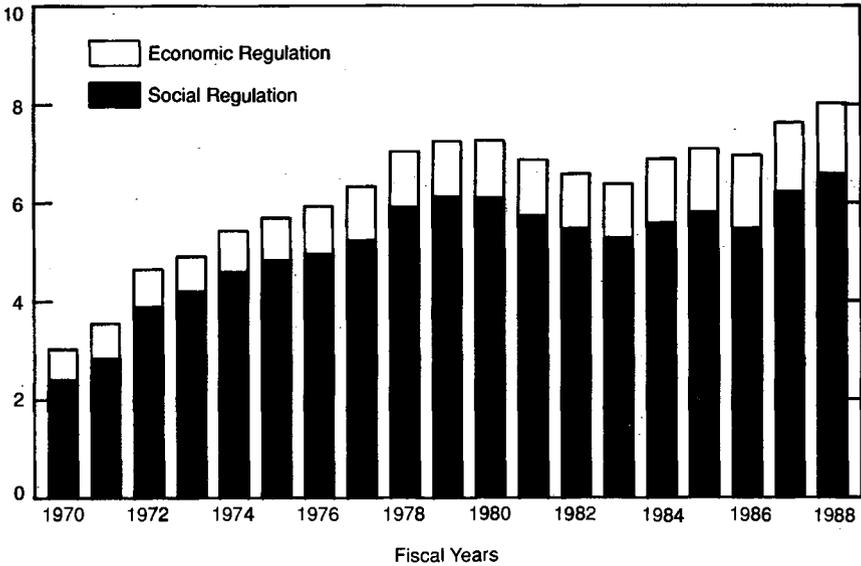
Of much greater economic interest are the costs that regulation imposes on industry that are ultimately borne by the public. These costs are decidedly more difficult to estimate. For example, consider the problem of measuring the environmental impacts of Federal and State efforts aimed at reducing air pollution. Information on pollution levels at the time the regulations were implemented is often inadequate. Moreover, even where accurate records are available, it is difficult to isolate the effects of regulation from other economic activity. While it is likely that the level of sulfur dioxide has decreased since 1970, for example, the result may be attributable as much to economic factors such as increasing energy costs and advancing technology as to regulatory changes.

Despite the methodological difficulties, studies have estimated how regulation of specific industries affects consumer costs. One recent estimate of environmental regulations alone put the annual price tag at more than \$75 billion, but made no attempt to measure benefits.

Chart 5-1

Real Federal Outlays for Regulatory Activities

Billions of 1982 dollars



Note.—Data for 1988 are estimates.

Sources: Center for the Study of American Business and Council of Economic Advisers.

Combining the results of other studies shows that Federal health and safety regulations cost consumers at least \$22 billion annually, again ignoring benefits. For the case of economic regulation, for which there are seldom any net benefits, the annual costs are estimated to exceed \$18 billion.

THE MOVEMENT TOWARD DEREGULATION

One of the most surprising and noteworthy changes in the regulation of markets has been the movement toward deregulation over the past two decades. Table 5-1 chronicles the deregulatory initiatives that have occurred from 1971 through the present. Most of these initiatives have occurred in the area of economic regulation, although a handful have occurred in social regulation.

The list illustrates the broad range of activities in which markets and competition have played an increasingly important role. Deregulatory efforts from airlines to cable TV have allowed firms to compete with less government intervention. Although estimates of total efficiency gains are not available, deregulatory efforts have provided substantial benefits for both industry and consumers.

TABLE 5-1.—*Deregulatory Initiatives, 1971-88*

| Year | Initiative |
|-----------|---|
| 1971..... | Specialized common carrier decisions (FCC) |
| 1972..... | Domestic satellite open skies policy (FCC) |
| 1975..... | Abolition of fixed brokerage fees (SEC) |
| 1976..... | Railroad Revitalization and Reform Act |
| 1977..... | Air Cargo Deregulation Act |
| 1978..... | Airline Deregulation Act Natural Gas Policy Act Standards revocation (OSHA) Emissions trading policy (EPA) |
| 1979..... | Deregulation of satellite earth stations (FCC) Urgent-mail exemption (Postal Service) |
| 1980..... | Motor Carrier Reform Act Household Goods Transportation Act Staggers Rail Act Depository Institutions Deregulation and Monetary Control Act International Air Transportation Competition Act Deregulation of cable television (FCC) Deregulation of customer-premises equipment and enhanced services (FCC) |
| 1981..... | Decontrol of crude oil and refined petroleum products (Executive order) Truth-in-lending simplification (FRB) Automobile industry regulation relief package (NHTSA) Deregulation of radio (FCC) |
| 1982..... | Bus Regulatory Reform Act Garn-St Germain Depository Institutions Act AT&T settlement Antitrust merger guidelines |
| 1984..... | Space commercialization Cable Television Deregulation Act Shipping Act |
| 1986..... | Trading of airport landing rights |
| 1987..... | Sale of Conrail Elimination of fairness doctrine (FCC) |
| 1988..... | Proposed rules on natural gas and electricity (FERC) Proposed rule on price caps (FCC) |

Source: Adapted from R. Noll and B. Owen, *The Political Economy of Deregulation: Interest Groups in the Regulatory Process* and updated by the Council of Economic Advisers.

THE INTRODUCTION OF EXECUTIVE REGULATORY OVERSIGHT

When regulation represented only a small part of the “activity” of the Federal Government, there was no pressing need to coordinate or evaluate its overall effects. Now that regulation is an important component of economic policy, the need for coordination has become obvious. At the most basic level, there is a need to ensure that regulations do not promote policies that conflict with each other. Many economists would argue that it is also important to evaluate regulations in terms of their expected costs and benefits. From an economic standpoint, a basic problem is that regulatory agencies lack adequate incentives to take into account the cost of regulations on affected parties. Consequently, many regulations are designed to yield short-term political benefits while imposing larger costs on the public at large over a longer period.

To address the dramatic increase in regulatory activity beginning in the late 1960s the past four Presidents have introduced different oversight mechanisms with varying degrees of success. President Nixon, in 1971, established a "Quality of Life Review" of selected regulations. Born out of concern that some of EPA's environmental regulations were ineffective or too costly, this review process was administered by the Office of Management and Budget (OMB) and required agencies issuing regulations affecting health, safety, and the environment to coordinate their activities. President Ford formalized and broadened the review process in Executive Order 11821, which required that agencies prepare, and OMB review, inflation impact statements for major rules. In 1978 President Carter modified executive regulatory oversight by issuing Executive Order 12044, which required detailed regulatory analyses of proposed rulemakings and review by the Executive Office of the President. In addition he established two interagency groups. The Regulatory Analysis Review Group, made up of representatives from the Executive Office of the President and regulatory agencies, examined a limited number of proposed regulations expected to have substantial regulatory impact. The Regulatory Council, consisting of the heads of 36 Federal regulatory agencies, was asked to publish a *Calendar of Federal Regulations*, which summarized major regulations under development and was designed to point out regulatory overlap and to describe the costs and benefits of the proposed actions.

This Administration further sought to strengthen executive regulatory oversight. Just 2 days after entering office the President announced the formation of his interagency Task Force on Regulatory Relief to be chaired by the Vice President. The task force became the clearinghouse for the President's effort to improve the Nation's competitiveness and was used, in the President's words, to "cut away the thicket of irrational and senseless regulations." Hailed as "one of the keystones in our program to return the nation to prosperity," the task force later counted among its achievements expediting the drug approval process, reducing airborne lead emissions by phasing out lead in gasoline and encouraging the search for safe alternatives, and promoting more efficient uses of energy resources.

Three weeks after forming the task force the President issued Executive Order 12291, which authorized the new Office of Information and Regulatory Affairs (OIRA) within OMB and the task force to work together to develop more effective and less costly regulations. The Office of Information and Regulatory Affairs has primary responsibility for implementing Executive Orders 12291 and 12498. The first of these Executive orders requires cost-benefit analyses for all major rules. Although OMB could not veto agency rules, it could

improve the quality of a rule by sending the analysis back to the agency for reconsideration. The second Executive order requires annual publication of the *Regulatory Program of the United States*, which reviews regulations proposed by agencies for conformance with Administration policy and priorities. The approach of this Administration is unique in both the scope of the regulatory review as well as the formal inclusion of benefits estimation in the regulatory impact analyses for major rules.

The potential for executive regulatory oversight to impose discipline on the regulatory process is limited. One reason is that regulatory reform is unlikely to be a high priority for any Administration in the near future because it is hard to convince the public of the need to streamline the regulatory process when specific regulations are at issue. The problem is analogous to that of placing a limit on the budget or on spending. People recognize that in the aggregate many regulations may be burdensome, but almost always a vocal interest group will attempt to block the removal of any single regulation. A second reason is that program advocates in the Congress oppose the consequences of such oversight. Indeed, for some laws, such as the Clean Air Act, the statute clearly states that standards should be set without regard to costs.

Although the prospects for widespread reform of regulatory procedures are dim, executive regulatory oversight can play a constructive role in coordinating policies and reducing the burden of some of the more onerous regulations. Hopefully, this process will continue. The ability to review rules and to suggest agency reconsideration helps the Executive Office of the President to ensure that agency regulations are better justified and more consistent with Administration policy.

ECONOMIC REGULATION: EXTENDING THE BOUNDARIES OF COMPETITION

Over the past three decades a consensus has emerged among economists about the usefulness of some types of regulation. It is generally agreed, for example, that regulation aimed at controlling prices or entry will lead to inefficiencies in industries where competition can be sustained. Competition is generally viewed as a positive dynamic force that will encourage innovation and promote economic growth.

PRICE AND ENTRY REGULATION

The potential for competition in many industries has been enhanced in recent years by dramatic advances in technology, particu-

larly in telecommunications, information processing, and financial services. As a result, price and entry regulation has come under increased scrutiny. In some cases, such as in transportation, substantial deregulation has occurred. In others, such as banking and securities, there have been modest moves toward relaxing price and entry barriers, with mixed results. In addition to the piecemeal attempts to relax economic restrictions in specific industries, a major change has occurred in the government's treatment of proposed mergers and acquisitions.

The Shift in Antitrust Policy

Antitrust policies limit the type of business agreements firms can use. For example, one aspect of antitrust policy places restrictions on price-fixing, because price-fixing is presumed to be anticompetitive. A second aspect of antitrust policy that has come under increasing scrutiny in recent years is the review of proposed mergers between different businesses. A marked shift in antitrust merger policy has occurred since 1980. While horizontal mergers involving similar companies are still monitored closely when entry barriers and concentration levels are high, the view of vertical mergers has evolved considerably. Vertical relationships, such as those in the petroleum industry where some firms refine petroleum and also distribute petroleum products, are viewed with less suspicion. The principal reason for this change in perspective is that the efficiency-enhancing aspects of vertical relationships are more widely appreciated. In addition to the change in thought on vertical restraints, there is also increasing recognition that many U.S. firms now compete in global markets, which means that the appropriate measure of market size must be enlarged.

Reflecting this change in perspective, the Department of Justice in 1982 adopted new guidelines for determining when it would challenge mergers or acquisitions as anticompetitive. The Federal Trade Commission at the same time adopted a comparable policy statement. These new guidelines provide a firm conceptual basis for evaluating horizontal and vertical mergers. They also provide more leeway for vertical mergers. In 1984 the Justice Department issued revised guidelines that placed even greater weight on competition in a global setting.

It is too early to assess the economic impacts of changes in the merger guidelines. However, one effect has been to increase competition in the market for corporate control. Increased competition should provide greater incentives for managers to run their corporations more efficiently (discussed in Chapter 6 of the 1985 *Report*).

Another important change in policy, which should complement the recent merger guidelines, is the National Cooperative Research Act of 1984. This act was designed to promote greater collaboration on

basic and applied research among private companies. The act should encourage domestic firms to engage in cooperative arrangements, such as research and development. Like the revised merger guidelines, the act is supposed to make it easier for U.S. firms to compete in a global setting (discussed in Chapter 6).

Banking: The Need for Reform

One of the major challenges for the next Administration will be to address the critical problems faced by the "banking" industry. A wide variety of institutions besides banks perform banking functions. Here, the terms "bank" and "banking institution" will be used to refer to those depository institutions covered by Federal deposit insurance. These institutions include savings banks and savings and loan associations (thrifts), credit unions, and commercial banks.

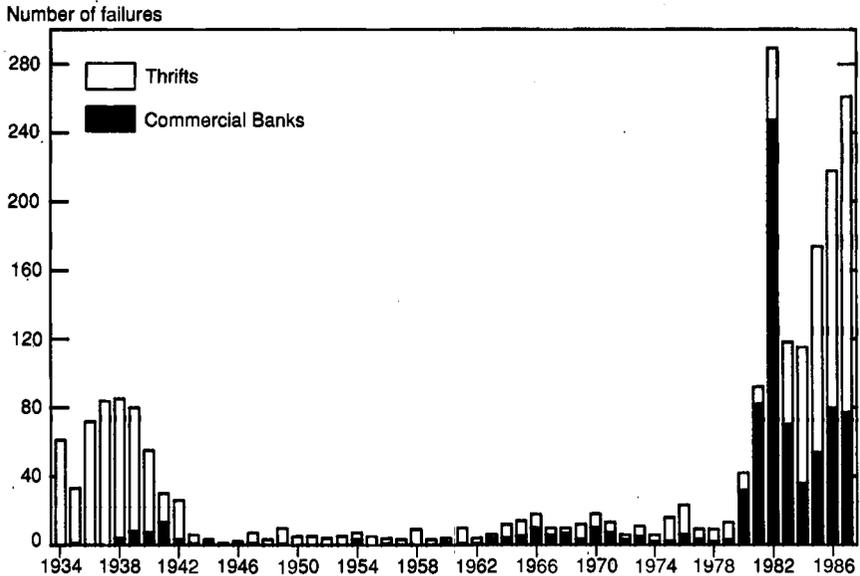
Much of the concern over the health of the banking industry results from the marked increase in bank failures over the past decade. As shown in Chart 5-2, failures remained high through the end of the depression, stayed at relatively low levels from 1945-79, and then rose dramatically. Net outlays for bank failures by the major Federal deposit insurance agencies reveal a similar pattern after World War II, but were inconsequential prior to that time.

The sharp rise in failures has placed a major burden on the deposit insurance systems. The Federal Savings and Loan Insurance Corporation (FSLIC), which provides deposit insurance for savings and loan associations, has been insolvent since 1986. The Federal Deposit Insurance Corporation (FDIC), which insures commercial banks and some savings banks, is still solvent, but will run a loss for 1988. Estimates of the costs to the FSLIC of closing insolvent thrifts have risen steadily. The Federal Home Loan Bank Board, which regulates these institutions, now estimates this cost to be in the range of \$50 billion. Other estimates range as high as \$100 billion, but costs will vary depending on how soon the problem is addressed. Unless something is done promptly, these costs are expected to climb rapidly.

The problems that many of these institutions have stem from the incentives provided by banking regulations. For example, thrifts were designed to hold portfolios that are unbalanced, with a large portion of assets consisting of long-term, fixed-rate mortgages while liabilities are held in the form of short-term deposits. When long-term rates exceeded short-term rates, the industry prospered. Problems arose in the 1970s, however, as a result of inflation and Regulation Q, which placed ceilings on interest rates for deposits. As the real rate of return on bank deposits declined, innovations, such as money-market funds, attracted funds into nonregulated substitutes for bank and thrift deposits. The sudden loss in capital bankrupted many banks and thrifts, and reduced the capital of others.

Chart 5-2

Bank and Thrift Failures



Sources: Thrift data from J. Barth et al., *Contemporary Policy Issues*, Fall 1985,¹ and J. Barth and M. Bradley, paper presented at Federal Reserve Bank of Cleveland, November 3-4, 1988. Bank data from Federal Deposit Insurance Corporation, *1987 Annual Report*.

With the sudden loss in capital, some of the defects in the current system of deposit insurance became apparent. This system, which currently guarantees about \$3 trillion of deposits, has tended to exacerbate the problems faced by the banking industry. The basic problem with the current system of deposit insurance is that it fails to provide banks with appropriate incentives for risk management when banks have little or none of their own capital at risk.

Deposit insurance is intended to provide safe investment opportunities for individuals and businesses that desire low-risk investments. It is also designed to reduce the likelihood of runs on banks. Unfortunately, deposit insurance also dramatically reduces the incentives for depositors to monitor the financial health of their bank. Many depositors do not pay enough attention to the possibility of large losses because most, if not all, of their deposits are fully insured. Thus, one of the most effective mechanisms for curbing the excesses of banking institutions has been abandoned.

The primary task of monitoring banking institutions falls on shareholders and Federal regulatory agencies. Because the shareholders'

interests do not always coincide with those of depositors, the task of looking out for depositors' interests as well as the general health of banks is left largely to the regulators. The next Administration will need to develop constructive ways to reform these regulatory institutions so that the industry can regain its financial health.

From the standpoint of the regulator, effective monitoring is particularly important as the health of a bank deteriorates. As a bank's net worth declines, it has an even greater incentive to engage in risky behavior because less of its own capital is at risk. If a bank becomes insolvent but is still allowed to keep its doors open, it may engage in highly speculative behavior. If such investments turn out well, the banks will reap the gains; however, if such investments perform poorly, the brunt of the adverse consequences will be borne by the deposit insurance funds and, ultimately, the U.S. taxpayer.

The irony of this situation is that Federal Government policies have led to this debacle. Deposit insurance initially was limited in scope; the limit on private savings and loan accounts was set at \$2,500 in 1934. However, deposit insurance has expanded dramatically. For example, in 1980 the Congress increased the ceiling on deposit insurance for individual savings and loan accounts from \$40,000 to \$100,000. Two years later, a congressional resolution explicitly affirmed the full faith and credit backing of deposit insurance funds by the U.S. Government. In addition the effective scope of deposit insurance has expanded. In the event of failures, not only have accounts under the ceiling been protected, but so have many accounts exceeding \$100,000. In some cases other creditors and, in rare cases, stockholders were also fully or partially protected. In effect, there has been a secular move in Federal banking toward providing greater coverage for depositors and creditors, particularly in the case of large bank failures. While this move may have helped to decrease the likelihood of runs on particular banks, it has also contributed to the decline in the health of the U.S. banking industry.

Unfortunately, Federal agencies have taken other steps that have exacerbated rather than alleviated the problems with excessive risk-taking, partly as a result of congressional pressure. One measure taken in response to the erosion of bank capital has been to lower capital standards. This approach was tried in 1986 for institutions heavily involved in farm and energy investments. The reduction in capital requirements meant that banking institutions in poor financial health would have less of their own money at risk when making investments. Given the insurance system, institutions have an increased incentive to engage in riskier investments, largely at the taxpayer's expense if things do not work out as anticipated.

In addition to allowing troubled banks to have lower capital requirements, regulators have been reluctant to require banks to evaluate their loan portfolios at current market value. Some banking institutions, therefore, appear solvent when, in fact, they are not. While there may be a short-term payoff to regulators from avoiding taking action in such cases, there has been a long-term cost to the taxpaying public. These banks continue to remain in business, and often they invest in excessively risky assets, thus increasing the exposure of the deposit insurers.

As problems with insolvency have grown, the agencies have responded by attempting to reduce their out-of-pocket costs. In some cases insurers have allowed banks with financial problems to bid on other troubled banks. In other cases the insurers have entered into long-term agreements with purchasers of failed thrifts that protect the new owner from any losses on the acquired portfolio for up to 10 years. By weakening incentives for efficient management, such actions are likely to raise insurance costs in the long run.

Most regulatory actions taken so far merely serve to postpone the problem. Postponing the day of reckoning will sharply increase costs to the general public. The current regulatory strategy also makes life much more difficult for healthy institutions. By allowing banking institutions that are engaged in excessive risk-taking to remain in business, the healthy thrifts covered by the FSLIC are forced to pay higher insurance premiums to pay for the cost of those thrifts that are failing or have failed.

The lessons from past mistakes can be used to develop a more constructive approach to restoring the health of the banking and thrift industry. The key lies in providing institutions with the appropriate incentives for risk-taking. While existing proposals differ in their details, there is widespread agreement that the Congress and the next Administration should squarely address the problems created by the current deposit insurance system. Several economists have pointed to the need to liquidate or reorganize insolvent banks and thrifts as quickly as possible. Critics of such reorganization note the high price tag, estimated to be in excess of \$50 billion for insolvent thrifts alone. Moreover, a large portion of the payment of this bill will need to come directly from the public. The remainder will be paid for indirectly by consumers through deposit insurance premiums levied on banks.

Removing insolvent banking institutions from the banking system is only a first step. The insurance system itself needs to be redesigned. In particular, the scope of Federal deposit insurance should be significantly curtailed. Reducing the ceiling on deposit insurance would help achieve this end. In addition, large depositors and credi-

tors should not be provided with *de facto* Federal deposit insurance. These changes would restore some much-needed discipline to the system.

In addition to reforming deposit insurance, regulators should establish procedures to step in and restructure institutions before they become insolvent. For example, a regulator can require accounting procedures that use market valuation of assets so that regulators have better information on the net worth of banks. The combination of better regulatory practices and lower ceilings for insured deposits should promote the health of the banking industry.

Two recent government studies provided careful examinations of banking regulation. The 1984 President's Task Group on Regulation of Financial Services chaired by the Vice President and the 1985 Cabinet Council on Economic Affairs both made suggestions for streamlining the oversight process and for providing more appropriate incentives for banking institutions. Some of the more salient recommendations included risk-related deposit insurance, higher capital requirements, stronger disclosure requirements, limitations on insurance to insured depositors, and increased monitoring and more vigilant enforcement by oversight agencies. These ideas are designed to increase monitoring on the part of interested parties and ensure that banking institutions have adequate amounts of their own capital at risk. Had these ideas been adopted in 1985, the problems facing the FSLIC and the FDIC would probably be much more manageable now.

The banking industry is evolving rapidly. The purpose of regulation should be to encourage the development of a healthy financial service sector that can compete internationally. Needed reforms include not only restructuring the deposit insurance system, but also redefining the appropriate sphere of competition for depository institutions. While the two exercises differ, they will both rely heavily on an understanding of how the incentive structure faced by today's banking institutions has led to the current crisis.

RETHINKING THE LIMITS OF NATURAL MONOPOLY

There has been a longstanding debate about how best to regulate natural monopolies. The traditional approach to such problems has been to regulate selected firms in order to prevent excessive profits. This regulation usually assesses the value of the firm's capital stock and then allows the firm to obtain a "reasonable" return on its investment. In practice, Federal and State regulatory commissions do not fix the rate of return *per se*, but rather agree on prices that the firm can charge. The prices result in a revenue stream for the firm

that is not supposed to, but sometimes does, exceed the allowable rate of return.

Rate-of-return regulation has several problems. First, it tends to be time-consuming and expensive. A rate proceeding before the Federal Communications Commission concerning appropriate charges for international satellite communications took 11 years. A second problem, related to the first, is that it is often difficult to determine which aspects of a firm's capital stock should be included in calculating the appropriate rates, and how this capital should be valued. A third problem is that firms subject to such regulation have relatively little incentive to produce output efficiently. In cases where the allowable rate of return exceeds the cost of capital, firms may try to increase their capital stock beyond what is efficient so that they can receive higher revenues. In cases where it falls short, firms may be unable to add needed capacity. The regulator is in the unenviable position of having to set a "reasonable" rate of return and determine whether price increases are justified on the basis of limited information about demand and costs.

Rate-of-return regulation needs to be compared with other approaches for dealing with industries with strong elements of natural monopoly. While competition could conceivably result in higher costs when there is a natural monopoly, it may also serve to spur innovation and drive down prices. For example, a study of electric utilities in markets with and without competition suggests that rates could be lowered by increasing competition. The point is that most forms of economic regulation are inherently flawed. Because policy should be based on actual rather than theoretical performance, competition, even in the presence of technologies with natural monopoly characteristics, may be preferred.

Given the costs associated with the rate-making process and the attendant inefficiencies, there have been several suggestions for reforming the process. For example, one approach is to allow firms to bid on the right to offer a particular service, and give the contract to the highest bidder. Such franchise bidding schemes can present difficulties. Once the bidder wins the contract, it may be difficult to ensure adequate performance. Moreover, the contractor may be able to create conditions that make it difficult for new entrants to enter the market when the contract has expired. Such problems tend to limit the applicability of this approach.

Two new ideas have recently surfaced that, for some cases, represent promising alternatives to traditional rate-of-return regulation of natural monopolies. The first would replace such regulation with a "price cap." The idea behind a price cap is to set an upper limit on the price a firm can charge over a given period, but then allow the

firm to choose any price that does not exceed the cap. The advantage of this approach is that the firm has an incentive to produce its output at least cost. Moreover, the firm also has a strong incentive to search for new technologies that would lower production costs because it would be allowed to retain its profits.

Price caps present some difficulties in practice. In many instances it may not be a straightforward matter to set the price cap at a level reflecting a competitive price. If the price cap needs to be revised periodically, the problem is further complicated. Indeed, constant revision of the price cap may result in a system of regulation as cumbersome as traditional rate-of-return regulation. The challenge lies in selecting applications where price caps will result in efficiency gains. While there are no hard and fast rules, it would appear that price caps are most likely to succeed when a firm or industry is changing from monopoly to a more competitive situation.

The regulation of prices for some long-distance calls provides one potentially promising application of price caps. The Federal Communications Commission is considering using this approach as a way of regulating the portion of local telephone companies' costs that are subject to Federal jurisdiction, and as a way of regulating part of AT&T's business for a short period of time before moving to complete deregulation. Whether price caps will be adopted in this case is uncertain. They are already being used in a variety of contexts including telecommunications in the United Kingdom. British Telecom, formerly a state-owned entity, is now subject to price caps that are adjusted periodically to account for inflation and productivity. A study of this application suggests that price caps have succeeded in promoting efficiency.

A second approach to the issue of natural monopoly is to devise institutional mechanisms that permit competition to thrive even where the production of a commodity has certain characteristics of natural monopoly. An idea that appears to hold great promise for introducing competition is that of shared capacity rights. These rights allow private parties to use property jointly in a way that benefits them all. One example is the sharing of common space and facilities in a shopping mall. A second example is the joint ownership of a fiber optics cable for trans-Atlantic calls.

This idea can be, and often is, applied to large investments in complex networks. For example, suppose it is cheaper to build one large pipeline than two small pipelines to transport natural gas. The pipeline need not be owned by a single firm. Indeed, several firms could each own a share of the pipeline. The ownership share would entitle the firm to use a certain fraction of the pipeline's capacity. By dividing ownership among several firms or individuals in this manner, it is

possible to imagine a competitive market emerging for pipeline capacity, whereas if a single business owned the only pipeline, competition would not exist. This approach can be a first step toward promoting competition as regulatory barriers to entry are reduced. The idea of sharing capacity rights may hold promise for introducing competition into such diverse areas as telecommunications, electricity transmission, and the transport of oil and natural gas by pipeline.

In addition to the new approaches that are evolving as substitutes for traditional rate-of-return regulation, recognition is growing that many industries formerly thought to have strong natural monopoly characteristics can be reorganized in ways that would foster greater competition and efficiency. The change in the view of which industries are natural monopolies derives in part from technological change, and in part from growth in the size of markets, which allows several firms to compete. The equipment needed to provide a network for making a long-distance call is different now from what it was 25 years ago. Competition in the long-distance market is now a viable alternative.

A second factor contributing to the change in thinking about industries with natural monopoly characteristics stems from a more careful examination of the cost structure in a given industry. For example, in the case of telecommunications, economists have argued that telephone companies had some characteristics resembling those of a natural monopoly, but that long-distance service could be more efficiently provided if firms were allowed to compete.

The impetus for change has come mainly from industries that stood to gain from changes in the regulatory environment. For example, new entrants in telecommunications saw an opportunity to gain by providing consumers with lower rates on long-distance calls than were being offered. Similarly, low-cost producers of electricity see an opportunity to increase their profits as markets are opened up. Indeed, in virtually all cases of regulatory reform, an outside stimulus was provided by an interest group that stood to gain from those changes in direct economic terms. Such interest group stimulus is not, however, sufficient to generate regulatory changes.

Two of the more exciting sets of reforms are being applied to the regulation of electric utilities and pipelines that transport energy. The changes in these industries underscore the potential for regulatory reform as well as some of the pitfalls.

Increasing Competition in the Electric Power Industry

Electric utilities are frequently cited as a classic case of natural monopoly. Indeed, all three components of the industry—generation, transmission, and distribution—were previously thought to be subject to economies of scale. Thinking on this issue has changed dramati-

cally in recent years. Econometric studies have provided ambiguous results concerning the scale economies that could result from larger power plants. While economies of scale probably exist over some range of output (as they do with many firms), the range may be small enough to allow several firms to compete in building and running power plants that serve the same market. In addition, although it is widely agreed that transmission and distribution systems are subject to economies of scale and barriers to entry, there are ways to allow competition to emerge even in these parts of the industry.

The interest in new institutional arrangements has been sparked, in part, by problems that arose in the electric utility industry in the early 1970s. Prior to that time, real electricity rates showed a marked downward trend. This situation changed dramatically with the large increase in oil prices. Traditional rate regulation was ill-equipped to adapt to these changing circumstances. Consumer groups placed continuing pressure on public utility commissions to hold down rates, while utilities argued that rate increases were necessary both to cover costs and make the necessary investments in new generating capacity.

Fortunately, both the electric utilities and the regulators have begun to develop some innovative solutions to these problems. Utilities, in cooperation with Federal and State regulators, have developed a variety of sophisticated contracting arrangements for the purchase and sale of power. Under long-term contracts, utilities can effectively purchase partial or full ownership of a generator. At the other end of the spectrum, spot markets for electricity allow utilities to exchange power on an hourly basis.

One of the more important pieces of recent legislation to promote the move toward a more competitive generating sector was the Public Utility Regulatory Policies Act of 1978 (PURPA). The primary purpose of this legislation was to encourage cogeneration and small power production, and it has done just that. Cogeneration involves the joint production of heat and electricity at the same facility. This process often facilitates the generation of electricity at a cost lower than is possible at a conventional power plant.

Cogeneration has increased dramatically since the implementation of PURPA. A report recently issued by the North American Electric Reliability Council projects that between now and 1997, some 20,000 megawatts, or 27 percent of all new capacity coming on line, will come from sources that are not owned exclusively by traditional electric utilities. While PURPA promoted the use of different generation technologies as well as small facilities, it also led to the purchase of some unneeded capacity. The principal problem was that States sometimes provided price signals to builders of capacity that did not

reflect the underlying economics of the particular power system receiving the electricity.

Although the implementation of PURPA has created inefficiencies, it has helped to create a group of entrepreneurs interested in having greater access to the market for producing electric power. The legislation also demonstrated that an electricity generation market with several participants was technically feasible. That is, it was possible to allow new entrants into the generating sector without compromising the reliability and stability of the entire power system. Having shown the technical feasibility, the principal challenge that remains is to design rules that promote efficiency in the generation sector.

In the past year, the Federal Energy Regulatory Commission (FERC) has issued three proposed rules designed to encourage greater competition in the market for generating electricity. The rules provide guidelines that, if implemented, would reduce regulatory entry barriers for generating electric power, and would also specify appropriate compensation mechanisms for rewarding entrepreneurs. There are three key aspects of the proposed rules. The first is to define guidelines for administratively determining "avoided cost." Avoided cost refers to the cost that a utility does not need to incur (i.e., it avoids) if it purchases electricity from a third party. In order to promote efficiency, FERC defines avoided cost in a way that approximates the economic concept of marginal cost. The cost a utility avoids will depend, among other things, on the availability of other generating units, which in turn will depend upon the time of day or year at which the power is expected to be needed. These guidelines will help States avoid unnecessary capacity purchases. In particular, the rule is designed to avoid problems under PURPA where utilities were sometimes forced to purchase uneconomical power.

A second key feature of the proposed rules is that they promote market-based mechanisms that would eliminate the need for an administrative determination of avoided cost. The basic idea is to establish a market where firms are allowed to bid on supplying capacity that is needed. Other things being equal, the firm with the lowest bid would supply the additional capacity. For the market to work effectively, capacity needs to be defined carefully. The proposed FERC rule on bidding suggests that nonprice factors, such as those related to system reliability, be put into writing if they are a characteristic desired by the purchaser.

A third key aspect of the proposed rules, which will introduce greater competition into the electric power generation market, is the lowering of barriers for new entrants. An entire rule is devoted to defining a class of "independent power producers." Just as the name

implies, the independent power producers generate electricity for sale outside an area in which they have market power as long as they do not have control over key transmission facilities. The intent of the rule is to provide a framework so that such producers can compete without being subject to traditional rate-of-return regulation. Both utilities and nonutilities can be independent power producers. One implication of this rule is that it allows utilities that can to build inexpensive reliable sources of power to compete in markets outside of their area. Thus, for example, a utility operating in North Carolina could build a power plant in California to supply customers there if it were the lowest bidder. This increased competition will ultimately mean lower electricity prices for consumers and businesses, and it will also enhance the Nation's ability to compete abroad.

These proposed rules represent an important step toward developing a more efficient electric generation sector. However, much more needs to be done even in the context of generation. For example, one alternative to increased generation capacity is conservation. Several utilities have encouraged conservation through advertising, and in some cases, providing economic incentives to users that reduce demand. A more general policy that provides incentives for consumers and producers to put conservation efforts on an equal footing with capacity investments would promote further cost savings.

One important aspect not addressed by the proposed rules is the determination of needed capacity. Under current regulations, the local public utility and the public utility commission jointly make this determination. While such projections are made on the basis of demand forecasts, these demand forecasts are based on a set of prevailing prices that rarely reflect underlying costs. What is needed is a system where electricity users are asked to pay a price that reflects the costs they impose on the system.

Although widespread support exists for promoting greater competition in the electric generation sector, there is no consensus on what to do about transmission and distribution systems that are subject to economies of scope and scale. Competition in these areas may also be desirable. Indeed, in some cases, utilities are devising new arrangements, such as shared capacity rights, that will help spur competition.

It is possible to imagine both the transmission and distribution segments of the electric utility industry taking advantage of shared capacity rights. Indeed, after finishing with its rules on generation, FERC intends to take a closer look at opportunities for promoting competition in the transmission sector. The idea of shared capacity rights has been shown to work in practice. The key to its successful implementation in the electric utility industry and other segments of

the economy that are heavily regulated (such as telecommunications) is to design systems that would enable currently regulated utilities to adapt to a competitive environment.

Regulation of Oil and Natural Gas: Some New Developments

Energy regulation over the past two decades provides a textbook study of the effects on markets of price controls and government intervention. Fortunately, the wave of price controls introduced in the 1970s has for the most part been reversed. Price controls remain on some fuels, such as natural gas. However, controls on gasoline and crude oil prices were removed at the beginning of this Administration. The lessons to be learned from the experiments with price controls are clear. They lead to inefficiencies and shortages, and they typically exacerbate adverse impacts on the overall economy, such as those that resulted after the oil price hikes in the 1970s.

The transmission system for oil and natural gas remains regulated. The Administration recently moved to deregulate part of the oil pipeline network and set up a system of price caps for the remainder of the system. In addition, FERC has stated that it will reduce regulatory oversight of proposed rate increases by an oil pipeline if the pipeline lacks significant market power.

The States and FERC still regulate natural gas pipelines. The FERC has issued several rules and proposed rules that attempt to ease some of the problems in the supply of natural gas. One proposed rule focuses on allowing pipeline capacity rights to be bought and sold. This change would enhance the efficiency of the network by allowing the pipeline to be allocated to the highest valued uses.

The movement toward more complete deregulation of the natural gas industry should be promoted. It not only makes good sense from an economic point of view, but it is also important for environmental reasons. Natural gas is a clean-burning fuel that results in relatively low emissions of carbon dioxide. Thus, this fuel could be part of a strategy aimed at addressing concerns regarding global warming. Moreover, because the combustion of natural gas results in much lower levels of nitrogen and sulfur oxides than oil or coal, it could play an important role in reducing acid deposition. ✓

In conclusion, the potential for increased deregulation in areas formerly thought to be natural monopolies is enormous. This potential lies primarily in areas characterized by network structures such as telecommunications, electricity, energy, water delivery systems, and air traffic control. Price caps, shared capacity rights, and other innovative approaches to regulatory reform should be pursued vigorously.

PRIVATIZATION

Privatization is a natural extension of deregulation. Eliminating government provision of services fosters competition by increasing the role of the market. Government provides a large array of goods and services that the private sector could also provide. Examples include the air traffic control system, the enrichment of uranium, and the postal service. From an efficiency point of view, the critical question is whether firms could provide a similar or improved menu of services at lower cost. The answer depends on the nature of the service; however, there is widespread agreement that the government now performs several tasks that the private sector could more effectively and efficiently handle. The motivation for keeping these functions within the sphere of government is usually to achieve objectives other than economic efficiency.

The rationale behind privatization—the movement of government activities to the private sector—is that the private sector can often provide services more efficiently because it is subject to the discipline of market forces. However, recent history suggests that even privatization measures that clearly promise efficiency gains are likely to encounter substantial political resistance. As with other regulatory reforms, the key to the success of privatization lies in designing institutions that will allow the beneficiaries of such change to compensate adequately those who stand to lose.

There are essentially three techniques for the privatization of goods and services now supplied by the government sector. One involves selling government assets to persons who will manage them privately. The sale of Conrail in 1987 is an example of Federal Government divestiture of an enterprise as a functioning unit. Assets also can be sold piecemeal; examples include the sale of obsolete military bases, loan portfolios, and surplus equipment.

A second privatization technique is contracting out, whereby government contracts with private firms to provide goods and services that it would otherwise supply directly. The Federal Government now contracts to purchase approximately \$200 billion of goods and services annually. Contracting out usually results in cost savings because of the competition for contracts among vendors. A 1986 General Accounting Office study determined that additional opportunities for contracting out could result in the transfer of between 95,000 and 500,000 current government positions to the private sector, at annual savings ranging from \$0.9 billion to \$4.6 billion.

Contracting out is most likely to succeed when the terms and measurement of service delivery are clear and easily defined, where at least several firms have the capacity to perform the contract, where the contractor does not have to make large new capital expenditures,

and where the contract can be subject to regular renegotiation and renewal. Examples of areas particularly well-suited for contracting out include data processing, laboratory testing, and payroll services.

A third technique for privatization is the use of vouchers, through which the government, rather than directly providing goods or services, distributes chits, such as food stamps, that allow eligible consumers to purchase those goods and services from private suppliers. For example, the government now provides housing vouchers usable for rental payments to more than 140,000 low-income households as a substitute for public housing. A comparable proposal often discussed is the provision of education vouchers as a partial substitute for public schools (discussed in Chapter 5 of the 1988 *Report*).

In March 1988 the President's Commission on Privatization issued a comprehensive report calling for increased Federal Government use of privatization. Areas identified by that report as being especially well-suited for increased privatization efforts included low-income housing, housing finance, Federal loan programs, air traffic control, education, postal delivery, military commissary operation, prison operation, urban mass transit, and intercity passenger rail transportation. The Commission did not examine some other candidates for privatization, such as the uranium enrichment industry and the power marketing authorities, because the Congress has said that no Federal funds could be used to study privatization of these activities.

Postal delivery appears to have great potential for enhancement of economic efficiency through privatization. The U.S. Postal Service (USPS) is, in effect, a government-owned monopoly maintained by law, because the private express statutes reserve letter delivery for the USPS. Many aspects of postal delivery do not exhibit the natural monopoly characteristics that would preclude their competitive provision by multiple firms, and thus are good candidates for privatization measures. Some limited privatization of postal delivery has already occurred. The USPS annually contracts out about \$3 billion of services, primarily long-distance mail transport and rural retail and delivery services. It also offers discounts to large mailers who pre-sort their mailings. In addition, private express couriers have been allowed since 1979 to deliver "extremely urgent" mail, subject to time of delivery or minimum price restrictions. These firms have grown dramatically. One private courier, for example, now handles more than 178 million pieces of urgent mail a year, and a second firm now controls more than 90 percent of the parcel market. The USPS has responded to this competition with its own express mail service, but has been able to retain only a small share of this market.

Further privatization of postal delivery could be encouraged in several ways. The Privatization Commission recommended the repeal of

the private express statutes, particularly with regard to third-class mail and rural delivery; repeal of the restrictions on private use of letter boxes; loosening of the restrictions on private delivery of urgent mail; and more widespread use of contracting out. The Commission also recommended that the possibility of private ownership of the USPS be considered, with priority being given to employee ownership, in whole or part.

One obstacle to more widespread use of privatization involves groups that are special beneficiaries of the government provision of certain goods and services. For example, when the Federal Government provides goods or services, it often charges a single price. This practice frequently results in the cross-subsidization of high-cost consumers by low-cost consumers. Those people receiving subsidies resist privatization measures that would end or reduce their subsidies. A second group of special beneficiaries are the government workers who now provide goods and services, and who receive a level of compensation and benefits that they might have difficulty retaining were their services provided in a market environment. The Privatization Commission noted that for privatization initiatives to be implemented, it would often be necessary to appease beneficiaries of the current status quo by adequately compensating them for the benefits they would lose as a result of privatization.

The resistance of current beneficiaries has successfully blocked most privatization initiatives in recent years. Support is growing, however, for more widespread use of privatization, based both upon the realization that substantial benefits can often be obtained, and upon the recognition that a trend toward privatization is accelerating worldwide. This trend is most obvious in the United Kingdom, but is visible also in many other countries, including some with socialist governments. If privatization measures can address the concerns of special interest groups, it may be possible to expand the sphere of competition and improve overall economic welfare.

RETHINKING SOCIAL REGULATION

Just as the nature and scope of economic regulation may be changing significantly, there are signs that new approaches to social regulation are emerging. Whereas economic regulation appears to be receding, there is no sign that social regulation is on the wane. A large portion of the public believes that the Federal Government should take a strong leadership role in protecting the public from environmental, health, and safety risks. Elected officials frequently accommodate these concerns by passing legislation aimed at "fixing" the problem. Unfortunately, much of this legislation has fallen far short

of its goals. In some cases, this was because the goals were highly symbolic. For example, 1972 amendments to the Clean Water Act called for the elimination of all discharges into navigable waterways by 1985—a solution that, even if possible, would have been prohibitively expensive. In other cases the legislation itself led to decisions that inadvertently increased both the risks and costs to society. For example, the Consumer Product Safety Commission requirement for child-proof caps on products, such as aspirin, appears to have led initially to an increase in the number of poisoning accidents. Evidently parents became more lax about leaving hazardous products within the reach of children.

Agencies involved in social regulation tend to specialize in one of two areas. “Standard-setting” agencies focus on defining acceptable levels of risk and setting standards accordingly. These agencies seek to lower the current amount of risk society faces from activities such as breathing polluted air, working in hazardous areas, being exposed to excessive airport noise, and driving automobiles. Each agency faces the burden of proof, both legally and politically, in setting standards. By and large the standard-setting agencies seek to reduce the levels of risk that are already commonplace in society.

A second type of regulatory agency focuses on screening new risks by requiring manufacturers to prove that their product is not harmful. Absent such “proof,” the agency may prohibit the product from being sold to the general public. While statutes for standard-setting agencies sometimes require a recognition of the costs imposed on the regulated, statutes for screening agencies rarely contain such provisions. Consequently, agencies are not permitted to weigh the safety of a new product against the safety of a product it would replace. Moreover, screening agencies often need not justify, either to the courts or the Congress, the costs, or forgone benefits, of prohibiting the sale of potentially valuable products.

There has been increasing recognition that the legislative mandates underlying both kinds of regulatory approaches lead to inefficiencies. Indeed, one of the most important challenges that remains is to design regulatory institutions that achieve social objectives more efficiently. Recently, several agencies have attempted to implement some innovative reforms aimed at streamlining and improving the regulatory process. The following review highlights a few of the more noteworthy reforms and identifies some of the challenges that remain.

THE EXPANDED USE OF MARKET INCENTIVES

In the 18 years since its establishment, the Environmental Protection Agency has developed a large and still growing body of regulations to cope with a wide range of environmental problems, including

toxic dumps, acid rain, and smog. The EPA's approach to environmental management has been rigid, allowing companies little flexibility in meeting mandated environmental targets. Unfortunately, as with all highly centralized approaches to problem-solving, this command-and-control approach fails to take advantage of important information. Firms, not regulators, have the detailed knowledge about pollution control costs that is crucial to expensive approach to cleaning up the environment.

Regardless of one's view of the value of environmental improvements, EPA's rigid regulatory strategy has clearly wasted a substantial portion of the Nation's investment aimed at improving air quality. The cost of air pollution control during the 1980s has averaged more than \$30 billion annually, and economic studies indicate that more cost-effective pollution control strategies could have achieved the same degree of environmental quality for billions less. The combination of political pressures and legislative mandates from the Congress has made it difficult for EPA to accommodate concerns about the cost of regulations.

Over the past decade EPA has undertaken several modest reforms that allow firms greater flexibility in meeting environmental standards. By far the most ambitious of these is the emissions trading policy, which includes the well-known bubble program and three lesser known programs. The basic idea of emissions trading is that firms, given the opportunity, can often devise less costly ways to control their emissions than can regulators. The emissions trading policy is an attempt to take advantage of this fact by creating markets in the *de facto* rights to pollute. Trading of these rights within and between firms can increase efficiency by concentrating air pollution control efforts on those emission sources that cost the least to control.

On balance, emissions trading has produced a mixed bag of accomplishments and disappointments. The program has afforded many firms flexibility in meeting emission limits, and this flexibility has resulted in significant aggregate cost savings—in the billions of dollars—without sacrificing environmental quality. However, these cost savings represent only a small portion of the total potential savings. Far less than 1 percent of the total stock of emissions has been traded, and economic studies suggest that trading could be much more active.

An important reason that more active markets have not emerged is that the emissions trading program has been the source of a great deal of controversy over regulatory reform. The EPA and local pollution control agencies have tried to minimize this controversy by placing constraints on the use of emissions trading. Unfortunately, some

of these constraints have dampened industry's interest in making greater use of this exciting regulatory alternative.

The politics of emissions trading can best be understood in terms of a struggle over the nature and distribution of property rights. Environmentalists and industry disagree over who is entitled to pollute and at what levels. Despite these differences, the reform represents a constructive attempt to cut the cost of regulation. Markets have emerged and performed better than traditional command-and-control regulation.

Several positive market-based reforms have followed in the footsteps of emissions trading. For example, in 1982 EPA implemented a "lead trading" program designed to lower the cost of achieving the phase-out of lead in gasoline. Overall, EPA estimated the program would save more than \$200 million annually when it was in operation. Similar market-based programs have been proposed for such diverse problems as acid rain and the depletion of stratospheric ozone. If implemented for acid rain, a trading program could save tens of billions of dollars compared with more onerous command-and-control methods that would require power plants to use scrubbers to remove emissions of sulfur oxides.

THE IMPACT OF SOCIAL REGULATION ON INNOVATION

While regulatory screening can protect the public from certain risks, it can also have undesirable side effects. Screening can, and sometimes does, lead to the banning of products whose expected benefits outweigh their costs because the screening procedure frequently focuses almost exclusively on a narrow definition of risk. Since 1958 the Delaney Clause has required the Food and Drug Administration (FDA) to prohibit any food additive found to cause cancer in either man or animals. Such zero-risk strategies do not permit explicit comparison of the costs and benefits of various chemicals. Thus, screening of new risks can serve as an entry barrier that limits the introduction of new products, even in cases where the new item is less harmful than the one it would replace.

Ironically, zero-risk strategies can lead to marked increases in the level of risk. For example, EPA in 1983 denied a request for permission to use a fungicide on hops that was expected to increase a heavy beer drinker's odds of getting cancer by 1 in 100 million. The denial resulted in the continued use of existing fungicides thousands of times riskier. The EPA has recently dropped the zero-risk rule, replacing it with a policy that allows the introduction of pesticides if they pose a "negligible risk," currently set at 1 in 1 million. Such a policy encourages innovation on the part of chemical companies to

develop new and safer products to replace their existing, and frequently more dangerous, counterparts.

Screening agencies can dramatically affect the rate of innovation. A case in point is the Food and Drug Administration. Following the 1962 amendments to the Food, Drug, and Cosmetic Act, FDA required pharmaceutical companies to prove not only that their proposed new drugs were not harmful, but also that they were "effective" (i.e., do what the manufacturer claims they will). Several studies have documented the impact of the requirements on slowing the approval of "new chemical entities." One study showed that on average 54 new chemical entities were approved annually in the 13 years preceding 1962; for a similar period after the amendments, the average number fell to just over 16, a 70 percent decline. The decline in new drug innovations restricts the public's choice of remedies, a choice often made under a physician's guidance.

In response to criticisms about the FDA's slow approval process, which took on average 10 years to complete, the agency has attempted to streamline its screening procedures, both in the research and market approval stages. Administrative measures have reduced the average drug processing time by 2 years. In addition, the number of pending new drug applications fell from 343 at the end of 1983 to 204 just 3 years later. Moreover, the average annual number of new drug applications approved by FDA jumped from 86 between 1976-79 to 109 between 1980-86. More recently, FDA has agreed to help companies design drug studies that will produce data as early in the process as possible, and in certain cases to hasten the approval process for drugs where serious illness or death threatens, as in the case of acquired immune deficiency syndrome (AIDS) or hairy cell leukemia. The reforms in the FDA approval process could result in a significant increase in the number of new drugs provided that they actually reduce the costs to firms of getting drugs approved.

In the case of life-threatening diseases, such as AIDS, a strong argument can be made that the decision to use new experimental drugs should be left to the patient and the patient's physician. The President's Task Force on Regulatory Relief, chaired by the Vice President, recently endorsed efforts that would reduce the role of the Federal Government in such life-threatening situations. The FDA could expedite the process by conditionally approving drugs after initial investigations show them to be safe. Further testing could then be performed in the field after issuing the drug with proper warnings to both physicians and patients, rather than requiring that such testing be done in industry laboratories.

In addition, the Drug Export Amendments Act of 1986 allows FDA to approve applications to export drugs not yet approved for domes-

tic use, but sanctioned under a foreign country's regulations. By allowing the export of such drugs, FDA has provided additional incentives to pharmaceutical manufacturers to develop and produce new drugs in the United States. Not only will this procedure help the domestic drug industry to compete globally and aid foreign citizens, but it will improve the health of Americans as well by spurring domestic product innovation.

One of the biggest challenges for screening regulation will be in the emerging field of biotechnology. The United States has the potential to be a commercial giant in this field while still protecting the public from unnecessary harm. The development of new technologies in this field can lead to important applications in agriculture (such as pest and climate resistance), medicine (such as the FDA-approved recombinant DNA-derived human insulin), containing oil spills, and cleaning up hazardous waste sites. Worldwide demand for biotechnology products has been estimated to be as high as \$100 billion annually by the turn of the century.

The proper Federal role in biotechnology is to ensure that new processes and products do not, on balance, pose an unreasonable risk to the public. Measuring the total risk of introducing a new product, however, is not straightforward. For example, if a Federal agency prohibits a biotechnology product from being applied as a pesticide to crops, it is implicitly favoring the use of currently approved pesticides. Regulators should not evaluate the risk of a new product in isolation, but should consider the current level of risk of the products it would replace.

This Administration has made strides in improving the regulatory coordination of approving new products by forming the Biotechnology Science Coordinating Committee. In 1986 this Committee issued a notice, approved by the President, that provided a framework for coordinating the policies of the six Federal agencies with oversight responsibilities. The notice concluded that regulation should focus on the risks of the organism itself, not the process that formed it. Thus, simply because a product could be labeled "biotech" did not warrant special (and frequently more stringent) consideration. Indeed, a National Academy of Sciences study argued that no unique hazards are involved in genetically engineered technology.

A number of new products have reached the marketplace. The FDA has approved nine therapeutic drugs, including a new anti-cancer drug and a new hepatitis vaccine. The FDA has also approved a human growth hormone, now marketed by two companies, for treating growth disorders in children.

Biotechnology products have been used in waging the war against deadly diseases as well, including the first vaccine tested for use

against AIDS. In all, more than 600 biotechnology products are now undergoing clinical trials, including special grains capable of growing in desert regions of drought-stricken Africa.

Although these new developments in screening procedures are encouraging, there is a fundamental design problem inherent in the current approach to screening: regulators are not given enough credit for allowing new products to reach the marketplace sooner. At the same time, they often have to shoulder a major share of the blame if something goes wrong after a new product or chemical is approved. Thus, screening procedures involving civil servants are likely to reinforce the status quo, which means that technological innovation is likely to be slower than it needs to be.

LESSONS AND CHALLENGES

It is always tempting to respond to a perceived social need by calling for government intervention of one sort or another. The experience to date with Federal regulation suggests the need to keep this impulse in check. This observation does not mean that regulation should be eliminated. It means that regulation should be applied judiciously. The challenge is to design institutions that create incentives for private market solutions to address problems, such as pollution, that can arise as a result of marketplace activity.

The strengths and limitations of some of the older approaches are now well understood. Price and entry regulation often leads to inefficiencies and tends to stifle innovation. Inflexible social regulations that specify in detail how firms should behave also tend to stifle innovation. It makes little sense to require a business to install an expensive pollution control device if it can devise a better way to achieve the same goal at half the price. Yet in many cases regulations do not provide firms with the incentive to search for such innovations.

Gains can result from a judicious application of marketplace incentives in traditional areas of economic regulation as well as social regulation. Calculating the gains from such activities and designing institutions that will enable the public to benefit from these gains are necessary steps in promoting constructive reforms. Strong political forces, however, protect the status quo. These political forces are not likely to change unless the configuration of underlying interest groups changes or there is a more widespread understanding of how current institutions often lead to inefficient and ineffective regulation. This understanding is promoted, in part, by successful examples of deregulation and successful changes in regulatory procedures that promote more efficient policies. It will also be promoted as the cost of onerous regulations is more widely recognized.

The United States now competes in a global marketplace. In order to continue to compete successfully, the Nation must develop approaches to regulation that promote technological innovation. This goal can be reached through gaining an understanding of the institutions that yield such innovation, and through asserting the political leadership necessary to meet the challenge.