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# The Clergy and Economists: Two Windows on Common Objectives

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Members of the clergy and economists form their understandings of the world by examining it through different windows. Yet, I argue that the differences between them, though important, are less than most believe. The social objectives of both are remarkably similar, even though their windows on the world suggest different approaches in achieving them. The differences in approaches also tend to get confused with differences in objectives. The hope motivating this article is that the clergy, by better understanding the economists' approach, will see the similarities in their objectives and recognize that their approaches for achieving those objectives are complementary.

## Introduction

There are important differences between the clergy and economists, though not as many as most believe. I shall argue that there is little to distinguish the clergy from economists on humanitarian grounds. Their worldly objectives are similar. The differences between them are in their emphasis on how to achieve their common objectives. These differences in approach are important and should not be understated, but neither should they be overstated as they almost always are. While the clergy and economists emphasize different paths to their common objectives, those paths complement each other. Yet, they are commonly discussed as if they represent morally irreconcilable differences in objectives because of a tendency to confuse means with ends.

My hope is that members of the clergy, in their desire to achieve a better world, will see economists as allies instead of as adversaries. This hope may be dismissed as preposterous by some because I argue that market incentives are the most effective way of achieving many of the social outcomes that most of the clergy favor. Those most opposed to market incentives for achieving desirable objectives have the most to gain by taking a look through the economic window presented here. Much of the skepticism, indeed hostility, toward markets is based on distorted and mistaken views of how markets operate and what they accomplish.

## Better Angels vs. Economic Incentives

Religious differences notwithstanding, most people respect the clergy for their noble objectives and effort to achieve those objectives by encouraging and celebrating the better angels of our nature mentioned in Lincoln's first inaugural address. Most approve of the clergy's concern with encouraging behavior such as sharing with, and serving the interests of, others; helping the poor; sacrificing for the good of the wider community; acting as good stewards of the earth's resources; being concerned with protecting the environment; and generally living a life that promotes social cooperation and harmony.

Such a claim on behalf of economists would be met with incredulity and probably derision. The common view is that they are primarily interested in money and financial success; more likely to celebrate economic competition than social cooperation, with little regard for those left behind; prone to see profit and private property as ends in themselves, with little regard for the unfortunate consequences that can result from their pursuit, including the harm imposed on the environment and future generations; and more concerned with how greedy individuals can secure more for themselves than with how they can share with, and promote the general well-being.

This view of economists, and their objectives, is a caricature. Like most caricatures, it may contain an ounce of truth, but it also contains several pounds of distortion. Economists are indeed interested in money, competition, profits, private property, and the influence of self-interest on human action, but they are interested in these things not as ends, but as a means of achieving more social cooperation, service to others, and better stewardship of the environment and our resources. The earthly objectives of economists are quite similar to those of the clergy.

To understand why this similarity in objectives is seldom recognized, we must recognize that the clergy and economists are looking at the world through different windows, and these different windows suggest different ways of reaching common objectives. Instead of the clergy and economists acknowledging that their views yield understandings that are neither completely correct nor completely wrong, they tend to become overly critical of the other's view and let that obscure many of their common objectives.

It is useful to consider two broad approaches to improving the world. The first is to improve people so that they do the right things out of a sense of moral duty. The second approach is to improve incentives so people are motivated to do the right things because it is in their interest to do so. A reasonable generalization is that the clergy emphasizes the former approach to improving the world, while economists emphasize the second. It is easier to see the connection between improving people and creating a better world than to see the connection between improving incentives and creating a better world. Furthermore, improving people has far greater emotional appeal than improving incentives. The result, I shall argue, is a tendency to confuse means and ends and to conclude that the clergy's objectives are both different and nobler than those of economists.

Consider Charles Dickens' *A Christmas Carol* published in 1843. In Dickens' story, Ebenezer Scrooge, "a squeezing, wrenching, grasping, scraping, clutching, covetous old sinner" ends up helping the Cratchit family and their crippled son Tiny Tim because Scrooge becomes a better person after being visited on Christmas Eve by the ghost of his former business partner and the three ghosts of Christmas. The emotional impact of *A Christmas Carol* has sustained its popularity for well over 160 years. Imagine if the story had been written by an economist. Scrooge would have remained the same "covetous old sinner," but he would have helped the Cratchit family because of an increase in the tax deduction for charitable contributions. What a touching story that would have been! It is easy to see the transformation of Scrooge in *A Christmas Carol* as a noble objective by itself. An increased tax break for charitable contributions is also easily seen as an objective but hardly as a noble or emotionally satisfying one.

While improving incentives lacks the sense of moral uplift provided by improving people, better incentives can, and often do, lead to a better world. For example, in the late eighteenth century, a large percentage of prisoners being transported from England to Australia on British ships were dying en route. Moral appeals to captains to transport prisoners more humanely had no noticeable effect on the death rate. Finally, a change in incentives was suggested—pay the ship captains on the basis of how many prisoners walked off the ship in Australia, instead of how many walked on in England. Implementing this recommendation resulted in an immediate drop in the death rate of prisoners being shipped to Australia, from as much as 37 percent to less than 1 percent on most trips.[1]

The point is not that improving the world by improving people is futile. Looking through their window may result in economists being too dismissive of the possibilities and benefits of improving people. Looking through their window may cause the clergy to be too dismissive of better incentives as a sorry substitute for morality improvement. A more reasonable view is that both improving incentives and improving people complement each other. This was recognized by Dennis Robertson, a colleague of John Maynard Keynes at Cambridge University (but not a Keynesian himself), who observed:

> There exists in every human breast an inevitable state of tension between the aggressive and acquisitive instincts and the instincts of benevolence and self-sacrifice. It is for the preacher, lay or clerical, to inculcate the ultimate duty of subordinating the former to the latter. It is the humbler, and often invidious, role of the economist to help, so far as he can, in reducing the preacher's task to manageable dimensions.[2]

In addition to Robertson's recognition that the clergy and economists have, in their different ways, joint responsibilities in working toward a better world, it is important to note that he also recognizes that human nature consists of both the acquisitive and the benevolent. This is an obvious point, noteworthy only because so many people assume that economists believe human behavior is motivated entirely by self-interest, or more pejoratively, greed. That is not true now, and never has been. Economists have always recognized that people are motivated by some mix of the narrow and the noble. Indeed, Adam Smith, who is often mistakenly dismissed as an apostle of greed, begins his first book, *The Theory of Moral Sentiments*, with the sentence (Smith [1982, 9]), "How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it."

Economists do commonly assume that people are motivated solely by self-interest to better understand what social institutions, and the incentives they embody, best motivate widespread cooperation among those who have no direct knowledge of, or concern for, each other. While this "economic man" assumption is useful as an analytical device, few economists believe he is commonly observed or hold him up as an ideal. As the late economist Ken Boulding (1969, 10) said, "No one in his senses would want his daughter to marry an economic man, one who counted every cost and asked for every reward, was never afflicted by mad generosity or uncalculating love.… Economic man is a clod." Most economists agree with Boulding's assessment. If ever someone needed improving, it is the economic man.

## The Economists' Window on the World

The connection between better incentives and better results is straightforward in the example of shipping prisoners. A more complete explanation of the benefits economists see from good incentives requires an examination of the social cooperation achieved in market economies. Market incentives are certainly not perfect, and are subject to improvement, but the same can be said for the efforts to improve people. What market incentives accomplish, admittedly in conjunction with ongoing efforts to appeal to our better angels, is truly impressive given the magnitude of the task we depend on them to perform.

Each of us benefit daily from the efforts of literally hundreds of millions of people from all over the globe, whom we will never know, but who cooperate with untold numbers of others whom they will never know, to provide us with almost everything we consume, and to provide it so reliably and conveniently and in return for so little effort on our part that we seldom realize, or take time to appreciate, what a blessing we are experiencing.

Economists do appreciate this blessing of social cooperation for a number of reasons, one of which is that we are concerned with reducing poverty. People can produce more wealth when they work together in mutually beneficial ways, and economists are convinced that the most effective way of helping the poor is by creating new wealth, not by redistributing existing wealth. This is not a blanket criticism of redistribution, but wealth has to be produced before it can be redistributed. Who can deny that the tremendous increase in the material welfare of humans over the last two hundred years, despite the huge increase in population, was possible only because of the enormous increase in the production of wealth?[3]

Economists have tried to understand and explain how untold numbers of complete strangers from all corners of the world have been able to cooperate in ways that have increased wealth by pushing back the limits of scarcity. The explanation is certainly not obvious. No matter how virtuous those who work for our benefit may be, we cannot rely on their concern for us to motivate their effort. It is their concern for themselves and their loved ones that primarily motivates them. Neither can others rely on our concern for them for most of the benefits they receive from our efforts. Even if somehow we all developed an abiding concern for multitudes of others, how would we acquire the information needed to best serve them, and how would they acquire the information needed to best serve us? Economists have developed a powerful explanation for the impressive social cooperation, clearly seen by anyone who cares to look, in terms of the communication and incentives of the marketplace.

The social cooperation we benefit from every day depends on a vast communication network that allows each of us to inform others how they can best serve us and how we can best serve them, with this communication motivating us to act *as if* we value the interests of others as we do our own. This may seem to assume a completely unrealistic level of technological sophistication and human virtue. In fact, it assumes neither. Market communication has existed as long as people have engaged in exchange (although it has been improved by expansions in the network of those exchanges and technological advances), and the use of the information communicated by markets for the benefit of others requires rather modest levels of virtue.

Understanding the cooperation of the marketplace begins by recognizing the informational role of market prices. Although seldom seen as such, market prices that emerge from the exchange of private property are one of our most effective ways for communicating vital information. The prices we face in the marketplace tell us the value of additional units of products to others and the value of the sacrifice others experience making those additional units of products available to us.[4] However, market prices not only communicate information on how our decisions affect others, they also motivate us to use that information to make choices that best serve the interests of others.

A few examples can illustrate the desirable social objectives that are seen by economists as being achieved through the information and incentives provided by market prices.

## Consumers Cooperating with Consumers

Assume that Canadians decide that they want to consume more bananas and would like Americans, and others around the world, to cooperate with them by consuming fewer bananas. Canadians could try persuading others to reduce banana consumption by communicating their consumption desires through e-mails, text messaging, or other state-of-the-art communication technologies. Far more effective communication, however, is the increase in banana prices resulting from the Canadians' increase in demand for bananas. In response to higher banana prices, people around the world will reduce banana consumption, acting *as if* each is saying, "Canadians are informing me that they now value additional bananas more than I do, so I will share with them by consuming fewer so they can consume more." Of course, no one is really saying or thinking this. Few, if any, will have any idea why banana prices went up in their neighborhood stores, or consider sharing bananas for the benefit of Canadians, or anyone else. The advantage of price communication is that it provides the minimum amount of information needed for people to best accommodate the interests of others and provides them with the incentive to do so. Market prices make it possible for people to simultaneously and harmoniously coordinate their consumption decisions on a multitude of goods.

No government agency could possibly keep current on the constantly changing information necessary to know how people could best harmonize their interests as banana consumers, much less do so for an untold number of goods. Assume, though, that an agency could obtain and constantly update all the necessary information, and immediately send out understandable directives to all consumers requiring adjustment in their consumption patterns. The responses would hardly be as harmonious as that motivated by impersonal market prices. Changes in market prices are the unintended consequences of the decisions of large numbers of people, none of whom are telling you what to do. Directives from government officials do tell you what to do and are far more likely to be taken personally and resented. Why should I reduce my consumption of bananas for the Canadians because some bureaucrat tells me to? Changes in market prices are not always accepted passively as occasionally seen with gas price increases when people blame them on oil companies and do take them personally. Such animosity becomes far more prevalent, and social harmony is reduced, when government directives are substituted for market prices.

## Producers and Consumers Cooperating with Each Other

Continuing with the banana example, the first ones able to respond to the desires of Canadian consumers for more bananas are other consumers. The higher prices, and profits, also provide banana producers with the information and incentive to serve the interests of consumers, both in Canada and elsewhere, by increasing banana production by way of competing productive inputs away from other employments. This expansion will continue as long as the market price informs suppliers that it is socially beneficial—as long as the price indicates that the value of additional bananas is greater than the cost of producing and shipping them to consumers.

At the same time, price communication motivates consumers to take into consideration the interest of producers. Assume, for example, that insects increase the discomfort workers experience when harvesting bananas. This will be reflected in higher wages for banana harvesters and higher prices for bananas. Once more, without consumers knowing why banana prices went up, they will respond to the higher prices in ways that consider the interests of others—including those harvesting bananas. Consumers will act *as if* they are saying, "Banana harvesters are communicating to us that the extra discomfort they experience making the last few bananas available is greater than the benefit we realize from those bananas, so we will reduce our banana consumption as long as the benefit to the harvesters is greater than our sacrifice."

Again, our banana example illustrates the type of social cooperation that is constantly taking place among literally billions of people, involving a multitude of goods and services, and made possible only by the information and incentives communicated through market prices.

## Producers Cooperating with Producers

Few products we use can be made from scratch by any one person or firm. Even the simplest products require the cooperative effort of many firms and individuals to cooperate. Consider a simple wooden pencil. As Leonard Read (1958) pointed out in a famous article, no one can make a standard wooden pencil. Its production requires workers and firms in many countries coordinating their use of a number of widely dispersed resources. Yet, pencils are so readily available at such low prices that they are commonly given away to advertise businesses and products. The complex network of global cooperation required to produce pencils, as well as far more elaborate products (such as automobiles, computers, televisions, compact disks, iPods, and cell phones) at costs almost everyone can afford, is possible only because of the information and incentives created by market prices. Those market prices, and the profits and costs they determine, inform suppliers where in the production chain of different products they can move to create the most net value and what provides the incentive for them to do so.

Unfortunately, for producers to cooperate in remaining responsive to constant changes in technologies, preferences, and general economic conditions to best serve consumers, they have to take actions that are commonly seen by members of the clergy, and many others, as socially unjust. For example, when technological improvement makes it possible to produce electronic calculators, consumers will communicate through market prices that the resources and workers being used to produce slide rules would now be more valuably employed producing the calculators. In response to this market information and incentives, slide-rule producers cooperate with producers of electronic calculators and consumers by laying off their workers and going bankrupt. It is *as if* slide-rule firms and their workers are saying, "We are not serving consumers as well as we would if we released our resources and labor to be used by other firms. So, we will go bankrupt and accept the loss of our current jobs to make it easier for other firms to better serve consumers by expanding their production." As before, this is not what firms and workers in unprofitable firms are actually saying. They do not want to go bankrupt or lose their jobs and would prefer a government subsidy forcing consumers to continue paying for their products (slide rules) through taxes. The advantage of the market is that without government policies overriding the interests of consumers, it is constantly conveying information to all of us on how to make the best use of our resources to serve others and then imposing the discipline to ensure that we do exactly that.

## In Defense of Economic Pain

No economist would claim that the wealth realized through market cooperation is all gain and no pain. Profits and losses are inherent features of market competition, and as Milton Friedman emphasized many times, the losses are as important as the profits. Those failing to use their resources to best serve others suffer losses as their resources and opportunities are competed away by those doing a better job serving others. The resulting bankruptcies, layoffs, and financial reversals are painful, and we all suffer that pain from time to time. This pain is easily seen, widely condemned, and invariably blamed on the dog-eat-dog callousness of the market. Economists are commonly criticized for condoning this economic pain and defending the market process that inflicts it. However, as seen through the economists' window on the world, the pain inflicted by markets is essential to communicating the information and incentives that create the social cooperation from which we all benefit.

While no one enjoys pain imposed by market competition, living in an economy that failed to impose that pain would be far worse. Living in such an economy has much the same disadvantage as living in a body that did not register pain. A few unfortunate infants are born without the ability to feel pain—a defect known as congenital analgesia. These children seldom live long, dying early from injuries they never feel or learn to avoid. As with physical pain, the economic pain imposed by markets informs people when they are making harmful economic decisions and motivates them to either correct those decisions or transfer the resources under their control to those who will make better use of them.

When governments go beyond moderate attempts to disguise the pain of market incentives their citizens suffer far greater pain from a general waste of resources.

Parents of a child with congenital analgesia would, if they could, move that child into a body that imposed pain. Similarly, when people can migrate across borders, the flow is overwhelmingly away from countries where authorities are aggressively attempting to suppress the pain of market incentives as parents move themselves and their children to countries where that pain is given freer rein.

### Economists Are Interested in Money

Economists are interested in the role of money in the economy because it is important to communicating the incentives economists believe serve to make the world a better place. Money is not of interest to economists as an end in itself, as common criticisms of economists seem to imply. Economists see money as a convenient claim on goods and services that facilitates the exchanges and from which market prices, denominated in money, naturally emerge. Money is then nothing more than the physical material that embodies those prices that communicate the information and incentives that economists see as creating more social cooperation, opportunity, and prosperity—the ends in which economists *are* very much interested.

## Letting the Motives Obscure the Accomplishment

Admittedly, the cooperation of the marketplace is not cooperation in the noblest sense of the word. Ideally, cooperation results from people working together for a common goal out of a genuine concern for each other. Market cooperation is motivated primarily by the various, and often conflicting, goals of many individuals who are far more concerned with themselves and their loved ones than they are with most of those with whom they are cooperating. This type of cooperation is not completely satisfying and does not even qualify as cooperation in the minds of many.

Economists can respond that surely it is preferable to realize the social benefits from global cooperation for reasons less exalted than universal goodwill than to realize them hardly at all. We can point out that even if we did achieve universal goodwill, it would be insufficient for anything more than the most limited cooperation. Even if everyone possessed a saintly concern for all, whether in distant parts on the globe or across the street, we would have little information on how to convert our concern into effective action without the information communicated by market prices. Such arguments, however, are unlikely to be persuasive to many. It is easy to take the benefits of market cooperation for granted, concentrate on what are seen as the base motives motivating those benefits, and dismiss the market process as unworthy. There is probably no completely effective way to combat this tendency.

My attempt in this article can be successful, however, without convincing market skeptics among the clergy to embrace the market process with enthusiasm. As indicated in the introduction and by the title, I hope, rather, to convince members of the clergy that economists want to achieve many of the same worthy objectives that they do, even though our means of doing so are different. The tendency for members of the clergy to concentrate on the means economists recommend (a tendency they share with many others) makes it difficult for them to recognize our common objectives. Consider two examples of ends that are universally to be considered noble being obscured when they are achieved by market means considered less than noble.

Almost everyone, including economists, favors protecting the environment by reducing pollution. Indeed economists have given considerable thought to achieving the social cooperation necessary to reduce as much pollution as possible for a given sacrifice in other things we value. Not surprisingly, they have concluded that creating a market in pollution reduction is more effective than having a government agency issue directions to polluters on how and/or how much pollution to reduce—an approach known as command and control. Creating a market in pollution reduction involves distributing, or auctioning off, enough transferable pollution permits to allow the discharge of the permitted amount of the pollutant under consideration. Those who can reduce pollutant at low cost find reducing it more profitable than buying permits, and they reduce a lot. Those who can reduce pollutant only at high cost will profit by buying permits and not reducing by much. The result is abatement patterns that achieve pollution reduction at far less cost (or achieves more pollution reduction for a given cost) than is achieved with commands and controls that tend to be applied uniformly on all polluters.[5] Yet, recommendations to reduce pollution through a market approach have met with resistance by many whose interest in reducing pollution cannot be doubted. The achievement of a cleaner environment at less cost is trumped by an aversion to the selfish motives that lead to the achievement.

Consider next the popularity of resource conservation. Almost everyone responds favorably to the idea of conserving our resources to ensure that they are available for future generations. Yet, few consider how much of a resource is desirable to conserve. Obviously, we should conserve a resource when it is worth less today than it will be in the future. It makes no sense to continue conserving a resource after it becomes worth more today than in the future. Even if we knew how much of a resource to conserve, how do we motivate people to conserve the desirable amount? Conservation requires current sacrifice, and the temptation is strong for people to hope others will do the conserving.

What few recognize, or appreciate, is that the most effective force for conserving resources is speculators communicating through and responding to market prices in search of profits. Speculators constantly anticipate how much resources will be valued in the future, and they buy those resources they believe can be profitably stored for later sale—those that are worth conserving. These speculative purchases drive up current prices, which motivates consumers to reduce their current consumption; for example, to conserve. While there would be little conservation without the incentives of higher market prices, and people universally claim they approve of conservation, most of them despise speculators as profit-seeking hoarders who drive up the prices of important resources. This negative view of the motives obscures, if not obliterates entirely, the desirable end being accomplished when those motives are directed by market incentives.

## Conclusion

I am not trying to convince members of the clergy to forsake the perspective from their window on the world and shift their allegiance to the economists' perspective. First, I could not succeed even if that was my purpose. People invest serious effort in achieving an understanding of the world, and this understanding, along with an accompanying belief system, provides a valuable sense of coherence and meaning to our lives not easily given up. Einstein recognized this value when stating:

> Man tries to make for himself in the fashion that suits him best a simplified and intelligible picture of the world. He then tries to some extent to substitute this cosmos of his for the world of experience, … he makes this cosmos and its construction the pivot of his emotional life in order to find in this way the peace and serenity which he cannot find in the narrow whirlpool of human experience.[6]

Just as I cannot imagine giving up my economic understandings, and the beliefs informed by them, I certainly do not expect to convince members of the clergy to give up their understandings and beliefs.

I have no desire to convince members of the clergy to shift their perspective to that provided by the economic view of the world. The window that informs the clergy is an important one. The clergy have insights and understandings that are useful in improving our lives and our world in ways that cannot be clearly seen, if seen at all, through the economists' window. By specializing in helping people improve themselves through spiritual and moral teachings, I believe the understandings of the clergy complement those of economists in achieving the noble objectives we have in common. My desire is to convince members of the clergy that they and economists really do share common objectives and have complementary approaches for achieving them.

When economists talk about such things as private property, exchange, market prices, money, and financial profits and losses, we honestly believe we are talking about social arrangements that make the world a better place—a more humane and prosperous place, where billions of people cooperate through a global network of communication, service, and sharing to reduce poverty, feed the hungry, care for the sick, protect our environment, conserve and expand our resource base, and promote a host of other noble objectives. Some members of the clergy, along with others, will disagree with this economic understanding of the world. However, do not conclude from this, as many do, that economists are not committed to achieving these noble objectives.

## References

Boulding, Kenneth E. "Economics as a Moral Science." *The American Economic Review* 59, no. 1 (March 1969): 1–12.

Navarro, Peter. "The Politics of Air Pollution." *The Public Interest*, no. 50 (Spring 1980): 36–44.

Pirsig, Robert M. *Zen and the Art of Motorcycle Maintenance*. New York: HarperTorch, 2006.

Read, Leonard. "I, Pencil." *The Freeman* (December 1958): 32–37.

Roberts, Russell. *The Invisible Heart: An Economic Romance*. Cambridge: MIT Press, 2001.

Robertson, Dennis H. *Economic Commentaries*. London: Staples Press, 1956.

Smith, Adam. *The Theory of Moral Sentiments*. Indianapolis: LibertyClassics, 1982.

Tietenberg, Tom. *Environmental and Natural Resource Economics*, 7th ed. Boston: Pearson Education, 2006.

## Notes

1. For a more detailed discussion of the effect of changing the incentives on shipping prisoners from England to Australia, see Roberts (2001, 267–68).
2. See Robertson (1956, 148).
3. One can make a host of arguments that the increase in wealth has come at great cost. Clearly, the additional wealth has been realized very unequally over the globe. However, few today, even among the poorest, would want to exchange their condition today for the working conditions, infant mortality rates, life expectancy, educational opportunities, and general level of comfort and convenience that existed at the beginning of the nineteenth century.
4. No one would argue that price information is perfect. There are often what economists refer to as externalities created in the production and use of products that are not reflected in their market prices—for example, the environmental costs from using electricity generated by a coal-fired plant that is external to the calculation of those producing and consuming the electricity. These problems invariably result from the lack of market exchanges that would require compensation for the harm being done—by the smoke in the electricity example. While it is theoretically possible for government to correct such externalities with regulation or taxes, government decisions are often distorted by their own externalities, as organized groups see political opportunities to secure benefits paid for by others. For example, government regulation of coal-fired plants has been used by eastern coal interests to protect themselves against competition from western coal at the expense of electricity consumers and the environment—see Navarro (1980). The information communicated by market prices does not have to be perfect to be extraordinarily impressive and far better at motivating social cooperation than any known alternative.
5. Numerous studies have estimated the ratio of the cost of reducing pollution with commands and controls to the cost of reducing it by the same amount with market approaches. The ratios vary, but they average a little over six in the representative studies cited in Tietenberg (2006, 380)—it costs a little over six times more to reduce pollution with command and control than with market approaches.
6. Cited in Pirsig (2006, 138).