

FRAMING ENVIRONMENTAL POLICY INSTRUMENT CHOICE: ANOTHER VIEW

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I. INTRODUCTION

In his innovative and interesting article, Kenneth Richards endeavors to offer a framework for understanding environmental policy choices. Though it is not entirely clear from his article, it appears that Richards views his contribution as providing a better understanding of the relative merits of alternative policy mechanisms for achieving environmental goals. Specifically, he appears to view the economics literature as focusing on a rather narrow criterion, production cost-efficiency, in evaluating alternative policy mechanisms.¹ Further, he observes that economic analysis is often used to support incentive-based policies and that the wide variety of actual policy choices made by public decision-makers suggests that a broader set of criteria are used in practice. Assuming, as Richards appears to do, that government decision-makers are motivated by social welfare maximization, these observations suggest some inherent flaw in the economics framework. This, in turn, appears to be Richards' primary rationale for developing a more comprehensive framework for analysis.

The development of such a framework appears to be the purpose of Richards' paper. A secondary purpose of the article appears to be a defense of the proposition that, contrary to the conclusions of most environmental economists, the alleged superiority of incentive-based policies over command-and-control regulation and government production is not sustained by a more complete analysis of social cost.

While we agree with Professor Richards that a better understanding of the full implications of alternative policy mechanisms, as

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1. See Kenneth R. Richards, *Framing Environmental Policy Instrument Choice*, 10 DUKE ENVTL. L. & POL'Y F. 221, 223, 228, 255-56 (2000).

well as the implications of legal and political factors that constrain policy choices, would be useful, it is not clear that the taxonomy proposed by Richards substantially contributes to that understanding. In some measure, his misunderstanding of the theoretical underpinning for the environmental economics framework drives his claims regarding the relative merits of his own framework.

This misunderstanding is not surprising. In economics, as in most disciplines, fundamental concepts that are well understood by most of those who work in the area are seldom reiterated in discipline-specific articles. Further, when these concepts are complex or highly technical, they are often glossed over in textbooks. For example, as we discuss below, Richards' statement that production costs are those "most commonly addressed in the environmental economics literature" is misleading when used to characterize the framework used by environmental economists.² If this characterization were accurate, it would certainly suggest that a more comprehensive framework is needed for policy analysis. However, it would be inappropriate to conclude that, because some economists may implicitly or explicitly assume away other factors, the economics framework itself is somehow defective and in need of replacement or reform.

There are many other points on which we respectfully take issue with Professor Richards. Space limitations prevent us from addressing all of these points. As a consequence, we will address only four points that we find most troubling. In the remarks of Part II below, we first address what we believe to be Richards' characterization of the framework used in economic analyses of policy alternatives and his ambiguity regarding the meaning of social costs. In Part III, we discuss his assumptions regarding the incentives and behavior of government decision-makers. Part IV is concerned with Richards' treatment of the distributional effects of pollution abatement, which we believe contains misleading statements that may inappropriately skew the policy debate. Finally, in Part V we address flaws in Richards' rationale for developing a new framework for policy instrument choice.

II. THE STANDARD ECONOMICS FRAMEWORK

In making his case that a more comprehensive framework is needed than that provided by environmental economics in order to fully analyze the social cost of environmental policy, Richards states:

2. See Richards, *supra* note 1, at 228.

[W]hat we observe is a plurality of instruments and combinations thereof that have steadfastly defied economists' and policy analysts' prescriptions However, there may also be normative justifications for choosing instruments outside the increasingly standard incentive-based dyad of taxes and marketable allowances. While those instruments may minimize the direct cost of producing environmental services, such as emission abatement, they do not necessarily minimize the *total social costs*. To see this, however, requires a reformulation of the standard evaluation criteria that are applied in most policy instrument studies and a broadening of the range of instruments under consideration.³

Here Richards appears to say that the standard economic analysis, and hence the framework used by economists, is inadequate for analyses that include all social costs.

The question that begs attention here is: exactly what is Richards using for a definition of social cost? This question involves much more than nit-picking about semantics. It is very difficult to maximize, even in concept, what you cannot define. It is also difficult to argue that one framework does a better job of capturing the essential components of social cost without knowing exactly what constitutes social cost.

In the economics literature, social cost has a very precise definition. Specifically, the social cost of a policy action is the aggregate net reduction in societal real wealth incurred as a result of that policy.⁴ This definition is based in the Kaldor-Hicks variation of the Pareto criterion.⁵

Simply put, the economics framework is founded on the concept of opportunity cost. Adoption of an environmental policy entails social sacrifices in a variety of forms, and any thorough economic analysis of a policy mechanism would require that *all* non-trivial sources of such sacrifice be included in the analysis.

Since Richards complains that economic analysis does not capture total social cost, he must be using a different definition. What is that definition? A specific definition is essential if we are to take seriously his view that his framework does a better job of reflecting total social costs.

3. *Id.* at 223 (emphasis added).

4. See Douglas M. Walker & A.H. Barnett, *The Social Costs of Gambling: An Economic Perspective*, 15 J. GAMBLING STUD. 181 (1999).

5. For a more detailed discussion of the topic, see Walker & Barnett, *supra* note 4. Implicitly, Richards asserts that the standard economics framework ignores many of the components of social costs. While that may be a fault in some specific analyses, it is misleading at best to say that economics itself as a framework contains this flaw.

Richards divides the costs of environmental policy into three components: (1) production cost (PC), (2) implementation costs (IC), and (3) public finance impacts (TX).⁶ Richards implies that the economics framework, stuck in a confining “dyad of taxes and marketable allowances,” deals only with production cost,⁷ and he uses this as evidence that an alternative framework is needed to include social costs that most economists overlook. While it may be the case that many environmental economists devote considerable attention to PC, perhaps to the exclusion of other components of social cost, it is certainly not the case that the economics framework includes *only* PC. The most frequently cited article, not only in environmental economics but in the entire economics literature, is the famous 1960 article by Ronald Coase, which is largely concerned with the importance of transaction costs in analyzing environmental policy.⁸

Because Richards shows himself familiar with portions of the economics literature, it is surprising that he would regard the “deviation between normative prescription and actual practice” as evidence that economists had neglected some aspects of social costs.⁹ Indeed, as Richards himself notes, many economists address issues related to transactions costs, public finance, double dividend effects, and legal or political constraints.¹⁰ The observed “plurality of [policy] instruments” has not “steadfastly defied economists,”¹¹ but rather supports economists’ contentions that politicians and government employees

6. See Richards, *supra* note 1, at 228.

7. See *id.* at 223.

8. See Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

9. See Richards, *supra* note 1, at 223.

10. There are literally hundreds of articles in the economics literature on these subjects. See, e.g., Coase, *supra* note 8; Alan Randle, *The Problem of Market Failure*, 23 NAT. RESOURCES J. 131 (1983); A. H. Barnett, *The Pigouvian Tax Rule under Monopoly*, 70 AM. ECON. REV. 1037 (1980); WILLIAM J. BAUMOL & WALLACE E. OATES, *THE THEORY OF ENVIRONMENTAL POLICY* (2d ed. 1988); Robert W. Hahn & Roger G. Noll, *Barriers to Implementing Tradeable Air Pollution Permits: Problems of Regulatory Interaction*, 1 YALE J. ON REG. 63 (1983); Robert W. Hahn, *A New Approach to the Design of Regulation in the Presence of Multiple Objectives*, 17 J. ENVTL. ECON. & MGMT. 95 (1989); Robert W. Hahn, *Economic Prescriptions for Environmental Problems: How the Patient Followed the Doctor's Orders*, 3 J. ECON. PERSP. 95 (1989) [hereinafter Hahn, *Economic Prescriptions*]; BLAIR T. BOWER ET AL., *INCENTIVES IN WATER QUALITY MANAGEMENT: FRANCE AND THE RUHR AREA* (Resources for the Future Research Paper R-24, 1981); Guido Calabresi, *Comment, Transaction Costs, Resource Allocation, and Liability—A Comment*, 11 J.L. & ECON. 67 (1968); Gardner M. Brown, Jr. & Ralph W. Johnson, *Pollution Control by Effluent Charge: It Works in the Federal Republic of Germany, Why Not in the U.S.*, 24 NAT. RESOURCES J. 929 (1984).

11. Richards, *supra* note 1, at 223.

are seeking ways to maximize their *own* well-being, often at the expense of society.

It is possible to read Richards' reference to the economics framework as referring only to the studies in his Table A1.¹² Thus, his "new framework"¹³ would not be an attack on the broader economic literature, but only on a narrow application of what is already present in that literature—*i.e.*, complete reliance upon an assessment of production costs in making a choice of instruments. However, if Richards' purpose were to say that those who employ only the production costs portion of the economics literature need to make broader applications of economics, it would have been simple enough for Richards to state as much. Instead, Richards seems to be proposing a substitute for the standard economics approach, contending that a new framework is needed because the old framework is somehow deficient. The grounds bolstering that less than charitable appraisal of the current framework are Richards' misstatements about social costs and other welfare economics concepts. In some instances, we might simply need scholars to do a better job of applying the existing framework.

Furthermore, using "new framework" terminology¹⁴ invites *ad hoc* analysis and vague criteria for policy advocacy. It may not be Richards' intent, but Richards' new framework could easily be used to rationalize command-and-control approaches where they are not warranted.

III. THE INCENTIVES AND BEHAVIOR OF GOVERNMENT DECISION-MAKERS

While complaining that the traditional economics framework concentrates on production costs to the exclusion of other relevant factors, Richards virtually ignores an extremely rich literature dealing with the incentives and behavior of government decision-makers. Richards assumes that bureaucrats are social welfare-seeking decision-makers, that government employees have the same incentives as those in private firms, and that the potential for government opportunistic behavior is limited to policies that allow a high level of discretion on the part of the firm.

12. *See id.* at 283.

13. *See id.* at 224 (referring to his own framework as "new" numerous times).

14. *See id.*

It is true that some of the environmental economics literature assumes a social welfare-maximizing government agent.¹⁵ However, the overall economics literature often assumes that policymakers and bureaucrats are individual welfare-maximizers.¹⁶ By virtually ignoring the distinct possibility that the government agent is not going to have the correct incentive to seek the public interest, Richards' framework leaves out an important aspect of policy choice. A policy that maximizes social welfare should create (as far as is possible) an identity of interests between the government agent and the rest of society.

Richards also introduces confusion by treating government as though it were a firm. Private firms usually structure their compensation schemes and monitor their employees so that there is an incentive for each employee or manager to seek the profits of the firm. Since Adam Smith, at least, it has been recognized that a free, competitive marketplace creates an identity of interests between the welfare-seeking merchant and the welfare-seeking customer. Government agents, however, have quite a different incentive structure.¹⁷ Because government agents cannot be motivated by a search for profits in a competitive marketplace and because they cannot be re-

15. See, e.g., William J. Baumol, *On Taxation and the Control of Externalities*, 62 AM. ECON. REV. 307 (1972); David W. Montgomery, *Markets in Licenses and Efficient Pollution Control Programs*, 5 J. ECON. THEORY 395 (1972); Paul B. Downing & William D. Watson, Jr., *The Economics of Enforcing Air Pollution Controls*, 1 J. ENVTL. ECON. & MGMT. 219 (1974); Thomas H. Tietenberg, *Transferable Discharge Permits and the Control of Stationary Source Air Pollution: A Survey and Synthesis*, 56 LAND ECON. 391 (1980); Hahn, *Economic Prescriptions*, *supra* note 10. We are not critical of these papers on this point. In much of the literature the focus is not on creating a framework for the analysis of all environmental policy, so it is understandable that this simplifying assumption would be made. However, if Richards is attempting in his paper to embrace more factors relevant to policy choice, omitting any discussion of this critical assumption is less justifiable. Policy choice should be informed by our assessment of how government agents respond to incentives.

16. Indeed, most textbooks on Public Economics and Public Finance analyze public decision-makers as welfare-maximizing individuals. See, e.g., JOSEPH E. STIGLITZ, *ECONOMICS OF THE PUBLIC SECTOR* 201-10 (2d ed. 1988); RICHARD E. WAGNER, *PUBLIC FINANCE: REVENUES AND EXPENDITURES IN A DEMOCRATIC SOCIETY* 15-42 (1980); JOHN F. DUE & ANN F. FRIEDLAENDER, *GOVERNMENT FINANCE: ECONOMICS OF THE PUBLIC SECTOR* 29-45 (6th ed. 1977); RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, *PUBLIC FINANCE IN THEORY AND PRACTICE* 121-25 (3d ed. 1980); JAMES M. BUCHANAN & MARILYN FLOWERS, *THE PUBLIC FINANCES: AN INTRODUCTORY TEXTBOOK* 18-26 (5th ed. 1980).

17. See, e.g., John Baden & Richard Stroup, *Natural Resource Scarcity, Entrepreneurship, and the Political Economy of Hope*, in *ECONOMICS AND THE ENVIRONMENT: A RECONCILIATION* 117, 132-33 (Walter E. Block ed., 1990) ("[Bureaucrats] are not selfless repositories of virtue and wisdom whose only mission is to advance the public interest. Bureaucrats appear to be approximately as self-interested as others, but they operate in an environment in which they are buffered and insulated from the negative consequences of their actions.").

sidual claimants, their activities may not have the same social welfare implications as those of a private firm.

Government's incentives concerning costs may not produce welfare-maximizing outcomes for society. For instance, government agencies may be budget-maximizers.¹⁸ Reducing costs to government, even if bureaucrats had the incentive to do so, may not minimize costs to society. If government solves Richards' cost-minimization problem, it is not minimizing society's costs, but its own costs.

Finally, Richards assumes unrealistic limitations on the potential for government opportunism. Richards does recognize "the potential for government opportunistic behavior" after firms have made specialized commitments pertaining to a particular emissions trading scheme,¹⁹ but he argues that command-and-control ("hierarchical") regulation will reduce the potential for this behavior.²⁰

What makes Richards think that the government will not behave opportunistically with command-and-control regulation, as he admits it might with mechanisms that allow discretion? At least tools allowing discretion on the part of the private firm allow the firm the flexibility to take some cost-reducing actions. In fact, the very ability of the firm to avoid certain specific investments may reduce the regulating agency's ability to act as opportunistically as it might with command-and-control regulation.

IV. ON DISTRIBUTION

In his treatment of the distributional effects of pollution abatement, Richards phrases things in a way which we find puzzling, though common outside of the economics literature. Specifically, he states, "[t]he firm must pay for its own abatement practices, but society as a whole continues to bear the costs of unabated emissions."²¹ Frankly, we find this loaded terminology leads to a mindset that obscures important social dimensions of the policy debate. Simply put, firms are owned by people, they employ people, and people buy the products produced by these firms. Hence, members of society pay abatement costs and members of society bear the costs of unabated

18. For a classic work on the subject of bureaucratic behavior and government performance, see William A. Niskanen, Jr., *Bureaucrats and Politicians*, 18 J.L. & ECON. 617 (1975). See also Jane Hannaway, *Supply Creates Demand*, 7 J. POL'Y ANALYSIS & MGMT. 118 (1987); STIGLITZ, *supra* note 16, at 201-10.

19. See Richards, *supra* note 1, at 262.

20. See *id.* at 263-64.

21. See *id.* at 238.

emissions. It may be politically useful to think of the issue as one of firms against people, but it is decidedly misleading and can bias policy debate in socially undesirable ways.

V. ALLOCATIVE VERSUS GLOBAL EFFICIENCY

Perhaps the single most puzzling thing in Professor Richards' article is the rationale he offers for developing a new framework for comparing alternative environmental policy instruments. Specifically, he notes:

While it is important to remember the *allocative efficiency* advantages of incentive-based instruments, there is also a reason that other, seemingly less efficient, instruments exist. Those reasons are not purely political or distributional. In some settings, instruments such as command-and-control regulation and government production may provide greater *overall economic efficiency* than their incentive-based counterparts.²²

The relative merits of incentive-based instruments aside, we must ask exactly what distinction Richards is making between allocative efficiency and overall economic efficiency. In the economics literature in general and the environmental economics literature in particular, "allocative efficiency" means that resources are allocated in a way that satisfies the Pareto conditions. Specifically, resources are allocated such that no reallocation of resources could make one person better off without harming at least one other person. In other words, no reallocation could produce benefits that exceed costs.

Of course, if specific distributions of wealth and income are assumed to have relative social merit and if these alternative distributions could be ordered according to their social desirability, it might be possible to distinguish between allocative and overall efficiency. However, Richards specifically states that his reasons "are not purely political or distributional."²³ If distributional and political considerations are ruled out, then the phrase "overall economic efficiency" must also mean that Pareto conditions are satisfied; and, hence, there is no meaningful distinction between allocative efficiency and overall economic efficiency.

It is certainly possible that, in some contexts, command-and-control regulation could achieve environmental goals at a cost no higher, or perhaps even lower, than that for incentive-based instruments (*i.e.*, command-and-control regulations could be efficient). For

22. *Id.* at 225 (emphasis added).

23. *See id.*

example, Hahn and Noll estimate that command-and-control regulations provide a least-cost strategy for achieving California emission standards for sulfates in Los Angeles.²⁴ However, this is a specific case that has nothing to do with any general properties of alternative policy instruments.

The importance of being clear about terms like economic efficiency is reinforced by a review of the sets of alternative evaluation criteria Richards gives in his Table A1. Criteria like *cost effectiveness*, *information requirements*, *monitoring and enforcement costs*, and *dynamic incentives* would all be components of any reasonable characterization of economic (allocative) efficiency.²⁵ All other criteria listed in Table A1 could be characterized either as distributional or political considerations.

The bottom line here is that Richards' rationale for a new framework for analyzing policy instrument choice appears to be based on a rather narrow interpretation and on an inadequate understanding of the standard economics framework. The old adage "if it ain't broke, don't fix it" appears to apply here, at least in some measure. While there may be deficiencies in the economics framework, it is not clear that the framework proposed by Richards would resolve any of them. Indeed, what seems to be required is not a new framework, but a broader understanding and more thorough application of the standard economics framework for policy choice.

VI. CONCLUSION

Time and space constraints preclude a more thorough discussion of other, less egregious errors or misleading statements in Richards' article. While we believe we understand the purpose of the article, it was difficult to ferret out. One who attempts to cover as much ground as Richards does in his article can suffer from a lack of focus. Regrettably, his diffusive approach leaves the impression that Richards has overreached himself.

Unfortunately, the content of Richards' article is lacking as well. In his effort to provide a comprehensive framework for policy choice, Richards has made several significant errors and has ignored rather important factors that heavily influence policy outcomes. First, he has mischaracterized the traditional economic framework and is am-

24. See Robert W. Hahn & Roger G. Noll, *Designing a Market for Tradeable Emissions Permits*, in REFORM OF ENVIRONMENTAL REGULATION 119, 144-45 (Wesley A. Magat ed., 1982).

25. See Richards, *supra* note 1, at 283.

biguous on the meaning of social costs and economic efficiency. Second, he has virtually ignored some of the problems of creating an identity of interests between the policymaker or bureaucrat and the public. In this regard, relevant economic incentive structures have been left out. Third, he has addressed the distribution of costs in a way that could easily lead to a misunderstanding about the sharing of costs between firms and “society.”

In general, the sort of contribution Richards is attempting to make here is entirely appropriate. Economists and others should welcome research that reveals an unduly restricted taxonomy or an inadequate representation of policy options. However, Richards' article displays at many points a misunderstanding, or omission, of key aspects of the existing body of economic thought. The standard economic framework—which Richards believes is incomplete, or not sufficiently comprehensive—possesses much more richness than Richards elucidates in his article.