
Currents

Regulatory Rollback: Twelve Targets

The regulatory provisions in the Republicans' Contract With America now wind their way through Congress. In their original form, they would have erected some much-needed safeguards against new regulations and government limitations on economic liberty. The watered-down versions that seem likely to emerge still could slow or head off some regulatory abuses. Also on the legislative agenda are a proposed 180-day moratorium on new regulations and a requirement that Congress regularly have the opportunity to veto new regulations made by the executive branch.

But whatever reforms are passed, none would actually roll back any existing regulations. Republicans and reform-minded Democrats who truly wish to liberate entrepreneurs and private citizens from regulatory burdens must go much further than the Republican Contract or the Clinton administration's effort to "reinvent government." Policymakers must move to amend or repeal specific regulations.

Procedural versus Substantive Reform

The principal regulatory planks in the Republican Contract would change the procedures for making regulations. They would require a stricter consideration of the both the costs and risks as well as the anticipated benefits of new regulations. They would place significant restraints on new unfunded mandates on the states. And most important, they would require compensation to be paid to owners when the value of their property is reduced by a certain percentage, still the subject of debate, by certain regulatory restrictions on property use, also subject to debate.

But it is not surprising that even those procedural reforms are being watered down. Many

members of Congress still do not appreciate the proper role and limits of government. For example, a open letter signed by 30 House Republicans expressed concern that compensating owners for reductions in the value of their property due to government restrictions on its use could be a "new entitlement." That letter indicates either serious confusion about the nature of a free society or a lack of seriousness concerning the protection of freedom. The protection of life, liberty, and property should be the very purpose of America's government. The rights to lawfully acquire, use, and dispose of one's own property, to be secure in one's possessions, and to have the government as protector of those rights, are the bedrock of the American economy. The Fifth Amendment to the U.S. Constitution states, "Nor shall private property be taken for public use, without just compensation."

It will take time, as well as a long intellectual and political struggle, to make the basic principles of the Constitution once again the law of the land. But at this time relief from government regulations should go beyond the procedural reforms of the Contract. Congress would do well not only to change the procedures for making regulations but also to begin to reform or repeal the actual regulations that are harming businesses, workers, and private citizens alike.

Long-Term Transformation

Beyond the immediate need to clear away the most burdensome regulations, reformers in Congress will have to consider a long-term transformation of the federal regulatory regime. That will entail a thorough review of all current regulations, as well as stricter screening of proposed new ones. Four of the questions reformers would do well to ask are:

- Is there a constitutional basis for a federal regulatory role in this area?
- Do current regulations have a statutory basis?

- Does the regulation offer national as opposed to merely local benefits?
- Is there evidence that the regulation is or will be effective?

Current Concerns

A thorough transformation of the system will take time. But given the size and scope of federal regulatory activities, there is a need for current action. And the first task is to determine where to begin. Policymakers might better be able to set short-term priorities by asking three questions:

- Which regulations place the greatest burden on the economy, whether in dollar costs or in lost jobs and innovations?
- Which regulations have been the subject of the most scrutiny and scholarly study—that is, for which regulations do good analyses exist?
- Which regulations are most easily understood by the public and policymakers as in need of change—that is, which regulations is it politically realistic to change or repeal in the next two years?

By the standards listed above, federal wetlands policy should be on the top of the list below. It is in fact absent. That is not because those regulations are not onerous. Government restrictions that can apply to land that is dry for 350 days per year prevent farmers from planting crops, families from building dream homes, and entrepreneurs from establishing enterprises. But the plank in the Contract With America on regulatory takings seeks to eliminate the worst abuses of wetlands policy. The watered-down version currently under consideration in Congress would provide important, though imperfect, relief. If the property rights plank of the Contract is gutted or vetoed, wetlands policy should be on the target list.

Twelve Targets

Based on the aforementioned short-term criteria, agencies or areas that are prime targets over the next two years are listed below. Half are covered in articles in this issue. Others will be treated in other issues of *Regulation*, in the Cato Institute's Policy Analysis series, as well as in Cato forums and conferences.

Covered in this issue are:

- **Telecommunications.** Lawrence Gasman, the author of *Telecompetition* (Cato Institute, 1993),

argues in "Telecompetition Revisited: An Agenda" that the private sector's success in producing personal computers, software, and user networks contrasts with a stifling telecommunications regulatory structure that dates back to earlier in this century. Complete deregulation can best ensure that America enters the 21st century with an information superhighway commensurate to the next millennium.

- **The Glass-Steagall Act and the Bank Holding Company Act.** In "Banking on Free Markets," Cathy England of George Mason University argues for deregulating the financial sector of the economy. Glass-Steagall mandates a separation of commercial and investment banking, while the Bank Holding Company Act prevents banks from engaging in nonbank services; both make the American economy less competitive. Banks in other countries are not burdened with such laws. Congress is reconsidering those restrictions and should consider their outright repeal.

The Food and Drug Administration. In "Breaking up the FDA's Medical Information Monopoly," Robert M. Goldberg, senior research fellow at the Gordon Public Policy Center, argues that by controlling the acquisition and distribution of scientific information about pharmaceuticals, the FDA hinders the creation of new drugs, pushing up health care costs and costing thousands of lives. Moving to private certification would facilitate innovation and better protect the public.

- **Superfund.** In "Salting the Earth: The Case for Repealing Superfund," Jerry Taylor, the Cato Institute's director of natural resource studies, argues that the Superfund program combines much that is wrong with government. In the name of cleaning up toxic waste sites, Superfund levies a tax on businesses that produce no toxic waste; it mandates that businesses deal with alleged problems not of their creation in costly ways when more efficient means are available; and it often selects cleanup sites according to political pull. Taylor concludes that Superfund should be abolished.

- **The Americans with Disabilities Act.** My article, "Handicapping Freedom: The Americans with Disabilities Act," deals with the unintended consequences of the Americans with Disabilities Act. Meant to help the handicapped more easily enter the workforce and public buildings, the act imposes huge costs on businesses and local gov-

ernments. Further, the vague definitions in the act have set off an avalanche of frivolous lawsuits. The federal government should allow the states to set their own policies for the handicapped.

- **Transportation.** In "Clearing the Track: The Remaining Transportation Regulations," the Hoover Institution's Thomas Gale Moore makes the case for complete deregulation of transportation. While transportation deregulation has been a huge success, much deadwood, such as the Interstate Commerce Commission, still litters the economic landscape. All of it should be cleared away.

The six targets listed below are not treated in this issue but will be treated elsewhere.

- **Agriculture.** The federal government manipulates prices, planting, exports, and imports primarily through subsidies. To help consumers and efficient farmers alike, Washington should phase out the costly and failed experiment in agro-socialism. Farm policy will be the topic of several forthcoming Cato publications.

- **The U.S. Postal Service.** Even as faxes, e-mail, and Federal Express efficiently dispatch messages around the country and the world, service from the government's postal monopoly declines and stamp prices increase. It is time to privatize the Postal Service and allow private carriers to deliver first-class mail. A Cato conference held on June 14 dealt with that issue.

- **The Community Reinvestment Act.** Meant to force banks to lend certain amounts in the communities in which they are located, the Community Reinvestment Act in effect mandates that banks make risky loans. To acquire federal permission to change their charters, banks now face what can only be described as extortion by local activist groups with the government acting as enforcer. The case for repealing that act is found in Vern McKinley's article, "Community Reinvestment Act: Ensuring Credit Adequacy or Enforcing Credit Allocation?" in *Regulation* 1994, Number 4.

- **Labor.** Labor law should be reviewed and reformed. Among the issues that need to be addressed are the Davis-Bacon Act, which mandates above-market wages on federally funded projects, and the Occupational Safety and Health Administration, which subjects employers to regulations that have little to do with protecting workers and everything to do with making job creation more costly.

- **Clean Air Act.** The Clean Air Act, based on demonstrably faulty data, applies draconian smog-abatement measures to all localities regardless of the degree of their air problems. States and localities know better what standards are appropriate for their regions. They, not the federal government, should determine clean air policy.

- **Safe Drinking Water.** The federal "one size fits all" regulatory regime not only imposes unnecessary costs on providers of drinking water, it also forces localities to devote resources to minor problems, leaving less for major ones. Localities, not Washington, should determine their own standards and how to meet them.

Edward L. Hudgins

More on the Minimum Wage

On occasion, my faith that analysis and evidence can contribute to better government policy is seriously challenged. The persistent support for a higher minimum wage is a case in point. A broad body of research over several decades concludes that a 10 percent increase in the minimum wage reduces the employment of low-skilled workers by 1 to 2 percent. President Clinton, however, recently proposed increasing the federal minimum wage from \$4.25 to \$5.15 per hour, seizing on several anomalous recent studies as a rationale for his proposal.

But one should not give up. Some presidents change their minds in the face of accumulating evidence. And Congress may be less vulnerable to intellectual fashions in this case. Shortly after sending the fine article "Sense and Nonsense on the Minimum Wage" (by Donald Deere, Kevin Murphy, and Finis Welch: *Regulation* 1995, Number 1) off to the printer, I received two other new analyses of the minimum wage that merit the awareness of a broad policy audience.

Employment Effects

One of the studies that seems to support the proposed increase in the minimum wage is a 1994 study of the effects of a 1992 increase in New Jersey's minimum wage on employment in fast-food establishments. The study is by Princeton University economists David Card and Alan

Table 1

Distribution of Benefits by Household (percentage)			
Income/Poverty Line	Total	Blacks	Female-Headed
Less than 1.00	13.1	3.9	7.5
1.00 to 1.25	5.8	1.2	1.9
1.25 to 1.50	6.9	1.4	1.4
1.50 to 2.00	14.6	2.5	4.3
2.00 to 3.00	24.9	3.3	5.0
Greater than 3.00	34.7	3.0	3.5
Total	100.0	15.3	23.6

Krueger (CK); Krueger, on leave from Princeton, is now the chief economist in the Department of Labor. The CK study, based on a telephone survey of employment before and after the increase in the minimum wage, concludes that employment in New Jersey fast-food outlets increased (relative to that in Pennsylvania) in response to the higher minimum wage.

The CK study provoked substantial controversy among labor economists and, most recently (March 1995), a careful critique by David Neumark and William Wascher (NW), coauthors of an important set of recent studies of the minimum wage. Neumark is a professor at Michigan State University, and Wascher is a senior economist on the Federal Reserve staff. The NW critique is based on the payroll records of two major fast-food chains operating in the same areas as those in the CK data set and a comparison with the CK data based on a telephone survey. The critique has two major conclusions:

- The payroll records indicate that the 18.8 percent increase in the minimum wage led to a 4.8 percent decrease in the relative employment in fast-food outlets in New Jersey, a result directly contrary to that reached by CK, but wholly consistent with the broader body of minimum wage research.
- The CK data indicate implausibly large employment variations over the eight-month period between the two telephone surveys. The standard deviations in the CK data exceed those in the payroll records by a factor of four to eight. The probable reasons for the large variance are some uncertainty about the meaning of the tele-

phone query about employment and some difference in those who responded to the first and second surveys.

The Card and Krueger study should have been subject to more careful review when first submitted for publication. The conclusion of that study is inconsistent with a basic premise of economics, inconsistent with the broad body of empirical research, and based on a data set subject to extraordinary error. For that careless early review, the leading economics journal deserves some criticism. We are now indebted to Neumark and Wascher for the

careful critique that Card and Krueger and their first reviewers should have exercised earlier. The conclusion of the broad set of minimum wage research still stands: An increase in the minimum wage helps some low-skilled workers at the expense of those who are even less skilled.

Who Benefits?

Much of the political appeal of an increase in the minimum wage is based on the premise that one cannot support a family on the current minimum wage. The premise is correct but increasingly irrelevant. Most of the benefits of an increase in the minimum wage now accrue to secondary workers in nonpoor households.

Another recent (March 1995) study provides the best estimates of who benefits from an increase in the minimum wage. The study is by Richard Burkhauser and Kenneth Couch of Syracuse University and Andrew Glenn of Vanderbilt University (BCG), and is an update of several prior studies by Burkhauser.

The most important finding is that there is no longer any substantial relationship between low wages and poverty. As of 1989 only 22 percent of low-wage workers were in poor households, down from 85 percent in 1939, when the minimum wage was first implemented; only 8 percent of low-wage workers were heads of poor households, down from 31 percent in 1939. Almost half of low-wage workers are now in families with incomes more than twice the poverty line.

One effect of those changes in the labor force

is that an increase in the minimum wage is an increasingly ineffective way of helping the working poor, even those who keep their jobs. The BCG study provides estimates of the distribution of the benefits from increasing the minimum wage from \$4.25 to \$5.00, based on the hours worked by each group in 1989. Those estimates are shown in Table 1. Only 13 percent of the increased earnings would accrue to those in households with incomes below the poverty line, even if there is no effect on the hours worked by that group. Nor would an increase in the minimum wage be an effective policy to increase the incomes of poor households headed by minorities or women. Nearly 60 percent of the benefits would accrue to households with incomes more than twice the poverty line. The total benefits of an increase to \$5.15, the rate proposed by Clinton, would be proportionately larger, but the distribution of the benefits would be roughly the same.

The proposed increase in the minimum wage would cost employers and consumers about \$10 billion a year. For the same cost to the economy, the currently scheduled increase in the earned income tax credit (EITC) would yield substantially larger benefits to the working poor. Moreover, the current minimum wage plus the scheduled EITC will yield a total wage of \$5.70 to \$5.95 for those workers in poor households with children, substantially more than the proposed higher minimum wage. The BCG study estimates that the scheduled increase in the EITC will cost about the same as the proposed increase in the minimum wage, in both cases assuming no effect on employment. About 38 percent of the benefits of the increased EITC, however, would accrue to workers in poor households, and only 11 percent to workers in households with incomes more than twice the poverty line.

A Concluding Assessment

For workers in poor households, the EITC has much superior employment effects and much superior distributional effects than an equal-cost increase in the minimum wage. One wonders why an increase in the minimum wage is still on the political agenda. One answer is that the costs of the EITC are on the budget, whereas the costs of the minimum wage are hidden in lower employment and higher prices. But that is not a sufficient

answer. The EITC has had broad bipartisan support from its beginning in 1975; the minimum wage has usually been divisive. The answer, I suggest, is political inertia; federal regulation of the terms of labor contracts has been a principle of the Democratic party for 60 years. Support for a higher minimum wage has survived only as a shibboleth that identifies the members of the tribe. The Republican Congress should put an end to such nonsense. One wonders why "new Democrats" like President Clinton and Labor Secretary Reich did not propose this themselves.

William A. Niskanen

The Failure of Flow Control

The U.S. Constitution was enacted, in part, to eliminate the state-level obstructions to interstate commerce that prevailed under the Articles of Confederation. Under the Interstate Commerce Clause of the Constitution, only Congress can regulate or inhibit trade among the states. Yet now members of Congress are seeking to overturn a 200-year-old congressional principle by allowing states to restrict the export of wastes out of local communities through the practice of flow control. The underlying principle—one which the Framers of the Constitution explicitly rejected—is that states should pursue autarchy, at least in the area of solid waste. As Rep. Frank Pallone (D-N.J.), cosponsor of a flow control bill, recently testified, "It should be the national policy for each state to promote self-sufficiency in the management of solid waste."

Flow control is the practice whereby a local government requires that all waste within its jurisdiction be processed at designated facilities, often at overpriced, inefficient incinerators. Thus, flow control confers a portion of the solid waste management market to politically preferred constituencies at the expense of consumers. Flow control statutes are fundamentally incompatible with the principles of free enterprise, market competition, and the consumers' interest. The anti-competitive nature of flow control is even acknowledged by its proponents, albeit reluctantly or unwittingly. "I've never really thought of it as anti-competitive," commented one waste hauler, "With flow control, none of the haulers have to worry about a competing trans-

fer station or a cheaper out-of-state landfill. Everybody pays the same rate."

Flow control is an issue before Congress because the Supreme Court ruled the practice an unconstitutional violation of interstate commerce. In the case of *C.A. Carbone v. Clarkstown, N.Y.*, the Court ruled six to three that "state and local governments may not use their regulatory power to favor local enterprise by prohibiting patronage of out-of-state competitors or their facilities." Yet that is exactly what localities that implement flow control seek to do. The Supreme Court has consistently held that states cannot prevent parties from transporting waste across state lines, whether the restrictions are designed to keep foreign wastes out or local wastes in. Even differential tax systems have failed to pass constitutional muster with the Court. Localities in the 27 states where flow control was practiced need explicit congressional approval if their flow control policies are to continue, and Congress seems willing to oblige. Legislation has been moving in both houses that would, at the very least, grandfather in those communities that were using, or were planning to use, flow control at the time of the *Carbone* decision, and permit them to continue using flow control for the next 30 years.

Reauthorizing the use of flow control would be a step backward in the handling of municipal solid waste. Rather than encourage expanded markets in waste processing and disposal, which would in turn encourage greater efficiencies and innovation, flow control establishes protected government monopolies that have no incentive to increase the quality of their waste disposal services. Nor do such protected government monopolies have any incentive to reduce the cost of the waste management services that they provide; with captive customers, there is no reason to innovate or economize. Under flow control, waste disposal prices are set by political forces, rather than by market competition. Thus, with flow control, consumers of waste disposal services pay more because they are deprived of the option to take their business elsewhere when prices get too high.

Budgetary Costs

Indeed, that is the experience of many localities. Mayor Bret Schundler of Jersey City, New Jersey reports that Jersey City had to spend more than

\$6 million on waste management services in 1994. Yet if Jersey City had been exempt from flow control regulations imposed on it by the county in which it is located, those costs could have been reduced by over \$1 million, possibly by contracting with an out-of-state private waste-management firm.

Northvale, New Jersey has had a similar experience. That small town paid waste disposal fees of over \$100 per ton of solid waste. After the Supreme Court invalidated flow control, Northvale received offers to provide the same services for approximately \$80 per ton. Such a massive decrease in waste management costs gives towns like Northvale more money to devote to other things, from expanded municipal services to tax relief. As a result of his experience, Northvale Mayor John Rooney remarked that "any politician in favor of flow control is in favor of higher taxes."

Those are not isolated instances. An econometric analysis of waste disposal fees conducted by National Economic Research Associates found that flow control consistently increases the costs of waste disposal. According to the study, which was commissioned by Browning-Ferris Industries, flow control increases disposal costs by 40 percent, or \$14 per ton. As the study concluded, "Flow control is generally made necessary precisely because waste would otherwise be shipped elsewhere to save on disposal costs." Were the waste facilities reliant upon flow control cost-competitive, flow control would not be necessary.

Environmental Costs

Flow control ordinances can have negative environmental implications as well. By eliminating potential markets for ecological entrepreneurs who develop new methods to recycle or dispose of wastes, flow control retards environmental innovation and forecloses opportunities for market-driven recycling and reuse in those few instances where they are economically viable. Rather than holding open the prospect of a profitable market share for the development of a cost-competitive recycling technique, flow control cements in place current waste management methods.

For example, many localities that rely upon flow control have enacted such regulations due to the existence of "put or pay" clauses in their

contracts with local waste management facilities. Such clauses require the locality to guarantee a certain volume of waste for the facility. If that level is not met, the municipality pays a penalty of some kind. That creates an incentive for localities to utilize flow control to the detriment of public or private recycling efforts; any waste that is recovered for recycling is waste that is not going to the designated facility, and therefore is of no benefit to the locality in meeting its contractual obligation.

Further, by mandating that local waste haulers use particular management facilities, the haulers are prevented from using more environmentally sound alternatives that may exist elsewhere. The Sierra Club and other environmental groups have rightly pointed out that such regulations often inhibit the development of alternative waste management options and, in some cases, disrupt preexisting waste recovery and recycling efforts. Flow control laws unnecessarily inhibit the ability of recyclers and other ecological entrepreneurs to compete in the marketplace and provide more economical waste management options. For that reason, and because flow control has frequently been used to finance costly and inefficient incinerators, flow control is opposed by the New York Public Interest Research Group, the Natural Resources Defense Council, the National Wildlife Federation, Clean Water Action, and Greenpeace, among others. Those groups maintain that in practice it is likely that the environmental costs of flow control outweigh its benefits.

Political Benefits

The primary purpose of flow control is not to improve the management of solid waste or correct for any purported environmental externalities. Flow control's primary purpose is to subsidize inefficient, non-cost-effective, government-sanctioned waste management monopolies. That is implicit in the defenses of flow control put forward by its staunchest proponents. "Without the revenue bond financing available because of flow control, recycling and composting facilities will not be built by communities without tax increases or reliance on general revenue bonds," notes Rep. Frank Pallone. Note that Representative Pallone does not say that such facilities will not get built, only that they will not be built "by communities," in other words, by governments. Flow

control is to be used to subsidize political participation in a market where political entities simply do not belong. With flow control, politically preferred waste management services receive a government subsidy, while the costs are hidden from those who ultimately pay the bill.

To be sure, many municipalities care about flow control because they have made poor investments in expensive and inefficient waste disposal facilities. Prompted by fears of an imminent waste disposal crisis, municipalities overbuilt and issued billions of dollars in bonds to finance incinerators, recycling centers, and state-of-the-art waste processing centers. By some estimates, over \$10 billion in bonds were issued to finance waste incinerators alone. Without flow control, the operating deficits of those projects will have to be made up from other sources, such as increased taxes or waste disposal levies on households.

There is little doubt that residents of many municipalities will end up paying for the mistakes of their elected officials. Many will be quite angry. Flow control provides a way for local officials to hide the costs of their mistakes through forcing private firms to pay more for the disposal of their garbage. The resulting impact on local businesses will often be less noticeable than an overt increase in taxes. Either way residents lose—only, with flow control, local officials escape being held accountable for the errors of their ways. Flow control effectively short-circuits the feedback mechanisms that discipline poor economic and political decision-making. Thus, like unfunded federal mandates, flow control undermines accountability.

There is a way to avoid this mess in the future, and that is to move away from the municipal provision of waste disposal services. Flow control is deemed necessary only because municipal facilities cannot compete; those facilities cannot compete because they are products of politics, and not the private sector. Even in those cases where private contractors are involved, investment decisions are not made by an analysis of prospective market conditions, but rather by what political winds allow. Waste haulers in the private sector must earn their customers by providing better service at a better price.

In cities such as Indianapolis and Philadelphia, local governments are beginning to learn the virtues of competition in the provision of municipal services and how expanded private sector involvement works to the benefit of local consumers. It is ironic

that Congress would seek to short-circuit that process by legislative fiat. Yet that is exactly what congressional authorization of flow control would do. Consumers benefit without flow control, because competition drives down disposal prices. Environmental impacts are reduced as competition also spurs innovation and greater efficiency. All flow control brings is less local government accountability and an increase in bureaucratic waste.

The question before Congress is not whether the federal government will let cities cover their costs; the issue is not about "community solvency," despite what some supporters have outlandishly claimed. The real question is whether the federal government sanctions interference with interstate commerce in order to enable cities to hide the costs of poor decisionmaking.

It is ironic that the U.S. Congress is considering allowing states to restrict the interstate flow of goods and services at the same time as the world is moving toward a more integrated global economy. The same Congress that has sought to remove barriers to trade between nations is considering erecting barriers to trade between states and communities in the name of "solid-waste self-sufficiency." That is insane. There is no more reason for states to be self-sufficient in waste management services than there is for them to be self-sufficient in grain production, coal mining, or orange growing.

Trade, whether between individuals, communities, or nations, is a mutually beneficial undertaking. Different regions of the country have a comparative advantage in the provision of different goods and services. Ironically, as some communities are seeking congressional legislation to keep their waste in, some states desire legislation allowing communities to keep waste out. If the bills pass together—a real possibility—Congress will have taken a dramatic step toward the economic Balkanization of the nation.

Interfering with the ability of parties to engage in voluntary transactions always comes at significant cost, and should only be considered under the most desperate of circumstances. The current situation with regard to solid waste in America does not even come close to justifying consideration of such measures.

Jonathan H. Adler
Director of Environmental Studies
Competitive Enterprise Institute

Mobile Source Pollution in Mexico City and Market-Based Alternatives

Due to urban development and growing industrialization, air pollution has become a major concern in Latin American cities such as Mexico City, Sao Paulo, and Santiago. Eighty-one million Latin American city-dwellers, 26 percent of the total urban population, live in cities with major air pollution problems. The industrial sector, often concentrated in the cities, and vehicle emissions are the main sources of air pollution.

Urban pollution problems affect the health and the productivity of the 20 million people of the Metropolitan Area of Mexico City (MAMC). Population increases and economic growth in Mexico will put increased pressures on the environment, especially in urban areas, in the years to come.

For those reasons, urban environmental concerns in Mexico require innovative policy responses. In fact, the Salinas administration made environmental policy one of its highest priorities in the 1989-1994 National Development Plan. Mexico's recent environmental policy actions have largely followed the American model, implying extensive reliance on command-and-control regulation. The Mexican government's response may be understandable, given the emergency nature of the programs recently announced, but it is not clear that it is the most efficient policy response.

Although relatively unexplored by regulators, applying the concept of tradable permits to mobile pollution sources could improve the air quality in Mexico City in a more cost-effective manner. But before one can examine the case for such a permit system, one must be familiar with the current air pollution situation in the MAMC, the current policies toward air pollution, and their outcomes. Only then can the alternative policy options be discussed.

Air Pollution and Policy in Mexico City

Air pollution has been linked to morbidity and premature mortality, crop damage, forest damage, surface water acidification, and materials and building corrosion. High atmospheric lead levels result in elevated lead concentrations in blood and have been associated with decreased

cognitive function in children and increased blood pressure in adult males.

The air pollution problem in the MAMC is very severe, sometimes characterized as the worst in the world. Geographic factors exacerbate the problem. For instance, the MAMC is situated at a high altitude, which causes incomplete fuel combustion. Also, the MAMC is inside a valley, so the air circulation is impeded by mountain ranges.

In the MAMC, as in most metropolitan areas in the world, much of the emissions of ozone precursors is vehicular in origin. The MAMC has a fleet of approximately 2.9 million vehicles, with an average age of nine years; only the models built since 1991 have catalytic converters.

The contributions from mobile emissions sources are 60 percent of the total emissions, with 50 percent of all mobile sources from private autos, 25 percent from public transportation, and the remainder from gasoline and diesel-powered trucks. The contributions by the transport sector to the total emissions level are: nitrogen oxides (NO_x), 55 percent; hydrocarbons (HC), 83 percent; sulphur dioxide (SO₂), 12 percent; particulates (TSP), 12 percent; carbon monoxide (CO), 98 percent; and lead, 100 percent.

Because of population pressure, the public transportation system, in spite of its recent expansion, lags behind the growing transportation demand. That increases the incentives for automobile ownership; in fact, of the 29.5 million trips made daily, 15 percent are made in private autos, which are 95.4 percent of the total vehicles in circulation. Auto ownership adds to traffic flow congestion, lowering the average speed and increasing pollution levels.

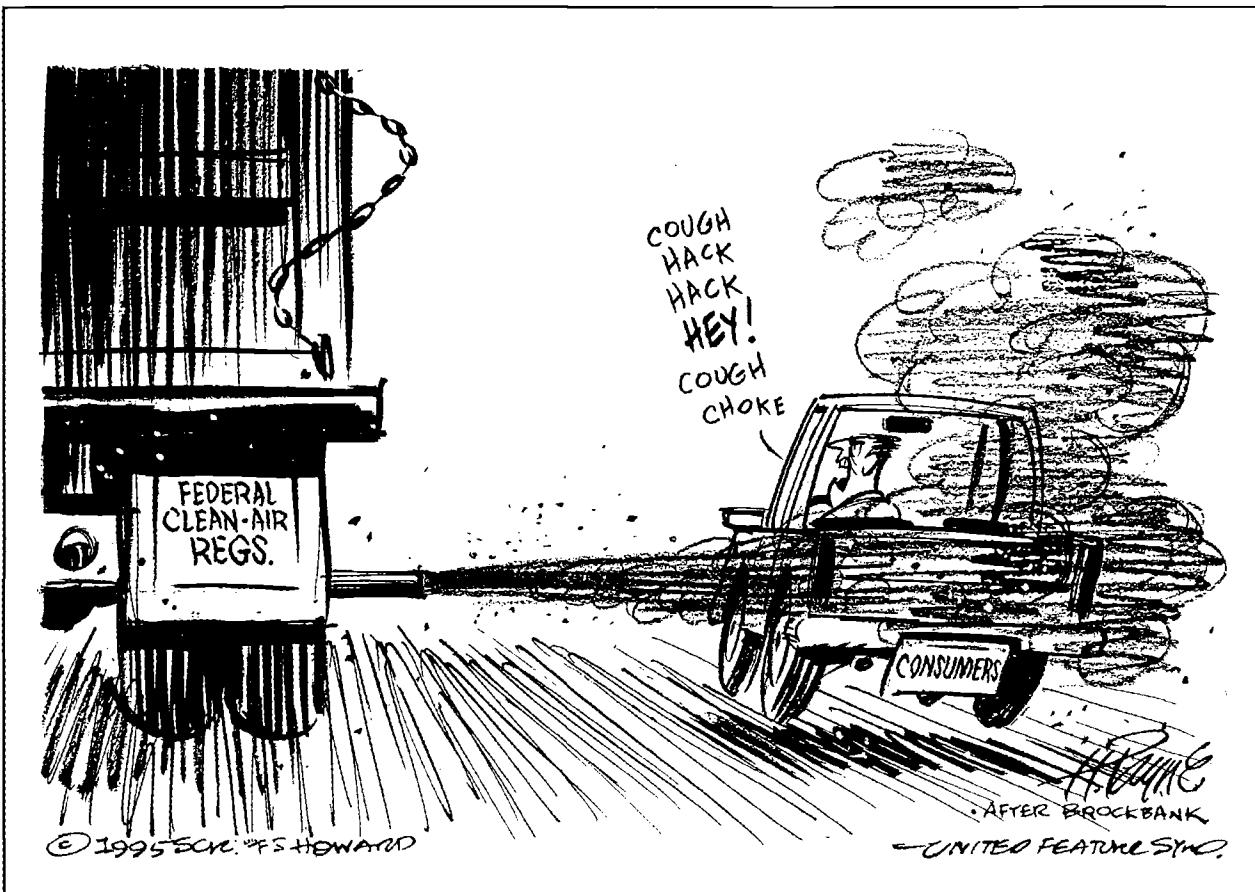
To figure out the magnitude of the effect air pollution has on public health, it is necessary to know the difference between actual air quality and air standards, since the latter are typically set below some threshold related to health damage. Records show that ozone originating from mobile sources, the harmful health effects of which are well known, regularly exceeds the Mexican one-hour ozone standard of 0.11 ppm—sometimes by as much as 400 percent. The eight-hour standard for CO is 0.13 ppm, and the highest concentration measured in the MAMC is 24 ppm. The Mexican NO_x one-hour standard is 0.21 ppm; the highest recorded concentration is 0.32. The U.S. lead standard of 1.5 ug/m³ for a

three-month period was exceeded in four out of eight quarters in 1986-87. The 24-hour SO₂ average is 0.13 ppm and has been declining as the result of fuel switching in electric power generation and industrial use. Concentrations of other toxic air pollutants, such as benzene, diesel particles, and formaldehyde, all produced by motor vehicles, are probably also high, but still are not monitored adequately. The departures from standard levels are particularly severe in the winter months, when temperature inversions and calm winds occur regularly; however, the worst month is May, when solar radiation is at its highest level.

Mexico City is a clear example of a city with multivariable pollution phenomena. Unlike other pollutants, smog is formed through chemical reactions between emissions of volatile organic compounds and nitrogen oxides. That process requires sunlight, high temperatures, sufficient concentrations of pollution, and appropriate wind patterns—highly variable factors. Pollution from mobile sources in particular is a function of weather and tailpipe emissions, an important matter to consider when examining policies for pollution abatement.

Current Policies

The policies adopted to address the air quality problems in Mexico City have been command-and-control strategies involving specified emissions technologies for vehicles and quantitative restrictions on vehicle use. A sophisticated automatic monitoring network has been established to provide information about the air quality each hour in the five different areas that comprise the MAMC. Emissions testing and engine tune-ups are required of all passenger vehicles, though the requirements can often be evaded through bribery. Improved diesel engines have been installed in the bus fleet, and over the next three years the public transport fleet will be converted to use butane gas. In addition, the lead content of gasoline is being reduced to European Community standards, and low-sulfur fuel oil is being forced on industry. Perhaps most important, the government has designated no-driving days for all vehicles. Other measures that have been taken include the closure of a refinery inside the MAMC, a mandatory 50 percent reduction in cab use on Saturdays, and a requirement that firms switch to natural gas or reduce their



operations by 30 percent in 1994.

In March 1994 a new program ordered 220 of the top industrial firms, the source of 8.4 percent of the air pollution, to cut their particulate and volatile organic pollutants by 90 percent in 18 months and reduce emissions of reactive organic gases by 40 percent within one year, or quit the city by the second half of 1994. The government is offering 20-year credits to finance either the cleanup or relocation of affected facilities.

In addition, there are emergency plans—referred to as "Phase I" and "Phase II"—used in the pollution alert periods that are declared when the air pollution index rises over 300 points. The emergency plan in Phase I grounds half of the municipal fleet, suspends activities such as paving, and requires that major stationary sources reduce their activities by 30 percent. Phase II requires an additional no-driving day plus further restrictions of industrial activity and use of official vehicles.

The No Driving Day Program (NDD) involves not driving one day during the week (weekends excepted) and two days during Phase II (week-

ends included). The program was implemented in November 1989 for the winter season.

The immediate results from the NDD were an effective reduction of 20 percent of the vehicles in circulation, an increase of 8 kph in traffic speed, a five-minute reduction in mean trip time, a decline in the rate of gasoline consumption (from 7.6 to 1.2 percent), and an increase of 6.6 percent in subway ridership. Mexico City authorities advertised the result and various environmental groups applauded it, so the authorities decided to make the program permanent.

However, once the program was made permanent, it led to substantially different consumer behavior than its advocates predicted. The driving public, faced with a long-run restriction on driving, apparently found the public transportation system a very imperfect substitute. So instead of flocking to public transportation as the authorities had hoped, residents of Mexico City simply purchased more vehicles, in order to always have at least one vehicle available on any given day. Demand for automobiles shows a high income-elasticity. Estimates indicate that a 1

percent increase in GDP leads to more than a 3 percent increase in automobile demand. The real price of automobiles in Mexico has dropped significantly since trade liberalization. Automobile sales in Mexico are at record levels, with the MAMC share of national vehicle sales at around 53 percent. Auto sales throughout Mexico have increased by 25 percent since 1989.

The economic cost of the NDD program is largely due to the fact that the program makes no distinction among the relative values of various days. Work, leisure, and commercial/industrial delivery travels are treated as if they are of equal value. But of course they are not. The fact that 41 percent of vehicles cited for violating the NDD restriction in the program's first year were commercial delivery vehicles shows that some uses are more highly valued than others.

Indirect evidence suggests that the NDD program may have exacerbated the air pollution problem by increasing vehicle purchases. The moving average of peak ozone measurements has actually increased since adoption of the NDD program—as have the ozone readings, which exceeded 200 points. Moreover, the pollution index grew from 86 days in 1990 to 192 in 1991; and traffic congestion and CO₂ have increased during the weekends, forcing the authorities to place more mandatory episodic emissions restrictions on industry and commerce, which has in turn increased the economic cost of the whole pollution control program.

Alternative Approaches to Air Pollution Control

Air quality has improved significantly in most U.S. cities over the past two decades. Nevertheless, air quality in many metropolitan areas still falls short of the health-based standards set by the U.S. Environmental Protection Agency. The U.S. Congress is enacting several additional measures aimed mostly at the volatile organic compounds (VOC) that help to create smog. The measures include possible additional controls on petroleum refineries, chemical plants, and other large industrial facilities, and, for the first time, controls on dry-cleaning establishments, auto paint shops, bakeries, and the like.

In addition, the Clear Air Act Amendments of 1990 will mandate a new round of emissions reductions for all cars and light-duty trucks, and

require enhanced vehicle inspection and maintenance programs, as well as the installation of vapor recovery equipment on gasoline pumps, reductions in tailpipe emissions, and the implementation of a program for the use of "clean fuels" such as reformulated gasoline, methanol, or ethanol. When fully implemented by 2005, those controls would add around \$19 billion to \$22 billion annually to the pollution control expenditures already in place. The economic benefits that would accompany the control measures—such as health and agricultural benefits from reductions in ozone and VOC concentrations—would be in the range of \$4 billion to \$12 billion per year.

Clearly, the cost of U.S. ozone abatement regulations exceeds the economic and public health benefits by a wide margin. That should not surprise, given that empirical studies comparing the costs of command-and-control programs with those of a more market-oriented regulatory structure indicate that the regulatory cost of command-and-control strategies is often several times that of more flexible regulatory approaches.

Market-based approaches employ economic instruments to take advantage of the large differentials in abatement costs among polluters—the main information problem confronted by regulators under traditional command-and-control approaches. Also, economic incentives encourage efficient and cost-effective consumer behavior and the development of more efficient pollution abatement techniques.

The source of the basic economic principles of environmental policy is in the theory of externalities. An attempt to provide a comprehensive description of the state of externalities theory is beyond the scope of this article, yet the policy implications of the theory are straightforward. Polluting agents are confronted with a "price" equal to the marginal external cost of their polluting activities to induce them to internalize at the margin the full social cost of their activity. Such price incentives can take the form of the well-known "Pigouvian tax," a levy on the polluting agent equal to the marginal social damage it causes.

The Vehicle Ownership Tax

Within that framework, there are three tax policy options. The first is to incorporate the "polluter

"pays" principle into the vehicle ownership tax. In Mexico, the vehicle ownership tax declines with the age of the vehicle—cars older than 10 years do not pay it. Raising the relative tax on the older and more polluting vehicles could stimulate vehicle owners to switch older vehicles for newer, cleaner models. The big political problem with that option is that the increased tax is regressive; those in the lower income strata tend to own older vehicles.

The Gas Tax

A second policy option is to raise the price of gasoline in order to reduce fuel consumption, thus discouraging vehicle use enough to meet the air quality standards. However, the taxing authority will find itself in the uncomfortable position of having to adjust and readjust the tax to ensure that the air standard is attained. After that, the tax has to be changed regularly to reflect the seasonal variations in the dispersive capacity of the airshed and longer-term variations due to population and income growth.

Taxing an input is a surrogate for taxing a polluting agent or activity itself when quantification of the actual pollutant emission is not feasible. Yet auto emissions are dependent upon variables such as fuel properties, combustion technology, and automotive upkeep. Taxing gasoline would therefore send an inappropriate signal, since the tax per unit of fuel would be the same whether particulate emission per unit was low or high, and could not be reasonably efficient without adjusting for weather conditions. Yet gasoline prices, set by the state-owned monopoly, are a significant part of the consumer price index and cannot, for political reasons, be adjusted frequently.

In addition, the gasoline tax would stimulate increasing suburbanization, as people would relocate to areas just outside of the reach of the taxing authority. Much of the reduction in fuel use could well be offset by commuter migration and attendant increases in vehicular miles driven per unit.

Electronic Road Pricing

The third tax option is an effluent tax on car emissions by electronic road pricing (ERP). Although that tax system is also subject to the process of trial and error in setting the appropriate tax level, developments in monitoring instrumentation, data processing, and mathematical

methods of control engineering have led to unprecedented improvements in real-time air pollution forecasting that have made it possible to set the appropriate fee faster and without undesirable effects.

Under the ERP option, the use of highways or main streets is taxed in order to reduce the level of congestion. Congestion charges make drivers aware of the costs they impose on other drivers. In addition, the policy could also be used to prevent or reduce other related forms of environmental damage. The tax could be set high enough to discourage the vehicles' use, thereby facilitating attainment of the air quality standards; it would also allow regulators to take into account peak-hour periods, seasons, and the relative emissions levels of various vehicle types. In addition, on the basis of a voluntary periodic motor inspection, the car could be given an emissions rating that represents a surcharge over the basic air pollution fee. That rating could be made valid for a certain period of time or certain number of kilometers driven within the area.

Since deterioration can be assumed in the absence of renewed inspection, that surcharge would be directly related to the time elapsed since the last tune-up. Under such a system, every driver would have an incentive to have frequent tune-ups in order to qualify for a low fee.

In a 21-month pilot test, from July 1983 to March 1985 in Hong Kong, ERP demonstrated its technical feasibility. The Hong Kong program used a method of automatic vehicle identification in which each vehicle had an electronic number plate. Whenever a vehicle passed over a toll site, scanners in the road identified the vehicle number plate as it passed and relayed the vehicle identification code to a main computer. The system sent a monthly bill to the driver. The Hong Kong system performed brilliantly. Average speed went up 10 percent, fuel savings increased by 9 percent, and emissions reduction improved by 17 percent.

Given the political uncertainties accompanying Hong Kong's return to China in 1997, it is not clear whether city-wide road pricing ultimately will be implemented there. However, the ERP test pointed the way for Hong Kong to solve its huge congestion problem. It also suggests the method by which Mexico City could solve its own traffic externality problems of congestion and air pollution.

ERP has important income distribution impli-

cations, given the fact that the low-income sector uses public transportation more than high-income groups. Toll revenues could be used to finance expansion and improvement of public transportation. The high-income sector would benefit as well, because the value of travel time is proportional to the wage rate, and if time savings are proportionate for everyone, benefits will rise with income.

Marketable Emissions Permits

Marketable emissions permits are, in principle, a fully viable alternative to taxes. Instead of setting the proper tax and obtaining the efficient quantity of pollution, the regulating authority could issue emissions permits equal in the aggregate to the efficient quantity and allow consumers to bid for them.

The regulating authority could set either the price or the quantity and achieve the desired result, but when it has imperfect information concerning the marginal costs and benefits, direct control over quantity is to be preferred, since the standard itself is prescribed in quantity terms. The academic literature tends to concentrate on marketable permits for stationary pollution sources, but the framework could be applied to mobile sources as well. The objective of the marketable permits system is to facilitate allocation of the permits to their most highly valued uses, given the limited dispersive capacity of the local airshed.

The regulatory authority would have to calculate the maximum number of use-days that would not violate the air quality standard, taking into account the age and technological composition of the fleet, as well as seasonal variability. However, in the effort to apply the concept of marketable permits to mobile sources, the regulating authority will lose ground on the cost side because of the complexity of the monitoring effort, given that use-days are not the only relevant variable.

The amount of permits in the market would have to be less than the absolute ceiling of use-days in order to allow for factors such as immigration, episodic control, and temporary sales. For the proper functioning of the program there also would need to be a secondary market in which permits could be purchased. The permit unit would probably be defined as one drive-day to use on any weekday. For example, one consumer with one vehicle could purchase five per-

mits for his vehicle in order to drive all weekdays (weekends are excluded). The permits held would be registered with the vehicle plate number. The consumer with more than one car could buy several drive-day permits for other family members.

In contrast with the passenger vehicle sector, the availability of substitutes for the use of commercial/industrial vehicles is more limited, and emissions factors vary significantly among those vehicles. Therefore, a numeraire would need to be established, and might be expressed as a light duty vehicle equivalent.

Another permit market for those types of vehicles would be necessary. The permit supply for such a market would be determined by the contribution of commercial/industrial vehicle emissions to the total vehicular emissions allowed to meet the air standards. The initial permit distribution among firms could be free and based according to their respective fleet sizes. Firms, public offices, and other institutions also could be eligible to get permit allotments based on size of payroll, tax status, or other valid proof, or they could bid for permits in order to provide them to some of their employees. Given that the number of permits held is linked with the license plate number, it would be easy for firms to find out the permit status of their beneficiaries and avoid unnecessary transfers. A private, computerized permit sales network or clearing house of permits would also be necessary, with an easily accessible network of terminals where any driver could buy and sell permits for a small service fee.

ERP's Superiority

From this description, the system seems functionally complex and labor-intensive. However, it could be operated using the technology that the ERP option employs; electronic sensors could be used to determine whether the number of drive-days corresponds with the number of permits the driver holds. Awkward, unwieldy methods such as coded decals or large display cards would no longer be necessary.

Under ERP, a separate permit market for commercial/industrial vehicles would also be unnecessary. Also, regulators would be able to circumvent the problems of differentiating among passenger vehicles according their relative emissions. The only cost-effective, permit-based alternative to ERP would be a system under which the allocation is made among vehicle manufacturers in order to comply with the aggregate emissions level.

Again, the concept of tradable permits only focuses on one variable, in this case on the relative pollution abatement equipment in the vehicle fleet sales. Thus, the tradable permits option represents only a partial solution with effects in the long run, and it does not deliver efficient price formation. The ERP, on the other hand, makes the whole concept of marketable permits for mobile sources irrelevant, given the multi-variable urban environment in which the pollution from mobile sources takes place.

Even though the bulk of emissions in Mexico City comes from mobile sources, it is industry and commerce that often have to curtail activities in times of pollution alerts. The failure of the NDD program has forced more of the adjustment onto that sector, increasing the cost to the economy.

In order to adopt cost-effective policies, the extensive body of literature about marketable pollution permits for stationary sources should serve as the guideline for industrial pollution abatement policy, in conjunction with the elimination of hidden subsidies to Mexico City's industrial sector.

Cost-effectiveness is the key reason for choosing ERP over tradable permits for mobile sources, but not the only one. Other considerations that operate in ERP's favor include information requirements, monitoring and enforcement capability by government and nongovernmental organizations, and political feasibility. The ERP approach is superior because its transaction and enforcement costs would be lower than those of a tradable permits regime. The problem is serious enough to demand the full use of all available technologies in an efficient way.

*Ramiro Tovar Landa
Economic Advisor to the Executive Secretary
Mexican Federal Commission on Competition*

Rat Day Afternoon

"I went into my garden in the backyard to pick the first generation of tomatoes," says Frank Balun of Hillside, New Jersey. "So many were mushy at the bottom. Something was eating them." Four days later, for killing a rat, Balun was facing a half a year in jail, \$1,250 in fines, and a media frenzy—Court TV, UPI, French jour-

nalists, the *New York Post*, "A Current Affair," and TV channels 2, 4, 5, 7, 9, and 11.

"I borrowed my neighbor's squirrel cage," explains Balun. "The second morning, I caught him in the garden: a large rat. I took him, still in the cage, and put him outside my kitchen door, and I called the Humane Society to pick him up."

Around 5 P.M. the truck from the Associated Humane Society in Forked River, New Jersey pulled up. "The rat is dead!" said the driver. "He was escaping," replied Balun. "His head was sticking out. He was trying to get away. I called my friend and he said the rat would wiggle out the rest of the way if his head was poking out."

"Danielle, my six-year-old granddaughter, was playing in the backyard," Balun explains, "so I had to act fast. I got my broom, wrapped newspaper around the handle, looked the other way, and I hit him on the head."

"You better get a lawyer," Balun was warned when he stopped downtown to pick up the squirrel cage at the Humane Society office on Humane Way. "I'm giving you two summonses," announced Lee Bernstein, executive director of the Associated Humane Society, "one for needlessly killing a rat and a second one for acting as a disorderly person." One is a civil violation, the other a criminal charge, both under New Jersey law.

"All hell broke loose," recalls Bernstein. "The photo of this man with a tomato chased O.J. off the front pages of the *New York Post*. The story went around the world. They were talking about the bubonic plague again, from the year 1400!" Balun received offers of free representation from six attorneys. Bernstein was deluged with calls. "If I'd set up a 900 number for people to vote for and against me, we could have funded the Humane Society for a year. Wild people were calling from Florida, saying Hitler was right."

The frenzy peaked one morning, Bernstein says. "It was in my yard, a little cross, seven inches by six inches, with a baby muskrat nailed to it. We have a lot of muskrats in town. The reporters were on the way—again! My wife's Hispanic. I told her to pretend she was the maid when she answered the door, to say no one's home."

Bernstein says the critics were ignoring his side of the story. "We owe a lot to the mouse and the rat," he argues. "If I make it until March, it'll be 13 years since my open-heart surgery. Nobody loves a rat, but I'm alive today because of mice

and rats."

"I'm a nice guy," says Bernstein, as he tells his fish story. "The law states that you can't abandon a domesticated animal. I got a call from a landlord because his tenants left their tropical fish behind. The fine on the books is \$250 to \$500 per animal. I made it only one count: \$250. There were nine fish in there."

"You can kill a rat with a snap trap, or poison it," explains Bernstein, "but you don't kill a rat after you trap it humanely." Balun's rat was in a Have-a-Heart trap. "Newark is the highest in the state in stolen cars," says Bernstein, a former member of Newark's City Council. "They've got Pit Bull fights every night. They throw the dogs off the dock at night to make them swim, to make them tough. There's a murder every other night. There's something wrong with this country, with all that's happening in this city, and these people are after me because of rats."

A few days before the trial the scuttlebutt on the street was that Bernstein wanted to drop the case. "A radio news announcement caught me by surprise on the way to work one day," says Judge Albert Parsonnet, the presiding judge in the case. "The news said that the Hillside Ratman was off the hook, but the law is clear that once a complaint is filed in the court, only the judge can determine the fate of the case."

Judge Parsonnet did his pretrial homework. The judge's brother, helping with the research, found something in the New Jersey fish and game laws—Article 3, "Dogs," section 23:4-25, which covers "dogs, running at large" and "carrying firearms into woods"—that might set the Hillside Ratman free.

Article 3, section 23:4-25, buried in its final words, says: "Any person going into the woods or fields with a firearm, except during the open seasons, for the taking of birds and animals as prescribed by law or by the Fish and Game Code, shall be liable to a penalty of \$20 for each offense; provided, however, that this section shall not apply to the killing of crows . . . woodchuck and vermin other than birds, which may be taken in any manner and at any time of the year when in the act of destroying poultry, crops, or property [Emphasis added]."

Another law, New Jersey statute 26:2-71 "Vermin," states that "all public places so far as the same may be practicable, shall be free from rats,

mice, roaches and other vermin." The public position of the Humane Society was that if Balun had delivered the rat alive in the cage, they would have taken it into the woods and set it free. "No," says Judge Parsonnet, "that's a violation of 26:2-71."

"Obviously," says Parsonnet, "Balun was the type of individual who would have difficulty killing even a rat, or he would not have called the Humane Society, but would have killed the rat himself. The laws of New Jersey did not intend to throw guilt on Mr. Balun in this situation."

It was Rat Day Afternoon on the day of Balun's trial. Judge Parsonnet cancelled his other cases for the day. The courtroom was packed, with Court TV on hand, wired to the international networks. The prosecution moved that the case be dismissed. They read a conciliatory poem, saying that they now fully understood that the "vermin was squirming".

Still, the defendant and his attorney stated that the defendant wanted a trial for "vindication." Judge Parsonnet explains: "This is an old, honored, classical right of the defendant who wants to state his innocence. The defendant doesn't want the public to think he got off on a technicality."

The case ended with some wise words from Judge Parsonnet: "In law, we must hold common sense high, above all," he said, his arm raised like the Statue of Liberty's. Applause rang throughout the courthouse. Yes, you can beat City Hall. "I thought I'd be known from then on as the 'Common Sense Judge,'" says Judge Parsonnet. "Instead, I'm known as the 'Hillside Rat Judge.'"

Individual liberty, common sense, and freedom from government harassment—that is the America the Statue of Liberty promised to the world. It is the America we knew not too many years ago, before the explosion of red tape, crazy lawsuits, and government busybodies. A nation free enough to trust a man to kill a rat in his own tomato patch.

Ralph R. Reiland
Associate Professor of Economics
Robert Morris College