A GUIDE TO THE PERPLEXED CLAIMS OF EFFICIENCY IN THE LAW

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"The truth is rarely pure, and never simple."

Some scholars of law and economics have advanced a bold theory that transforms the study of law from a complex, hydra-headed investigation of fact and value into a straight-forward application of two "simple" hypotheses: (i) the law should be efficient (the normative claim) and (ii) the law is in fact efficient (the descriptive claim). This Article argues that the simplicity of these two claims is deceptive. While the normative claim reduces to only two variants, the premises supporting them are controversial. The descriptive claim suffers from greater ambiguity: A wide variety of senses may be attributed to the term "efficiency" and the rule may be efficient relative to only one of a diverse set of alternative rules in possible contexts. I shall further argue that the descriptive claim of efficiency is arguably not a consequence of economic theory, and that both the normative and descriptive claims are problematic. These sections are followed by some brief suggestions of the uses of economics in law.

I. THE NORMATIVE CLAIM

A simple phrase, "the law ought to be efficient," may mask the most troublesome and fundamental questions. To what concept of law does this imperative bind us? In what ethical system, if any, must we believe? Ambiguity in the term 'efficient' complicates the answers to these questions, for different meanings may require dif-

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ferent jurisprudential and ethical commitments. The argument of
this section demands therefore two summaries rather than one: a
statement of theses and a guide to the labyrinthine argument that
sustain them.

Three major theses are advanced. First, the imperative “the
law ought to be efficient” has two interpretations: (1) a strong claim
that the law ought to maximize wealth and (2) a weak claim that
the law ought to be allocatively efficient. Second, the view that the
law reflects morality coupled with an utilitarian ethic will justify
the strong claim. Third, the weak claim is consistent with a wider
set of ethical beliefs but may require one to give up an appealing
concept of “liberalism.”

The argument that sustains these theses proceeds as follows.
First, I shall distinguish productive efficiency from allocative effi-
ciency. Wealth maximization is then defined and the logical rela-
tions between the two concepts of efficiency and the concept of
wealth maximization are sketched out. Next I address the strong
claim. I argue that wealth maximization is structurally equivalent to
utilitarianism and that the major objections to utilitarianism apply
with equal force to wealth maximization as an ethical norm. I then
suggest that denial of the link between law and morals allows
alternative, though not particularly appealing, justifications for the
strong claim. The discussion next turns to the weak claim. Two diffi-
culties with the claim are noted. First, the claim decides only a limited
number of legal issues. Second, allocative efficiency apparently
conflicts with the belief that certain choices are personal and
should be left to the individual.

A. Preliminaries

1. Productive and Allocative Efficiency.—Economists distin-
guish between productive and allocative efficiency. Productive effi-
ciency may be seen in part as an engineering concept: a produc-
tively efficient economy is producing as many goods and services as
it can. Allocative (Pareto) efficiency considers, in addition, the
question of how “well” the economy distributes the goods it does
produce.

Consider, for example, an economy that produces only one
good, shmoos, which may either be consumed or used to produce
more shmoos; production of shmoos requires input of older shmoos
and some fixed input such as land. Productive efficiency identifies
the ratio of old shmoos to land that maximizes the number of new
shmoos the economy can produce. Production at this level is productively efficient.

Consider now an economy with two goods, shmoos and shmees, either of which may be combined with land to produce more of its kind. Any level of production of shmoos and shmees that does not allow the production of more shmees without producing fewer shmoos (or vice versa) is productively efficient. For instance, suppose the technologies of shmoo and shmee production allowed the economy to produce one more shmoo if it produced one less shmee. Suppose further that the economy has resources to produce only one hundred objects. In this economy any combination of shmoos and shmees that adds up to the limit of 100 would be productively efficient.

To understand the concept of allocative efficiency, consider an exchange economy\(^3\) with a fixed amount of a single good, shmoos, available for division between the two individuals who comprise the society. Assume each individual prefers more shmoos to less. Such an economy is allocatively efficient if person \(A\) cannot be made subjectively better off without making person \(B\) subjectively worse off. Again, there may be many allocatively efficient states. If, for instance, there are 100 shmoos and both person \(A\) and person \(B\) prefer more shmoos to less, then any division of shmoos between \(A\) and \(B\) that sums to 100 is allocatively efficient. It would be allocatively inefficient, however, to give \(A\) 40 shmoos and \(B\) 45, because neither \(A\) nor \(B\) is harmed by distributing some or all of the fifteen unused ("wasted") shmoos to \(A\) or to \(B\) or to both.

The concepts of productive and allocative efficiency are closely linked in economics with both production and exchange. For example, suppose the exchange economy discussed above, which divided the 100 shmoos 50 to \(A\) and 50 to \(B\), could in fact produce 110 shmoos. As the economy was not productively efficient—it could have, at no cost, produced 10 more shmoos—the 50-50 division of shmoos between \(A\) and \(B\) was not allocatively efficient. The economy could have been rearranged to make both \(A\) and \(B\) better off. For instance, the 10 wasted shmoos could have been produced and then divided equally between \(A\) and \(B\). Thus, an allocatively efficient economy must be productively efficient. It need not be true, however, that a productively efficient economy be allocatively efficient.

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3. An exchange economy is one without any production. A fixed number of goods are distributed and traded among individuals in the economy.
efficient. As noted above, an economy might produce as many shmoos as possible but fail to distribute all of them. If not all the shmoos produced were divided among the people in society, the economy would not be allocatively efficient.

A more complex economy than the one-good economy discussed above might fail to be allocatively efficient even if it distributed all the goods produced. Each consumer might not receive the appropriate bundle of goods. Suppose the only two goods in the economy are shmoos and shmees, and consumer A prefers shmoos to shmees while consumer B prefers shmees to shmoos. An equal division of the productively efficient output of 100 shmoos and 100 shmees between A and B would not be allocatively efficient. A would prefer to have fewer than 50 shmees and more than 50 shmoos while B would prefer more than 50 shmees and fewer than 50 shmoos. Some reallocation or “trade” of shmees to B and shmoos to A would be allocatively superior to the division of 50 shmoos and 50 shmees each has initially. The crowning achievement of mathematical economics has been the derivation of those conditions under which productive efficiency implies allocative efficiency.  

Frequently, economists say that “state X is more efficient than state Y.” The above examples permit clear interpretation of this statement. State X will be more productively efficient than state Y if more of some good(s) is produced in state X without producing less of any good than in state Y. For example, suppose the economy is currently producing 100 shmoos and 75 shmees. If production activities could be rearranged into a new state Y in which 100 shmoos and 76 shmees were produced, state Y would be more productively efficient than the current production configuration. Similarly if 100 shmoos have been divided 40 to A and 50 to B, it would be more allocatively efficient to divide them 41 to A and 51 to B and still more allocatively efficient to divide them 45 to A and 55 to B.

Note that some states are not comparable on grounds of efficiency: One cannot say either state X is more efficient than state Y or state Y is more efficient than state X. For instance, divisions of

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4. See, e.g., G. Debreu, Theory of Value chs. 5 & 6 (1959). The definition of competition requires that (i) each consumer have closed, convex, insatiable preferences; (ii) initial endowments allow consumers to exist; and (iii) production is closed, convex, irreversible, and allows free disposal. Cf. K. Arrow & F. Hahn, General Competitive Analysis (1971) (presents similar theorems based on somewhat weaker conditions).
100 shmoos of 50 to A and 50 to B (state X) and of 45 to A and 55 to B (state Y) are not comparable on grounds of allocative efficiency. B is better off in state Y only at the cost of A. Furthermore, state Y is not comparable to state Z in which A receives 47 shmoos, B receives 51, and two are not produced or distributed. State Z is productively and hence allocatively inefficient. Yet one cannot say that state Y is allocatively superior to state Z because, while B is better off in state Y, A prefers state Z to state Y. The criteria of allocative and productive efficiency, therefore, are not decisive when distribution questions are involved. ⁵

2. The Relation of Wealth Maximization of Productive and Allocative Efficiency.—In an economy with more than one good, many different combinations of outputs will be productively efficient. Similarly, if the economy has more than one person, many divisions of the output among consumers will be allocatively efficient. Wealth maximization provides a way to compare productively efficient points to one another and to select one as “best.” In effect, wealth maximization uses prices to measure the values of the various goods. One can then compare productively efficient combinations of outputs by comparing the monetary value of the combinations. ⁶ The criterion of wealth maximization, therefore, will dictate a choice between states over which neither the criterion of productive superiority nor allocative superiority is decisive. Wealth maximization, however, does not, as is often argued, refine the two traditional standards. It neither implies nor is implied by allocative or productive efficiency.

Once more consider, for example, the simple economy with two goods, shmoos and shmees, and two people, each of whom prefers more of a good to less. Suppose that if the economy produces 50 shmees and 50 shmoos, combination X, the price of shmoos and the price of shmees will each equal $10 per shm. The wealth of the economy is then $1,000. Suppose, however, that if the economy produces 49 shmoos and 51 shmees, combination Y, the price of shmoos will be $12 each and the price of shmees will be

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⁵ Allocative efficiency is premised on ordinal preferences that are not interpersonally comparable. One cannot say, for instance, that state Z is preferable to state Y because person B gained more than person A loses in the move from Z to Y. See pp. 598-99 infra.

⁶ This theory of wealth maximization, although implicit in the writings of a number of economists and commentators, has recently been given its strongest and most comprehensive statement by Richard Posner. See Posner, Utilitarianism, Economics, and Legal Theory, 8 J. LEGAL STUD. 103 (1979).
$8.50. Then the wealth in the economy would be $1,021.50. The criterion of wealth maximization would dictate the choice of combination Y with 51 shmees rather than combination X.

That combination Y maximizes wealth does not mean that wealth in state Y can be divided in an allocatively more efficient manner than the division of wealth in state X. Suppose in state X, person A and person B each had 25 shmoos and 25 shmees, while in state Y person A has 10 shmoos and 11 shmees and person B has 39 shmoos and 40 shmees. As person A is worse off in state Y than state X, one cannot say that state Y is allocatively superior to state X; as person B is worse off in state X than state Y, one cannot say that state X is allocatively superior to state Y. Moreover, it would be impossible to divide the wealth in state Y in such a way that both person A and person B would be able to buy the package he or she had in state X. In state Y, a package of 25 shmoos and 25 shmees costs $512.50 or more than half the wealth in state Y. Thus, either person A or person B must suffer in the change from state X to state Y, and neither state is allocatively superior to the other.\footnote{By changing the price, it would be possible to divide the wealth in state Y in such a way that both person A and person B would be able to buy the package she had in state X. But then the state would no longer be allocatively efficient. See note \ref{note} infra.}

More surprisingly, the wealth-maximizing state need not be productively efficient. The criterion of wealth maximization also ranks some productively inefficient states more highly than some productively efficient ones. Consider state Z in which 25 shmoos and 70 shmees are produced at prices of $30/shmoo and $5/shmee. While this would be productively inefficient because either 5 more shmoos or 5 more shmees could be produced at no extra cost, the wealth in state Z ($1,100) exceeds the wealth in both states X and Y. Thus wealth maximization might recommend moving from a productively efficient state to a productively inefficient one. Indeed, it is conceivable that the wealth maximizing state is productively inefficient. Suppose that of all the productively efficient outcomes that are productively superior to state Z, a state Z' in which 30 shmoos and 70 shmees are produced has highest wealth. If the production of 30 shmoos lowers the price of shmoos from $30 to $24, the value of shmoos falls from $750 to $720 and wealth drops from $1,100 to $1,070.\footnote{The examples do not rest on numerical "tricks." For instance, I have not considered the opportunities for increasing wealth that rely on inflation. The example in the text works if the price of shmees in each economy is fixed at one dollar per...} Thus, the maximization of production does not necessarily...
maximize wealth, and a wealth advantage may therefore accrue to one who restricts the supply of a good. If the price rise outweighs the loss in sales, the restricted output may exceed the unrestricted output in value. Only in a perfectly competitive economy will the wealth-maximizing state be productively efficient. If the economy is not perfectly competitive, the wealth-maximization state is wasteful in the sense that more of some good could be produced without producing less of any other good.

It thus appears that in multigood economies, the concept of wealth maximization is quite distinct from either concept of efficiency commonly used by economists. Subsequent subsections will consider each idea separately.

B. The Strong Claim of Wealth Maximization

Proponents and critics of the strong claim that the law ought to maximize wealth share some basic assumptions. Critics as diverse as Ronald Dworkin, Richard Epstein, and Charles Fried have agreed with Richard Posner that the law ought to reflect ethical norms. Further, the ethics of advocate and critic alike emphasize the right of an individual to choose and to promote within some unspecified limits her own vision of the good life. To begin this section, I accept this claim and argue that wealth maximization as an ethical norm is structurally identical to utilitarianism. The objections to a utilitarian ethic are then canvassed and shown to apply with equal force to wealth maximization. Finally, I examine some possible justifications for the strong claim that rest on a denial of the position that law should reflect ethical norms.

shmee and the relative price of shmees and shmoos varies only through the variation in the price of shmoos.

9. One can easily create partial equilibrium models in which the move from monopoly to competition decreases “wealth.” For instance, let demand be given by \( p = 50 - q \) and marginal costs be constant at $20. Under competition, \( p = 20 \) and \( q_c = 30 \) for total revenues of $600, while under monopoly, \( p = 25 \), \( q_m = 25 \) and total revenues are $625. I have not attempted a general equilibrium model to justify the statement in the text; it seems plausible to believe, however, that one can construct a model in which the wealth changes resulting from price changes for the unrestricted good do not outweigh the wealth gains flowing from the restriction. The equivalence between productive and allocative efficiency, see pp. 593-94 supra, obtains under perfect competition not under a market system plagued by monopoly.


Wealth Maximization as a Species of Utilitarianism.—Utilitarianism can be characterized by three premises. First, only the utility levels of individuals matter when two social states are compared to one another. Utilitarianism thus excludes from consideration much if not most information. History, for example, will not weigh in ranking the social states: the process by which society reached a particular state will, unless the process alters the utility levels of individuals, not determine which social state should be chosen. Second, utilitarianism states that the utility levels of different individuals are comparable. One can say that person A receives twice as much utility as person B in state X and only one half as much utility in state Y. Third, utilitarianism ranks two states by comparing the sum of the individual utilities available in each state. For example, if in state X person A has utility 50 and person B has utility 25 while in state Y, A has utility 15 and B, utility 30, state X is superior to state Y for the sole reason that the 75 utils attained in state X exceed the 45 utils attained in state Y. The structural parallel between wealth maximization and utilitarianism emerges by examining whether wealth meets the three above enumerated conditions on utilitarianism. Societal wealth is simply the sum of the wealth of its individuals; the statement “person A is twice as wealthy as person B” is obviously meaningful; and wealth maximization considers only wealth information in choosing among alternative societal states. While this parallel between wealth maximization and utilitarianism is sufficient basis for testing wealth maximization against the typical objections to utilitarianism, at least two additional reasons for equating wealth and utility may be advanced.

First, wealth might be a proxy for utility in its more usual sense of pleasure or happiness. In general, we might believe that as wealth increases so does the individual’s utility. Alternatively, one might argue that wealth, rather than pleasure, is the good. Utilitarianism commands people to pursue the good without deviation and to measure that good in a particular way, through the sum of the good attained by individuals. Different species of utilitarian-

ism would correspond therefore to varying conceptions of the good. A priori, wealth cannot be excluded as a conception of the good.

Two distinctions between wealth maximization and utilitarianism may also be fruitfully drawn. First, one might argue that wealth maximization allows interpersonal comparison of ordinal preferences while utilitarianism allows interpersonal comparisons of cardinal preferences. Ordinal preferences permit only rankings of outcomes. Thus if an individual has ordinal preferences, she may say that she prefers X to Y but she cannot say she prefers X twice as much as Y. Cardinal preferences would allow an individual to make both statements. Under wealth maximization, one considers only the prices at which goods are exchanged and the amount of goods exchanged. For prices to exist and reflect value, consumers need only ordinal preferences. Thus to the extent one says wealth maximization is a value because a consumer was willing to pay a price for a good, the wealth reflects only an ordinal measure of preference. Second and related, wealth maximization overcomes one common objection to utilitarianism: that utility is not observable and hence the state of the world that provides the most utility is unidentifiable. Other forceful objections to utilitarianism, however, do apply to wealth maximization.

2. The Utilitarian Objections to Wealth Maximization.—Modern objections to utilitarianism have generally rested on some version of the claim that it “ignores . . . the moral importance of the separateness of persons.” H.L.A. Hart has distinguished four versions of this claim:

(1) The aggregate of pleasure or happiness, not the separateness of individuals, is what is important in utilitarianism. Thus, absent an independent theory of distribution, any sacrifice may be required of an individual if the pain that sacrifice entails results in sufficient pleasure to others.

(2) While utilitarianism treats people as equals, it is not an egalitarian doctrine. “[I]t . . . treat[s] individual persons as of no worth; since not persons for the utilitarian but the experiences of pleasure or satisfaction or

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15. Of course, this measure of preference depends on the initial distribution of wealth as this distribution critically affects the prevailing prices.
17. Id. at 829-30.
happiness which persons have are the sole items of
worth or elements of value.” 18

(3) Utilitarianism reifies society. No individual experi-
ences the aggregate pleasures or pains of the members
of society.

(4) While it may be rational for “a single individual to sac-
ricular a present satisfaction or pleasure for a greater
satisfaction later,” 19 society should not treat “the divi-
sion between persons as of no more moral significance
than the division between times which [separate] one
individual’s earlier pleasure from his later pleasure.” 20

The first two of these objections are ethical objections while
the latter two rest on a particular conception of society or the state.
In fact Hart’s third and fourth objections collapse into one: society
is not an entity with a will or mind or pleasure capacity of its own.
Good for a society can only mean good for its individual members.
This political objection to utilitarianism shall be discussed below.
Here it suffices to note that one may on these grounds attack
wealth maximization as easily as utilitarianism; no individual expe-
riences the aggregate wealth of society and, while an individual
might sacrifice wealth now for more wealth later, it is not obvious
why society should sacrifice one individual’s wealth to more wealth
for another.

Hart’s two ethical objections to utilitarianism also apply with
equal force to wealth maximization. Individuals serve only as
“channels or locations where what is of value is to be found.” 21
Similarly, wealth maximization is not egalitarian. It does not value
persons, only productivity, just as utilitarianism values, not per-
sons, but only pleasure.

Wealth maximization fares no better when measured against
more specific objections to utilitarianism. I shall consider here the
three “principal” objections levied by Professor Posner against util-
itarianism: 22 (i) a “boundary problem” about the population of peo-
ple or animals relevant to the utilitarian calculus; (ii) the conflict
between maximizing average and maximizing total utility; and (iii) a
“moral monstrousness,” which leads both to treating perverse de-

18. Id. at 830.
19. Id. at 831.
20. Id.
21. Id. at 829.
sires and noble ones identically and to sacrificing people to promote the interests of others.

In addition to citizens of a particular society, one might want to include three other classes of “persons” in the utilitarian calculus: sheep (and other animals), foreigners, and the unborn. As pleasure in classical utilitarianism constitutes the only good regardless of who or what experiences it, classical utilitarianism apparently requires inclusion of all three additional classes of “persons” into the calculus. Despite argument to the contrary, wealth maximization is no more successful than classical utilitarianism in limiting the population to live, resident human beings.

Consider sheep first. As Professor Dworkin has argued, under wealth maximization, sheep suffer two disadvantages: they cannot hold wealth and they cannot express their preferences in the market. Components of wealth, the amounts of various goods and their prices, therefore, do not fluctuate with the acts of sheep. The sheep’s disadvantages, however, are curable. Decisions about expenditures of any wealth sheep were allowed to hold might be entrusted to guardians just as guardians act in the market place on behalf of children or incompetents.

Similarly, just as a wide variety of national policies impact on the utility of foreigners, so do they impact on the wealth of foreigners. For instance, rules that govern the amount of foreign aid dispensed by the United States, the height of tariff barriers, the transfer of technology, and American policies with respect to raw-material prices, to inflation and to unemployment all affect the wealth of foreign countries and hence of those who live in foreign lands. To maximize global wealth, it may, therefore, be necessary to enact or enforce laws in the United States that do not maximize wealth here. A decision to include the unborn in the wealth-maximization context rests on the same grounds as a decision to include them in an utilitarian calculus; those considerations recommend maximizing wealth or other concepts of utility over a long time-horizon as opposed to a short one.

24. See Posner, supra note 6, at 128-29.
Second, the conflict between maximizing average or total utility in classical utilitarianism applies to wealth maximization as well. Maximizing total utility may require making many people miserable; similarly making a society as wealthy as possible may require making many people poor. Average wealth may be highest if the population is relatively small while total wealth may be highest if vast numbers of individuals are living at subsistence.

Third, moral monstrousness takes three forms: (a) using people as instruments and hence coercing them into undesired actions; (b) the lack of distinctions between types of pleasures that require us to count the sadistic torturing of animals (or people) as much as the "noble" pleasures of opera, ballet, and baroque music; and (c) the need to sacrifice the innocent. Wealth maximization fares no better against these charges than utilitarianism.

Wealth maximization justifies the coercion of the indolent into productive occupations; it justifies coercing people who abhor certain activities into undertaking them if they are more productive in the undesired activities than in the ones in which they would choose to engage. For instance, a mediocre but self-sufficient artist who had a talent for business management should, under a wealth maximization regime, be required to work as a manager. Similarly, wealth maximization treats the production of all goods equally. Thus those who produce pet rocks or black boxes are treated the same as those who produce wheat, even when people are starving. Those who perform cosmetic surgery receive equal (or greater) weight than those who screen for sickle-cell anemia, hypertension, or incipient cancers. Those who produce heroin should, under wealth maximization, be treated the same as those who produce penicillin, though in fact we do not count illegal receipts as part of the gross national product.26

Wealth maximization also dictates a good deal of wholesale slaughter. All those who are unproductive, who cost more than they produce, must go. In particular, wealth maximization requires that we destroy the mentally retarded and the mentally ill who are institutionalized. Similarly, the physically disabled must be eliminated, possibly even those disabled by their jobs or on the battlefield. The only justification for allowing those with job or combat

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26. One wonders whether the criminal penalty for heroin offenses in fact is wealth maximizing. It may raise the price of heroin sufficiently to increase the value of the industry despite the lost sales. I suspect this is not the reason we have criminalized heroin.
related injuries to live would be to impose the costs on employers to ensure that they chose the appropriate safety level, but this goal could be achieved by setting fines appropriately. Additional groups subject to extinction would be those on welfare—mothers with children and retirees with no source of income (we might be expending more on them in medical services than they receive under fully funded social security or pensions).

Most of the difficulties in monstrousness arise because we cannot determine the extent of the duty to produce. Wealth maximization requires that everyone work as hard as possible. If they cannot work hard enough to support themselves, they should have the courtesy to cease to exist. This restates William's concern with integrity: people, under wealth maximization, must surrender their own goals and projects to those of someone or something else. The only reason to consume in the wealth-maximization regime is to ensure that markets exist in which to value production.

The only area in which wealth maximization escapes the condemnation accorded utilitarianism is in measurement. It is much easier to measure wealth than utility, although the need to hypothesize markets reveals that even wealth measurement is not without difficulty. The fact that we may measure wealth, however, does not mean we have adequately solved the problem of comparing and aggregating utilities, for we have not justified the particular choice of scale or the process of aggregation. Further, wealth maximization like utilitarianism simply ignores questions of equity and justice.

Professor Posner has argued that wealth maximization is more satisfactory as an ethical norm than classical utilitarianism, because an act that increases wealth benefits others in society: "[A]t every stage in the accumulation of that money through productive activity net benefits were conferred on other people besides the producer." This argument is intuitively attractive, however, only if increases in wealth are also increases in allocative efficiency. As noted in the prior section, however, increases in wealth do not necessarily increase allocative efficiency. While some people in addition to the producer may be benefited by her acts or by a particular legal change that increases societal wealth, others may suffer.

The standard objections to classical utilitarianism thus apply with equal force to wealth maximization. If one believes that law

27. See Williams, A Critique of Utilitarianism, in J.C. Smart & B. Williams, supra note 14, at 75, 108-81.
28. Posner, supra note 6, at 123.
should reflect moralís, an advocate of the strong normative claim that the law ought to maximize wealth must but apparently cannot defend against these objections. Further, advocates must justify the particular choice of wealth as an utility function. A different type of justification of the strong claim, however, may derive from a denial of the link between law and ethics.

3. Nonutilitarian Foundations of the Strong Claim.—The recognition that law and morals may be distinct suggests two different types of arguments for supporting the normative claim of efficiency. One type of argument focuses on the philosophical conception of the state. The second relies on a radically different political theory of how power and decisions should be divided among the various instrumentalities of the state. This section briefly sketches the contours of these positions, neither of which appears very promising. The discussion does, however, reveal a remarkable amount of agreement between most critics and exponents of the normative claim.

a. The Nature of the State.—Some criticisms of utilitarianism focus on its treatment of society as a separate entity, distinct from the individuals who comprise it. On this view, utilitarianism fails because no sentient being experiences the good—maximum satisfaction—sought. Not all political philosophers, however, have viewed the state as a device for promoting the good of its citizens. Some have argued that the state is an entity itself, with interests of its own or interests coincident with some other impersonal collectivity. The philosophical conflict is between organic and contractual theories.

In Marxist theory, for example, the state serves as an instrument of the ruling class; while persons within a class may not clearly or correctly perceive their own interests, the state may serve to promote these class interests. Rousseau and Hegel also distinguish between the individual's private interests and the public or state interest. For Rousseau the act of entering into the social contract creates an entity different from and purer than the individuals who compose the collectivity. The purpose of the state is to fulfill the general will, which may diverge from the will of the individual. "For every individual may as a man [sic] have a private will contrary to, or different from, the general will that he has as a citizen. His private interest may speak with a very different voice

29. See generally Hart, supra note 14.
from that of the public interest . . . .”30 In Hegel, the individual is split between civil society, in which he pursues his own personal ends, and the state, in which he pursues the universal. Alternatively, the state embodies the general will, of which each individual is only a part. Each of these conceptions allows the state a purpose distinct from the purposes of its citizens. It would thus be logically consistent to argue that, though individuals pursue pleasure, the state, through law, should pursue wealth.

Organic theories of the state thus suggest at least two positions: that the general will dictates the maximization of wealth or that wealth maximization promotes the interests of the ruling class. While the first may be possible, the second seems implausible. Both arguments, either of which might justify the normative claim, require considerable fleshing out and rest on a vision of the state that most, if not all, proponents of the normative claim would deny.

A contractual concept of the state provides a philosophical foundation31 more palatable to proponents of the claim, but one rife with difficulties.32 A contractual theory must explain both the manner and extent of consent. For most, if not all, instances consent must be implied; in fact, there may be few acts or words from which to infer this implicit consent. The absence of explicit agreement also complicates a discussion of the terms of the agreement. Presumably, one must argue that the implied terms of the contract are in the best interest of the parties to the agreement. As wealth maximization may disadvantage some groups distributionally, this argument may be difficult to make. One might suggest, as Posner does,33 that the average impact of legal rules, or at least common-law rules, will be distributionally neutral. The strong normative claim would rest on a controversial empirical premise, the distributional neutrality of the law.34

b. Political Theory: The Role of Law in an Individualistic

30. J.J. Rousseau, The Social Contract, Book I, Ch. 7 (p. 28).
31. A draft of a new article by Professor Posner espousing a consensual theory reached me as I was finishing a final draft of this Article. See Posner, The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication, 8 Hofstra L. Rev. 487 (1980). The comments here are sketchy and do not respond as adequately as I would like to the points raised by Posner.
34. See M. Horwitz, The Transformation of American Law ch. III (1977) (arguing that American common law distributionally favored the rich).
State.—One might agree that the good of the state consisted only in the good as perceived and experienced by its citizens and still deny any strong link between law and morals. One might believe instead that judges are not competent to infuse morality into law or that it is more appropriate for judges to pursue other political goals. Thus one might argue that judges should be the instrument of the state's policy to promote efficient allocation of resources, a political goal that critics of the normative claim might accept.

Some writings on economics and law might be construed as advancing this claim. In an attempt to explain how the judiciary manages to promote efficiency while the legislature frequently seems to fail, Landes and Posner argue that the appointment process and tenure rules insulate judges, unlike the legislature, from the pressures of interest groups. Further, because any particular decision will have little, if any, impact on the wealth or happiness of the judge, personal prejudices will not warp his judgment. If one converts these observations, designed to bolster the descriptive claim, into policy arguments for assigning tasks among political institutions, one has a weak argument for the strong normative claim.

In fact, judicial proceedings are poorly structured for promoting the goal of wealth maximization. The factual investigation in a court focuses on the behavior of the parties before the court. Information highly relevant to a determination of the wealth-maximizing rule may therefore be excluded.

Moreover, few courts have the competence to make economic judgments or weigh economic evidence. Judges are generally not trained in economic reasoning or in the manipulation of statistical data, and they generally have little or no access to people who are trained in such matters. Accordingly, case reports rarely weigh the marginal benefits of a variety of rules against the respective marginal costs and then choose on economic grounds. A judicial system designed to effectuate wealth maximization would undoubtedly look significantly different than the current system.

Much discussion of the judicial process emphasizes aspects of

36. The argument is weak for a number of reasons. For instance, Landes and Posner have a rather naive view of class and the manner in which social background and social milieu affect the ideas one has.
37. Such access would be limited by institutional norms prohibiting contact with third parties.
it that are uncongenial to the promotion of efficiency. Professor Dworkin has argued that courts are peculiarly able (and required) to decide on principle as opposed to policy. Administrative agencies developed because doubts arose that courts would adequately address technical, economic problems. Resting the strong normative claim on a theory of judicial competence to decide technical, economic questions, therefore, seems problematic at best.

C. The Weak Claim of Allocative Efficiency

A weaker version of the normative claim asserts that the law ought to be allocatively efficient or at least ought to promote allocative (or Pareto) efficiency. Here I shall explain in what sense the claim is weak and why the “weakness” is relevant to its use as a legal norm. I shall then raise a “liberal” objection to the claim itself.

1. Weakness of the Claim of Allocative Efficiency.—The claim of allocative efficiency is weaker than the wealth-maximization claim because many controversies that might arise would not be resolved by the criterion of allocative efficiency, while the wealth-maximization norm would be decisive. The prior discussion of allocative efficiency illustrates this quite clearly. Not all states of the economy may be compared in terms of allocative efficiency. The weakness of the allocative-efficiency criterion stems from its failure to make distributional comparisons. Wealth maximization resolves this difficulty by specifying an unique way to consider distributional effects: add up the changes in wealth.

In many if not most legal situations, courts or legislatures must make distributional comparisons. The choice between a product liability system and a negligence with contributory negligence system is a distributional one. Economic models suggest that each system will induce the same level of care on the part of the manufacturer; under strict liability, however, consumers will be richer and manufacturers poorer than under a negligence with contributory

39. See pp. 594-95 supra.
negligence system.\textsuperscript{41} Similarly, the decision that allows noxious uses of land in a certain location increases the wealth of noxious users to the detriment of those seeking quiet enjoyment. One might argue that no individual suffers from the prospective application of a rule allowing noxious uses, because any individual might at some time choose to employ her land noxiously. Such an argument ignores the possibility that people's preferences may differ; some people may actively dislike polluted environments.

The criterion of allocative efficiency will, of course, decide some actual cases. When a proposed change will increase wealth and the losers will be compensated by those who gain, the norm of allocative efficiency recommends the change. Taking questions would fall under this category. Legal rules that facilitate bargaining, or that reduce the cost of drafting agreements, would also be recommended by allocative efficiency as both parties to the contract benefit from the reduced transaction costs.

The claim that the law ought to promote allocative efficiency therefore appears weak. Though it does decide some legal questions, most difficult questions are left unanswered.

2. Objections to Allocative Efficiency.—In utilitarianism the only information relevant for choices between social states is utility information. Similarly, for those choices over which allocative efficiency is decisive, only preference information matters. The objections to allocative efficiency discussed here deny that either utility or preference information constitutes the sole basis for decision. Consequently, the force of these objections applies equally to wealth maximization and to allocative efficiency as norms. The objections have been previously raised by A.K. Sen.\textsuperscript{42}

Sen introduces a moral consideration. He suggests that certain decisions are personal or self-regarding in that the interests of third parties should not determine or influence the outcome of these personal decisions. He offers the following example:

Two persons, namely, the prude and the lewd, are considering three states of affairs, namely, $p$ (the prude reading Lady Chatterly's Lover), $l$ (lewd reading the book), and $o$ (nobody reading it). The prude’s personal utility ranking, in decreasing order, is: $o, p, l$, while the lewd ranks them $p, l, o, \ldots$. [B]oth

\textsuperscript{41} The elasticity of the demand curve limits the extent to which manufacturers can pass on the added costs imposed by a strict liability system.

\textsuperscript{42} See A. Sen, supra note 14; Sen, Personal Utilities, supra note 14; Sen, Utilitarianism, supra note 14.
prefer $p$ to $l$, i.e. the prude reading the book rather than the lewd. It is postulated that in $p$ the lewd is overjoyed at the prude’s discomfort in having to read a naughty book, and the prude is less unhappy, having avoided the dire outcome of that lascivious lewd actually reading and enjoying ‘such muck’ . . . On libertarian grounds, it is better that the lewd reads the book rather than nobody, since what the lewd reads is his own business and the lewd does want to read the book; hence $l$ is socially better than $o$. On libertarian grounds again, it is better that nobody reads the book rather than the prude, since whether the prude should read a book or not is his own business, and he does not wish to read the book; hence $o$ is better than $p$. On the other hand, both get more utility from the prude reading the book rather than the lewd.43

Allocative efficiency dictates that the parties choose state of affairs $p$, while ‘liberalism’ dictates choice of the state of affairs $l$. The conflict between allocatively efficient values and liberalism arises because the liberal value structure distinguishes between types of pleasure and pain on the basis of their source. Pleasure and pain derived from the pain and pleasure of others do not count in making choices.

Similar objections to the criterion of allocative efficiency can be raised with respect to moral values other than the weak concept of autonomy or liberalism used in Sen’s example. Objections to torture, sadism, or the vicarious pleasure some people may derive from the observations of the pains of others might lead one to question the premise that only preferences of individuals matter in the evaluation of social states. Alternatively, one might believe that the history that leads to a particular social state should be considered in evaluating it. For instance, the historical fact of slavery in antebellum United States may be offered to justify in part a policy of affirmative action for blacks. To accept the relevance of these nonutility aspects of a situation requires that one reject both the strong and the weak normative claims.

D. Summary

I have distinguished two normative claims of efficiency in the law. One, allocative efficiency, is weak in the sense that it does not decide many crucial questions, since it does not resolve the distributitional problems that constantly confront judges. The very weak-

ness of the allocative claim, however, makes it relatively acceptable. Difficulties arise only when we wish to evaluate the social state by using information in addition to or exclusive of preference information.

The second normative claim, wealth maximization, is more difficult to justify. An ethical justification of wealth maximization is subject to the same objections as the utilitarian ethic. Justifications based on political philosophy or political theory have not yet been elaborated, but they too face grave obstacles.

II. THE DESCRIPTIVE CLAIM

The descriptive claim asserts that the law is in fact efficient. Evaluation of the claim requires pursuit of three separate inquiries. First, one must specify precisely the criterion of efficiency to which the law is said to adhere. Second, one may ask whether economic theory seeks to predict that the law is efficient. Third, one must, at least within the epistemological framework of the proponents of the descriptive claim, examine the world to determine that actual rules of law do, in fact, meet any particular and precise criterion of efficiency.

This section pursues the first two inquiries. Examination of the empirical status of the descriptive claim is ignored because no one has yet attempted thorough empirical tests of the claim. Two reasons presumably explain this neglect. First, the laying of theoretical foundations for a claim generally precedes its empirical testing. One's hypothesis must be clear before one seeks facts to confirm or refute it, for theory determines which facts must be gathered. Second, the hypothesis has certain inherent characteristics that make testing difficult. The descriptive claim refers to behavior in the world, and any particular rule of law affects a large number of decisions. Reported appellate cases charting the history of a rule of law or a doctrine represent only a small proportion of circumstances in which the rule of law may affect behavior. Properly to evaluate the behavioral impact of a rule of law, one must consider unreported appellate cases, trial-court cases, disputes settled both before and after the filing of an action, and the quality and number of "normal," undisputed transactions. Further, as to each transaction,

44. Those writing in law and economics generally seem to be positivists. See notes 69-70 infra.
45. The few exceptions are discussed in note 70 infra.
46. See sources notes 69 & 70 infra.
empirical evaluation of the descriptive claim requires detailed information about the range and cost of alternatives available to a decisionmaker. Such information does not generally appear in appellate opinions; it may not even be developed at trial for the fact finder. Thus indirect testing will be necessary. The need for a solid theoretical basis and the formidable difficulties involved in empirically testing the descriptive claim explain the lack of attention devoted to empirical verification, although neither reason can justify a persistent refusal to make the attempt.

This section consequently considers only whether the descriptive claim has been stated with sufficient specificity to allow empirical testing and to what extent the claim is a consequence of economic models. In brief, I argue that discussions of the descriptive claim too frequently fail to state precisely the economic problem the law supposedly solves and that the descriptive claim may not be a prediction of economic theory.

As with the normative claim, the brevity of expression of the descriptive claim conceals a welter of possible interpretations. These interpretations divide into two broad classes: evolutionary and nonevolutionary. An evolutionary claim admits that inefficient rules may be observed or that on occasion courts may err and select an inefficient rule rather than an equally practical or operationally efficient one. The evolutionary claim asserts that the law tends toward efficiency. The theory is that more efficient rules persist longer than inefficient ones, or that more efficient rules replace less efficient ones more frequently than less efficient rules replace more efficient rules. The claim, therefore, emphasizes the process by which the law moves toward efficiency rather than the efficiency of the prevailing rule. Nonevolutionary claims, on the other hand, do not emphasize the process of rule generation and rule change; instead they assert that existing rules are more efficient than some other feasible class of rules. Most articles in law and economics assert a nonevolutionary claim. They suggest that particular doctrines, such as those governing mistake, rescue, consideration, and impossibility meet some efficiency criterion.

The bifurcation of claims into these two broad classes does not resolve the ambiguities inherent in the descriptive claim. The precise nature of the claim of either class depends on the definition given efficiency, on the particular list of rules considered feasible, and on those aspects of the world considered fixed or invariable in the model. A descriptive claim of efficiency may, therefore, rest upon any of at least six different definitions of efficiency and untold number of lists of possible rules. Arguments over the efficiency of a doctrine may shift between the various descriptive claims.

This section begins with a discussion of a nonevolutionary descriptive claim. First, the varieties of the nonevolutionary claim are discussed. I then suggest that the conclusion of economic models contradicts the nonevolutionary claim. Second, the section discusses the evolutionary claims. Almost all the distinctions made with respect to the nonevolutionary claims, I argue, apply in the evolutionary context. Next I raise some difficulties peculiar to the evolutionary class of the claim.

A. Nonevolutionary Claims

1. Varieties of the Nonevolutionary Claim.—a. Definitions of Efficiency.—In assessing the normative claim, three specifications of efficiency were adequate. The concepts of productive efficiency, allocative efficiency, and wealth maximization permitted analysis of the ethical and political assumptions needed to sustain the normative claim. To evaluate the descriptive claim these three definitions must be refined; their inadequacy stems from ambiguity in the relevant time period during which the rule allegedly is efficient. A precise analysis further requires identifying whether a person may periodically reconsider her decision about whether and how to engage in an activity or enter into a transaction, and, if she may reconsider, how frequently.

Most economic models assume that people make a single, unchanging decision in a fixed world. Many assertions of the nonevolutionary claim rely on such a static conception of the world. A manufacturer chooses a level of product safety in light of a given rule of liability; the law and economics scholar asks if that level of product safety is efficient. No technological changes are possible; no shifts in the preferences of consumers allowed. The manufacturer cannot alter its decision. These models thus have no interesting concept of time; I shall call them timeless or static. In the timeless world, any one of the three claims of efficiency (pro-
ductive efficiency, allocative efficiency, or wealth maximization) could serve as a criterion against which to measure the law.\textsuperscript{51}

The introduction of time into the analysis requires some straightforward redefinition of productive and allocative efficiency and some more complex reconceptualization of wealth maximization. Consider first productive efficiency. Imagine a world in which there are five distinct time periods called years. If the decisions in one year do not affect the decisions in any other year, a five-year economic plan would be productively efficient, if, and only if, economic activity in each individual year were productively efficient. Decisions in a particular year, however, will affect the range of options available in other years in a variety of ways. For instance, a capital investment in year 1 may mean we could have produced more in years 2 through 5 than we could have obtained absent the capital investment. In terms of productive efficiency, it suffices to consider the capital good like any other commodity; if we could produce more of it in a particular year (other than the last) without producing less of any other good, the economy is not productively efficient. Treating a capital good like any other good, however, implicitly assumes a specific judgment about the relative weight to be assigned to consumption today as opposed to consumption tomorrow. Generally societies produce to consume and not for the inherent good of the productive process. A choice to produce a capital good delays consumption until some point in the future. Thus, in an economy with a finite planning horizon or finite life, one would not want to produce capital goods in the last period because such capital goods would never yield any consumption.\textsuperscript{52}

While consideration of capital goods does not require reconceptualization of the notion of productive efficiency, other problems do. If, for example, we consider an economy in which production of a particular commodity depends upon a nonrenewable or exhaustible resource, we must extend the conception of productive efficiency to encompass all five years. In the presence of an ex-

\textsuperscript{51} See, e.g., Posner, A Theory of Negligence, 1 J. LEGAL STUD. 29 (1972). In fact, the most common nonevolutionary claim is one of wealth maximization: “The common law method is to allocate responsibilities between people engaged in interacting activities in such a way as to maximize the joint value, or, what amounts to the same thing, minimize the joint cost of the activities.” R. POSNER, supra note 2, § 8.1, at 179.

\textsuperscript{52} For a discussion of the problems of intertemporal choice, see pp. 614-16 infra.
haustible resource, we can produce more of a good (which requires the resource for its production) in year 1 only if we produce less of the good in years 2-5. Suppose, for example, production of shmoos requires the use of a nonrenewable resource. The only way to produce more shmoos in the fifth year may be to produce fewer shmoos in the fourth year. If the only way to produce more shmoos in a particular year is to produce fewer in another year, the five-year plan is productively efficient. The society must therefore think of shmoos available in year 1 as a commodity distinct from shmoos available in year 2 (or 3, 4, and 5). Thus, the economy could be productively efficient even if more shmoos could have been produced in year 1 by using more of the exhaustible resource; productive efficiency requires only that the nonrenewable resource be exhausted over the planning horizon.

The introduction of time into an economic model has a similar effect on allocative efficiency. Some problems will be identical since allocative efficiency implies productive efficiency. Under allocative efficiency, however, consumption decisions become more explicit. Recall that we say an economy is allocatively efficient if and only if no person can be made to feel better off without making someone else feel worse off. When time is introduced into the world, we must imagine each decisionmaker at the time of choice appraising the effects of that decision upon her at each point in time. For example, decisions concerning capital investment ask consumers to evaluate their consumption stream over time; investing in capital in year 1 asks consumers to trade off consumption or well-being today for consumption or well-being tomorrow. Thus a static world with capital goods that was productively efficient could be allocatively inefficient if consumers prefer to delay their consumption until later in the planning horizon.

Further difficulties arise if the time periods considered are generations rather than years. An allocatively efficient five-generation plan is one in which a particular generation cannot be made better off without making another generation worse off. Changes in the position of one generation relative to another will occur as the capital-investment plans of the society change. Thus, the choice of a particular, allocatively efficient plan implicitly weighs the relative merit of differing generations. This normative choice is more troublesome than the comparable choice of individuals as future generations are not represented in the planning process. This problem of intertemporal choice will be discussed at greater length in the context of wealth maximization.
In a world with time, the criterion of wealth maximization can be elaborated in a variety of ways. Many of these elaborations differ in the manner in which they weight different years in the time horizon. The simplest weighting system counts wealth in one period as heavily as wealth in any other period; this criterion recommends maximizing the sum of the wealth produced in each of the years in the five-year plan. If we think of the time period as years and the population as constant, this criterion is unappealing. Economists generally assume that people prefer wealth today to wealth tomorrow. After all, if no goods are perishable and storage is costless, one could always save that produced today and use it tomorrow. Under these assumptions, one should discount wealth tomorrow; that is wealth acquired in later years should count less than wealth acquired earlier in the five-year plan. How much less wealth in later periods should count then becomes a difficult and important question in applying the wealth maximization criterion. If wealth far in the future is greatly discounted, projects that impose costs early in the planning horizon and yield benefits late in the horizon will look unappealing. If wealth far in the future is discounted only slightly, these same projects will become desirable. Thus, whether a rule of law that promotes projects that contribute to wealth only in the distant future is efficient will depend upon how much weight is placed upon wealth in the future.

If we think of the five time periods as generations rather than years, the weighting of wealth achieved in each period becomes more problematical. The argument that people prefer wealth today to wealth tomorrow does not apply as the people today are not the same as the people tomorrow. Discounting wealth accrued tomorrow therefore disadvantages later generations. On the other hand, not discounting later generations may disadvantage the current one; many projects with high costs today but high benefits in the distant future become desirable under this version of wealth maximization and today's generation may be asked to sacrifice greatly for the unborn. In short, a world with several generations is analogous to one with several people in a timeless world. In each, the distribution of wealth matters greatly. In the timeless world the criterion of wealth maximization resolves the distributional problem through the market determination of interest rates. In the generational world the choice of weights for each generation is a far more

53. For the theory of discounting and the difficulties in formulating criteria for decisionmaking over time, see J. Hirshleifer, Investment and Capital 31-45 (1969).
difficult distributional judgment, for which the choice of interest rate is a less palatable resolution.

A third way to weight different time periods would place all the weight upon a particular date, generally the last one.\(^4\) Thus, one might be interested in maximizing wealth available in the last year of the five-year plan. This criterion may appeal more to an individual who plans from year to year rather than to a society that plans from generation to generation, since an individual may prefer to concentrate her consumption into intense episodes, while a generation is not apt to sacrifice all its pleasures to heighten minimally the amount of consumption available to another generation.

Finally, one might adopt as a criterion of wealth maximization the rate at which wealth increases over time. This criterion becomes more appealing as the time horizon lengthens; even if we discount wealth tomorrow only slightly, very distant time periods count very little in the wealth-maximization criterion. Very distant generations of the unborn, therefore, do not carry much weight in evaluating the plans. If we do not discount wealth at all, total wealth over an infinite horizon will be infinite for many different production plans, even productively inefficient ones.\(^5\)

To evaluate the efficiency of rules of law in worlds with time requires careful consideration of the definition of efficiency. The manner in which decisions in one period affect decisions in another becomes significant in applying the criteria of productive and allocative efficiency. Wealth maximization requires more explicit weighting of the wealth produced in each period; different weighting will suggest that different rules of law are efficient.

Two conclusions should be noted. First, the validity of the descriptive claim depends critically on the particular criterion chosen. A specific rule of law may be productively efficient in a timeless world but need not maximize the long-term growth rate. Similarly, a rule of law may maximize wealth for one choice of a discount factor but not for another. Second, the choice of a criterion embodies some weighing of one generation against another.

\textit{b. The Options Available.}—Whether a given rule of law is

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55. This is a popular criterion in mathematical economics. See, e.g., McKenzie, \textit{Turnpike Theorems for a Generalized Leontief Model,} \textit{31 ECONOMETRICA} 165 (1963); Morishima, \textit{Proof of a Turnpike Theorem, the No Joint Production Case,} \textit{28 REV. ECON. STUDY.} 89 (1961); Phelps, \textit{The Golden Rule of Accumulation: A Fable for Growthmen,} \textit{51 AM. ECON. REV.} 638 (1961).
best in any of the senses of efficiency outlined above will depend on what other rules of law or other institutional devices are available in the economy. For instance, one might discover that in a nuisance context assigning the right to pollute to noxious uses leads to greater wealth than assigning to everyone a right to enjoin noxious uses. It might also be true, however, that zoning some areas for noxious use and other areas for nonpolluting uses produces more wealth than any assignment of rights to pollute or to engage in noxious uses of one's land. Further, requiring that certain noxious and non-noxious activities be undertaken by the same firm rather than have the exchanges mediated by a market may produce even more wealth than a zoning rule. The validity of the descriptive claim, therefore, necessarily rests on which alternatives are implicitly being compared.\textsuperscript{56}

Two quite distinct comparisons occur in the literature. Frequently, scholars compare a range of liability rules or, more generally, a range of entitlements protected by a variety of property and liability rules.\textsuperscript{57} These scholars thus ask how much a noxious user should be allowed to pollute and what remedy—injunction, permanent damages, or temporary damages—should be available to the victim.\textsuperscript{58} Similarly, in accident cases, a writer may ask: Given that

\textsuperscript{56} The importance of the range of alternatives is a much overlooked point in Coase, \textit{The Problem of Social Cost}, 3 J.L. Econ. 1 (1960). He suggests that in a world of positive transaction costs, one must ask whether governmental regulation, market mediation, or internalization by organizing the activity into a firm maximizes wealth. It may be useful here to explain the relation of the Coase Theorem to the descriptive claim.

The Coase Theorem says that, in the absence of "transaction costs," any allocation of entitlements leads to productively efficient outcomes. (In the absence of wealth effects from a change in the distribution of entitlements, the alternative regimes will each be wealth maximizing.) Thus, the Coase Theorem is the descriptive claim if there are no transaction costs in the world. The Coase Theorem and an assumption of positive transactions costs, however, does not imply the descriptive claim. Nor is the Coase Theorem necessary for the descriptive claim to hold. In a rather strong sense, then, the descriptive claim is independent of the Coase Theorem. Actual rules of law might minimize social costs in a world of zero transaction costs even if the Coase Theorem were false (because, for example, people engage in strategic behavior). Similarly, if positive transaction costs exist, the Coase Theorem does not predict that each and every rule will be efficient. Coase realized this quite clearly; he argued that, in the presence of positive transaction costs, the law could be chosen to maximize wealth or productive efficiency.

\textsuperscript{57} The seminal article in this regard is Calabresi & Melamed, \textit{Property Rules, Liability Rules, and Inalienability: One View of the Cathedral}, 85 Harv. L. Rev. 1089 (1972).

\textsuperscript{58} See, e.g., Polinsky, \textit{Controlling Externalities and Protecting Entitlements: Property Right, Liability Rule, and Tax-Subsidy Approaches}, 8 J. Legal Stud. 1
the rule of law is negligence with contributory negligence, how should the standard of care be set? Alternately, the rule of negligence with contributory negligence may be compared to a strict liability rule or to a comparative negligence rule.\(^{59}\)

Second, the literature often compares liability or property rules to other more complicated schemes of government regulation.\(^{60}\) Does the Occupational Safety and Health Act lead to maximization of wealth or would society be better off under a tort compensation scheme? Does the Food and Drug Administration cost too much because of the delays in getting efficacious drugs to the market? Would a product liability rule lead to a better drug market? These two comparisons are now quite familiar. Coase's seminal article focused on the choice of liability rule;\(^{61}\) subsequent research has made this investigation commonplace.\(^{62}\) The contrast between governmental regulation and market mediation, both supplemented by common-law remedies, long antedates the new law and economics literature. Antitrust law and the law governing regulated industries has inescapably had to confront this comparison.\(^{63}\)

A third constraint, however, also occurs implicitly. Frequently the rules of law available may be conditioned only on certain factors. For instance, negligence rules account only for the care taken by the parties; they do not consider the wealth of the parties or the extent to which the parties like or dislike risk. Wealth and risk factors may, however, affect the efficiency of a rule. It may be more costly for a wealthy person to take care than a poor person (since the value of a wealthy person's time is greater than the poor person's), even though both rich person and poor person will be held to the same standard of care.\(^{64}\) Even when attitudes toward risk are relevant, the law may not distinguish between rich and poor, because of fairness considerations or because it cannot develop the necessary information.\(^{65}\) A legal rule may therefore be inefficient in

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\(^{59}\) See Brown, supra note 40, at 323; Diamond, Single Activity Accidents, 3 J. LEGAL STUD. 107 (1974).

\(^{60}\) See, e.g., S. PEITZMAN, REGULATION OF PHARMACEUTICAL INNOVATION (1974); Polinsky, supra note 58; White, supra note 58.

\(^{61}\) See Coase, supra note 56.

\(^{62}\) See, e.g., Calabresi & Melamed, supra note 57.

\(^{63}\) See generally F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE (2d ed. 1979).

\(^{64}\) Green, On the Optimal Structure of Liability Laws, 7 BELL J. ECON. 553 (1976).

\(^{65}\) L. Kornhauser, Breach of Contract in the Presence of Risk Adversion, Reli-
a legal system capable of and willing to condition its rules on the wealth and risk attitudes of the parties, but efficient in a legal system constrained to select a rule that does not discriminate on these factors.66

Evaluation of the descriptive claim requires an understanding of the options being compared as well as the efficiency criterion used to rank the options. And, just as the choice of an efficiency criterion may reflect some normative position, so may the choice of the list of options among which the actual legal rule is said to be efficient.

c. The Environment of the Legal Decision.—The content of the descriptive claim also varies with the characterization of the world in which the efficient rule of law operates. Assumptions about three aspects of the world are particularly important: the stability of consumer preferences, the stability of technology, and the distribution of knowledge among the economic actors and the courts.

If efficiency means productive efficiency, the stability of consumer preferences does not affect the evaluation of a rule of law. Productive efficiency depends solely upon the technological relations of inputs and outputs. If efficiency means allocative efficiency or wealth maximization, however, the stability of preference does matter. If consumer preferences may be influenced by advertising or by continuing use, then a rule that is allocatively efficient in that world may not be allocatively efficient in a world of unchanging preferences. Under a wealth-maximization criterion, consumer preferences also influence prices. An assumption that allows for manipulation or alteration of consumer preferences may suggest a wealth-maximization strategy devoted to altering the preferences in a favorable way.

The constancy of technology affects the evaluation of a rule of law under each of the efficiency criteria. A rule of law that induces the maximization of wealth in a world with static technology may not induce the maximization of wealth in a world with technological change, because a rule framed in a static-technology context applied to a world of changing technology may not induce the

66. The rule "best" when the legal system cannot or will not condition the rule on relevant criteria is frequently called "second-best." Discovering the second-best rule is frequently a difficult task. See pp. 626-27 infra.
appropriate amount of investment in research and development. This problem is distinct from the problem of growth, as growth may result solely from investment in capital; the form of that capital will be determined by the technology available. That is, one may increase steel production by building more steel plants that use a known technology or one may increase steel production by inventing a new technology for producing steel. Alternatively, one might invent a substitute for steel. The economy may grow in any one of these circumstances; only the latter two require technological change.

Finally, the distribution of knowledge among the economic actors in the economy affects the evaluation of a rule of law. Negligence and strict liability standards may be equivalent if both consumers and producers know how much care is required. If consumers do not know the safety characteristics of goods and producers do, the rules are no longer equivalent. Similarly, a negligence with contributory negligence system of accident liability might maximize wealth if the courts knew the technology that determined the relation of care to the number of accidents. The same system of rules may not be efficient if the courts do not know the technological relations.67

d. Summary.—The descriptive claim takes on a wide variety of nonevolutionary forms.68 To check the validity of the claim one

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68. Professor Michelman has recently suggested that the descriptive claim is not a claim about the behavior of economic actors but a claim about the psychology of judges:

A more accurate statement of the hypothesis, I believe, would be that the rules, taken as a whole, tend to look as though they were chosen with a view to maximizing social wealth (economic output as measured by price) by judges subscribing to a certain set of ("microeconomic") theoretical principles.

Michelman, A Comment on Some Uses and Abuses of Economics in Law, 46 U. CHI. L. REV. 307, 308 (1979). As this interpretation strikes me as highly problematic I have not considered it here. I do not know how empirically one could verify that rules "look as though they were chosen with a view to maximizing social wealth." One might be able to show that judges thought they were maximizing wealth at the time they wrote their opinions. Presumably one would have to prove as well that they knew and believed in microeconomic theory. Both of these statements strike me as improbable as a matter of history. Further, for the judges to believe they were maximizing social wealth according to microeconomic theory they should have (if they were good microeconomists) gone through the analysis in the text and precisely identified what they meant by efficiency, what their choices were, and what economic environment they acted in.
must first decide which of a wide variety of definitions of efficiency is used; then decide against which rules of law or other institutions a particular rule is being measured; and finally, what assumptions have been made about the distribution of information, the stability of preferences, and the constancy of the technology. The non-evolutionary claim may thus vary from (i) a claim that a system of entitlements that permits cement factories to operate if they pay permanent damages maximizes wealth relative to other liability rules in a timeless world in which preferences and technology are stable and the knowledge of all parties is complete to (ii) a claim that the same system of entitlements maximizes wealth relative to all other institutional schemes (including other liability rules) in a world in which preferences and technology may change and in which ignorance is wide-spread and asymmetrically distributed.

Evaluation of the descriptive claim requires attention to its precise form for two reasons. First, the truth of the claim depends on it. A specific legal rule is not apt to be best for all forms of the claim. Second, both the choice of the particular efficiency criterion and of the list of possible rules reflect some normative judgment. Embedded in the criterion of efficiency is a distributional judgment about who among competing individuals or generations should be weighed most heavily. The adoption of a list of options may reflect norms of fairness that the legal system must meet regardless of the efficiency cost; alternatively, the list may reflect practical or political difficulties in the framing of rules.

2. The Relation of Economic Models to the Nonevolutionary Claim.—Under the epistemological model accepted by its proponents, only empirical evidence can confirm or refute any version of the descriptive claim. To discover whether the law governing in-

69. Methodology in law-and-economics, as in economics, has been little discussed. Professor Posner has explicitly adopted Milton Friedman’s philosophical position, itself a variant of logical positivism. The logical positivists maintain, like all empiricists, that claims to knowledge of the world can only be justified by experience. They further contend that the sole test of a theory is success in prediction. With these positions, Posner clearly agrees: “[t]he true test of a theory is its utility in predicting or explaining reality.” R. POSNER, supra note 2, at 13. Professor Samuelson is in accord. See Discussion: Problems of Methodology, 53 AM. ECON. REV. 227, 231 (1963) (Papers and Proceedings) (contribution of Professor Paul Samuelson) [hereinafter cited as Samuelson]. Professor Friedman agrees but appends the controversial idea that the realism of the assumption underlying the theory is irrelevant. See M. FRIEDMAN, The Methodology of Positive Economics, in ESSAYS IN POSITIVE ECONOMICS 3 (1953). Posner accepts the controversial appendage: “economic theory, despite . . . the unrealism of its assumptions, may be judged a success.” R. POSNER, supra note 2, at 13.
If by "unrealism" Friedman means falsity, the F-twist, as Friedman's contribution to logical positivism is called, is false. False premises do not transmit truth to their consequents (though their consequents may, in fact, be true). See Nagel, Assumptions in Economic Theory, 53 AM. ECON. REV. 211 (1963); Samuelson, supra; Simon, Rational Decision Making in Business Organizations, 69 AM. ECON. REV. 493, 494-95 (1979).

The other philosophy of science popular among economists draws on the work of Karl Popper and Imre Lakatos. See, e.g., M. Blaug, Kuhn Versus Lakatos or Paradigms Versus Research Programmes in the History of Economics, in Method and Appraisal in Economics (S. Latsis ed. 1976) (discussion of application of Lakatos' ideas to economic theory). For an introduction to Popper's philosophy of science, see K. POPPER, CONJECTURES AND REPUTATIONS: THE GROWTH OF SCIENTIFIC KNOWLEDGE (1963); K. POPPER, OBJECTIVE KNOWLEDGE: AN EVOLUTIONARY APPROACH (1972); Lakatos, Changes in the Problem of Inductive Logic, in 2 MATHEMATICS, SCIENCE AND EPistemology, PHILOSOPHICAL PAPERS 128 (J. Worrall & G. Currie eds. 1978). The Lakatos essay is one of the most lucid, coherent statements of a Popperian philosophy of science extant. It also contrasts Popper and the positivists in a striking and illuminating manner. Both Lakatos and Popper are empiricists and hence require that theories be tested by experience.

In fact the descriptive claim has not been subjected to systematic empirical testing. By "empirical" I mean an examination of the actual impact on behavior of people in the world. Studies of case reports are not empirical support for the descriptive claim because cases do not contain sufficient information on which to judge whether or not people's behavior is affected.

Posner in the second edition of his book Economic Analysis of Law does not cite to an extensive empirical literature; in the chapters on contract and tort, only two empirical studies are referenced and one is an unpublished Ph.D. thesis, see R. POSNER, supra note 2, at 88 n.5, 155 n.3. The chapter on property refers to six empirical studies; one considers the incidence of pollution-control costs, id. at 61 n.4, two attempt to estimate pollution costs by comparing land values, id. at 44 n.1, two estimate costs of implementing a property rights system, id. at 58 nn.3&4, and only one explicitly tests for the efficiency of a system of rules, id. at 64 n.1 (citing Agnello & Donnelley, Property Rights and Efficiency in the Oyster Industry, 18 J.L. & ECON. 521 (1975)).

A substantial body of empirical work on the law, however, has been done. Of this research, one may ask:

1. What areas of law are investigated?
2. What do the studies purport to prove? and
3. What is the relevance of the presence of an efficiency model to an empirical test?

One of the most extensively studied areas of law and economics (as measured by a casual reading of the Journal of Legal Studies and the Journal of Law and Economics from 1974 to date) has been the costs of distributional input of regulatory schemes. See, e.g., Breen, The Monopoly Value of Household-Goods Carrier
The descriptive claim, however, did not arise spontaneously; rather it developed from the observation that many legal doctrines conformed to some simple, informal but instructive economic models. Initially, basic economic concepts were used to illuminate accident law, nuisance law, and contract law. The use of these concepts allowed insight into the legal doctrines and into the behavior

Operating Certificates, 20 J.L. & ECON. 153 (1977); Edwards & Edwards, Measuring the Effectiveness of Regulation: The Case of Bank Entry Regulation, 17 J.L. & ECON. 445 (1974); Ippolito & Masson, The Social Cost of Government Regulation of Milk, 21 J.L. & ECON. 33 (1978). Absent a measure of benefits promoted by these regulatory schemes one cannot, of course, do a cost-benefit analysis; absent an assessment of the costs of running a market system, one cannot even determine whether the regulatory scheme is "efficient" or not. To the extent the benchmark for the measurement of costs is a perfectly functioning market, observing high costs of regulation does not imply that regulation is not wealth maximizing.

A number of studies seek to determine simply what effect, if any, the law has on behavior or the performance of the economy. E.g., Durman, The Impact of the Elimination of Residency Laws on Public Assistance Roles, 4 J. LEGAL STUD. 199 (1975) (whether elimination of residency requirements to obtain welfare benefits induced migration of poor people to high benefit states); Labovitz, The Impact of the Private Foundation Provisions of the Tax Reform Act of 1969: Early Empirical Measurements, 3 J. LEGAL STUD. 63 (1974) (how foundations altered their administrative and grant-making policies in light of Tax Reform Act); Ross, Deterrence Regained: The Chesire Constabulary's "Breathalyser Blitz," 6 J. LEGAL STUD. 241 (1977) (which sanction for drunk driving had most impact on subsequent driving records); Zimring, Firearms and Federal Law: The Gun Control Act of 1968, 4 J. LEGAL STUD. 133 (1975) (whether Gun Control Act reduced amount of violence from firearms). Each of these instrumental effects is consistent with non-efficient rules of law.

Other studies, like the work on the deterrent effect of capital punishment, seek to determine whether or to what extent capital punishment deters crime. In designing the tests, the investigator may use an equilibrium model that predicts optimal private and social choices. For instance, Ehrlich's model of the deterrent effect of capital punishment relies on criminals optimally choosing to engage in capital crimes and law enforcement agencies choosing optimal fines and enforcement levels simultaneously. Ehrlich, The Deterrent Effect of Capital Punishment: A Question of Life and Death, 65 AM. ECON. REV. 397 (1975). Confirmation of Ehrlich's model does not, however, necessarily confirm efficient behavior (he does not claim it does) for the observation of a deterrent effect is consistent with optimizing behavior on the part of criminals in the face of nonoptimal government behavior or indeed on economically "irrational" behavior on the part of the criminals. Thus it is critically important to specify what the background theory is against which any model is tested; only tests which discriminate among theories advance understanding.

A few articles do attempt to test the comparative efficiency of rules. Landes sought to determine whether the screening of airplane passengers was efficient. Landes, An Economic Study of U.S. Aircraft Hijacking, 21 J.L. & ECON. 1 (1978). Agnello and Donnelly investigated the efficiency impact of various allocations of property rights. Agnello & Donnelly, Property Rights and Efficiency in the Oyster Industry, 18 J.L. & ECON. 521 (1975). Regardless of the quality of these studies, their number is too few to constitute a test of the descriptive claim. Models and arguments suggesting efficiency have proliferated much faster than empirical tests of the models' validity. The descriptive claim remains a bold, largely untested hypothesis.
these doctrines regulated. From these insights grew the descriptive claim.\textsuperscript{71} These heuristic models, however, merely began the economic analysis of legal doctrines; they did not end it. More sophisticated economic models followed. In many cases these models do not predict that common law rules are efficient.

For example, consider the economic analysis of accident law. This began with a series of articles by Professor Calabresi, a series later unified into a coherent whole in his remarkable book \textit{The Costs of Accidents}. Calabresi did not claim that accident law was, in fact, efficient (the book in fact had a critical aim—arguing for rules of allocating liability to the "least cost avoider"). The claim later arose that the negligence/contributory negligence rule was efficient.\textsuperscript{72} The first formal analysis appeared in the \textit{Journal of Legal Studies} in an article by Professor Brown.\textsuperscript{73} He created a highly stylized world to demonstrate that both the negligence with contributory negligence rule and the strict liability with dual contributory negligence rule are efficient in the sense that each minimized the costs of accidents.

As Brown wished to examine how legal rules might act like prices in providing people with incentives, and because he was interested in the different patterns of liability produced by various traditional common-law rules, he abstracted away from a multitude of real-world complications. First, he assumed that the actors in his world are indifferent to risk. They do not like to gamble, nor do they fear the uncertainty of large economic losses or bodily injury. Consequently, money damages and money costs serve as proxies for individual "utilities" and no one in Brown's world purchases insurance. Second, everyone in Brown's world is identical. Each

\textsuperscript{71} As noted above, versions of the descriptive claim had appeared as early as 1973 with the publication of Posner's \textit{Economic Analysis of Law}. Formal economic models did not begin to appear until the same year. \textit{E.g.}, Brown, supra note 40, at 323; Diamond, supra note 59, at 107.

\textsuperscript{72} This of course means that current law is "inefficient" as much of the law governing accidents disowns the negligence/contributory negligence rules. Industrial accidents are controlled by a workman's compensation scheme. Many states have no fault automobile-accident regimes. Products liability is "strict" liability and, if it is without a dual contributory negligence standard, it is "inefficient." Even the residual category of accidents is now governed by comparative negligence in a majority of states.

As will be discussed later, some of these rules may be "second" best in a world in which first-best optima are unattainable. \textit{See pp. 626-27 infra}. But welfare comparisons are frequently difficult and the conclusions of the models are ambiguous, at best, as to the efficiency of any of these rules.

\textsuperscript{73} Brown, supra note 40.
faces the same risk of injury and the same costs of preventing accidents. All people are either very durable or frail; no one is more clumsy or adroit than any one else. They thus can all attain a particular level of safety at the same cost. Third, everyone knows what accident prevention devices and techniques are available and at what cost. No trade secrets exist. Everyone knows how many accidents each infinitesimal addition in care will prevent. Fourth, additional amounts of care have less impact if that person was already taking a great deal of care than if she were taking less. Fifth, the amount of accident producing activity is fixed. For instance, people could not stop driving or drive less if everyone else were driving recklessly, rather than safely. Sixth, each type of liability system imposes the same administrative costs. Seventh, each person chooses her own level of care assuming that others will not adapt their behavior to her choice.

Brown's world thus differs significantly from the real world. Many of his assumptions are surely contrary to fact; the rest may be counterfactual. To what extent may we accept the conclusions of his model as true or approximately true in the real world? If one or two of these assumptions are altered, do the conclusions still follow? Will an altered model continue to predict that those standards of care that induce efficient behavior will be chosen? Brown, himself, suggested the unlikeliness of this result by discussing a simple model of limited information in which the efficiency results break down.\textsuperscript{74} In this model, people only know about the costs and consequences of care near the level of care they mutually adopt. One of Brown's models, therefore, predicts that the law is efficient and the other that the law is inefficient. On which prediction should we rely? As logic transmits truth from premises to conclusions, one might reasonably favor the model that captures important aspects of the world more accurately in its assumptions. The complexity of the world suggests that information about care technology is limited. Reliance on the formal results of models, therefore, would suggest that none of the traditional liability rules is efficient.\textsuperscript{75}

\textsuperscript{74} Id. at 343-47.

\textsuperscript{75} Reliance on informal models would seem misplaced as well; as we may have difficulty in establishing the correctness of their logic as well as in establishing the "realism" of their assumptions. It is unclear in Friedman's methodology how one chooses between two theories or models when one is unable to test them empirically and when one denies the relevance of the realism of assumptions. A theory with false assumptions does not transmit truth deductively so it is difficult to accept Friedman's position. See generally note 69 supra.
The subsequent literature on accident law has attempted to analyze models based on more realistic versions of some of Brown's assumptions. For instance, Professor Jerry Green relaxed the assumption that parties face identical costs of accident prevention. He assumed that two types of actors exist, a high-cost-of-prevention type and a low-cost-of-prevention type. He showed that first-best results are unattainable with any of the traditional liability rules. Further, his paper reveals the difficulty of making welfare comparisons among suboptimal rules. He was able to find an equivalent set of second-best rules in the particular simple world he examined. The analysis necessary to determine these second-best rules, however, proved long and complex.

The difficulty in choosing between suboptimal rules on the basis of efficiency is also apparent in the work of Diamond and Mirrlees. They attempt to characterize Calabresi's least-cost avoider and found that a determination of the least-cost avoider rested on empirical facts that are difficult to verify. Thus, they found no general a priori result identifying even a second-best rule. As Diamond and Mirrlees note, such a result should not surprise us as the policy question is a complex one. But it does suggest that the general claims that accident law is efficient in a first-best or even second-best sense in a suboptimal world are not substantiated by the models. The more recent, sophisticated models of accident law do not predict the efficiency of legal rules.

Developments similar to that in accident law have occurred in other areas of law and economics; the informal models that conclude the law is efficient have yielded to sophisticated models with more ambiguous conclusions. In contract law, for example, research has noted that any given rule of law affects a multitude of decisions on the part of the potential contractor. Individuals face

76. Green, supra note 64.
78. One of the few "optimistic" formal results does not overcome the difficulties to the positive claim revealed by Green, supra note 64, and Diamond & Mirrlees, supra note 77; Cooter, Kornhauser & Lane, supra note 67, shows that altering the court's role in Brown's model allows the law to tend towards "efficient" results (in that model).
Note also that other literature on accidents raises equally interesting problems. See Diamond, supra note 59.
decisions to search for contracting parties, decisions to form, decisions to draft, decisions to breach and decisions to rely, as well as problems of ex post loss allocations.\textsuperscript{80} No single rule is apt to be optimal with respect to all these decisions simultaneously, and the interaction among them is complex and remains unanalyzed. The limited research completed to date suggests that legal rules governing contracts are not wealth maximizing.

Similarly the extensive literature on the economics of pollution\textsuperscript{81} and the growing literature on the economics of products liability\textsuperscript{82} testify to the complexity of the logic of efficient rules in these areas and the necessity of empirical work to verify assumptions so as to choose the model on which to rely or to verify the efficiency claim itself. It may be useful to use informal and formal models to make policy or to illuminate concerns of the law and lawmakers, but the development of these models over time suggests that for each efficiency result in a simple world, a suboptimal result in a more plausible world will be found. The common law may be efficient, but economic models of legal phenomena at best provide a shaky logical foundation for nonevolutionary claims.

B. The Evolutionary Claims

1. Varieties of the Evolutionary Claim.—The evolutionary class of claims directs attention to the process of common-law adjudication; consequently, the emphasis on comparison increases. Evolutionary claims do not deny the presence, even prolonged presence, of inefficient or less efficient rules. According to the evolutionary claim, the process of common law adjudication tends to replace inefficient rules with more efficient ones. A more precise statement of the claim requires elaboration of some standard against which to measure the tendency and some description of the process through which this tendency works.

The evolutionary claim can be stated in nearly as many variants as the nonevolutionary claim. Since under the evolutionary

\textsuperscript{80} See L. Kornhauser, supra note 65, at 3-12. All results are loosely stated.

\textsuperscript{81} E.g., W. Baumol & W. Oates, The Theory of Environmental Policy (1975); Polinsky, supra note 58; White, supra note 58.

\textsuperscript{82} E.g., Brown, supra note 40; Epple & Raviv, supra note 40; Goldberg, supra note 40; Oi, supra note 40; Ordover, Products Liability in Markets with Heterogeneous Consumers, 8 J. LEGAL STUD. 505 (1979).
claim rules of law tend toward efficiency, one still requires a definition of efficiency. It does seem more appropriate, though not logically necessary, when considering an evolutionary claim to consider a world in which time plays an important part. Time appears necessary in the evolutionary claim because evolution suggests change over time. One could consider, however, a series of worlds in which all remained the same except for (possible) changes in the governing rules of law. Such an analysis would be useful if changes in the world happened slowly, while changes in the law and in the behavior of individuals happen relatively rapidly. A static world might then provide a good approximation to actual circumstances. Similarly, the range of possible rules is as important in evaluating the evolutionary claim as in evaluating the nonevolutionary claim. Finally, an understanding of the evolutionary claim requires specifying the type of world in which the evolution occurs. Evolution in a world with static technology will differ greatly from evolution in a world with changing technology.

The evolutionary claim has been applied to a wider class of rules of law than the nonevolutionary claim. While no logical contradiction arises from asserting that legislative or constitutional rules are efficient in a nonevolutionary framework, some theories of judicial behavior suggest that legislatures, which may consider policies as well as principles, are more apt to arrive at efficient outcomes than courts. Proponents of the nonevolutionary claim, however, have denied that legislatures succeed in promulgating efficient rules. The evolutionary claim emphasizes the common-law process, and judges employ that process in statutory as well as common-law cases. Thus, one might assert, as some have, that more efficient interpretations of statutes and of the Constitution tend to survive longer than less efficient interpretations.

2. The Logic of the Evolutionary Claim.—The evolutionary claim, by focusing upon the process of adjudication, raises questions additional to those raised by nonevolutionary versions of the descriptive paradigm. As advanced, the evolutionary claims are less developed than the nonevolutionary ones. The criticisms outlined

83. Dworkin's theory of judicial decision suggests that efficiency is a legislative criterion. See R. DWORKIN, supra note 10.
here are consequently sketchy and tentative. Four factors determine the persistence of a rule of law: (i) the frequency with which disputes governed by that rule of law arise; (ii) the mechanism that determines which disputes are litigated and which are settled prior to litigation; (iii) the mechanisms that determine the disputant's investment in the litigation and that have adversarial quality; and (iv) the decisionmaking process of the adjudicator.

Two reasons suggest that the decisionmaking process of the adjudicator will not justify the evolutionary claim. First, while some judicial opinions mention the costs or benefits of particular rules, most eschew economic language and considerations. The opinions traditionally have been cast either in a formal mode or in an ethical one. Second, the adjudicatory process does not supply the relevant information on which to make economic judgments. In contract cases, for instance, parties do not introduce evidence on the likely patterns of information search and disclosure when litigating a mistake case. Even judges who were economically sophisticated and convinced that they should promote economic efficiency probably do not have sufficient information before them to make the appropriate decision. The question of whether the other three processes involved are sufficient to induce the outcomes predicted by the evolutionary claim thus becomes paramount.

Two evolutionary models have been advanced in the literature. One gives an implicit theory of how disputes are generated and litigated while ignoring the process of investment in litigation. The other explicitly outlines a model of investment in litigation without offering theories of dispute generation or of dispute settlement. No evolutionary theory, therefore, offers a complete explanation of the evolutionary process. More seriously, the proffered models of dispute generation and dispute settlement contain flaws.

In their simplest form, the theories of dispute generation and dispute settlement state either that efficient rules are never litigated or that they are always settled. Inefficient rules on the
other hand sometimes generate disputes and those disputes always result in litigation. Under these assumptions, it logically follows that inefficient rules will eventually disappear if judges sometimes (even very infrequently) replace inefficient rules with efficient ones. Unfortunately, neither assumption is obviously a priori true. Disputes (probably) do arise even when the governing legal standard is efficient, and disputes governed by efficient rules (sometimes) do reach litigation. After all, two rules may be equally efficient but have different distributional consequences; the plaintiff class would prefer the efficient rule that distributionally favored it, while the defendant class would advocate the distributional rule that favored it. The efficiency of the rules would not resolve the dispute, nor prevent it from arising. Even under efficient rules, some party usually has an incentive to shift the rule, even to an outcome that would prove inefficient over the long term. There is no incentive for the loser to accept the rule if he or she can win under an inefficient rule and if the system allows him or her to try to affect that change.

A more general formulation of the models of dispute generation and dispute settlement might assume that, through the combined effect of the generation and settlement process, inefficient rules are litigated with greater frequency than more efficient rules. The assumptions of differential litigation and of no judicial bias away from efficient outcomes are not alone sufficient to imply that efficient rules tend to persist longer than inefficient ones. The implications discussed here, it should be noted, are logical ones; they refer to the logic of the model not to the activity of the real world. It may be that none of the assumptions of the model are borne out in the real world, and yet efficient rules may still persist longer than inefficient ones.

A model of dispute settlement would seem to be easier to elaborate than one of dispute generation. A dispute settlement model must explain why certain negotiations fail as well as the particular outcomes reached in successful negotiation. Current models are inadequate on both counts. Models of the choice between settlement and litigation that either fail to make predictions that accord with actual behavior, or rest on nonintuitive assumptions, remain

90. Rubin, supra note 87, at 51. For a rigorous demonstration of this proposition and the manner in which it breaks down when relaxed, see Cooter & Kornhauser, supra note 86, at 150-56.

91. See Cooter & Kornhauser, supra note 86, at 150-56; Rubin, supra note 87.
unverified by experimental work. Models of nonlegal negotiations preceded efforts to explain the settlement/litigation choice. These earlier models rely on the theory of games. Most of these game-theoretic models of the bargaining process fail to account for failures to reach agreement, an obviously common occurrence. In labor-management negotiations, for instance, strikes frequently happen. Further, these models predict (or prescribe) that bargainers act efficiently, i.e., that they always reach efficient bargains.

These theories assume that the parties will always reach a private agreement that creates an efficient outcome. Since this obviates the need for litigation, few explicit models of the choice between settlement and litigation have been proposed. The few models that have been developed, like the bargaining models discussed above, assume that if a Pareto, or allocatively efficient outcome is possible, the parties will, in fact, find it. To explain litigation, therefore, the model builders seek to determine whether only litigation can provide a Pareto-superior allocation or how the parties can mistakenly believe an impossible outcome may occur. Differing expectations as to the outcome of the litigation may allow for litigation. If one of the parties overestimates her chance of success, she will hold out for too large a settlement and hence precipitate litigation. If the parties underestimate the probability of success on the other hand, the range of potential settlements increases and litigation will not occur. The frequency of litigation, therefore, depends on the frequency with which one or both parties overestimates her chance of success.

Litigation may also occur if one or both parties have a long-term interest in the subject matter of the litigation and a change in the law would significantly improve her position in future bargaining and settlement negotiations. This explanation of litigation relies on an assumption that only litigation can lead to the long-
term improvement of the party's position. In particular, negotiating "around the law" is precluded; parties may not circumvent an inefficient law by negotiating a contract.

These models of the settlement/litigation choice are deficient in a variety of respects. Neither explanation permits strategic problems. Negotiations do not fail because the parties cannot reach a mutually beneficial outcome; envy, spite, and miscalculation are ignored. More seriously, these models fail to explain how expectations are formed about the likelihood of success. Under the model, the parties enter the dispute with expectations about their antagonists' behavior already formed and not subject to alteration by the actual process of negotiation. Conceivably, mistaken expectations arise more frequently under efficient rules than under inefficient ones. If this is true, efficient rules will be litigated more frequently than inefficient ones, and the conclusions of the evolutionary claim will not necessarily follow.

Under the models of the settlement/litigation choice, the catalyst of litigation must also precipitate advocacy of the efficient rule. If a party who pursues litigation advocates an inefficient rule, the evolutionary process will lead to efficiency only if some aspect of the decisionmaking process, such as a bias on the part of judges for efficiency, corrects the inefficient bias of the advocacy posture of the parties.

In those instances where negotiating around the law is difficult or impossible, one might expect the party pursuing litigation to advocate interests not coincident with the social interest. Negotiating around the law is apt to be difficult when the party that settles differs from the party that litigates. In a product liability case, for instance, the plaintiff can only settle for herself; she cannot bind other potential plaintiffs to adhere to certain standards in their use

96. E.g., Posner, supra note 92, at 419 n.29.

97. The discussion of the inadequacy of models of choice between settlement and litigation is incomplete. For instance, in many litigation situations the parties involved consist of more than one individual each. Each party to the dispute is a group and the goals of the members of the group may at times diverge. Divergence of interests within a party to the dispute will obviously complicate the settlement process; it may make it more likely that litigation will occur or more likely that any settlement reached will be allocatively—or even productively—inefficient. In other circumstances the group that settles may not be completely identical to the group that litigates, or the agent for purposes of settlement might differ from the agent for litigation purposes. For a more thorough discussion of some of these issues and of the difficulties with the model of differential litigation, see Cooter & Kornhauser, supra note 86.
of the product, even though such adherence might lead to an efficient outcome. The attorney, however, can litigate for the entire class of potential plaintiffs; if the action succeeds it will, through the doctrine of stare decisis, improve the position of all other plaintiffs. The interests of the attorney, however, may not coincide precisely with the interests of the plaintiff class. While both plaintiffs and attorneys desire high awards in the event of injury, plaintiffs would undoubtedly desire no injuries at all. Attorneys on the other hand require disputes and the injuries that allow them to recover fees. The plaintiff's bar, therefore, might advocate legal rules that are not socially efficient.98

Evaluation of the evolutionary claims, therefore, presents significant difficulties. Having only been advanced recently, their logic is rudimentary and has not yet been subjected to extensive criticism. The discussion above outlines only several potential reasons to suspect that careful elaboration of these models will lead to predictions at variance with the descriptive claim.

C. Summary

This section has suggested several difficulties with the descriptive claim. Evaluation of the claim requires precise definition of the criterion of efficiency in use, careful specification of the range of legal options among which the current rule is said to be best, and express delineation of the aspects of the world that change. Not one, but a multitude of descriptive claims therefore exists. One of these claims may be true but all certainly are not true.

Second, inquiry into economic models of legal phenomena suggests that the models do not always predict efficiency. The descriptive claims, therefore, are divorced from the body of theory that bore them. Some theory explaining the mechanism by which the descriptive claim came to be true would bolster its status, particularly in the absence of strong empirical evidence supporting the claim.99

Third, I noted that the accepted epistemological model of proponents of the descriptive claim requires that the claim be empirically tested. Such testing has not yet occurred. In part, this has been because such testing is impossible absent a precise statement

98. I refer here only to economic incentives on the parties. I do not consider the ethical obligations which might prompt an attorney to pursue interests antithetical to his own.
99. See Michelman, supra note 68.
of the claim. Without a theory that yields the claim as a prediction the testing will be extraordinarily difficult, since researchers will be restricted in the types of evidence they will be able to adduce on its behalf. Finally, direct evidence of the descriptive claim will be difficult to obtain because of the multifarious impact of a legal rule on actual behavior.

Careful scrutiny of the descriptive claim, like scrutiny of the normative claim, therefore raises grave doubts as to its validity. These doubts call into question these claims as a justification for the enterprise of law and economics.

III. THE USES OF ECONOMICS IN LAW

Does the problematic character of both the normative and descriptive claims of efficiency undermine the use of economics in law? A negative answer might be justified in two ways. First, one might attempt to shore up the foundations of the two efficiency claims. Second, one might argue that the two claims of efficiency do not exhaust the uses of economics in law. This section pursues the latter alternative and suggests some alternative uses of economics in legal research and analysis.

A. Normative Uses

While the use of wealth maximization or allocative efficiency as the exclusive normative criterion on which to base legal decisions may be suspect, consideration of either goal as one of several values sought may be both sensible and defensible. Earlier I argued that in some instances allocative efficiency would be a decisive criterion because those disadvantaged by legal change would be compensated by those benefitted by the change. Some significant questions in the law of just compensation might serve as examples. For instance, one might preclude takings that do not promote allocative efficiency.

Some areas of law might fruitfully consider either wealth maximization or cost-benefit analysis as one of several decision criteria. In accident cases, decisions that ignore completely the relative costs and benefits imposed by a rule would seem unwise. Though society may not wish to set carcinogen levels in food or to determine the extent to which new drugs must be tested prior to introduction in the market solely on the basis of a cost-benefit analysis, at some point the costs of drug tests and of reduced carcinogen levels become a relevant, if not exclusive, consideration. The difficult
questions arise in determining what circumstances and to what extent cost-benefit analysis should be employed.

A third, and perhaps more significant, use of economics in law is the explication of intuitive notions of value and process. Economists have intensively examined the logic of social decision mechanisms, such as majority voting and rank-order voting.\textsuperscript{100} This method of analysis proceeds by precisely articulating a set of normative assumptions and then investigating their logic. In this manner the consistency and consequences of a variety of plausible values may be tested. The conflict, for example, between allocative efficiency and the idea that certain decisions are personal and therefore outside the control of other individuals and the state, grew from the above pattern of analysis.\textsuperscript{101} The paradoxes of voting have been illuminated in a similar fashion.\textsuperscript{102} These investigations of social-decision mechanisms have also led to deeper understanding of utilitarianism and other ethical schemes. The characterization of utilitarianism as restricting attention to personal preferences and aggregating these preferences in a particular way, facilitates comparison with other ethical systems. The importance of the nature of information on which ethical judgments are made and on the precise way in which interpersonal comparisons of utility are performed elucidates the relation between such apparently diverse ethical criteria as utilitarianism and Rawls' maximin rule.\textsuperscript{103} The explication of these relations supports efforts to criticize the law on moral grounds and to understand the grounds of decision by clarifying the logic of moral argument.

\textbf{B. Descriptive Uses of Economics in Law}

1. \textit{Economics as Behavioral Theory}.—Law and economics is the heir of legal realism. Realists attacked the notion that law was an insulated study, a set of well-articulated rules conforming to some internal logic, and substituted the idea that law and behavior in the real world were intimately related.\textsuperscript{104} The law does affect

\begin{itemize}
  \item \textsuperscript{100} See generally K. Arrow, Social Choice & Individual Values (2d ed. 1963); A. Sen, supra note 14. The literature is now vast. Surveys appear in Kelly, Arrow Impossibility Theorems (1978), and P. Fattanai, Strategy and Group Choice (1976).
  \item \textsuperscript{101} See A. Sen, supra note 14.
  \item \textsuperscript{102} K. Arrow, supra note 100.
  \item \textsuperscript{103} See Arrow, Extended Sympathy and the Possibility of Social Choice, 67 AM. ECON. REV. 219 (1977) (Papers and Proceedings).
  \item \textsuperscript{104} See, e.g., K. Llewellyn & E. Hoebel, The Cheyenne Way (1941).
\end{itemize}
economic behavior. Economic theory in turn provides a means for predicting the impact the legal rules will have. Such predictions are necessary for alternative rules cannot be evaluated without considering the real outcomes they produce in the world.\textsuperscript{105}

Obviously, social behavior is complex, and individuals react to a variety of incentives and out of a multitude of motives. A forecast of behavior in even the simplest of circumstances may be rough and inexact. Understanding the impact of the law, which operates as one among many social institutions and which might have a multitude of indirect effects, presents great difficulties. The difficulties are compounded by the many opportunities for circumventing legal rules, the paucity of empirical information about actual behavior, and the complexities of social phenomena.\textsuperscript{106} In the face of these difficulties, economic theory, as simple and imprecise as it is, provides some guidelines for making predictions. Its prominence as a behavioral theory in law derives from this limited predictive capacity and the fact that it has no competition; other social sciences have yet to elaborate equally cogent predictive rules.

Economic theory is more likely to be accurate or plausible as a predictor in some areas than in others. When corporations make decisions on the safety of their products or their work places, on the levels of pollutants to emit into the air or water, and possibly when they make decisions on whether to breach, form, or rely on a contract, economic theory provides a plausible first prediction. Corporations after all are economic institutions and these decisions immediately affect the profits and losses the corporations will incur. On the other hand, those predictions may not always prove accurate, since individuals make decisions in corporations and their interest may diverge from the interests of the corporation. In overcoming this problem, one might draw on the developing economic theories of the organization,\textsuperscript{107} which suggests ways in these con-

\textsuperscript{105} It is not clear what, if any, behavioral theory lawyers have used in the past. Both torts and contracts seem to use implicitly some inchoate model of the reasonable person to determine what a particular individual should know or should do. But in general this person is presumed to know the law and to act appropriately.

\textsuperscript{106} The difficulties are so severe that one might question whether the law in fact affects behavior. See Griffiths, \textit{Is Law Important?}, 54 N.Y.U. L. Rev. 339 (1979) and sources cited therein. A belief that the law does affect behavior is probably the minimal philosophical commitment one must make to do law-and-economics.

\textsuperscript{107} E.g., J. MARSCHAK & R. RADNER, THE ECONOMIC THEORY OF TEAMS (1972); Williamson, \textit{Markets and Hierarchies; Symposium in the Economics of Internal Organization}, 6 Bell. J. Econ. 163 (1975). Political scientists and sociologists can, of course, contribute to an understanding of these decisions.
texts to refine predictions by breaking down the corporate decision making into its component parts.

In other areas of law, one may be less confident of the accuracy of economic predictions. In family law, for instance, the motives of parents and children are not apt to be consciously economic. Further, we believe rather strongly that people make choices and act on grounds that economists would not consider "rational." Similarly, we may question whether individuals really make economic calculations in choosing crime or in driving automobiles. In the latter case, we may believe that any incentive created by tort liability is overwhelmed by other factors, such as fear of bodily injury. The advantages of economic theory in these three areas over competing theories, however, derives from (i) the absence of any other coherent body of theory; (ii) the explicitness of a variety of its assumptions;\(^{108}\) and (iii) the all-too-infrequently employed possibility of testing the theory against actual behavior.\(^{109}\)

2. Economics as Insight.—Every intellectual discipline examines the world from a unique perspective. Economics thus classifies and analyzes events differently than the law. To the lawyer, one car colliding with another leads to an action sounding in tort and is therefore like one person touching another without permission, one person walking across the land of another without permission, or one person uttering defamatory comments about someone else. To the economist, the auto accident is an example of an externality and requires classification with the steel factory belching smoke onto the neighboring laundry, several people fishing from the same lake, and several countries exploiting the mineral resources of the sea. Viewing the law from an economic perspective allows the lawyer to note similarities that may have previously escaped attention. Economic analysis of law attracted legal scholars in part because it provided a unifying approach to much of traditional tort and property law.

The economic models of accidents and of nuisance, for example, share a framework. In both contexts two activities interact with each other and each imposes costs on the other. The parties

\(^{108}\) When we begin from a clearly stated set of premises, we may be able to modify our predictions piecemeal—by relaxing singly, or in combination, the implausible assumptions.

\(^{109}\) I do not mean to suggest that economics should always be used in analyzing legal problems. I wish to suggest rather that certainly in areas like family law, it can never be used uncritically and should generally be supplemented by other theoretical considerations.
engaged in the activity must make three separate decisions: where to engage in the activity, how much of the activity in which to engage, and how carefully (or with what technology) it should engage. The economist asks how particular legal rules affect each of these decisions.

The economic models of accidents of course differ from the nuisance models. The tort models began by assuming that the activity level was fixed and that the parties chose only the level of care.\(^{110}\) In the nuisance context, on the other hand, early models assumed that the level of care (or the state of the technology) was fixed and the parties chose only the level of activity.\(^{111}\) Subsequent models of nuisance have investigated the impact of legal rules on behavior when the parties choose both the level of activity and the location.\(^{112}\)

Economics provides a unifying perspective on more than just tort and property. As a second example, consider contract law. The relation of promisor and promisee has, from an economic viewpoint, a variety of legal analogues. To the economist, the promisee is a principal who chooses some payment schedule while the promisor is an agent who performs a task that benefits the principal. The economic problem arises because of difficulties in drafting a payment schedule that makes the agent's interests coincident with those of the principal. This problem is widespread in legal relationships. The relations of management to shareholders and of trustee to beneficiaries share the problems of supervision of an agent whose preferences may deviate from those of the principal. Again, if we view a public-utilities commission as a representative of consumers\(^{113}\), then the relation of regulator to utility parallels the principal-agent relation of promisee-promisor.

These areas of law impose widely disparate duties on the agent half of the relationship. In part, these varying duties may arise from the different goals the law seeks to attain in each area. Other variations derive from the differences in the circumstances of each relationship. The multiplicity of the principal in corporate law and in many trust instances raises perplexing questions for the economist and the lawyer. The presence of a long-term interaction between the parties in a changing environment in many contract situ-

\(^{110}\) See, e.g., Diamond & Mirrlees, *supra* note 77.
\(^{111}\) See, e.g., Polinsky, *supra* note 58.
\(^{112}\) See W. BAUMOL & W. OATES, *supra* note 81.
\(^{113}\) See, e.g., Goldberg, *supra* note 40.
ations and in the public-utility context creates other difficulties in the legal and economic analysis. These variations challenge economics to analyze the logic of choice in these more complex environments. The already completed economic analysis of simple principal-agent relations provides fresh insight into persistent legal dilemmas and promises additional understanding, if not solution, from an interdisciplinary approach.

The differing perspectives of law and economics offers advantages to both subjects. To the lawyer, the similarities perceived by economists in disparate areas of law may lead to fruitful borrowing of legal doctrines or analysis from one legal area to an economically similar legal area. To the economist the variations in legal rules governing phenomena she believes to be economically similar constitutes a puzzle in need of solution. At best, these legal differences suggest new fields of economic research and deeper understanding of the phenomena in question.