1 Introduction

The Aim of Science is not to open the door to infinite wisdom, but to set a limit to infinite error.

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Shortly after he took office, President George W. Bush nominated Harvard professor John D. Graham to head the Office of Information and Regulatory Affairs within the Office of Management and Budget. Graham was known to be a strong advocate of using cost-benefit analysis to assess and reform environmental, health, and safety regulation. If, for example, the Environmental Protection Agency (EPA) proposed a regulation that saved 100 lives but at a cost of \$1 billion per life, Graham would oppose the regulation and encourage the EPA to craft an alternative that could save these lives at a much lower cost that was aligned with conventional estimates of the "value of life." Or if the National Highway and Traffic Safety Administration (NHTSA) proposed a regulation that forced automakers to adopt a specific technology to reduce fuel consumption but the resulting benefits were less than the increased costs to automakers of implementing the technology, Graham would oppose the regulation on the grounds that its social net benefits were negative.

To an economist, these positions are eminently reasonable. But some commentators and policymakers are outright dismissive of policy assessments based on cost-benefit analysis, apparently willing to substitute good intentions—or their own political agenda—for analysis. Indeed, Senator Dick Durbin's response to Graham's nomination was an op-ed in the *Washington Post* on July 16, 2001, entitled "Graham Flunks the Cost-Benefit Test," while Georgetown University law professor Liza Heinzerling expressed her views in the *Los Angeles Times* on July 19, 2001, with an op-ed entitled "Don't Put the Fox in Charge of the Hens."

Such refusals to acknowledge that government interventions can have costs as well as benefits raise a fundamental concern about whether U.S. government policy is truly enhancing microeconomic efficiency—that is, the degree to which our economic system meets the material wants, as measured by quantity and quality, of its members. Microeconomic efficiency, or Pareto optimality, is achieved when it is impossible to make one person better off without making someone else worse off. In theory, government policy seeks to improve microeconomic efficiency by correcting a market failure, defined by Bator (1958) as the failure of a system of pricemarket institutions to stop "undesirable" activities, where the desirability of an activity is evaluated relative to some explicit economic welfare maximization problem. Accordingly, a market failure can be defined as an equilibrium allocation of resources that is not Pareto optimal—the potential causes of which may be market power, natural monopoly, imperfect information, externalities, or public goods.

On what basis is one to conclude that a policy to correct a market failure is as successful as possible? The first consideration is whether government has any reason to intervene in a market: Is there evidence of a serious market failure to correct? The second is whether government policy is at least improving market performance: Is it reducing the economic inefficiency, or "deadweight" loss, from market failure? Of course, the policy could be an "expensive" success by generating benefits that exceed costs, but incurring excessive costs to obtain the benefits. Hence, the final consideration is whether government policy is optimal: Is it efficiently correcting the market failure and maximizing economic welfare?

Government failure, then, arises when government has created inefficiencies because it should not have intervened in the first place or when it

could have solved a given problem or set of problems more efficiently, that is, by generating greater net benefits. In other words, the theoretical benchmark of Pareto optimality could be used to assess government performance just as it is used to assess market performance. Of course, the ideal of a completely efficient market is rarely, if ever, observed in practice. From a policy perspective, market failure should be a matter of concern when market performance significantly deviates from the appropriate efficiency benchmark. Similarly, a government failure should call a government intervention into question when economic welfare is actually reduced or when resources are allocated in a manner that significantly deviates from an appropriate efficiency benchmark.

Economic theory can suggest optimal public policies to correct market failures, but the effect of government's market failure policies on economic welfare can be assessed only with *empirical evidence*. For more than a century, the primary market failure policies implemented by government have included antitrust policy and economic regulation to curb market power, so-called social regulatory policies to address imperfect information and externalities, and public financing of socially desirable services that the private sector would not provide. Initially, economists assessed these policies on conceptual grounds, culminating in Friedman's (1962) classic attack questioning government's role in almost all areas of economic life. Schultze (1977) was one of the first to systematically raise doubts about the effectiveness of government policies based on the limited empirical evidence that was available. Wolf (1979) introduced the term nonmarket failure to indicate some type of government failure and suggested that government failure may be of the same order of importance as market failure.

An additional thirty years of empirical evidence on the efficacy of market failure policies initiated primarily by the federal government, but also by the states, suggests that the welfare cost of government failure may be considerably greater than that of market failure. More specifically, the evidence suggests that policymakers have attempted to correct market failures with policies designed to affect either consumer or firm behavior, or both, or to allocate resources. Some policies have forced the U.S. economy to incur costs in situations where no serious market failure exists, while others, in situations where costly market failures do exist, could have improved resource allocation in a much more efficient manner.

Government failures appear to be explained by the self-correcting nature of some market failures, which makes government intervention unnecessary; by the short-sightedness, inflexibility, and conflicting policies of government agencies; and by political forces that allow well-defined interest groups to influence elected and unelected officials to initiate and maintain inefficient policies that enable the interest groups to accrue economic rents.

My negative assessment is not intended to suggest that all microeconomic policies are ineffective or to spur defenders of an active government to search for evidence of policies that work. My objective is to focus attention on how current policy, in broad terms, can be improved. This is not a futile exercise because in the past few decades government has become somewhat less inclined to pursue inefficient policies and has initiated some beneficial reforms. For example, U.S. policymakers are less likely today than they once were to try to correct a perceived market imperfection by instituting (counterproductive) price regulations such as milk price supports or oil price controls. Similarly, in some cases policymakers have enhanced economic welfare by withdrawing their market failure policy in favor of a market solution (for example, economic deregulation) and by designing a framework that makes effective use of market forces to reduce the inefficiencies caused by a market failure (for example, well-designed emissions trading programs). Further applications of and experiments with market-oriented policies to address externalities and public financing of socially desirable activities are likely to reveal that such policies are far superior to current policies at remedying market failures in an efficient manner.

Although researchers have identified serious flaws in other market failure policies, such as antitrust, patents, and certain information policies, the profession's empirical knowledge is too limited to permit confident suggestions about how policy in these areas can be significantly improved. Thus, additional research is clearly needed to help guide the formulation of appropriate policy in these areas.

Although my assessment and policy recommendations are based on a broad and thorough synthesis of the available empirical evidence on the economic effects of market failure policies, it is vital for the economics policy community—including researchers and policymakers—to continue the task of accumulating, building, and drawing on this evidence so that future policy debates do not have to begin from "square one." Over the past few decades, the profession has begun to understand which policies have been

successful and which have not, as well as why policymakers fail to pursue socially desirable reforms. The gap between the plethora of policies recommended by economists to correct market failure and mitigate government failure and the policies the government has pursued should only encourage—not discourage—the profession's efforts to assemble and disseminate a useful empirical base of knowledge about the performance of government's microeconomic policies. In isolated instances, public officials have shown the capacity to learn from economic research and improve their policies. A more comprehensive body of evidence should lead to much-better-informed action and, more broadly, to socially desirable outcomes.

The disappointing outcome of government's current microeconomic policies should be of great concern to everyone interested in public affairs regardless of political persuasion or occupation. By documenting government's performance and indicating how it can be improved, I hope to do more than set a "limit to infinite error."