

ESSAY

PERFORMANCE INDICATORS FOR NATURAL RESOURCE AND ENVIRONMENTAL POLICY: CONTRIBUTIONS FROM AMERICAN INSTITUTIONAL LAW AND ECONOMICS*

NICHOLAS MERCURO** AND MICHAEL D. KAPLOWITZ***

I. INTRODUCTION

Over the last four decades, a variety of legal movements and theories have evolved to make the study of law less autonomous and more open.¹ These several academic movements advocate different jurisprudential discourses and understandings of modern law, and have impacted public policy in different ways and magnitudes. Each movement writes and thinks about law and public policy differently; each maintains a different conception of the role of the State. Among the more dominant of these movements are the several schools of thought comprising Law & Economics.² Law & Economics has de-

* This paper draws on previous work. See Nicholas Mercurio, *Toward a Comparative Institutional Approach to the Study of Law and Economics*, in LAW AND ECONOMICS 1 (1989); NICHOLAS MERCURO, *ECOLOGY, LAW AND ECONOMICS* (1997); Nicholas Mercurio, *Relevant Output Categories for a Comparative Institutional Approach to Law and Economics*, in STEVEN G. MEDEMA, *ESSAYS IN HONOR OF WARREN J. SAMUELS* (forthcoming 2001). The authors would like to thank Steven G. Medema and David Schweikhardt for comments on earlier versions of this paper.

** University-wide Professor, Lyman Briggs School, Michigan State University. Ph.D., Michigan State University; M.B.A., Seton Hall University; B.A., Pennsylvania State University.

*** Assistant Professor, Dept. of Resource Development, Michigan State University. Ph.D., Michigan State University; J.D., Duke University; M.A., Johns Hopkins; B.S., Union College (NY).

1. See, e.g., Richard Posner, *The Decline of Law as an Autonomous Discipline: 1962-1987*, 100 HARV. L. REV. 761 (1987); Martha Minow, *Law Turning Outward*, 73 TELOS 79 (1987); GARY MINDA, *POSTMODERN LEGAL MOVEMENTS: LAW AND JURISPRUDENCE AT CENTURY'S END* (1995).

2. The use of the ampersand between "Law" and "Economics" connotes the collective schools of thought. For an overview of the several schools of thought that comprise the field of Law & Economics, see NICHOLAS MERCURO & STEVEN G. MEDEMA, *ECONOMICS AND THE LAW: FROM POSNER TO POSTMODERNISM* (1997).

veloped from a small and rather esoteric branch of research within both economics and legal studies to what is now a substantial movement that has helped redefine the study of law and help fashion public policy.

Law & Economics is not a homogeneous movement, but instead is composed of several traditions, sometimes competing and sometimes complementary. As Figure 1 illustrates, it includes: Chicago Law and Economics, Public Choice Theory, American Institutional Law and Economics, Neoinstitutional Law and Economics, the New Haven School, and Modern Civic Republicanism.³

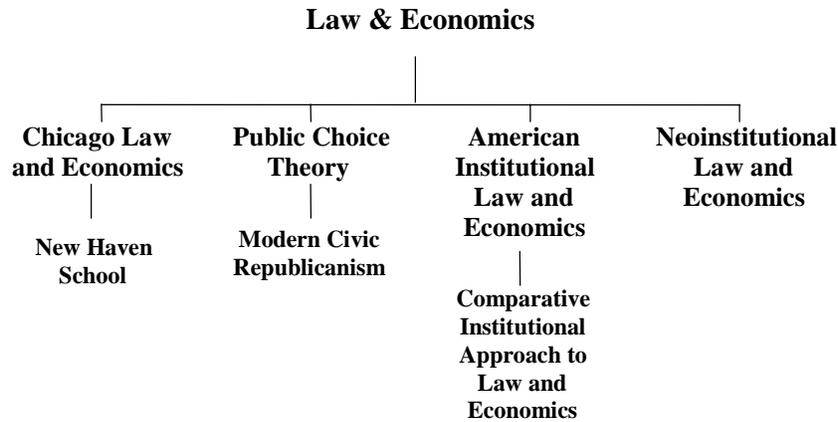


Figure 1: Schools of Thought in Law & Economics

The purpose of this article is twofold. The first is to set forth a comparative institutional approach for analyzing natural resource and environmental policy. Such an approach is consistent with the ideas and ideals that emanate from both institutional economics and American Institutional Law and Economics.⁴ The second is to sug-

3. The reader should not be confused by the titles “American Institutional Law and Economics” and “Neoinstitutional Law and Economics.” Neoinstitutional Law and Economics, like other Chicago-oriented schools of thought within Law & Economics, actively distances itself from the institutionalist perspective. For example, it is not unusual to see proponents of Neoinstitutional Law and Economics assert that “[Neoinstitutional law and economics] has little in common with the older Institutionalists, whose research extends back to the work of Commons and Veblen.” JOHN N. DROBAK & JOHN V.C. NYE, *THE NEW FRONTIERS OF THE NEW INSTITUTIONAL ECONOMICS* xv (1997).

4. See generally Steven G. Medema et al., *Institutional Law and Economics*, in *ENCYCLOPEDIA OF LAW AND ECONOMICS* (Boudewijn Bouckaert & Gerrit De Geest eds., 2000).

gest six performance indicators for use in assessing institutional alternatives and for informing choice with respect to natural resource and environmental policy.

However admirable it may seem to argue for maintaining the quality of the environment or for displaying concern over the dissipation of a nation's natural resources, few areas of public policy have produced conflicts of such a heightened magnitude within nations as well as between nations. One mechanism for channeling environmental conflicts and for informing choice is the use of what is termed here as a comparative institutional approach to public policy.⁵ Within this approach, society is perceived as a cooperative venture for mutual advantage where and when an identity of interests exists among actors. At the same time, society is an arena of conflict where there exists a mutual interdependence of incompatible claims or interests. The manner in which a society structures its political/legal institutions helps shape the character of life in that society. Thus, society structures its institutions in order to: i) enhance the scope of its cooperative natural resource and environmental endeavors, ii) channel internal natural resource and environmental conflicts toward resolution, and iii) institutionalize mechanisms for changing existing law and policy.

It is important to understand the role of individuals in a comparative institutional approach to public policy. They are assumed to take actions both individually and collectively. It is posited that individual actions are taken to advance individual interests or to advance individual or group perceptions of the public interest. The manifestation of one political/legal institution or structure of rights in a society over another in response to the natural resource and environmental issues confronting it—and the legitimacy of that institution or rights regime—can be interpreted, in part, as an expression (at the most fundamental level) of those who prevailed in the choice-making processes.

5. The need for a comparative institutional approach to legal-economic policy has long been recognized. Proponents of a comparative institutional approach, coming from somewhat different perspectives, include: Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960); Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1 (1969); Neil K. Komisar, *In Search of a General Approach to Legal Analysis: A Comparative Institutional Alternative*, 79 MICH. L. REV. 1350 (1981); NEIL K. KOMESAR, *IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY* (1994); Kenneth A. Shepsle & Barry Weingast, *Political Solutions to Market Problems*, 78 AM. POL. SCI. REV. 417 (1984); and Richard B. Stewart, *Crisis in Tort Law? The Institutional Perspective*, 54 U. CHI. L. REV. 184 (1987).

II. COMPARATIVE INSTITUTIONAL APPROACH TO ENVIRONMENTAL POLICY⁶

A. *Stages of Choice*

The selection or establishment of a specific set of institutions, and thus the character of life in a society, is the product of choice. What the field of American Institutional Law and Economics has to say about some of these matters is pertinent to a wide array of issues.⁷ However, the purpose here is to focus on natural resource and environmental issues and related public policy. Within the comparative institutional approach, attention is focused on three different stages of choice. First, it is necessary to describe and understand the emergence of the most basic social contract that binds people together. This can be termed the *constitutional stage of choice*. Second, it is necessary to describe and understand both the structuring and the revising (or restructuring) of political/legal institutional decision-making processes—the so-called *institutional stage of choice*. Finally, the consequent economic impacts of the legal relations governing society must be analyzed and understood—the *economic impact stage of choice* (see Figure 2).

1. Constitutional Stage of Choice

In order to understand the nature of the choices necessary at the constitutional stage, it is useful to start off thinking about a society in a conceptual state of anarchy. In such a state, individuals will contemplate the opportunity costs associated with the protective-defensive resource diversions that are necessary and essential for life under a system of anarchy.⁸ Once they recognize the potential prospects for improvement in the character of their economic life that would become possible by establishing a social contract or constitu-

6. The three stages of choice outlined here were originally presented in NICHOLAS MERCURO & TIMOTHY P. RYAN, *LAW, ECONOMICS AND PUBLIC POLICY* 13 (1984). They were later revised into their present form in NICHOLAS MERCURO, *LAW AND ECONOMICS* 1 (1989); and NICHOLAS MERCURO, *ECOLOGY, LAW AND ECONOMICS* (1997). For alternative formulations of the nexus among rights, institutions, and economic performance, see A. ALLAN SCHMID, *PROPERTY, POWER, AND PUBLIC CHOICE: AN INQUIRY INTO LAW AND ECONOMICS* (2nd ed. 1987); DANIEL BROMLEY, *ENVIRONMENT AND THE ECONOMY: PROPERTY RIGHTS AND POLICY* (1991); YORAM BARZEL, *ECONOMIC ANALYSIS OF PROPERTY RIGHTS* (1989); DOUGLASS C. NORTH, *INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE* (1990).

7. See generally Medema et al., *supra* note 4.

8. See Richard McKenzie & Gordon Tullock, *The Emergence of Social Order: Defining Behavioral Limits*, in *MODERN POLITICAL ECONOMY* 75, 75-91 (1978).

tion, they will enter into some form of social contract or will formally adopt a constitution. In establishing their constitution, the individuals will seek to spell out the behavioral limits of what is and what is not

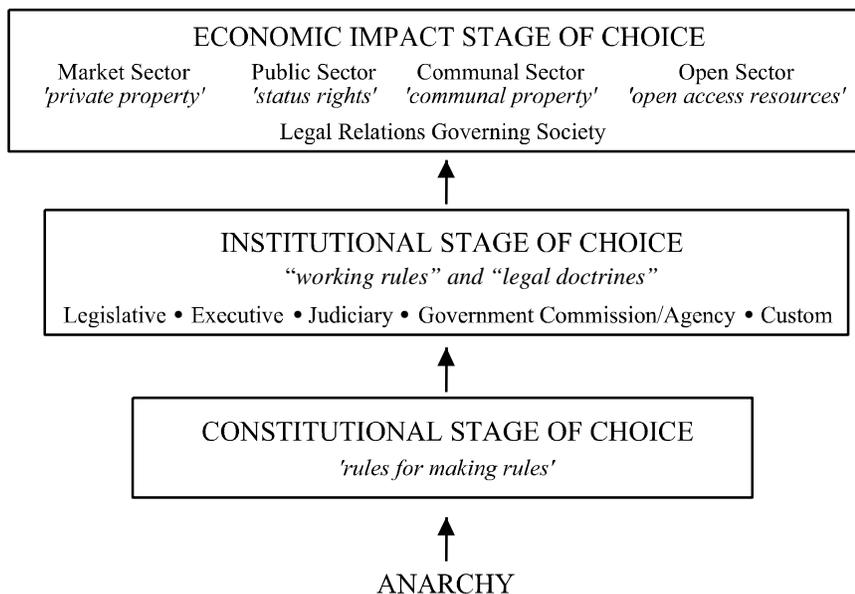


Figure 2: Stages of Choice

mutually acceptable conduct and to lay out the so-called *rules for making rules*. For instance, with respect to a nation's constitution, there is the issue of whether environmental protection is considered a fundamental right retained by the individual, thereby enjoying a protected status, or whether environmental protection is a mere goal or general statement of public policy.⁹

It must be noted that while the established constitution is typically thought to have only a subtle effect on the allocation and distribution of resources—particularly with respect to natural resource and environmental policy—that subtle impact cannot be ignored. Constitutions are not immutable: the methods by which constitutional rules can be revised are developed at this level of choice. The relationships among emergent institutions are partially resolved at the constitu-

9. This matter is fully explored in Ernest Brandl & Hartwin Bungert, *Constitutional Entrenchment of Environmental Protection: A Comparative Analysis of Experiences Abroad*, 16 HARV. ENVTL. L. REV. 1, 8-21, 81-98 (1992).

tional stage of choice. Which institutions finally prevail over others in making policy must be decided at this stage of choice, e.g, the decision to provide a system of checks and balances in the court's review of natural resource and environmental regulations or procedures.

The essential point to be understood is that whatever branches of government and institutions come to characterize a society, they owe their development, existence, and legitimacy to the initial choices made at the constitutional stage. Once the constitution is framed, it will then provide the basis for the emergence of a broad assemblage of legal-economic institutions that will more directly affect the allocation of resources in society, and with that, the ecological integrity of the many ecosystems that make up a nation's environment. The structuring of legal-economic institutions constitutes the institutional stage of choice.

2. The Institutional Stage of Choice

The institutional stage of choice focuses directly on the structure of the political/legal institutions (more commonly referred to as the *State*) as well as the revision of those institutional structures. The two core elements at this stage of choice are the fundamental *legal doctrines* and specific *working rules* of institutional decision-making processes. Legal doctrines evolve over time through legal decision making, whereas working rules (the decision-making processes of an institution) are formally worked out by the institution itself, often in the form of bylaws. Legal doctrines and working rules are partially established by the rules worked out at the constitutional stage of choice; they are also partially a function of the decisions of other institutions developed under complex procedures. Examples of the latter include a court decision which imposes certain restrictions or obligations either upon the decision-making processes of a legislative body regarding environmental statutes or upon the decision-making processes of a government agency regarding the regulation of natural resources.

Examples of subjects where the institutional choices to be made involve evolving legal doctrines include: i) the criteria for whom will be granted standing in a court of law in environmental disputes, ii) the criteria designating who may intervene in environmental litigation (e.g., *amicus curiae*), iii) the standards of admissibility for evidence in

environmental cases (e.g., *Daubert*¹⁰-type questions), and iv) the measure of adequacy of proof of causation in toxic tort cases. In these and many more instances, as with working rules, the evolution of legal doctrine impacts a nation's natural resources and environmental integrity.

Individuals also attempt to establish or revise working rules in the executive, legislative, and judicial branches and government agencies. Examples of areas where changes are sought in working rules, include: i) the scope of natural resource or environmental policy actions that come under the doctrine of executive privilege, ii) the rules of court, and iii) the rules for determining legislative committee structures, i.e., regarding which committee will oversee the nation's natural resources and under what rules for chairing (agenda control) and serving (participation). The area generating perhaps the most potential impact, however, concerns the working rules of government agencies and commissions overseeing natural resources and environmental protection, of which there are several examples. One such example would be the administrative rules that determine the role of intervenors at environmental hearings. Another example would be the methods or procedures by which environmental standards or criteria are set by such federal agencies as the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), and the Department of the Interior (DI)—for instance, how the EPA determines which chemicals or pollutants cause cancer; how the EPA establishes specific environmental criteria or standards for allowing “green labeling” of consumer products; and, whether and to what extent the DI will set in place regional advisory councils to establish grazing regulations on public lands. These are all changes in working rules that impact natural resources and environmental quality.

From a policy standpoint, the primary difficulty in promulgating working rules lies in trying to design legal-economic institutions that provide decision-makers with an incentive structure to channel behavior, such that environmental externalities are internalized and extraction of natural resources is controlled. In the simplest of terms, “all bureaucracies are not created equal.” With respect to the fashioning or the redesigning of working rules and legal doctrines, much work remains to be done to identify which institutional structures en-

10. See *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589-95 (1994) (setting forth a four-factor test for admissibility of expert testimony under Federal Rule of Evidence 702).

hance the efficiency of legal institutions to accomplish their stated natural resource and environmental goals. The extent to which the institutions can be so structured will directly affect a nation's natural resources and the integrity of its environment.

Just as constitutions are not immutable, legal institutions are not set in stone; they are themselves a response to economic needs. As such, they can, and do, undergo structural revisions. Changes in legal doctrines or the working rules of legal institutions will change the decision-making processes of those institutions and may alter the institutional choices that directly impact the extant structure of property rights. A full appreciation of the relationship between legal institutions and the structure of property rights is fundamental to understanding natural resource and environmental policy. Such an appreciation is best gained through a discussion of the four property rights regimes that comprise the economic impact stage of choice. At this stage of choice, we see the most prominent interface between economics, law, and natural resource and environmental policy.

3. The Economic Impact Stage of Choice

Conceptually, it is useful to begin with the notion of four distinct property right systems for organizing and controlling the allocation of society's scarce resources: the market sector, the public sector, the communal sector, and the open-access resource sector.¹¹ Initially each sector is treated as if it exists separate and apart from the other sectors. As will be seen, typically, all four systems operate contemporaneously to allocate resources.

a. The Market Sector

In the pure market sector, all property rights are held privately as bundles of fee simple absolute rights. According to the conventional legal-economic definition of property rights, that which is owned by individuals is not goods or resources but the rights to use goods and resources. Armen A. Alchian and Harold Demsetz have stated, "What are owned are socially recognized rights of action."¹² Thus—as outlined by Tom Tietenberg—in the pure market sector, property rights must have four characteristics.¹³ They must be:

11. See BROMLEY, *supra* note 6, at 21-34.

12. Armen A. Alchian & Harold Demsetz, *The Property Rights Paradigm*, 33 J. ECON. HIST. 16, 17 (1973).

13. See TOM TIETENBERG, ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS 41 (4th ed., 1996).

- *Universal*—all resources are privately owned and all entitlements completely specified.
- *Exclusive*—all benefits and costs that have accrued as a result of owning and using the resources accrue to the owner—and only to the owner—either directly or indirectly.
- *Transferable*—all property rights are transferable from one owner to another in a voluntary exchange.
- *Enforceable*—property rights are secure from involuntary seizure or encroachment by others.

With this structure of private property rights established by the individuals in a society, acting through their institutions and with the market as the system of social control, it is then possible for individuals to further enhance their welfare by specializing and engaging in exchange through trade. The process of trade is conventionally viewed as a purely voluntary endeavor and, as characterized here, it is what transpires in the private market-sector. The voluntary nature of this market process is such that no individual will engage in a trade that leaves him worse off. The final allocative outcome will be arrived at once all the gains from trade have been exhausted in both exchange and production. Thus, barring externalities and the problem of public goods, and given a set of private property rights structured as above along with some initial distribution of rights, one can expect—consistent with the duality theorem—a market outcome that provides a Pareto-efficient allocation of resources.

b. Public Sector

The public sector is another arena for organizing and controlling the allocation of resources in a society. In this idealized sector, the allocation and distribution of all resources will be determined by the State. That is, in response to the individuals who comprise the society, the legal-economic institutions will define and assign *status rights*, which are, in effect, eligibility requirements for individuals to gain access to goods and resources.¹⁴ Status rights are rights to goods and resources that are exclusive, nontransferable, and are provided to individuals at the discretion of either the local, state, or federal level of government (or some combination thereof). Thus, the provision of status rights may be conceived of as “government provision” in its broadest sense. As such, political-legal institutions are conferred with

14. For an exposition of how status rights were originally developed and presented, see John H. Dales, *Rights and Economics*, in PERSPECTIVES OF PROPERTY 149 (Gene Wunderlich & William L. Gibson, Jr., eds., 1972).

the authority to make a wide-ranging spectrum of decisions giving rise to a vast array of status rights.

With the public sector as the system of social control, the emergent structure of status rights has a direct impact on the allocation of society's natural resources and its environmental integrity. However, unlike the market-sector resource allocations, the public sector possesses no spontaneous mechanisms for ensuring that decision-makers will formulate public policies that are economically efficient. This problem is partially offset by the extent to which public-sector decisions are based on benefit-cost calculations—in such cases, public sector decisions can be said to approach a Kaldor-Hicks efficient allocation of resources.¹⁵

c. Communal Sector

Individuals in a society, acting through their legal-economic institutions, may decide that commodities or resources will be communally owned (*res communes*). In essence, common-property resources are private property owned by a group of co-owners. Under communal ownership, a group of individuals would have the rights to use and transfer the resource. Typically, a management group oversees the manner in which the resource can be used and reserves the right to exclude nonmembers. Depending upon the group rules used to manage the resource, communal property may result in an efficient allocation of resources.¹⁶

d. Open-Access Resources Sector

Finally, individuals in a society, acting through their legal-economic institutions, may decide that commodities or resources will be owned by no one—equally available to all (*res nullius*)—and thus, will belong to the party who first exercises control over them. In this case there are no property rights attached to the resource. The resulting open-access allocation of the resource would only be allocatively efficient if supply exceeds demand at a zero price. If supply

15. Kaldor-Hicks efficiency—the so-called *compensation principle* in economics—implies that society should adopt those legal changes if a) the gainers from the change could have compensated the losers for their loss and still have remained better off themselves; and b) the losers from the exchange could not have compensated the gainers for their foregone increase in welfare without themselves becoming worse off than in the original situation. For a straightforward analysis, see CATHERINE M. PRICE, WELFARE ECONOMICS IN THEORY AND PRACTICE 27 (1977). For a more detailed explanation, see ALLAN M. FELDMAN, WELFARE ECONOMICS AND SOCIAL CHOICE THEORY (1980).

16. It has been noted that in the absence of authoritative enforcement of the 'group rules,' the allocation of the resources under common property (*res communes*) may well degenerate into an open-access (*res nullius*) state of overuse. See BROMLEY, *supra* note 6, at 27.

does not exceed demand at a zero price—and society nonetheless retains the resource in open-access—the natural resource or environmental sink will be overused.¹⁷

e. Examples

It is at the economic impact stage of choice that individuals work to revise property rights, and in doing so, ultimately alter (perhaps only incrementally) the relative scopes of the sectors in the society—market, public, communal, and open-access. It is important to understand that the nature of the choices made at the economic impact stage of choice is quite different from the nature of those made at the institutional stage of choice. Here individuals do not alter legal doctrines or working rules, but rather work to alter property rights—thereby directly influencing the size, scope, and decisions in the private, public, communal, and open-access sectors.

For example, individuals or groups may work to: i) determine which resources will be directly under the State's supervision via status rights—e.g., more or less wilderness area; more or less wetlands; more or less mining, ii) to have a parcel of land designated as “private property,” with use thus dictated by the individual owners in the market sector, iii) change a status right eligibility requirement enabling a firm to extract more or less of a natural resource from state-owned land, and iv) define status rights through various public-sector actions—e.g., individuals may take advocacy positions at legislative hearings; comment on administrative matters on natural resource or environmental policies; or press claims through litigation. Other examples at the economic impact stage of choice include actions to: v) ease or firm up the expedited permit procedures used by developers to drain wetlands, vi) enhance or diminish the scope of residential, commercial, and industrial zoning restrictions, vii) lobby to have a parcel of land declared an open-access resource, viii) change open-access fishing rights in a particular area to a communal rights regime, ix) reassign water rights (e.g., assign the right to an upstream chemical firm to allow discharge of residuals into a stream, or conversely, assign the right to unpolluted water to downstream users), and finally, x) compel environmental commissions to either closely monitor and strictly enforce standing environmental laws or to rarely monitor and loosely enforce the same laws.

17. See generally Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968).

B. *The Complex Legal-Economic Arena*

Societies do not participate in the various stages of choice in a static or isolated way. It is not uncommon for members of society to revisit or urge others to revisit previous decisions made at the various stages of choice. In addition, Western societies are typically structured so that the character of life is determined by all four of these systems of social control—the market sector, the public sector, the communal sector, and the open-access sector. The relative scope and substance of each of the systems of social control is the result of a collective determination of those who prevailed in choice-making processes in the political/legal economic arena. Figure 2 displays the integration of the three stages of choice—the constitutional, institutional, and economic impact stage—with the market, public, communal, and open-access resource sectors. Members of society, in attempting to promote economic growth and development—as well as in their attempt to enhance environmental quality and protect natural resources—can act both individually and collectively to reshape the ultimate character of economic life and the natural environment within which they live. They do so through recognition that neither the constitution, the legal doctrines and working rules, nor the rights structures are immutably fixed, but are truly a response to economic needs and can be modified in response to changes in those needs. The essential point to be stressed is that in pursuit of a wide variety of goals—be they economic, environmental, or of any other variety—participants in the political/legal economic arena will establish a constitution so as to avoid the pitfalls and inefficiencies of anarchy, will set in place legal doctrines and working rules for the structuring their legal-economic institutions, and will configure private property rights, status rights, communal rights, and open-access resources—thereby creating the private, public, communal, and open-access resource sectors, respectively.

III. PERFORMANCE INDICATORS

The analysis of law and public policy may be undertaken at any one of the three levels of choice—constitutional, institutional, and economic impact. The underlying logic suggests the following line of reasoning:

$$\begin{aligned} \Delta \text{ law / legal doctrine / working rules} &\rightarrow \Delta \text{ incentive structure} \rightarrow \\ \Delta \text{ institutional behavior} &\rightarrow \Delta \text{ economic performance} \rightarrow \\ \Delta \text{ natural resources \& environmental quality.} \end{aligned}$$

The comparative institutional approach within the American Institutional Approach to Law and Economics focuses on describing the interrelationships between economics and the law. It attempts to describe the full array of impacts of alternative institutions, different legal arrangements, and alternative public policies and to articulate whose interests will be served and at whose expense. To fully inform choice, evaluation of alternatives ought not be done solely in terms of economic efficiency, but rather ought to include other performance indicators that, in the aggregate, tell us something of the total character of economic life. The goal, to the extent possible, is not normative judgment, but rather description. Achieving that goal constitutes a reaffirmation of, and staying within, the positive, descriptive domain of American Institutional Law and Economics. By articulating the outcomes of the alternative institutional arrangements available to society, the comparative institutional approach fleshes out what is going on in the legal-economic nexus and identifies the factors and forces at work in the ongoing social construction and reconstruction of the legal-economic reality.

Presented are six performance indicators in order to more fully assess the outcomes of alternative institutional arrangements. The authors are well aware that many of these performance indicators are difficult to quantify and that some indicators may complement each other, while others involve making difficult tradeoffs. In addition, the authors forewarn the reader that no single performance indicator by itself is useful in the abstract—each one is built upon certain antecedent normative premises that, at a very deep level, determine whose preferences count.¹⁸ Consequently, any suggested set of performance indicators (including those offered here) encompass the antecedent normative premises of the selectors (authors) and represent their convictions as to what is important in assessing legal change for both the character of economic life and the environment. With these caveats, the six performance indicators expounded below adopt the ideas and ideals that emanate from both institutional economics and American Institutional Law and Economics. The authors are persuaded that better informed choices can result from the use of these indicators.

This section on performance indicators will begin with a discussion of the rule of law. In order to preserve the generality of the arguments set forth below, the discussion of the rule of law will be ab-

18. See SCHMID, *supra* note 6, at 242-43.

stract in nature. It is simply too cumbersome, as well as restrictive of the scope of the argumentation, to recast every argument about “the rule of law” into arguments about “natural resource and environmental law.” While the discussion of the rule of law is cast in terms of “the law,” virtually every point made generally about “the law” and about calls for continuity of the “legal order” can be made for “natural resource and environmental law and policy.” The discussion of the remaining five performance indicators, however, does incorporate environmental and natural resource examples.

A. *Rule of Law/Continuity*

Legal change obviously alters the legal order. As Ronald H. Coase has reminded us, in contemplating institutional change “*uncertainty about the legal position itself*” must be taken into account.¹⁹ The underlying rationale for the stated concern is that a society needs a system of law (including natural resource and environmental law) that provides them a stable pattern of expectations. So structured, this allows people to plan their economic affairs with reasonable confidence so that they can know in advance the consequences of their choices. Society’s quest for legal order and continuity can be understood at two different levels that have been identified by legal scholars—the meta level and the object level.²⁰ As will be evident under the discussion of the efficiency and equity performance indicators, vague calls for continuity of the legal order obfuscate the nature of the choice to be made. The collective and fundamental question remains: which legal order and whose continuity should be preserved?

1. Meta Level

The rule of law at the meta level is comprised of the system-defining rules which establish the very definition of the legal system itself. In comparative institutional approach terms, what transpires at the meta level is analogous to the various machinations that take place at the constitutional stage of choice or in the framing of a social contract. The conventional expression of the rule of law carries with it the notion that the law should be controlled by known rules that prevent arbitrariness; in effect, the rule of law embodies the requirement to make rule-governed reliability and predictability as pervasive

19. See Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 19 (1960) (emphasis added).

20. See, e.g., Jean Hampton, *Democracy and the Rule of Law*, in *THE RULE OF LAW* 13, 25 (Ian Shapiro ed., 1994).

as possible within the legal order.²¹ A legal system is said to satisfy the requirements of the rule of law if its commands are: 1) clear and general—i.e., specific yet independent of the status of particular individuals or groups), 2) accessible, knowable, and prospective—i.e., publicly promulgated with all changes to exert only future effect, and 3) performable—i.e., clear nexus exists between enacted law and the pragmatic possibility of individuals being able to exercise it.²²

The conventional notion notwithstanding, the response to the question “what is the rule of law?” is still far from obvious. One response, by George P. Fletcher, is that “we are never quite sure what we mean by the rule of law;”²³ a reply consistent with Richard H. Fallon’s observation that “the precise meaning of the rule of law may be less clear today than ever before.”²⁴ As Fallon points out, “although agreement on these elements establishes the rule of law as a shared concept, many of the operative terms are vague.”²⁵ Wolfgang Friedmann also argues that there is no one interpretation of the “rule of law.” To this end, Friedmann has observed that

the rule of law means to one the absolute integrity of private property, to another the maintenance of private enterprise, free from state control and official regulation, and to another the preservation of the ‘right to work’ against the power of the unions to determine conditions of labor. To some, the rule of law means a minimum of administrative power whereas to others it means, on the contrary, assurance by the State to all of minimum standards of living and security.²⁶

At the meta level, different conceptions of the rule of law evoke different manifestations of the legal order and corresponding calls for continuity. Fallon describes four different types or conceptions of the rule of law: a) the historicist ideal, b) the formalist ideal, c) the Legal Process ideal, and d) the substantive ideal.²⁷

21. See ROGER COTTERRELL, *THE POLITICS OF JURISPRUDENCE* 112, 144 (1989).

22. As described by Richard Flatman, the dominant concern of those scholars writing on the rule of law (such thinkers as Plato, Aristotle, Montesquieu, Hayek, Rawls, Fuller and others) “has not been with the question whether or how much governance there should be, but rather with preventing arbitrariness and other misuses of political authority and power.” Richard Flatman, *Liberalism and the Suspect Enterprise of Political Institutionalization: The Case of the Rule of Law*, in *THE RULE OF LAW*, *supra* note 20, at 302.

23. See George P. FLETCHER, *BASIC CONCEPTS OF LEGAL THOUGHT* 12 (1996).

24. See Richard H. Fallon Jr., ‘*The Rule of Law*’ as a Concept in Constitutional Discourse, 97 *COLUM. L. REV.* 1, 1 (1997).

25. See *id.* at 4-5.

26. See WOLFGANG FRIEDMANN, *LAW IN A CHANGING SOCIETY* 501 (1972).

27. See Fallon, *supra* note 24, at 10-24.

a. Historicist Ideal

The historicist ideal of the rule of law promotes the notion that the political legitimacy of the law and adjudication hinges on the historically understood meaning of past political decisions. That is, the legitimacy of the law is founded in the fact that a clear and unambiguous nexus exists between the law's substantive content and the past actions of decision-makers who at all times—under historically established norms—possessed legitimate law-making power and were held publicly accountable. Under a historicist ideal, constitutional law and legal meaning would be fixed as determinately as possible, either through “original understanding” or through the implied “intent of the drafters and ratifiers.” Accordingly, through originalist interpretation, judges are able to rule based on “known” law rather than by “creating” law through case-specific adjudication. The historicist ideal achieves democratic legitimacy by promoting democratic acceptability and accountability. In part, this is accomplished by eliminating judicial arbitrariness, obliging judges (as well as ordinary citizens) to adhere to the laws, rules, and norms laid down by legislative lawmaking authorities prior to their application to particular cases.

b. Formalist Ideal

The formalist ideal of the rule of law requires that the law be generally and rationally understood to mandate particular conduct or outcomes; the legal rules must be formulated as a clear prescription and must be antecedent to any application. The formalist ideal endorses known rules over loosely defined standards or multi-factor balancing tests. The emphasis is on form, not substance. As a consequence, the legal rules provide maximally effective guides to behavior and ensure that judges and other government officials are bound by laws. Further, there must be clear lines of responsibility between the legislature and the judiciary. In this setting, adherence to the formalist conception of the rule of law would yield clear, rule-like results from both environmental statutes and constitutional directives (when properly read). That is, appropriate conduct and legal outcomes would ensue.

c. Legal Process Ideal

The Legal Process ideal of the rule of law rejects the notion that law must consist of rules pre-dating the occasions for their application. At the same time, with respect to the ongoing reconstruction of law, the Legal Process ideal seeks to explain how judicial reasoning (while not determined either by history or by known rules) enables courts to adapt legal norms to rapidly changing conditions. Accord-

ing to the Legal Process ideal, certain limited requirements must still be satisfied. Briefly stated, those requirements are: 1) procedural fairness in the development and application of the law, 2) a nexus between the law and the notion of reasonableness, 3) a determination of rights and responsibilities through reasoned elaboration, and 4) governance by rational deliberation together with the requirement of judicial review. Thus, in maintaining a reasoned connection (through reasoned elaboration together with rational deliberation) between recognized legal norms, sources of authority, and the outcome in particular cases, the Legal Process ideal provides a current, normative consensus as to both the nature of legal institutions and their choice-making processes. By confining the domain of proper legal decision-making, the Legal Process ideal validates legal decision-making and legitimates the legal outcomes.

d. Substantive Ideal

The substantive ideal of the rule of law implies that manifestations of the law—rules, doctrines, conventions of legal reasoning—are unintelligible as legal forms unless they are grounded in a substantive political or legal theory imbued with its own internal morality and/or norms of substantive justice. Thus, particular legal concepts derive their meaning either from substantive political morality or, alternatively, substantive political morality provides controlling principles of legal interpretation. Suffused with moral principles, the stated law then constitutes a moral, authoritative guide to social conduct; in effect, this turns the rule of law into a partisan ideal.

In the context of the comparative institutional approach, individuals, groups of individuals, and public bodies all make allocative choices among alternative courses of action under different (as well as shifting) meta-level conceptions of the rule of law, the result of which is thereby to reduce to some extent “*uncertainty in the legal position itself*” for some, while preserving continuity for others.

2. Object Level

More often than not, the “*uncertainty in the legal position itself*” is raised at the object level. The object level—the level at which laws are made by those in power—is analogous to and would encompass actions and decisions taking place at both the institutional stage of choice and the economic impact stage of choice. It is at the object level where individuals most often jockey for position in the legal-economic-political arena in order to change law and to promote selected public policies. In their effort to enhance their individual or

collective welfare, individuals inevitably create “*uncertainty in the legal position itself.*” This is a difficult issue for any society. On the one hand, there are good reasons to maintain the rule of law at the object level to preserve reasonably-backed expectations that provide economic actors with continuity and the ability to make allocative choices among alternative courses of action. On the other hand, for many reasons (especially changes in technology), legal change—such as changes in property rights, legal doctrines, and working rules—continues to occur producing an ever-shifting set of new expectations. This, in turn, results in demands for a new legal order to accommodate the new set of reasonably-backed expectations and, once in place, new calls for continuity.

While it is often argued that legal change should be incremental and that order should be preserved, such arguments obfuscate more than enlighten. Taking such a position addresses neither the question of at what level—the meta level or the object level—the incremental change should occur, nor what the rate of change should be. More importantly such a position bypasses the question of whose interests are served under the existing legal order and whose interests will be served under a new meta-level conception of the rule of law or a new object-level property right regime. The inclusion of the rule of law as a performance indicator, in keeping with the comparative institutional approach, serves to help inform choice by making known the potential consequences of more versus less continuity (and for whom) that are occasioned by altering the rule of law at the meta level or at the object level.

B. *Efficiency*

Allocative efficiency and Kaldor-Hicks efficiency can be useful in providing a partial guide for determining the appropriateness of a proposed legal change; this is evident in numerous schools of thought, including Chicago Law and Economics, Public Choice, Neoinstitutional Law and Economics, and a comparative institutional approach to American Institutional Law and Economics. A proposed change may take the form of a new environmental law or natural resource policy, an emerging legal doctrine within environmental case law, or a legislative or administrative working rule. However, one must be careful in the application of an efficiency analysis. Frank I.

Michelman described the generally accepted approach to conducting an efficiency analysis within Law & Economics as follows:²⁸

(1) a piece of law is selected for appraisal and, for that purpose is marked off from the rest;

(2) the appraisal on the focal piece proceeds on the assumption that the rest of the law is held constant;

(3) the piece is appraised by comparing it with one or more specific (historically proposed or plausible) alternatives having congruent ranges;

(4) the piece is deemed efficient, vis-à-vis the alternative(s), if its anticipated resource-allocation outcomes represent greater total 'wealth'—as measured by total (estimated) willingness to pay for those outcomes.

Thus, in an efficiency analysis, the strategy is to isolate and focus on a single environmental law, legal doctrine, working rule, or policy and evaluate it against a specified legal relief or background law for analysis. Such an approach inevitably involves making antecedent normative premises concerning both the level of analysis and the appropriate background law. In addition, the entire process is subject to a circularity problem of using rights to define wealth-maximizing rights. Further questions also arise when such an efficiency analysis is conducted across the four sectors of the political economy. Each of these are explored below.

1. Level of Analysis

Within Chicago Law and Economics, Public Choice, and Neoinstitutional Law and Economics, the preferred performance indicator to inform choice is economic efficiency; concomitantly, there is a stated willingness to take legal relief—the status quo structure of rights—as given without further discussion. As Judge Richard A. Posner pointed out:

[S]ince the efficient use of resources is an important, although not always paramount social value, the burden, I suggest, is on the authors to present reasons why a standard that appears to impose avoidable costs on society should nonetheless be adopted.²⁹

The tendency to take the status quo structure of rights as given is often expressed as part of a greater, pragmatic need to accept background law in order to 'get on with the efficiency analysis' of the new

28. See Frank Michelman, *Constitutions, Statutes, and the Theory of Efficient Adjudication*, 9 J. LEGAL STUD. 431-61 (1980).

29. Richard A. Posner, *Strict Liability: A Comment*, 2 J. LEGAL STUD. 205, 221 (1973).

environmental law, legal doctrine, or proposed policy under scrutiny. In the Chicago Law and Economics school, Coase has best illustrated this, stating:

A better approach would seem to be to start our analysis with a situation approximating that which actually exists, to examine the effects of a proposed policy change and to attempt to decide whether the new situation would be, in total better or worse than the original one.³⁰

In a similar vein, statements exemplifying the philosophy of proponents of Public Choice declare:

The modified Paretian-Wicksellian framework implies that the social scientist must be prepared to accept the status quo when analysis indicates that tractable "solutions" to social problems are not possible He accepts what is for the simple reason that is where he starts.³¹

and,

There is an explicit prejudice in favor of previously existing rights, not because this structure possesses some intrinsic ethical attributes, and not because change itself is undesirable, but for the much more elementary reason that only such a prejudice offers incentives for the emergence of voluntary, negotiated settlements among the parties themselves.³²

Undertaking an efficiency analysis following the contours outlined above necessitates "picking up a camera," so to speak, that inevitably frames the issue and thereby conditions the outcome. Donald Schön has labeled this process "naming and framing," and describes the process and its effects as follows:

Things are selected for attention and named in such a way as to fit the frame constructed for the situation Through the processes of naming and framing, the stories make . . . the normative leap from data to recommendations, from facts to values, from 'is' to 'ought'. It is typical of diagnostic/descriptive stories such as these that they execute the normative leap in such a way as to make it seem graceful, compelling, even obvious.³³

In efficiency analyses, the parties of interest, the court, and the legal-economic analyst may each frame the issue differently with a propitious choice concerning the level of analysis and selected back-

30. Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 43 (1960).

31. Robert D. Tollison, *Involved Social Choice*, in *THEORY OF PUBLIC CHOICE* 3-7 (James M. Buchanan & Robert D. Tollison eds., 1972).

32. James M. Buchanan, *Politics, Property and the Law: An Alternative Interpretation of Miller et al. v. Schoene*, 25 J.L. & ECON. 439, 452 (1972).

33. Donald A. Schön, *Generative Metaphor: A Perspective on Problem-Setting in Social Policy*, in *METAPHOR AND THOUGHT* 254, 264 (Andrew Ortony ed., 1979).

ground law. For example, with the goal of efficiently controlling air emissions, one could analyze a single provision of air law with reference to the existing command and control structure of U.S. air law (e.g., allowable levels of criteria pollutants). Alternatively, one could assess the efficiency of the provision against a broadened background law that may include not only the existing command and control structure, but also the entire regime of the emissions trading program. Finally, one could assess the efficiency of that same provision in the context of alternative forms for internalizing negative externalities (i.e., choosing between relying on legislative/agency regulations versus common-law remedies). The “level of analysis” deemed “appropriate” depends upon which level best supports one’s argument in attempting to press one’s individual claims.

The parties of interest in an environmental dispute, the courts, and even the legal-economic analyst may differ as to which level of analysis and which background law is best to assess the efficiency of the proposed environmental policy. The ultimate choices that are made then drive the efficiency analysis—and therein lies the inherent tension with an approach that selectively culls out one law, rule, doctrine, or policy and places it against a selective legal relief. The tension stems from the desire to inform choice (through positive description) using an analysis that is, however, *normatively* conditioned by both the selected level of analysis and the choice of background law. The level at which the efficiency analysis is conducted and the propriety given to background law drive the results by making some elements of the analysis central and fundamental (and perhaps efficient), while others are pushed into the background. This tension is further complicated by the inherent circularity of the process.

2. Circularity Problem

In using efficiency as a performance indicator to assess the impact of a new law, working rule, proposed policy, or an alternative legal doctrine, the problem of circularity arises. Under the American Institutional Law and Economics framework, rights (rules and legal doctrines as well) are rights because they are protected, but they are not protected simply because they are rights. The circularity problem occurs because the law conditions the determination of what is efficient. Since efficiency is a function of rights, and not the other way around, it is circular and inappropriate to maintain that efficiency alone can determine rights. An outcome claimed to be efficient is ef-

ficient only with regard to the assumed initial structure of rights—which is often part of what is at issue.³⁴ Just as costs, prices, outputs, and wealth are derivative of a particular rights structure, so too are benefit-cost calculations, wealth maximization, optimal levels of pollution, and optimal rates of extraction. Different specifications of rights will lead to different (and economically noncomparable) minimizing or maximizing valuations. Thus, as Warren J. Samuels asserts, “[t]o argue that wealth maximization [or any other efficiency criterion] can determine rights serves only to mask a choice of which interests to protect as rights.”³⁵

3. Sector Analysis

Finally, there are significant differences in the measurement of efficiency across the four sectors of the economy—private, public, communal, and open-access. As Deborah Stone has pointed out, the measurement of efficiency in the public sector is marked with some very difficult issues; these same issues also come up in the context of the communal and open-access resource sectors.³⁶ What constitutes efficiency in each sector of the economy is predicated, in part, on: i) who determines the acceptable output goal or program objective, ii) how multiple objectives are valued and compared, iii) how different objectives or outputs benefit different constituencies or groups, iv) how inputs are counted that simultaneously comprise outputs to somebody else, v) which of the many benefits/outputs of any input to count, and vi) how the virtually unlimited opportunity costs of resources used as inputs are calculated.³⁷ Stone argues that “to go beyond the vague [efficiency] slogans and apply the concept to a concrete policy choice requires making assumptions about who and what counts as important.”³⁸ As Stone puts it:

There are no correct answers to these questions to be found outside the political process. The answers build into supposedly technical analyses of efficiency are nothing more than political claims. By or-

34. See A. Allan Schmid, *Law and Economics: An Institutional Perspective*, in *LAW AND ECONOMICS* 57, 68.

35. Warren J. Samuels, *Maximization of Wealth as Justice: An Essay on Posnerian Law and Economics as Policy Analysis*, 60 *TEX. L. REV.* 147, 154 (1981).

36. See DEBORAH STONE, *POLICY PARADOX: THE ART OF POLITICAL DECISION MAKING* (1997).

37. See *id.* at 66.

38. See *id.* at 65.

dering different assumptions, sides in a conflict can portray their preferred outcomes as being efficient.³⁹

Environmental policies can be considered efficient only from the point of view of the party whose interests are given effect through the identification and assignment of rights.⁴⁰ For those who advocate a comparative institutional approach, there is much more to the character of economic life than vague references to efficiency; as Samuels has argued, “[f]or law to be preoccupied solely with economic maximization would rob law of life and of much of what makes for human meaning and significance.”⁴¹

As emphasized within American Institutional Law and Economics, in modern mixed-market economies, society is constantly re-defining rights between competing sets of interests. Rights are in flux—moving among the private sector, the public sector, the communal sector and the open-access resource sector. The inevitable result of the passage of an environmental or natural resource law or the adoption of an environmental policy is that some will gain and some will lose. Since rights are continually being created and recreated, choices must be made against a legal relief that is constantly in flux. The normative selection of the level of analysis, together with the normative acceptance of prevailing background law, create implications for the assessment of efficiency and, therefore, for the development legal-economic policy. Given the win-lose nature of legal-economic policy, one can garner a deeper understanding of the fundamental issues surrounding the quest for ‘efficient’ legal change only by evaluating the implications of the chosen level of analysis and the background law used therein. Advocating efficiency as the dominant criterion of legal analysis and calling for the acceptance of the prevailing background law for ‘pragmatic reasons’ or to ‘set the stage for voluntary agreements’ without regard to the implications on the nature and character of economic life, takes much for granted.

C. *Distributional Equity*

Determining the rights to natural resources and environmental quality is a normative activity with immediate consequences for both efficiency and distributional equity. That is, the definition and assignment of rights determines which efficient allocation and which distribution of benefits and costs will prevail. At the same time, the

39. *Id.*

40. *See* Samuels, *supra* note 35, at 154.

41. *Id.* at 165.

definition and assignment of rights to natural resources and the environment influence the future distribution of income, wealth, and power in society. It has been argued that “most public policy decisions are usually even more concerned with distributional equity issues (namely, who gets the benefits and who pays the costs) than with efficiency issues (namely, how large are the benefits and costs).”⁴² As Jacob Viner wrote:

Extensive government intervention has come about largely as a result of dissatisfaction with the prevailing distribution of income. . . . No modern people will have zeal for the free market unless it operates in a setting of ‘distributive justice’ with which they are tolerably content.⁴³

Indeed, one might invert Posner’s argument⁴⁴ and suggest that, since distribution of resources is an important social value, the burden is on authors to present reasons why an efficiency standard that appears to impose unfair distributions on society should be adopted.

Due to the non-uniqueness of efficiency, efficiency is inevitably bound up with the issue of distributional equity. Indeed, as Warren Samuels and A. Allan Schmid describe it, “the concept of efficiency as separate from distribution is false.”⁴⁵ Samuels explains in another work:

With no unique optimal use of resources and opportunities independent of rights identification and assignment, the legal system must select the [distributional] result to be pursued: the definition of the efficient solution is both the object and the subject of the legal system.⁴⁶

The choice of natural resource and environmental rights, then, is ultimately an issue of distributional equity. Thus, to the extent possible, the distributional equity impacts consequent to an environmental policy change should be disclosed. But here too, just as antecedent normative premises underlie the rule of law and efficiency analysis, normative premises inspire interpretations of what constitutes distributional equity. The concept of distributional equity can be explained in several ways. For instance, Charles Wolf has emphasized that it can be defined in the sense of equality of outcome or, perhaps,

42. CHARLES WOLF JR., *MARKETS OR GOVERNMENT: CHOOSING BETWEEN IMPERFECT ALTERNATIVES* 30 (1997).

43. Jacob Viner, *The Intellectual History of Laissez Faire*, 3 *J.L. & ECON.* 45, 69 (1960).

44. See *supra* note 29 and accompanying text.

45. WARREN J. SAMUELS & A. ALLAN SCHMID, *LAW AND ECONOMICS: AN INSTITUTIONAL PERSPECTIVE* 2 (1981).

46. Warren J. Samuels, *Normative Premises in Regulatory Theory*, 1 *J. POST KEYNESIAN ECON.* 100, 106 (1978).

by reflecting on equality of opportunity (with little or no regard for outcome).⁴⁷ In contrast, distributional equity could be defined in terms of horizontal equity (treating equivalently-situated people equally) or vertical equity (treating unequivalently-situated people in correspondingly unequal ways), or perhaps in terms of Marxist equity (“from each according to ability, to each according to need”).⁴⁸

In addition, the issue of the distribution of welfare over time is important. Consideration of inter-generational equity raises questions as to current generations’ responsibilities and obligations to future generations. Choosing one method over another to assess the intergenerational impact of environmental and natural resource policies carries with it the ethical implications of weighing the preferences and welfare of members of one generation vis-à-vis those of another generation. Consequently, a comparative institutional approach must be concerned not only with structuring institutions to help answer such questions as, “who is part of the ‘community’?” but also with assessing the distributional impacts of the environmental policy change on that acknowledged community. In all this, Schmid reminds us, when people’s interests conflict, the call for distributional and/or intergenerational equity in the abstract is meaningless and will only obfuscate the real conflict and ethical questions to be faced. It is the initial identification of the contours of distributional equity as a performance indicator that ultimately conditions the final outcome and reveals facets of legal change and the character of economic life.⁴⁹

D. “Freedom to”/“Freedom from”

As core themes of American Institutional Law and Economics emphasize, individuals and groups of individuals in democratic societies use government to alter their constitution, change legal doctrine, revise working rules, or change property rights in an effort to enhance individual or collective welfare. While the freedom to do so is highly valued, so too is it highly nuanced. In certain instances the fundamental issue is “freedom from the State,” while at other times the issue is “freedom within the State.” Arguably, advocates of freedom from the State find themselves supporting either libertarian or anarchistic systems of government. Meanwhile, the more mainstream concerns (those taken up here) involve “freedom within the State.”

47. See WOLF, *supra* note 42, at 28-30.

48. See *id* at 82-83.

49. See SCHMID, *supra* note 6, at 242-43.

In this context, one immediately confronts: i) the paradox of freedom—that the freedom of some must be limited or restrained in order to enhance the freedom of others, and ii) the related issue of the reciprocal nature of freedom in “Alpha-Beta” disputes.⁵⁰

Addressing the paradox of freedom, it is important to note that freedom is neither created nor destroyed by the State; that is, the State, through legislative, judicial, and regulatory actions, changes merely the pattern of freedom formerly allowable in society. In so doing, a particular natural resource and environmental law, regulation, or judicial decision might be declared to have “created” freedom, and at the same time, to have “destroyed” freedom. Thus, while law is a *per se* infringement on freedom, it is simultaneously a source of freedom. As Samuels stated (quoting John Bowring):

The relation is reciprocal, and although one part may be stressed over the other, from context to context, ‘the law can not create rights,’ and therefore cannot create spheres of freedom, ‘without creating the corresponding obligations,’ which is to say, without limiting freedom: ‘. . . all laws creative of liberty, are, as far as they go, abrogative of liberty.’⁵¹

The freedom paradox manifests itself in many ways. Viet D. Dinh reminds:

[T]o mark the tercentenary of Harvard University in 1936, Professor John M. Maguire described the law as the system of wise restraints that make men free, a definition that is still used to confer the law degree on the university’s graduates.⁵²

In addition to the paradox of freedom, the question of the direction or flow of freedom is pertinent. That is, when environmental interests conflict, should Alpha be allowed to harm (impose uncompensated costs on) Beta, or should Beta be entitled to be free from Alpha’s harm-causing actions? One’s freedom is relative to: i) the freedom of others, and ii) the limitations imposed by both the prevailing legal relations that govern society and certain nonlegal factors (e.g., customs). Since virtually every natural resource and environmental policy both restricts and enhances freedom (typically for different individuals or groups), freedom versus coercion should not be the focus; rather, the concentration should be on whose freedom will prevail and whose freedom becomes thereby conditioned. In the face

50. See Warren J. Samuels, *Welfare Economics, Power, and Property*, in PERSPECTIVES OF POVERTY 61, at 63-67 (Gene Wunderlich and W.L. Gibson, Jr., eds., 1972).

51. WARREN J. SAMUELS, THE CLASSICAL THEORY OF ECONOMIC POLICY 169 (1966) (quoting JOHN BOWRING, 3 WORKS OF JEREMY BENTHAM 185 (1962)).

52. Viet D. Dinh, *What is the Law in Law & Development*, 3 GREEN BAG 19, 27 (1999).

of the “freedom to” / “freedom from” paradox, there is a natural tendency to offer up a joint maximand in an attempt to help unravel the paradox. For example, one may conclude that: “The problem then is, and has always been, how to maximize both freedom ‘to’ and freedom ‘from’.”⁵³ Superficially, this may lay one’s mind to rest—as might calling for “the greatest good for the greatest number.” However, as the eminent French mathematician D’Alembert as well as renowned author Garrett Hardin (*Tragedy of the Commons*) have wisely instructed, “it is not possible to maximize for two (or more) variables at the same time.”⁵⁴

This “freedom to” / “freedom from” conceptualization is perhaps better understood in the context of the four property right regimes presented in Section II.3—private property rights, status rights, communal rights, and open-access resources. Such rights undergird the market, public, communal, and open-access resource sectors, respectively. Each sector constitutes a different means for allocating society’s scarce resources; concomitantly, each of these sectors represents a different system of social control. Within each sector a certain pattern of “coercion” is legitimated, thereby determining a freedom vector for Alpha, while at the same time, legitimizing the costs imposed on Beta. The legitimized freedom vector for Alpha (the set of rights, expectations, and freedoms) and the pattern of costs imposed on Beta are different, depending on the sector selected to allocate society’s scarce resources. Thus, when a society decides to set in place its preferred pattern of legal relations, i.e., the preferred bundle of private property rights, status rights, communal rights, and open-access resources, it is making a joint choice on both freedom and coercion. It is deciding: i) which pattern of freedom is constructed—this indicates who is allowed to impose uncompensated costs on whom within the market, public, communal and open-access resource sectors, and ii) which pattern of coercion is legitimated. Notwithstanding the assertions of Chicago Law and Economic as well as Public Choice theorists, one is not necessarily ‘free’ in the market sector and ‘coerced’ in the public sector.

Within each sector and for each Alpha-Beta conflict, a choice must still be made: should Alpha be allowed to impose a cost on Beta (a “freedom to” inquiry), or should Beta be protected from Alpha’s

53. DEREK L. PHILLIPS, EQUALITY, JUSTICE AND RECTIFICATION 72 (1979).

54. Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244 (1968).

action (a “freedom from” inquiry)? As Schmid has pointed out in his discussion of ‘freedom’ as a performance indicator:

The issue is one of whose freedom rather than freedom in the abstract. The great moral choice in any society is whose freedom counts when interests conflict in the face of scarcity. When people conflict, global freedom is without meaning and can only obfuscate the real conflict and the ethical question.⁵⁵

E. *Macroeconomic Indicators*

Any comparative institutional approach of public policy ignoring macroeconomic performance indicators would be remiss. To the extent possible and when relevant, the macroeconomic impacts—e.g., employment rates, poverty rates, inflation, productivity, growth, fiscal deficits, and trade deficits—of proposed natural resource or environmental policies should be taken into account. However, just as the specification of the other performance indicators rests on antecedent normative premises, so too do specific definitions of the macroeconomic variables used in assessing the institutional impact of natural resource and environmental policies. The more common macroeconomic variables are explored below, and the issues surrounding the definitions of inputs and output are probed more deeply.

1. *Macroeconomic Variables*

Regardless of the particular set of macroeconomic variables used, each one rests on a normative definition. For example, several institutionalized definitions rely heavily on assessing the character of economic life—*economic wealth and growth* as measured by gross domestic product (GDP) (implicating inclusion versus exclusion of natural resource stocks), *poverty* (deciding the threshold level of family-of-four-income that should define the condition and thereby establish eligibility for a stream of government benefits or programs), and *inflation* (selecting the ‘current basket of goods’ to calculate the CPI, the PPI or the GDP deflator that will, in many instances, trigger certain built-in government or industry actions, e.g., cost-of-living increases. As a result, the aggregate macroeconomic impact, as measured by these collective macroeconomic performance indicators, is conditioned by the antecedent normative identification of their constituent elements. There is simply no way around this. As Tibor Scitovsky reminded us, when economists advocate the maintenance of

55. See Schmid, *supra* note 6, at 242.

full employment, price stability, or enhanced environmental quality, or, indeed invoke *any* macroeconomic indicator, they

can not disclaim responsibility for having made a value judgment on the ground that he was only interpreting the preferences of society as a whole In so arguing, he would make the implicit value judgment that the majority opinion fully represents and should determine society's preferences.⁵⁶

2. Inputs and Outputs

Moreover, the definitions of 'inputs' and 'outputs'—that is, those items, the efficiency of which one wants to increase—require antecedent normative specification as to what constitutes each. Several output categories are available—social output (the aggregate well-being of society), consumptive output (the value of goods and services from the consumer point of view), and productive output (the value of goods and services from the producer point of view). The value-laden choice of a particular definition of output as the maximand, which in effect is the choice of a particular social welfare function where many are possible, ultimately drives the decision of what constitutes an efficient allocation.⁵⁷

Some within Chicago Law and Economics and Neoinstitutional Law and Economics have broadened the conventional definition of commodities and resources (inputs) by using such terms as 'effective commodities' and 'effective resources.' As proffered by Erik Furubotn and Svetozar Pejovich, an effective commodity is the physical commodity plus the associated property rights defining the commodity—including the rights to use and transfer the commodity. Whereas, an effective resource is the physical factor of production (land, labor or capital) plus the associated property rights to use and transfer the resource.⁵⁸ This notion of 'rights running with' commodities and resources is important from the vantage point of American Institutional Law and Economics, as it gives further credence and deeper meaning to "institutionalized markets."

In American Institutional Law and Economics, the market is institutionally bounded and complemented by government. The institutionalized market is not an alternative to government. The 'effective-rights' component of inputs and outputs is a necessary element of any market, with the 'effective-rights' deriving from government and

56. Tibor Scitovsky, *The State of Welfare Economics*, 41 AM. ECON. REV. 303, 315 (1950).

57. See Samuels, *supra* note 46, at 102.

58. See ERIK FURUBOTN & SVETOZAR PEJOVICH, *Introduction: The New Property Rights Literature*, in THE ECONOMICS OF PROPERTY RIGHTS 1, 1-9 (1974).

the power of government institutions. The market, as a system of social control, does not allocate resources apart and distinct from government. The allocation and distribution of effective commodities and effective resources through institutionalized markets are a function of the government institutions and power structures that form and operate through them.

Two simple examples illustrate the significance and importance of the 'effective-rights' component of inputs and outputs, showing that it is the rights being exchanged on the market that are at the core of the character of economic life. First, consider the automobile, the definition of which includes, among other things, the rights governing: i) what shall literally comprise an "automobile" (now including air bags and a catalytic converter together with severe legal sanctions for disconnecting either), ii) government mandated standards and tests relating to automobile production (including Occupational Health and Safety Administration (OSHA) regulations of plant safety), and iii) the terms, conditions, and enforcement of warranties. It is the government-structured definition, assignment and enforcement of rights that run with the physical entity that form and shape the market for automobiles—it is not a question of an automobile market with government or without government. Similarly, on the input side, what comprises the market for coal includes, among other things: i) extraction permits/royalties/rents, ii) water discharge permits, and iii) mandates to perform surface reclamation. Again, it is not a question of a market for coal with government or without government. The market for automobiles, for coal, and indeed for all products and services, are institutionalized markets complemented by government. Using macroeconomic performance indicators within a comparative institutional approach requires that the antecedent selective identification and definition of these indicators be made clear, since the antecedent rights running with a commodity or a factor of production—the very definition of inputs and output—say a lot about the character of economic life and, ultimately, about the environment.

F. *Ecological Integrity*

As Garrett Hardin reminds in his seminal article:

If the word responsibility is to be used at all, I suggest that it be in the sense Charles Frankel uses it. "Responsibility," says this philosopher, "is the product of definite social arrangements." Notice that Frankel calls for social arrangements—not propaganda.⁵⁹

59. Hardin, *supra* note 54, at 1247.

As society furthers its understanding about the workings of our natural systems, a performance indicator such as ecological integrity needs to be incorporated into the overall assessment of institutional performance in order to help assess the impact of legal change and public policy on our natural resources and environment. In a mixed-market economy, individuals act in a multitude of ways that directly affect a nation's natural resource base (through rates of extraction) and its environment (through rates of depositing residuals back into the natural systems). It is illogical to assume that different environmental policy initiatives or legal changes, including changes in legal doctrines, working rules, and property rights, will impact our natural resources and the environment in the same manner and with the same intensity.

In past decades, some production and consumption residuals have been absorbed or assimilated by the atmosphere with relatively few deleterious side effects; similarly, many ecosystems have exhibited few disruptions from the extraction of the renewable and nonrenewable resources utilized by the economy. However, more recently, the ability of nature to assimilate residuals from industrial production and consumption or to recover from mining or harvesting activities accompanying resource extraction has been exceeded. Regional ecosystems have been unable to support these activities. Under such circumstances, changes within the affected ecosystems dramatically alter or destroy the full array of structures and functions that these ecosystems provide. As a result, costs have been inevitably imposed onto society in both the short and the long term.

The idea of ecological integrity as a performance indicator is intended to convey the notion of congruence with ecological systems. In the simplest of terms, it addresses the question: do the legal-economic institutions—and environmental policy initiatives or legal changes that emanate therefrom—enhance or reduce a nation's congruence with its ecological systems? That is, do such changes enhance or undermine the ecological integrity of the nation's natural environment? The principle of ecological integrity is derived from Karr's aspects of biotic impoverishment⁶⁰ (see Figure 3).

60. See J.R. Karr, *Ecological Integrity and Ecological Health Are Not the Same Thing*, in *ENGINEERING WITHIN ECOLOGICAL CONSTRAINTS* (P.C. Schulz, ed., 1996).

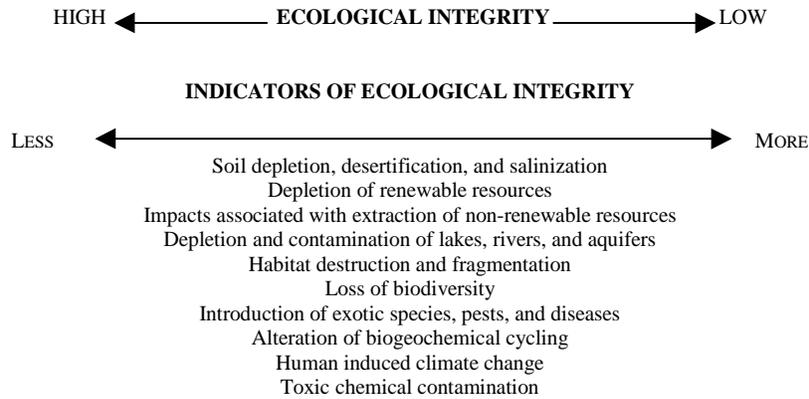


Figure 3: Ecological Integrity

The concept is defined by reference to several indicators, each indicator providing one vector of assessment regarding the impact of a particular activity. Thus, if a society is contemplating altering property rights, working rules, or legal doctrines in an effort to set in place natural resource or environmental policies, one can use ecological integrity as a performance indicator. This will enable the analyst to assess whether the contemplated legal change leaves a nation's political-economic system in greater or lesser congruence with its underlying ecological systems.

From a somewhat broader vantage point, individuals in society have options with respect to institutional design; within an American Institutional Law and Economics framework, institutions matter. Consequently, institutions may be structured in an attempt to maintain the ecological integrity of a nation to various degrees. For example, institutionalized markets can be structured with little or no natural resource and environmental laws and regulations—under the rationalization that the nation espouses “laissez-faire” markets. Alternatively, institutionalized markets may be joined with a host of technology based natural resource and environmental laws and regulations that attempt, to the extent possible, to maintain the ecological integrity of a nation's environment. On the other hand—as is now occurring—whole new paradigms may be developed, aimed at providing new systems of social control, based on principles from para-

digms such as sustainable development, ecological economics, or industrial ecology.⁶¹

Within a comparative institutional approach exists a wide spectrum of possible remedies to resolve natural resource and environmental problems. Such remedies could involve: i) amending or altering the constitution, ii) adopting new legal doctrines or specifying new working rules, or iii) placing the rights to the natural resources or to the environmental receiving medium (the air, water, or land resources), directly or implicitly, into one of the four property rights regimes discussed above. Alternatively, one may argue for a complete paradigm shift adopting the principles and ideals set forth in either sustainable development, ecological economics, or industrial ecology. There are many environmental policy options, each of which involves different impacts on the ecological integrity of the environment. Inherent in a comparative institutional approach to American Institutional Law and Economics is the need to describe the nature of the choices being contemplated and the consequences that follow. Inclusion of ecological integrity as a performance indicator does not make a case for any one set of remedies—it encourages informed choice.

IV. CONCLUSION

In contrast to the variety of legal movements and theories that have evolved in law—especially within the several approaches to Law & Economics—American Institutional Law and Economics draws no distinction between jurisprudential, legislative, bureaucratic, or regulatory treatments. Natural resource and environmental policy are additional sources of legal change. All are seen as particular parts or manifestations of the interrelation of government and the economy, or of legal and economic processes. The goal of a comparative institutional approach is not normative judgment, but description. A viable approach to the study of the interrelations between economics and the law should give rise to a description of the full array of impacts of alternative institutions and legal arrangements together with an articulation of whose interests will be served and at whose expense. Such analysis will not privilege one set of interests over others,

61. Sustainable development, industrial ecology, and ecological economics have been explored, respectively, in Sandra S. Batie, *Sustainable Development: Challenges to the Profession of Agricultural Economics*, 71 AM. J. AG. ECON. 1083 (1989); Brad Allenby, *Achieving Sustainable Development through Industrial Ecology*, 4 INT. ENVTL. AFF. 56 (1992); Robert Costanza, *Ecological Economics: Reintegrating the Study of Humans and Nature*, 6 ECOLOGICAL APPLICATIONS 978, 978-90 (1996).

but it will enable those who study and participate the processes of the legal-economic arena to better understand these processes and their resulting effects on law and economy.

It may well be that a strictly positive approach is discomforting to those who prefer a natural resource and environmental policy that seeks refuge in determinate solutions to the questions of legal-economic policy. Some may be inclined to dismiss it on this ground. Likewise, perhaps it goes too far for those who would prefer to focus narrowly on efficiency to take into account the antecedent normative premises underlying each of the six performance indicators set forth above. Schmid confronts the naysayers of the comparative institutional approach with an astute rejoinder:

If [American Institutional Law and Economics] has no dispositive answer to resolve policy arguments, what is it good for? It can identify many less than obvious sources of power in an economy so that people can know where their welfare comes from. It can raise the level of normative debate so that issues can be joined and people can live with tragic choices rather than ignoring and dismissing them.⁶²

62. A. Allan Schmid, *Institutional Law and Economics*, 1 EUR. J.L. & ECON. 33, 36 (1994).