The assignment of rights under economic or legal uncertainty

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1. INTRODUCTION

Benefit cost analysts are relatively unaware of the close relationship between law and economics. An understanding of this relationship is necessary to firmly establish the foundation of applied welfare economics. The purpose of this paper is to explicate this relationship in a way that is useful for BCA analysts. Law furnishes ownership rights that create legal and psychological bases, reference points, from which benefit-cost analysis, BCA, measures gains and losses. Economics in turn suggests considerations for law in forming these rights so the law and BCA are mutually enforcing. A perusal through Property Stories (2009), or other texts, is sufficient for an objective reader to acknowledge the useful role economics can play in forming law and vice versa. This is explored here by formulating BCA principles followed by legal and economic examples. But not all agree. Simpson (1996) has criticized Coase, who applied an approach to welfare economics rooted in BCA, for, as far as I can see, primarily for not being a lawyer, and the Coasian approach for not being aware of how the law operates in the real world. These criticisms are of course correct, but perhaps irrelevant. Conversely, Simpson does not correctly characterize economics nor Coase's views; he thus goes too far and would throw out the baby with the bathwater.[1] Among

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those decisions for which BCA information can be useful are those determining net benefits under alternative specifications of rights or reference points where these are uncertain or in the process of changing.

1.1. Foundations of BCA

The proper foundations for BCA, though evolving, can be stated in the following manner. As a matter of experience and logic, BCA uses, or should use, the willingness to pay (WTP) for gains and the willingness to accept (WTA) for losses, both measured from reference points (Kahneman and Tversky, 1982)[2] Further, as a matter of experiment and thus of experience, but also of logic, following Kahneman and Tversky (1982), for normal goods, the measure of losses are greater than for equivalent gains. The divergence between the value of losses and equivalent gains will tend to be greater the more expensive is the good and the wealth of purchasers (income effects) and by whether or not there exist close substitutes (substitution effects).[3] Further, again as a matter of logic, if not of experience, all goods for which there is a WTP or a WTA are economic goods and therefore should in principle be included in BCA calculations, where this is reasonably possible.[4] In addition, logic requires, that when losses are timely compensated, this is a loss restored thus eliminating the loss. Finally, the law, logic and expediency all suggest we assume that illegal goods such as theft or murder are not to be counted as of value to the thief or the murderer,[5] and that

[1] In my time working with Coase, he merely considered that economics could inform law and vice versa. There are clearly sufficient interrelationships between law and economics for the relationship to be taken seriously. Of course the propositions presented here, as with all economic models, are simplified and lack some details; they are necessarily caricatures of the real world, and are successful as a result.

[2] For a comprehensive discussion of the divergence of WTA and WTP, see Yang, et al, eds, (1984) shows, for example, that if people have the right to such amenities as a day's saltwater fishing trip, they will demand nineteen times more compensation to sell their right than they would be willing to pay to acquire the right in the first place. Id at 31. In general, this divergence can range from three to twenty times the lower value. See Michael Hanemann (1991) for the role of income and substitution effect in this divergence.

[3] If either income effects are zero or there are perfect substitution then WTP= WTA. Conversely, if there exists no substitutes and income effects are not zero, the differences can be very large and even infinite (Haneman 1991).

[4] This is, however, rarely done for goods that are moral sentiments.

[5] This treatment is based on the concept of standing to be counted in BCA. Standing in economics refers to what values are to be counted. Zerbe (1991, 2018) suggested that the value to the thief of an illegal good should be zero.

social values suggest denying economic standing to sentiments which receive widespread social disapprobation such as envy, and jealousy.[6] The exceptions being when the illegality of theft or murder are themselves being considered or when society offers approbation to formally disapproved sentiments. This characterization of the foundations of BCA lead to straight forward propositions for performing BCAs, which both rest upon and help illuminate the law.

1.2. Economic Measures for Different Situations

In the conventional benefit cost world, the value of a good will be:[7]

(1) *PWTA + (1-P)WTP*,

and, thus, the right should go to A rather than to B when,

(2) PaWTAa + (1-Pa)WTPa > PbWTAb +(1-Pb)WTPb,

where P represents the percentage of subjective ownership, the a and b refer to parties A and B, and the WTP and WTA have been discounted at the appropriate discount rate over the project's life. (It is to be understood that discounting applies in all uses of the terms WTP and WTA). Thus, we have:

> **Proposition One: Where property rights correspond to reference points and are clear, gains from the reference points are to be measured by the WTP for them and losses by the WTA payments.**

This assumption if justified by the BCA standard itself on the grounds that he very existence of illegality shows that, in a society with a rule of laws, societies' valuation of the good in the hands of the illegal owner is less than its value for society to the legal owner. That is, both society more generally, and the legal owner in particular, have loss aversion. The thief has no such aversion as she cannot believe herself secure in the goods ownership.

[6] Frank (2000) in an article mainly defending BCA (CBA) notes that a prisoners' dilemma can arise with respect to relative income sentiments, what I call status seeking (Zerbe 2023), and that this can lead to outcomes inferior to a jointly agreed outcome. To some extent status seeking can be channeled into socially beneficial forms. One can argue that status seeking as with envy should not be accorded standing in BCA. Frank's observation seems to be an additional reason for spending on public goods that tend to undercut the socially unproductive status seeking.

[7] More formally and correctly, the discounted value is $PV = \sum_{t=0}^{t=T} \sum_{j=1}^{j=J} \frac{V_{jt}}{(1+r)^t}$ where V_{jt} *are the WTP or WTA values. and* r *is the discount rate*.

Where P is 100%, in favor of A, and 0% to B, that is when ownership and reference points are clear, the value to an owner of a good is the WTA. If A owns the right to the good then she retains it as long as WTAa > WTPb, otherwise she sells it to B. This merely states that the value of a good is shown by the WTP of the buyer and the WTA of the seller.

Proposition Two: When there are conflicting reference points and/or property rights, there is a social gain for clarifying the right.

Consider two parties, A and B, each believing they own a good with 100% probability. For both parties 100% ownership is the reference point for BCA. There is then conflict, and by law it is determined that one party is the legal owner. The new owner gains nothing. The losing party loses 100% of the value of the property. Nor can the winning party compensate the losing party without a loss to him or herself.[8] In BCA terms, more value is saved by assigning the property to one party. This assignment is the superior project since, were the property to be unassigned, there is an even greater loss as both parties lose the value of the property. Thus, people will spontaneously create property conventions that are critical for specialization and trade (Zerbe & Anderson 2001; Kimborough et al 2010).

Proposition Three: Where there is no private ownership, and the value of the property is wholly commercial, the right should be assigned to the highest bidder.

For commercial goods, which are defined as those for which WTP = WTA, one need only consider the WTP. In other words the property or right should go to whomever it is the most valuable as shown by the WTP.

[8] Baker notes (1980) that the inability to compensate means that assignment does not pass the traditional BCA test. In terms of the compensation test the relevant comparison is one in which no assignment at all is made. The value of assignment will be much greater than non-assignment, so the compensation test is passed. Elsewhere, Zerbe (2008) has suggested abandoning the compensation test as it does not work for us.

Proposition Four: Where ownership and reference points are less than 100%, for one or both parties, the right should go to A if, rearranging equation (2),

(3) [PaWTAa - PbWTAb] > [(1-Pb)WTPb – (1-Pa)WTPa].

This condition will favor A to the extent that Pa>Pb, and/*or WTAa>WTAb, and/or WTPa >WTPb*. In general, when Pa grows larger relative to Pb, the claim of A grows stronger, and as the WTA of A grows larger relative to B's, the claim of A grows stronger, and further, as the WTP of A grows larger relative to B, the claim of A grows stronger. Thus,

Proposition Five: **Where rights are unclear but the differences between the WTAs for parties A and B are large in favor of A, and the probabilities of ownership for A and B are equal or in favor of A, and, as well, the differences between their respective WTPs are not large, the right should go to A, as equation 3 will be satisfied.**

Consider a situation in which a right to a natural resource, say a redwood forest, is to be determined.[9] In such a case it may be that no close substitutes are to be found, so that the divergence between WTA and WTP is quite large. Imagine, for example, a new forest is discovered that has both aesthetic and commercial value. Party A values the forest for aesthetic reasons. Party B values it for its timber, its commercial value. The WTP and WTA payments of parties A and B are as follows.

Table 1. WTA and WTP Comparison between A and B for Redwood Forest

A	WTA B	WTP A	WTP B
1000	500	200	500

[9] Our analysis of uncertain rights applies to natural resources. The belief that the public "owns" natural resources is largely derived from federal common law, which views the public's interests in government land as precisely analogous to the rights private landholders enjoy in their property. See Levy and Friedman (1994)

The differences in WTA are 500 in favor of A and the differences in WTP are 300 in favor of B, for a difference of 200. If the probability of ownership is equal, or in favor of A, the greatest value is found by assigning the property to A. This follows directly from equation (3).

Proposition Six: A recognition of the role of altruism and/or acceptance of declining marginal utility of income may be recognized through the assignment of weights related to income groups. Such weights can be simply added to equation 3 so that we have,

(4) [WaPaWTAa - WbPbWTAb] > [Wb (1-Pb)WTPb – Wa(1-Pa)WTPa],

where Wjs are weights related to income**.**

Proposition Seven: Compensation[10] eliminates or reduces the WTA of the losing party, say B, so that equation three is simply:

(5) [PaWTAa – (PbWTAb – CPbWTb)] > [(1-Pb)WTPb – (1-Pa)WTPa],

where C represents the proportion of loss for which compensation is provided. When there is full compensation, we have simply, [PaWTAa] > [(1-Pb)WTPb – (1-Pa)WTPa]. Clearly full compensation to B favors A. The existence of compensation, however, will only make a formerly rejected project into a good one if one of the following holds: if it prevents loss of subsequent losses due to the initial loss, (loss after effects) where the after effects were not initially counted or, if the fact of compensation creates value for the compensator due, for example, to altruism.

Proposition Eight: Objections to inclusions of non-paternalistic altruism in BCA values are unwarranted.

[10] The major objection to assuming equal marginal utility of income, that was for many years the standard assumption, is that it weakens the argument for compensation and will not as strongly support redistributions that favor the poorer when such redistributions are desired.

Some critics ignore the necessarily normative nature of any efficiency criteria[11] Others suggest that to include non-paternalistic altruisms is unnecessary and also it can lead to double counting. These have, however, been shown to be incorrect (Zerbe et al 2006).

Proposition Nine: Just as Criminal law removes standing from the thief to retain illegal possession of property or from the perpetuator of illegal, violent actions, so also should BCA remove economic standing so that goods in possession of a thief are not counted as values to the thief. BCA might logically be extended further to ignore giving value to sentiments such as envy and jealousy.

Over time, however, it should be noted that the possessor of a good will tend towards a WTA value and the deprived party will tend towards a WTP value.

Proposition Ten: BCA could be based as well on a set of spelled out moral principles, along with economic ones.

Just as criminality may deny one standing in law and BCA to claim benefits from one's criminal activity, so also can BCA perform under different sets of moral principles. One such principle, the Beneficiary Pays Principle (BPP), roughly says that "the innocent gainers from an injustice may have a moral obligation to the innocent victims of the injustice in question" (Butt 2014, p. 336).[12] We might also suppose that innocent gains from others' unjust actions might be valued less than the same gains unrelated to unjust actions, just as we might imagine that victims innocent losses restored might be of extra value to them under loss aversion. There is complex literature on this

[11] See, for example, the criticisms of economic efficiency and economists' use of it in the volume 8 issue 3 and 4 of the *Hofstra Law Review* (1980) and in volume 8 issue 1 of the *Journal of Legal Studies* (1979).

[12] This sort of principle works well in one-on-one examples, but where there are many beneficiaries and victims, the application becomes more complicated and perhaps impossible. In such cases, however, the government and law may help to rectify the wrong. This can be the case in the event of "weak restitution". "Weak restitution occurs when objects that are not discrete and individuated are returned to where they would have resided were it not for an unjust act. Weak restitution applies to resources over which the rightful possessors have no property rights." (Duus-Otterstron 2017, p. 1076).

subject and in any event a BCA would need to follow established, accepted guidelines. For each analyst, however, to use their own moral guidelines would be chaotic, hubristic, and counterproductive.

2. SOME IMPLICATIONS AND EXAMPLES OF BCA PROPOSITIONS FOR LEGAL ANALYSIS[13]

2.1. A Correct Definition of Economic Efficiency

Practical welfare economics, by which we mean BCA, and law are intertwined. An attempt to explicate this was made by Posner (1980) under the rubric of wealth maximization, and by and large it failed. It failed because wealth maximization is not the same as BCA. The attempt failed primarily because of its use of a mistaken idea or definition of economic efficiency, by Posner and others.[14] Posner, for example, defends against a criticism by Dworkin (1980, p. 502), that wealth maximization does not condemn slavery, by answering that one would probably be more productive as a free person than as a slave and thus slavery might be condemned. This is not, however, either reassuring nor is it BCA reasoning, or even consistent with the evidence.[15] BCA asks instead, when slavery is illegal, does the WTP to create slavery exceed the WTA to allow it? Or, when slavery is legal, does the WTP payment to abandon it exceed the WTA to accede to its elimination? BCA can then frame the correct question, which will be based on sentiments.

[13] Levy and Friedman (1994) consider the economic structure of law and focus on the use of contingent valuation applied to natural resources

[14] For example, see Dworkin (1980), Nussbaum (2000), Ackerman and Heinzerling (2002), Richardson (2000), and others (e.g. Meeks, 1990)

[15] See Fogel and Engerman (1974)

Thus BCA provides no answer,[16] but shows that such a BCA recommendation relies solely on initial legal starting points and cannot be addressed well by BCA divorced from law.[17]

2.2 Property Law

Property is not ever wholly owned in the sense of unrestricted use and even its inalienability may be restricted (Ackerman 1985). With respect to the case of *Sturges v. Bridgman* (WL 15533 [1879]), cited by Coase (1996) and Simpson (1996, 2009) refers to the absence of the court's comparison of costs and benefits to alternative assignments of rights as evidence of the irrelevance of economics to the court's decision. This is hardly sufficient. What Coase (1996) is pointing out, under a more charitable interpretation than Simpson's, is simply the reciprocal nature of harms and the role of transactions costs, which are relevant in determining a legal rule.[18] Sturges dealt with an action by a confectioner, Bridgman, whose work was sufficiently noisy to interfere with Sturges' medical practice. The court, finding for Sturges, who obtained his injunction, merely applied existing common law, which treated such conflict from what I would informally call, a trespasser[19] point of view, under which Bridgman is seen as the inflictor of harm. A right to impose on others can be acquired by long standing use. The court, however, found that Bridgman had not acquired a right to make noise under his long-standing use argument. The court noted that, although such a right might be obtained, the period in which Bridgman's noise became a problem

[16] BCA can, however, suggest that in certain goods whose values in part arise from status or rank, such as slavery, certain housing, and other goods involving conspicuous consumption may violate economic efficiency (Frank, 2000). As applied to slavery see Zerbe (2003)

[17] The utilities of the potential slaves have no standing in this later case so that the matter is one for ethics, not economics. The utility of potential slaves must, however, be counted in the reference point is that in which slavery is illegal. When slavery is legal, emancipation requires compensation. Yet one of us, Zerbe, (2023), has maintained that the WTA compensation for loss of the status from slave owning on the part of the U.S. south was very large. If full compensation is greater than the WTP, there is a BCA justification for emancipation only when the project counts the WTA of slaves. Yet to count this is the assume what is at question, namely do slaves have standing.

[18] I, who knew Coase, do not believe he thought he was advocating ignoring law, but rather pointing out information relevant to its formation, which is a message of this paper.

[19] I am not considering legal trespass doctrine here but simply the invasion of noise or smoke.

was not longstanding so no such right had been acquired. Yet, the legal rule applied was almost certainly efficient, although Simpson (2009) finds that efficiency does not come into it. The rule rested on longstanding principles, thus potentially creating a value measured by the WTA on the part of Sturges, strengthening his economic claim, and would by producing greater clarity in the future reduce the number of cases brought, and thus had all the advantages of a rule over a case-by-case consideration of such matters. Simpson (2009, p. 37) responds that a despotic property right "includes the right to behave in ways which make no contribution whatever to the national wealth." He gives the example of the willful destruction of a Renoir or Picasso painting by the owner. However, one asks, how many owners do you imagine are likely to produce such destruction? No wonder there is no such restriction; it is not needed. Simpson (2009) does not consider the establishment of clear rights as likely to promote private bargaining in Sturges, and implies that private bargaining is unlikely in such cases; he offers no evidence and the claim is probably incorrect as a general matter.[20] One agree with Simpson (2009, p. 42) that the idea that courts in cases such as Sturges and Bridgman, "could enter open ended cost benefit analysis is simply fanciful; the litigation would never end". Now, that would be expensive and inefficient, wouldn't it? So, we can reasonably say law will, except in unusual cases, not support such consideration of BCA on a case by case basis, but will rather encourage the formation of general rules. The use of such a general rule was then efficient as applied in Sturges under British law.[21] BCA recognizes legal rights as reference points which are, as a general matter, efficient, so that Proposition One holds over a wide range of economic activity in accordance with law and economics.

[20] But see for example the famous case of *Spur v. Webb* (108 Ariz. 178 [Ariz. 1972]).
[21] The use of a rule is itself relatively efficient even if there is another rule that is superior. There is no evidence that there was a superior rule that could apply in English cases.

Indeed, as others (*see* De Soto 2000), have pointed out and in accord with Proposition Two above, the neglect of the legal infrastructure that buttresses property has deleterious implications, including a failure to understand the role of property in supporting trade and economic development and the use of collateralized loans for building businesses. The sale of government property to the highest bidders is also unexceptional both in law and in economics and supports economic and legal efficiency, in accord with Proposition Three (sale to the highest bidder). Propositions Four and Five suggest that the stronger claim to property is to be honored but that in accord with large WTAs for certain classes of goods, such as natural resources, the WTA of non-owners may also be given weight (Wilkinson, 1998). The difficulties in establishing rights in medical organs or in DNA (e.g. Mehlman 2009) based on older law of questionable suitability, suggest use of BCA principles in attempts to create good law as benefits as Propositions Four and Five suggest.

An illustration of these propositions is shown in a recent Supreme Court case, *Cedar Point Nursery et al. v. Hassid et al.* (141 S. Ct. 2063 [U.S., 2021]), concerns the scope of property rights. In Cedar Point the Court held that a California law that gave agricultural unions access to private property allowed a physical taking in violation of the Fifth and Fourteenth Amendments, and thus requires just compensation.[22] The California regulation required that agricultural employers allow union organizers access to property owned by Cedar Point Nursery and Flower Pacing Company 120 days per year up to three hours per day (*Cedar Point Nursery,* 141 U.S. at 2069). The Court held that such physical encroachment is per se illegal. Further, the Court distinguishes *Penn Central Transportation Co. v. New York City,* Penn Cent. Transp. Co. v. City of New York (438 U.S. 104 [U.S.N.Y., 1978] as applying "when the government, rather than appropriating private

[22] § 20900. Solicitation by Non-Employee Organizers., 8 CA ADC § 20900

property for itself or a third party, instead imposes regulations restricting an owner's ability to use his own property" (*Cedar Point Nursery,* 141 U.S. at 2071).[23] The Court in its reasoning considers only quite obliquely economic considerations, noting that the right to exclude is "one of the most treasured" rights of property ownership" and citing Blackstone "that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe" (*Cedar Point Nursery,* 141 U.S. at 2072).

Yet the decision can be justified on economic grounds as it rests on the concept of private property, which over centuries has found great value in strong rights to exclude others.[24] Historically, the right to exclude concerns the relationship between people with respect to things, "such that the so-called owner can exclude others from certain activities or permit others to engage in those activities and in either case secure assistance of the law in carrying out this decision" (Cohen 1954, as cited in Gatewood 2014 p. 449). Thomas W. Merrill (1998, p. 745) notes that "there is strong evidence that, with respect to interests in land, the right to exclude is the first right to emerge in primitive property rights systems . . . and that the fact that the right to exclude can be found in even the most primitive land-rights systems provides further support for the conclusion that the [right to exclude] provides the key to understanding the nature of property." American courts and commentators have deemed the right to exclude from one's property the primary characterization of property rights, with the with the Supreme Court noting that it is a hallmark of a protected property interest.

2.3 Compensation as Efficient

[23] The Court notes that Penn Central considers factors such as the economic impact of the regulation, its interference with reasonable investment-backed expectations, and the character of the government action, but not with physical encroachment on private property.

[24] *See* Merrill and Smith (2001, p. 360) arguing that "Property rights historically have been regarded as in rem"

As we indicated in the case of Cedar Point, BCA supports compensation when it reduces losses and when there is a WTP to carry it out, in accord with Proposition Seven. The gain-loss disparity favors compensation for losses in other important cases. When compensation is timely and direct, the initial loss is avoided, as well as losses that are contingent on the first loss.[25] Government compensation provided from existing taxes is a WTP value, whereas the loss without compensation is the larger WTA value.

2.31Consider the Case of Tuberculosis in Cattle.[26]

Efficiency enhancing compensation occurred in both Britain and the United States. Cattle with tuberculosis, were destroyed by governments and farmers were compensated.[27] In the U.S. at the beginning of the past century, tuberculosis caused more losses of livestock than all other livestock diseases combined. This prompted the establishment of the National Cooperative State/Federal Bovine Tuberculosis Eradication Program for bovine tuberculosis in livestock.

Prior to 2002 the U. S. regulations set a maximum dollar figure on the amount that could be paid by Animal and Plant Health Inspection Service (USDA APHIS) for an animal destroyed because of tuberculosis. When these amounts were established, they approximated the fair market value of the animals, minus any salvage value that could be received for the animals. The limits per animal, set in 1980, were as follows:

- $750 for cattle, bison, and captive cervids affected (infected) with tuberculosis.
- $450 for cattle, bison, and captive cervids exposed to tuberculosis.
- $450 for cattle, bison, and captive cervids classified as tuberculosis suspect; and

[25] It is a question, not addressed here, when loss restoration is not in kind, whether or not the loss is completely offset.
[26] See USDA Animal and Plant Health Inspection Service (2002, 2023)
[27] Viewers of "All Creatures Great and Small" will be aware of the British program.

- $200 for swine exposed to tuberculosis.

By 2002 the set amounts were found to often come to less than the appraised value of the animals. As a result, in 2002, the amount of compensation that could be paid for animals destroyed because of tuberculosis was amended to allow for payment of appraised value of the animals minus salvage value. The reasons for the enhanced payment were first the disparity between the amount that APHIS could pay for an animal destroyed because of tuberculosis and its appraised value made some owners reluctant to immediately remove a suspect animal from a herd. This had sometimes hindered timely detection and traceback of tuberculous animals, because, if a suspect animal were sent to slaughter immediately, and was confirmed there as being infected with tuberculosis, traceback of other animals in the infected animal's herd could have begun immediately, to determine whether they had come in contact with animals from other herds. Second, because farmers obtained less than appraised value for animals destroyed because of tuberculosis, owners often chose to remove only those animals that have tested positive for the disease. Yet depopulation of the herd is a more effective method of eradicating tuberculosis than test and removal. Third, where cattle have been classified as suspects for tuberculosis based on an official tuberculosis test, many owners decided to wait 60 days (the amount of time required between tests) to have the animal retested, rather than have the animal destroyed as a suspect, in the hope that on the retest the animal would test negative. In cases where suspected animals have turned out to be infected with the disease, this delayed the start of traceback procedures. Thus, both the initial and upgraded compensation for infected cattle appear efficient by a BCA standard.

2.4 Equity

A criticism of BCA is that it favors the rich as their values count for more, as they can pay more; yet of course the price system does the same and we would not abandon it.[28] Nor is this a compelling argument for the abandonment of BCA and for several reasons. There are WTPs to provide for less fortunate citizens as recognized in tax and welfare law, in line with Proposition Six and therefore consistent with BCA; the logic of BCA is supportive of income distributional changes in so far as these are supported by the WTP for them. The absence of such a requirement, if used as a criticism of BCA, must first be considered as a failure of law to provide such requirements. Moreover, even in the absence of a requirement, BCA may, both with and without using the assumption of equal marginal utilities, consider equity and, in doing so, is consistent with BCA logic. Furthermore, to recognize and estimate declining marginal utilities, though perhaps difficult as a matter of practice, is completely compatible with BCA. This possibility seems to be ignored or not appreciated in criticisms of BCA on this score, which, if it was ever true, is not now. For example, Charles Fried, a former Solicitor General believes that economic analysis does not consider whether the distribution is fair or just and thus that efficiency alone does not give it "any privileged claim to our approbation." This sort of incorrect criticism is echoed widely in the legal literature (Zerbe 2007).

2.5 Goods in the hand of the Thief

BCA suggests theft, blackmail and other activities that reduce overall wealth are to be illegal and discouraged in accord with Proposition Eight. For example, in a non-public case, again involving both property rights and compensation, the FTC considered that a large utility supplying a monthly

[28] *See* Ackerman and Heinzerling (2002, 2004) and Frank (2000). No empirical evidence is furnished that BCA actually has this negative distributional effect. In an informal examination of over 300 BCAs, I find the most usual beneficiaries are poor and middle-income groups.

good with one month purchased in advance, did not return payments in the event of cancelation of the service, unless specifically requested to do so.[29] The costs of returning these deposits were not insignificant so that the loss to the company of the return, including administrative costs, would be greater than the gain to the customer. That is, the amount held by the utility might be, say $20, and the costs of return $1.20. The issue arose as to whether return was warranted since the firm would lose the amount of compensation plus the return costs for a total of $21.20, but the former customer would only receive $20. Thus, it was suggested that perhaps BCA favored no return. However, by our assumption that the value of the goods to the thief should not count, the relevant comparison is that return should be made as long as costs of return, C, were less than the customer's WTA measure of loss. In the extant case, the amount of the return was a pure income transfer and was quite significantly greater than the costs of return. Thus the BCA supports the legal requirement of a return to the customer from the thief.[30]

3. NORMS AS REFERENCE POINTS

Norms establish reference points so that in using them to establish economic reference points and new law there is a gain. This properly produces an economic reason for law to acknowledge norms. Thus, Edmund Burke (1790) in speaking of the common law famously writes,

> The science of government …requires, and even more experience than any person can gain in his whole life, however sagacious and observing he may be. It is with infinite caution that any man ought to venture upon pulling down an edifice which has answered in any

[29] I was a consultant on this case.
[30] The law might also require that return costs as well be ignored in which case they would be ignored in any BCA.

> tolerable degree for ages the common purposes of society or on building it up again, without having models and patterns of approved utility before his eyes.

In this regard, we have considered the legal norm applied in Sturges as efficient, so also perhaps was the norm of damages from wandering cattle as shown by Ellickson (1991).

3.1.Where Social Norms Are Strong: Shasta County

When norms are strong this corresponds to proposition one, that notes, where reference points are clear, gains are to be measured by the WTP for them and losses by the WTA payments, suggesting that the law ought to, and probably will, correspond to norms. Strong norms will generally be found to be economically efficient, as the aggregate WTA payment to retain the status quo will in many cases be larger than the WTP to change them, given the gain-loss disparity. When norms are strong, judges or legislatures that fail to adopt them are more likely to face community pressure (Ellickson 1991). It seems reasonable then to conclude, when social norms are strong, common law tends to adopt them and that they are efficient both because of experience and the loss-gain disparity. The same may be said about some statute law since overturning a norm will have costs to legislators as well as elected judges.

Strong norms may even lead to law being ignored. That is, sometimes reference points overrule property assignment. This was the case in Shasta County California. Here the law was changed from one in which ranchers paid for the damages of straying cattle to one where the damaged party bore liability. Robert Ellickson (1994) shows, however, that the actual practice of rancher liability did not change.[31] In our terms, the WTA is for the changing of the norm, not the WTA for owning cattle or for damages they caused. For the ranchers to change the norm, would lower their damages but this would be a WTP amount as it is the current norm. The change in

[31] Ellickson (1991) mentions other examples of efficient norms in Chapter 11.

liability law applying to wandering cattle enactment, as far as Shasta County's sentiments were concerned, was inefficient. It was also inefficient as it seems possible or even probable that the low cost avoiders of damage were the ranchers. As far as this was the case in Shasta County, the BCA justification for making farmers liable for damages could only rest on an assumption that the farmers were significantly richer than ranchers. There is no evidence that this was the case. For Shasta County then the change in law was unwarranted.

3.2. Where Norms and Law Change: Prah

But of course norms do change and jurists attempt to respond to this.[32] A norm is inefficient when the WTP to change it is greater than the aggregate WTA to maintain the status quo. The evolution of efficiency in search of justice and vice versa is well shown recently by *Prah v. Maretti* (108 Wis.2d 223 [Wis., 1982]) which involved a dispute about whether the defendant committed a nuisance when he obstructed the plaintiffs access to sunlight. The plaintiff, Prah, had built a system using solar collectors to provide his house with heat and hot water (*Prah*, 108 Wis. 2d, at 195). The defendant, Maretti, then purchased property adjacent to Prah's and began to build a home. Prah argued that Maretti's construction would prevent him from receiving enough sunlight to get adequate use from his solar collectors and that by doing so, Maretti was committing a nuisance. Maretti argued that under Wisconsin law one could not commit a nuisance simply by obstructing his neighbor's access to sunlight. Although the Wisconsin Supreme Court recognized that courts had consistently denied standing to such plaintiffs, it decided to overrule that line of cases and granted standing to *Prah* (108 Wis. 2d, at 188-89). Plaintiffs seeking access to sunlight had

[32] This can be difficult where old law or norms are applied to new and different situations. See Moore v. Regents of the University of California, 793 P.2d at 503.See also *e.g.*, Loving v. Virginia (388 U.S. 1 [U.S.Va. 1967]); Brown v. Board of Ed. of Topeka, Shawnee Cnty., (Kan., 347 U.S. 483 [U.S. 1954]). Levy and Friedman (1994) suggest that when reference points and law differ, law should govern. This misunderstands the role of BCA as a provider of information. BCA considerations were clearly useful to the court in *Prah* (108 Wis. 2d) and perhaps in *Loving* (388 U.S. 1, at 1) in shifting the allocation of the right.

historically been denied standing because the law of nuisance recognized three broad social policies accepted in the nineteenth and early twentieth centuries (*Prah,* 108 Wis. 2d, at 187). These policies were claims that it was efficient to deny standing.

The *Prah* court concluded that a series of social changes had occurred in the late twentieth century that undermined these three social goals. These goals where: First, there was a widespread belief that a landowner should be able to put his land to any use he wished so long as he did not cause physical damage to a neighbor. If a plaintiff could stop the defendant from developing his property simply to ensure the plaintiff's access to sunlight, society would feel the defendant was being treated unfairly, and this sense of unfairness would cause society to experience a loss. Second, sunlight was valued only for its aesthetic qualities to its owner, and it was thought that society that might believe individuals could acquire equivalent illumination through artificial devices. In other words, society had believed that seeking sunlight had a low WTA and WTP, because sunlight was of relatively little value and the opportunity costs of purchasing artificial light was relatively low. Third, society had a significant interest in encouraging property development (*Prah,* 108 Wis. 2d, at 189-90).

Sunlight had, however, the Prah court found become something more than just an aesthetic luxury; it had become a source from which to capture energy to be used in the home, increasing the value of sunlight to the plaintiff. Furthermore, the value of non-market amenities had grown relative to traditional market growth since the nineteenth century. Today's society, the court said, is less willing to encourage traditional market growth at the expense of environmental and other amenities. In addition, the Court noted, the United States is rapidly depleting its supply of fossil fuels, causing policy makers to focus on developing alternative energy sources. Therefore, allowing the plaintiff to develop solar energy would likely result in a direct benefit to American

society, because it lessens the burden on fossil fuels. Fourth, American attitudes toward property owners have changed, such that Americans now regard as reasonable a relatively large degree of regulation.

In light of those changes, the court concluded it was no longer reasonable to assume it was in America's best interests to deny standing to plaintiffs seeking access to sunlight. Therefore, it found that it is efficient to grant standing to people seeking access to sunlight, so a court can determine, on a case-by-case basis, whether a particular plaintiff's need for sunlight is greater than a particular defendant's need for development. The Wisconsin Supreme Court remanded the case, directing the trial court to consider the factors specified in the Restatement to determine whether Maretti's construction actually constituted a nuisance. The statement "in America's best interests" is clearly an assertion or guess by the Court that the change is economically efficient.

Judge Callow in dissent argued, inter alia, that the court should continue to deny standing to plaintiffs seeking access to sunlight as society has not changed enough to justify a new legal rule (*Prah,* 108 Wis. 2d, at 193-96). He noted that despite the social changes that the majority discusses, the vast majority of homeowners in Wisconsin would not be bothered by Maretti's construction because they do not rely on solar power for heat and hot water (*Prah*, 108 Wis. 2d, at 196-97). Therefore, solar power users like Prah are hypersensitive, which would then deny the plaintiff standing. While society has changed, society has not changed enough to make solar energy use more widespread. Just as the car eventually succeeded the horse, Callow noted, it may be that solar energy will eventually become so valuable that one who desires access to sunlight would not be considered hypersensitive so that the majority's decision was premature.

From the economic as well as the legal points of view, the Court wishes to determine where the right should lie.[33] In economic terms the original law presupposed what was surely correct that the social value to builders was greater than the loss of sunlight so it was supposed that the value to builders of being able to build was greater than the value of sunlight to homeowners; that is, that WTAb>WTPh. Normally, however, that fact that one owns a good is no cause for its transfer to a new owner, just because it is more valuable to one, except through the price system, because the price system is efficient. In general, it is efficient to use the price system to determine where WTP>WTA, and to reduce transactions costs of bargaining. Thus, for most goods the right would go to the homeowner, given the original norm, only if they were willing to buy it so that WTPh>WTAh. For corn the rule is to use the price system, but sunlight is not corn but a public good and a natural resource so that we can imagine that if the right is given to homeowners there would be fewer transactions if the right had become more valuable to homeowner than to builders. As in Sturges we do not want to compare the values for the two conflicting parties. What we want is an equitable and efficient rule.

What should be the rule for sunlight? Suppose for a moment, what was not true, that the right belonged to homeowners and that it is a right they would not sell to builders at a price builders would offer, that is WTAh>WTPb which would not justify a change back to the original condition. To determine which regime is best, homeowner rights to sunlight and builders right to build, suppose that under the original law that WTAb -WTPh >0 <N where N is some number, and with the change in law in favor of homeowners the situation is that WTAh-WTPb>0> N. That is, faced

[33]Formally, the Court appears to be assuming that WTP for holders of solar equipment is greater than for prospective builders. That is, it assumes the $PVh = \sum_{t=0}^{t=T} \sum_{h=1}^{h=N} \frac{WTP_{ht}}{(1+r)^t} > PVb = \sum_{t=0}^{t=T} \sum_{b=1}^{b=N} \frac{WTP_{bt}}{(1+r)^t}$.

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in the new circumstances if neither owned the right initially, to confer it on the homeowners would have been efficient; for the same reason total value greater by moving to a new rule for the assignment of rights. The court could then justify the decision on efficiency grounds, as it did, even if the homeowners could not have bought the right. Judge Callow's belief may be characterized in economic terms that either the value of the gain to homewoners (WTPh) was less than the WTAb, payment to builders, or that at the time the gain loss discrepancy was less under giving the homeowners the right than under the original rule, so that WTAh-WTPb>0< N. That is, his objection is not that the shift of rights is incorrect nor the reasoning behind it, but that it is incorrect at that time in the sense that the social gain would be even greater by waiting until the right time.

An additional consideration arises if a particular assignment of rights would facilitate bargaining among or between the parties. Where several homeowner are affected, there is an argument for assigning them the right and allowing the prospective builder to initiate bargaining on the grounds that the builder is better organized to do this.

Another approach would be to assign the right to the builder but require compensation. If the defendant is allowed to build his house, he could be fined or taxed for the loss imposed and the proceeds used to compensate the plaintiff. A further justification for *Prah* (108 Wis. 2d) decision would arise under the assumption of distributional weights if the homeowner were significantly poorer than the builder.

3.3.Where Norms are Conflicting or Weak or Non-Existent: Plessy and Loving

When norms are weak or conflicting, the analysis becomes perhaps more problematical. Consider the *Plessy v. Ferguson* (163 U.S. 537 [U.S. 1896]). This case raises the question of which norms should hold when there is conflict, as addressed by propositions two and four above. *Plessy* upheld

a Louisiana statute that provided for “separate but equal” accommodations for whites and African American train passengers. *Plessy* did not require that facilities be equal. Rather, it held that racially discriminatory law is constitutional if it is “reasonable” in light of the established usages, customs, and traditions of the people. Because the law was consistent with Louisiana's social conventions, the statute was held constitutional. Justice Harlan argued cogently in dissent that the "reasonableness of the state in light of Louisiana's social convention was irrelevant as it is not Louisiana's social conventions that are relevant but those of the United States." (*Plessy,* 163 U.S. at 552-564). The efficiency equivalent to Harlan’s dissent would be to find that Louisiana’s norm had no economic standing. In *Plessy,* there are conflicting norms. Given federal jurisdiction, and the WTP to overturn the Southern norm of slavery, it could be imagined that the WTA by US citizens to overturn Louisiana’s social convention exceeded Louisiana’s WTA to change it. Harlan's view of changing culture was prescient and thus *Plessy* was de facto overturned, though unfortunately much later, in *Brown v. Board of Ed. of Topeka, Shawnee Cnty.,* (Kan., 347 U.S. 483 [U.S. 1954] at 483). This is thus a case in which there is conflict between local and national norms, and in which the issue was whose norms were the proper ones. In such a case the answer to this question of whose norm is more proper will be determinative both of justice and efficiency. In *Plessy,* no consideration appears to have been given to the fact that African Americans were much poorer than the white inhabitants of the state. Thus, declining marginal utilities, equity and altruism were ignored.

In *Loving v. Virginia* (388 U.S. 1 [U.S.Va. 1967] at 1) norms were again conflicting. *Loving* might be reasonably analyzed on the basis of moral sentiments. Could it as well be analyzed on efficiency grounds? In *Loving* the issue was whether the Fourteenth Amendment

overruled Virginia law prohibiting miscegenation. The *Lovings* were convicted in Virginia of violating § 20-58 of the Virginia Code which stated:

> "Leaving State to evade law.—If any white person and colored person shall go out of this State, for the purpose of being married, and with the intention of returning, and be married out of it, and afterwards return to and reside in it, cohabiting as man and wife, they shall be punished as provided in § 20-59, and the marriage shall be governed by the same law as if it had been solemnized in this State. The fact of their cohabitation here as man and wife shall be evidence of their marriage. "

Under Section 20-59, cohabitation is also a felony.

The jurists of the Supreme Court examine the evolution of the Fourteenth Amendment. They note that the State of Virginia argues that statements in the Thirty-ninth Congress about the time of the passage of the Fourteenth Amendment indicate that the Framers did not intend the Amendment to make unconstitutional state miscegenation laws. In regard to debate around passage of the amendment the court further notes (*Loving*, 388 U.S. 1 at 187):

> The State argues that statements in the Thirty-ninth Congress about the time of the passage of the Fourteenth Amendment indicate that the Framers did not intend the Amendment to make unconstitutional state miscegenation laws. ---While these statements have some relevance to the intention of Congress in submitting the Fourteenth Amendment, it must be understood that they pertained to the passage of specific statutes, and not to the broader, organic purpose of a constitutional amendment.

The Court in its decision gives recognition to the changing culture and traces the development of law from 1880 to 1961. This case clearly represents an attempt to chart a path by which a contentious law can evolve in the face of changing culture and norms. The Court in

Loving might be said to be making an efficiency claim in so far as it is claiming, and it is so claiming, that societies' preferences are now in favor of holding the Virginia law unconstitutional. That is, the decision in Loving is based on the more powerful of the nation's sentiments and is thus consistent with BCA efficiency by giving standing to the whole nation.[34] In the case of conflicting norms, it would appear to be efficient to either deny economic standing to the economically weaker set or norms or to compare the national and the Virginian values as to which are greater. The use of distributional weights would have favored the Lovings. The economic efficiency argument rests on WTA and WTP and although these sorts of results would be included in BCA, the correct WTA and WTP are the essence of its social efficiency, as in Loving or in similar analyses only when they broader social sentiments are included in WTA or WTP. Now, social sentiments may be immoral, and here the use of BCA also becomes immoral, and we must implore a higher power, which, I am sorry to say, is not economics.

4. CONCLUSION

Law and economics are connected with a concern for social welfare and inter-connected in considerations of the assignment of rights and the choice of projects (Zerbe 1998, 2007). Using the basic assumptions of applied welfare economics and the propositions that follow from them, BCA can usefully address issues where strengths of reference points, norms and legal rights are uncertain or are changing and where there is conflict about them. The law in determining rights, including rights to compensation, can confer with economics to consider legal changes. Thus, the law furnishes reference points for BCA, and economics in turn suggests considerations for law in forming them. This is done through a consideration of the foundations of BCA and legal cases.

[34] The issue of where States rights should prevail when they differ from national sentiments is beyond the scope of this paper.

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