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2006

## **Valuation in Cost-Benefit Analysis: Choosing between Offer Prices and Asking Prices as the Appropriate Measure of Willingness to Pay**

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### **Recommended Citation**

Gregory Crespi, Valuation in Cost-Benefit Analysis: Choosing between Offer Prices and Asking Prices as the Appropriate Measure of Willingness to Pay, 39 J. Marshall L. Rev. 429 (2006)

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# VALUATION IN COST-BENEFIT ANALYSIS: CHOOSING BETWEEN OFFER PRICES AND ASKING PRICES AS THE APPROPRIATE MEASURE OF WILLINGNESS TO PAY

GREGORY CRESPI\*

## I. INTRODUCTION

Cost-benefit analysis is a well-known technique for evaluating the merits of a policy by attempting to quantify in financial terms all of the costs and benefits that will result from its implementation. The core principle of the approach is to mimic the operation of competitive markets by valuing all impacts of the policy under consideration in accordance with the affected persons' "willingness to pay" to gain its benefits or avoid its costs.<sup>2</sup> Stated in more theoretical terms, cost-benefit analysis is an attempt to determine the Kaldor-Hicks efficiency consequences of a policy<sup>3</sup> so

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1. In this article I will use the phrase "willingness to pay" to refer generically to the valuation of impacts in accordance with the subjective valuation of the persons' affected, without regard to whether this valuation represents an offer price or instead an asking price, and without regard to whether this valuation was derived from revealed preference data or by some form of contingent valuation evidence obtained in the absence of revealed preference data.

2. For a comprehensive discussion of the many aspects of cost-benefit analysis, see generally ANTHONY E. BOARDMAN ET AL., *COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE* (1996); E. J. MISHAN, *COST-BENEFIT ANALYSIS* (1971).

3. A policy will constitute a Kaldor-Hicks improvement — a move towards Kaldor-Hicks efficiency — if the total benefits of the policy exceed its total costs, with both benefits and costs measured by the "willingness to pay" of the affected persons to obtain those benefits or avoid those costs. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 13 (6th ed. 2003). The Kaldor-Hicks criterion is the usual measure of efficiency utilized by economists. *Id.* The seminal articles that developed the Kaldor-Hicks efficiency concept are John R. Hicks, *The Foundations of Welfare Economics*, 49 *ECON. J.* 696 (1939), and Nicholas Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 *ECON. J.* 549 (1939).

that this information can guide the decision whether or not to implement that policy.

Cost-benefit analysis currently plays a particularly important role in federal administrative rulemaking. While this method of evaluation was used to some extent in regulatory reviews under the Nixon, Ford, and Carter Administrations,<sup>4</sup> its significance was greatly enhanced by Executive Order 12991, issued in 1981 by President Reagan.<sup>5</sup> Executive Order 12991 required many proposed executive branch regulatory initiatives to be accompanied by a Regulatory Impact Analysis containing an extensive cost-benefit analysis of the proposal that had to be submitted to and approved by the Office of Information and Regulatory Affairs ("OIRA"), a new office created within the Office of Management and Budget ("OMB"), before the proposed regulation could become effective.<sup>6</sup> Congress has also enacted numerous statutes in recent years requiring federal agencies to perform cost-benefit analyses in connection with their rulemaking efforts.<sup>7</sup> Prospective cost-benefit analyses of rulemaking initiatives and subsequent OIRA review (and, upon occasion, also judicial review<sup>8</sup>) thereof now appear to be a permanent and significant feature of the federal regulatory process; similarly, cost-benefit analyses are now also utilized to a lesser extent by many state governmental agencies.<sup>9</sup> The prominent legal scholar,

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4. President Nixon created a "Quality of Life Review" that gave the Office of Management and Budget limited regulatory review authority. President Ford then required several federal agencies to also provide inflation impact statements for review by the Council on Wage and Price Stability. President Carter took another significant step towards institutionalizing cost-benefit analysis as an aspect of federal rulemaking when he established the Regulatory Analysis Review Group and issued Executive Order 12044 which required economic impact statements for all proposed rules having an overall impact of more than \$100 million. See generally Murray Weidenbaum, *Regulatory Process Reform from Ford to Clinton*, 20 REG. 20 (1997), available at <http://www.cato.org/pubs/regulation/reg20n1a.html> (last visited Nov. 29, 2005); THOMAS O. MCGARITY, *REINVENTING RATIONALITY: THE ROLE OF REGULATORY ANALYSIS IN THE FEDERAL BUREAUCRACY* (1991).

5. Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (Feb. 17, 1981).

6. 46 Fed. Reg. 13,193. See also MCGARITY, *supra* note 4, at 271 (discussing the actions of OIRA in connection with the instigation and review of the cost-benefit analyses prepared in connection with Executive Order 12,291). The Clinton Administration replaced Executive Order 12,991 with a new Executive Order 12,866 which made some minor changes in wording and procedures, but retained the substance of the cost-benefit analysis requirement for major rulemaking initiatives. Exec. Order No. 12,866 58 Fed. Reg. 51,735 (Sept. 30, 1993).

7. Matthew D. Adler & Eric A. Posner, *Rethinking Cost-Benefit Analysis*, 109 YALE L.J. 165, 167 (1999) (citing to a law review article which in turn cites several such statutes).

8. CASS R. SUNSTEIN, *THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION* 10 (2002).

9. See generally Robert W. Hahn, *State and Federal Regulatory Reform: A*

Cass Sunstein, has gone so far as to claim that “American government is becoming a cost-benefit state,”<sup>10</sup> and that the use of cost-benefit analysis helps rationalize government decision-making and insulate it from the pressure of special interest groups, as well as increase regulatory transparency and public accountability.<sup>11</sup> Both Sunstein’s descriptive and normative claims are open to challenge.<sup>12</sup> In particular, there is considerable controversy regarding whether cost-benefit analysis provides a meaningful and unbiased means of assessing the desirability of policies and programs.<sup>13</sup> The literature on this topic is extensive, including a number of articles that sharply criticize of the use of this approach.<sup>14</sup>

The various normative critiques that have been made of cost-benefit analysis can be usefully classified as being either “external” or “internal” critiques.<sup>15</sup> Many external critiques emphasize the threshold problem of incommensurability, commonly concluding that cost-benefit analysis is fatally flawed because of the impossibility of meaningfully measuring diverse impacts, ranging from purely financial consequences to loss of life itself, and including unquantifiable effects such as the value of empathy with those persons more directly affected by a policy, by a unitary monetary metric.<sup>16</sup> Other external critiques focus upon the weaknesses of economic efficiency as a normative standard.<sup>17</sup>

*Comparative Analysis*, 29 J. LEGAL STUD. 873 (2000).

10. SUNSTEIN, *supra* note 8, at 19-20.

11. *Id.* at 26-28.

12. See generally Amy Sinden, *Cass Sunstein’s Cost-Benefit Lite: Economics for Liberals*, 29 COLUM. J. ENVTL. L. 191 (2004) (rebutting both claims in some detail).

13. *Id.* at 201-12. There is a voluminous body of literature offering criticisms of cost-benefit analysis. See also, Adler & Posner, *supra* note 7 at 167 (“The reputation of cost-benefit analysis . . . among American academics has never been as poor as it is today . . .”); Frank Ackerman & Liza Heinzerling, *Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection*, 150 U. PA. L. REV. 1553 (2002) (presenting a highly critical view of cost-benefit analysis).

14. See, e.g., Adler & Posner, *supra* note 7; Ackerman & Heinzerling, *supra* note 13.

15. Sinden, *supra* note 12, at 202.

16. *Id.* There is extensive literature advancing external critiques of the cost-benefit methodology based on the incommensurability problem. See, e.g., Ackerman & Heinzerling, *supra* note 13, at 1553, 1563-64; Henry S. Richardson, *The Stupidity of the Cost-Benefit Standard* 29 J. LEGAL STUD. 971, 986-89 (2000); Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 YALE L. J. 1981, 1984-1985 (1998); Cass R. Sunstein, *Incommensurability and Valuation in Law*, 92 MICH. L. REV. 779, 784 (1994); Laurence H. Tribe, *Policy Science: Analysis or Ideology?*, 2 PHIL. & PUB. AFF. 66 (1972).

17. There is extensive literature criticizing the use of economic efficiency as a normative criterion. See, e.g., Adler & Posner, *supra* note 7, at 191 (“[B]ecause Kaldor-Hicks [efficiency] is, taken as a moral principle, unsound, CBA (cost-benefit analysis) cannot be justified by reference to Kaldor-Hicks.”);

The internal critiques, in contrast, sidestep the incommensurability problem and accept as a premise the desirability of valuing a policy through aggregating in financial terms the affected persons' "willingness to pay" to enjoy or to avoid its consequences. The internal critics address the cost-benefit methodology on its own terms and point out a number of valuation problems that, alone or in combination, may often render futile attempts to quantify costs and benefits in an objective manner (i.e., that do not simply reflect the analyst's personal, ethical, and political preferences).<sup>18</sup> The problems noted by these critics include the difficulty in determining appropriate discount rates,<sup>19</sup> the problem of determining whether offer prices or asking prices are the appropriate measure of "willingness to pay"<sup>20</sup> in instances where they diverge in magnitude,<sup>21</sup> and the dependence of "willingness to pay"-based measures of offer prices or asking prices on the existing distribution of wealth.<sup>22</sup> Critics also emphasize the often severe data availability limitations facing cost-benefit analysts, including the common difficulty of having inadequate

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Ackerman & Heinzerling, *supra* note 13, at 1567-68; Gregory Scott Crespi, *The Mid-Life Crisis of the Law and Economics Movement: Confronting the Problems of Nonfalsifiability and Normative Bias*, 67 NOTRE DAME L. REV. 231, 234-37(1991); MARK KELMAN, A GUIDE TO CRITICAL LEGAL STUDIES 114-50 (1987). See generally Symposium, *Efficiency as a Legal Concern*, 8 HOFSTRA L. REV. 485 (1980) (collecting several articles on economic efficiency).

18. Adler & Posner, *supra* note 7, at 202-03. There is extensive literature advancing such internal critiques of the cost-benefit methodology. See, e.g., Sinden, *supra* note 12, at 205-10 (citing many articles presenting such critiques). See also, e.g., Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941 (1999) (criticizing commonly used approaches to discounting future loss of life consequences).

19. See, e.g., Sinden, *supra* note 12, at 207-08 (stating that there is controversy over the appropriate discount rate to apply to market goods because "reasonable people can obviously disagree about inflation and interest rates").

20. In this article I will consistently use the phrase "offer price" for the amount of money that a person would be willing to pay to obtain a benefit or to avoid a cost. In the economics and regulatory analysis literature offer prices are often also referred to as "willingness to pay" or "WTP" measures. Similarly, I will consistently use the phrase "asking price" for the amount of money someone would require to consent to forego a benefit or bear a cost. In the economics and regulatory analysis literature asking prices are often also referred to as "willingness to ask" or "WTA" measures.

21. "The existence of . . . [a divergence between offer and asking prices] presents an intellectual challenge. Which price . . . should the policymaker use in comparing how much potential owners value an entitlement? The offer/asking price gap necessitates a more subtle inquiry than traditional efficiency analysis." Russell Korobkin, Note, *Policymaking and the Offer/Asking Price Gap: Towards a Theory of Efficient Entitlement Allocation*, 46 STAN. L. REV. 663, 665 (1994) [hereinafter Korobkin (1994)].

22. Sinden, *supra* note 12, at 206-07.

data to confidently establish the “willingness to pay” of affected persons for even the known impacts of a measure,<sup>23</sup> as well as the more fundamental problem of scientific uncertainty as to both the scope and magnitude of the likely consequences of many policies or programs.<sup>24</sup>

In this Article I will not address the merits of the external critiques of cost-benefit analysis, or the majority of the internal critiques. Rather, I will focus almost exclusively upon the specific and important question of whether offer price or asking prices are the theoretically appropriate measure in determining “willingness to pay” and overall efficiency consequences. My goal is to build upon and significantly advance the state of analysis with regard to the choice between these alternative valuation methods. Let me at the outset briefly summarize my overall conclusions and recommendations.

Empirical evidence demonstrates that there is a pervasive and often significant divergence between offer price and asking price measures of the “willingness to pay” for the various costs and benefits of many policies. Asking prices can easily be several times larger than comparable offer prices.<sup>25</sup> The use of offer price instead of asking prices for valuation of a policy’s cost impacts can consequently lead to significant underestimates of costs relative to benefits and ultimately an incorrect assessment of that policy’s efficiency. This potential divergence between offer and asking prices therefore requires cost-benefit analysts who seek to accurately assess the efficiency consequences of a policy, rather than simply to promote or discredit that policy in accordance with a particular political agenda that may include objectives other than efficiency,<sup>26</sup> to choose the appropriate measurement approach to value particular benefit and cost items that best assess those efficiency consequences considering the constraints presented by the available data.<sup>27</sup>

In my opinion, the pre-policy status quo is the appropriate baseline state to use as a reference point for defining the benefits and costs of implementing a policy.<sup>28</sup> Under all circumstances, the benefits of a policy should then be valued through use of the offer

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23. See *id.* at 208-10 (discussing several problems which call into question the validity and reliability of various methods of measuring willingness to pay).

24. See generally *id.* at 205-12.

25. See generally *infra* note 48.

26. My subsequent recommendations made in this article are based upon the assumption that the only proper objective of cost-benefit analysis is the limited goal of assessing those efficiency consequences, and that the valuation approach should be selected with this goal uppermost in mind. See *infra* text accompanying notes 187-88.

27. *Id.*

28. See *infra* notes 188-89 and accompanying text.

prices of the policy's beneficiaries as compared to that initial baseline, regardless of whether the policy beneficiaries will also be accorded legal entitlements to those benefits as part of that policy.<sup>29</sup>

The proper measurement of the costs of a policy is a far more complex undertaking than is valuing its benefits. In those instances where the losers from a policy have legal entitlements that would be contravened if those losses are imposed, their losses should be valued at their asking prices, not at their offer prices. As I will discuss in some detail, persuasive theoretical arguments can be made that these asking prices should first be adjusted in a number of subtle and possibly significant ways when assessing typical policies not involving asking price-based compensation payments being made to the losers. However, given that these various adjustments to some extent would offset one another, and given that the available data is generally inadequate to measure the appropriate size of the particular individual adjustments with any real precision, I conclude that unadjusted asking prices are the most appropriate metric for practical policy analysis. Despite the potential error that may be introduced by overlooking these adjustments, asking prices are still likely to be far more accurate approximations of the true "willingness to pay" to avoid cost burdens than would be offer prices, and are therefore superior valuation measures in any context where accuracy of result, rather than ease of data collection, is the paramount consideration. With regard to losses that are not protected by legal entitlements, I again conclude for similar reasons that they should be measured by the losers' asking prices, without adjustments.<sup>30</sup>

These conclusions have very significant implications for the conduct of cost-benefit analysis. Currently, the common practice among cost-benefit analysts is to uncritically utilize offer prices for valuing both costs and benefits,<sup>31</sup> largely because of either widespread (though unfounded<sup>32</sup>) perceptions that the difference between these measures is insignificant<sup>33</sup> or because of the

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29. See *infra* notes 189-96 and accompanying text.

30. Although this conclusion on my part regarding the proper valuation of costs not accompanied by legal entitlements is somewhat more tentative than my conclusion regarding the valuation of costs imposed that contravene legal entitlements. See *infra* notes 209-10 and accompanying text.

31. See, OFFICE OF MGMT. & BUDGET, ECONOMIC ANALYSIS OF FEDERAL REGULATIONS UNDER EXECUTIVE ORDER 12,866, (1996) [hereinafter OMB (1996)], available at <http://www.whitehouse.gov/omb/inforeg/riaguide.html> (last visited on Nov. 30, 2005) (noting that there is a "common preference" for the use of offer prices over the use of asking prices by cost-benefit analysts, based on empirical difficulties in measuring asking prices).

32. See *infra* note 48 and accompanying text.

33. See Jack L. Knetsch, *Environmental Policy Implications of Disparities Between Willingness to Pay and Compensation Demanded measures of Values*,

generally greater ease of measurement of offer prices compared to asking prices,<sup>34</sup> rather than for any sound theoretical reasons suggesting that offer prices are a better means of assessing efficiency consequences. Since asking prices are often larger than offer prices, and sometimes several times larger,<sup>35</sup> the adoption of my recommendations would, in some instances, lead to a different conclusion as to the efficiency of a proposal. Indeed, more proposals would be revealed as inefficient when their costs are more accurately estimated. This would particularly be the case with regard to proposals whose costs include the sort of effects one would expect to result in asking prices well in excess of offer prices, such as when those costs include adverse environmental impacts or adverse health or safety consequences.<sup>36</sup>

This Article will proceed in the following manner. Section II will examine when offer prices rather than asking prices are the theoretically appropriate measures of “willingness to pay” for a policy’s costs or benefits. First, I will briefly discuss the evidence indicating the existence of a pervasive and often substantial divergence between offer prices and asking prices that requires for the accurate assessment of efficiency consequences that a considered valuation method choice be made for each class of impacts. Then, I will survey and discuss the existing literature on this question of the appropriate means of measuring “willingness to pay” in circumstances where offer prices and asking prices diverge significantly. I will focus primarily on the seminal contributions made by Duncan Kennedy<sup>37</sup> and Russell Korobkin,<sup>38</sup> but I will also discuss the work of Frank Michelman,<sup>39</sup> Jack Knetsch,<sup>40</sup> Richard Markovits,<sup>41</sup> Herbert Hovenkamp,<sup>42</sup> Elizabeth

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18 J. ENVTL. ECON. & MGMT. 227, 227 (1990) [hereinafter Knetsch (1990)] (“[T]he usual advice is that as a practical matter is usually does not make much difference which of these two approaches [offer prices or asking prices] . . . is adopted.”).

34. *See id.* (“Generally speaking, willingness to pay [offer prices] is easier to estimate than required compensation [asking prices].”); A.V. KNEESE, MEASURING THE BENEFITS OF CLEAN AIR AND WATER 15 (1984). *See also* NICK HANLEY AND CLIVE L. SPASH, COST-BENEFIT ANALYSIS AND THE ENVIRONMENT 62-65 (1993) (noting and discussing the fact that attempts to measure asking prices through survey formats “are particularly prone to a large frequency of protest bids and/or a large frequency of outliers.”).

35. *See generally infra* note 48 (reasoning that the endowment effect is the cause of the gap between offer and asking price).

36. Knetsch (1990), *supra* note 33, at 231.

37. *See infra* text accompanying notes 85-104.

38. *See infra* text accompanying notes 128-71.

39. *See infra* text accompanying notes 62-67.

40. *See infra* text accompanying notes 105-15.

41. *See infra* text accompanying notes 68-77.

42. *See infra* text accompanying notes 116-18.



Hoffman<sup>43</sup> and Matthew Spitzer.<sup>44</sup> I will also discuss the guidance provided periodically by the OMB<sup>45</sup> for government analysts who must prepare their agencies' Regulatory Impact Analyses of proposed regulations for OIRA review. Finally, I will offer my own contributions to this discussion and advance my personal conclusions and recommendations. Section III will present an overall conclusion and briefly discuss the practical implications of my recommendations.

## II. OFFER PRICES V. ASKING PRICES AS THE APPROPRIATE MEASURE OF WILLINGNESS TO PAY

### A. *The Pervasive and Often Significant Difference Between Offer Prices and Asking Prices*

Prior to the late 1970s, it was generally assumed by economists that the value that a rational person would place upon an entitlement was independent of whether that person owned that entitlement, except for any differences in valuation resulting from the wealth effects of the assignment of the entitlement in cases when that entitlement constituted an appreciable fraction of the person's wealth.<sup>46</sup> The famous Coase Theorem, declaring that under circumstances of zero transaction costs the allocation of resources agreed to by two parties *inter se* will be invariant with respect to which of them is initially accorded the entitlement at issue, except for the consequences of possible wealth effects resulting from the locus of the initial assignment, is predicated upon this assumption of the equivalence of offer and asking prices for each of the parties involved.<sup>47</sup> Most normative analyses of entitlement regimes in legal scholarship still rely upon the assumption of equivalence between offer and asking prices,<sup>48</sup> and most cost-benefit analyses are conducted using the often more easily measured offer prices<sup>49</sup> rather than asking prices, assuming that the results reached will not be affected by this choice of valuation approaches.

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43. See *infra* text accompanying notes 119-27.

44. *Id.*

45. See *infra* text accompanying notes 171-88.

46. See, e.g., Robert Willig, *Consumers Surplus Without Apology*, 66 AM. ECON. REV. 589 (1976) (arguing that offer prices and asking prices will diverge significantly only under unusual circumstances).

47. See Korobkin (1994), *supra* note 21, at 663-65 (evaluating the Coase Theorem in detail).

48. Russell Korobkin, *Empirical Legal Realism: A New Social Scientific Assessment of Law and Human Behavior: The Endowment Effect and Legal Analysis*, 97 NW. U. L. REV. 1227, 1228 (2003) [hereinafter Korobkin (2003)].

49. OMB (1996), *supra* note 31, at 21-22.

However, a large and robust body of empirical research carried out in recent decades has rather conclusively demonstrated that under many circumstances this assumption of equivalent offer and asking prices is incorrect.<sup>50</sup> A person's asking price to relinquish an entitlement or other benefit they enjoy is often greater than would be their offer price to purchase the same entitlement or benefit, if they did not already enjoy it, by an amount that significantly exceeds any differential that could be plausibly attributed to the wealth effect of initially owning that benefit or entitlement.<sup>51</sup> The same empirical literature also evidences that this divergence between offer and asking prices — now commonly referred to as the “endowment effect,”<sup>52</sup> — is analytically unruly in that it is widely pervasive but not universally present,<sup>53</sup> stems from numerous underlying causes,<sup>54</sup> and is very context-specific both in its magnitude and in the specific mix of factors that cause it.<sup>55</sup>

Recognition of this pervasive and variable divergence between offer and asking prices greatly complicates cost-benefit analysis.

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50. For a comprehensive 1993 review of the empirical literature then available, which review concludes that asking prices often exceed offer prices and often by a substantial multiple, see generally Elizabeth Hoffman & Matthew L. Spitzer, *Willingness to Pay vs. Willingness to Accept: Legal and Economic Implications*, 71 WASH. U. L.Q. 59 (1993). See also Peter A. Diamond & Ferry A. Hausman, *CV Measurement of Nonuse Values*, in CONTINGENT VALUATION: A CRITICAL ASSESSMENT 21-22 (Jerry A. Hausman ed., 1993); Peter A. Diamond et al., *Does CV Measure Preferences?*, in CONTINGENT VALUATION: A CRITICAL ASSESSMENT 65-66 (Jerry A. Hausman ed., 1993); Paul Milgrom, *Philosophy, Economics, and CV*, in CONTINGENT VALUATION: A CRITICAL ASSESSMENT 429-31 (Jerry A. Hausman ed., 1993) (taking the same position); Knetsch (1990), *supra* note 33, at 227 (“virtually all controlled tests . . . point to large differences between the alternative value measures [of offer and asking prices].”). There has been considerable additional research done since 1993 which lends further support of this conclusion. Korobkin (2003), *supra* note 48, at 1231-35; Korobkin (1994), *supra* note 21, at 668 (“In the aggregate, the environmental studies tend to reveal WTAs [asking prices] from two to ten times as high as WTPs [offer prices], with some surveys showing WTAs sixty to ninety times as high as WTPs.”). See also Cass Sunstein, *Lives, Life-Years, and Willingness to Pay*, 104 COLUM. L. REV. 205, 230 (2004) (concluding that there is a large difference between offer and asking price); Thomas F. Cotter, *Pragmatism, Economics, and the Droit Moral*, 76 N.C. L. REV. 1, 59 (1997) (“A growing body of empirical evidence suggests that offer/asking price gaps are more common and larger than conventional neoclassical economic theory had predicted.”).

51. See generally Cotter, *supra* note 50, at 58-67 (illustrating the effect of the offer/ask price gap).

52. The term “endowment effect” was coined by Richard Thaler. Korobkin (2003), *supra* note 48, at 1228 n.3. See generally Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 44 (1980).

53. Korobkin (2003), *supra* note 48, at 1235.

54. *Id.* at 1242-55.

55. *Id.* at 1228-30.

Such analysis involves a calculation of the overall efficiency consequences of a policy, as compared to some baseline state of affairs, where the benefits conferred or costs imposed upon each affected person in each time period are valued at that person's "willingness to pay," and are then aggregated over all affected persons and time periods to give an overall assessment of the Kaldor-Hicks efficiency properties of the policy. If there is a significant divergence between offer prices and asking prices for some or all of the more substantial benefits or costs of a particular policy, then the choice of valuation approach may well determine the outcome of the analysis. It is therefore crucial for the credibility and analytical value of cost-benefit analysis that the analyst makes this choice with an eye towards best assessing economic efficiency consequences, rather than promoting other possible political objectives.

Offer prices are often more easily measured than asking prices.<sup>56</sup> It would be very convenient for cost-benefit analysts if offer prices could simply be used as the basis for calculating a proxy measure for asking prices whenever asking prices are the theoretically appropriate measure of "willingness to pay." Unfortunately, this is not the case because offer prices may be significantly smaller than asking prices for particular impacts of a policy — sometimes by amounts that vary greatly with the context — so that a simple across-the-board proportional upward adjustment of offer prices to accurately correct for this divergence is not possible. It is therefore necessary for cost-benefit analysts to explicitly choose between offer price and asking price measures of the "willingness to pay" for each of the various consequences of the policy under consideration, and only utilize offer price measures when it is theoretically appropriate to do so. There may be unusual circumstances where while asking prices are the theoretically suitable measure, one has available the data necessary to determine the appropriate size of the adjustments needed to make adjusted offer prices a reasonably accurate proxy measure for those asking prices, but this is not the usual situation.

#### *B. Choosing Between Offer Price and Asking Price Measures of Willingness to Pay*

Over the past several decades a number of economists and legal scholars have attempted to determine whether offer prices or asking prices are the appropriate measures of "willingness to pay" when conducting a cost-benefit analysis.<sup>57</sup> Currently, conventional

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56. OMB (1996), *supra* note 31, at 22.

57. See, e.g., Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law*, 80 HARV. L. REV. 1165, 1214 (1967); Richard S. Markovits, *The Causes and Policy Significance of Pareto Resource Misallocation: A Checklist for Micro-Economic*

wisdom is that while some progress has been made,<sup>58</sup> the effort has failed to reach a definitive conclusion. Indeed, “no one has been able to come up with a theoretically defensible basis on which to choose one value over the other”<sup>59</sup> as best representing “willingness to pay”; thus threatening to render cost-benefit analysis indeterminate on that basis alone in any context where there may be a significant divergence between offer prices and asking prices for some important class of policy consequences.

In my opinion, however, such a sweeping dismissal of this body of analytical work is unwarranted. As I will discuss below, it is true that a number of conflicting resolutions to this valuation question have been proposed, and some of them are not supported by convincing rationales. It is also true that even the more

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*Policy Analysis*, 28 STAN. L. REV. 1 (1975) [hereinafter Markovits (1975)]; Thomas C. Heller, *The Importance of Normative Decision-Making: The Limitations of Legal Economics as a Basis for a Liberal Jurisprudence—As Illustrated by the Regulation of Vacation Home Development*, 1976 WIS. L. REV. 385, 439-46 (1976); Mark Kelman, *Consumption Theory, Production Theory, and Ideology in the Coase Theorem*, 52 S. CAL. L. REV. 669, 685-96 (1979); Duncan Kennedy, *Cost-Benefit Analysis of Entitlement Problems: A Critique*, 33 STAN. L. REV. 387, 401-21 (1981); Richard Markovits, *Duncan’s Do Nots: Cost-Benefit Analysis and the Determination of Legal Entitlements*, 36 STAN. L. REV. 1169, 1178-84 (1984) [hereinafter Markovits (1984)]; Jack L. Knetsch, *Legal Rules and the Basis for Evaluating Economic Losses*, 4 INT. REV. L. & ECON. 5, 11-12 (1984) [hereinafter Knetsch (1984)]; Knetsch (1990), *supra* note 33; Herbert Hovenkamp, *Legal Policy and the Endowment Effect*, 20 J. LEGAL STUD. 225 (1991); W. Michael Haneman, *Willingness to Pay and Willingness to Accept: How Much Can They Differ?*, 81 AM. ECON. REV. 635 (1991); David Cohen & Jack L. Knetsch, *Judicial Choice and Disparities Between Measures of Economic Values*, 30 OSGOODE HALL L.J. 737, 742-49 (1992); Hoffman & Spitzer, *supra* note 50, at 98-114; Korobkin (1994), *supra* note 21; Jason F. Shogren & Dermot J. Hayes, *Resolving Differences in Willingness to Pay and Willingness to Accept: Reply*, 87 AM. ECON. REV. 241 (1997); Murray B. Rutherford, Jack L. Knetsch, & Thomas C. Brown, *Assessing Environmental Losses: Judgments of Importance and Damage Schedules*, 22 HARV. ENVTL. L. REV. 51, 60-63 (1998); Richard T. Carson, Nicholas E. Flores, & Norman F. Meade, *Contingent Valuation: Controversies and Evidence*, 19 ENVTL. & RES. ECON. 173, 185-86 (2001); Korobkin (2003), *supra* note 48, at 1231-83. For federal Office of Management and Budget perspectives on the appropriate measurement of “willingness to pay,” see generally OFFICE OF MGMT. & BUDGET, GUIDELINES TO STANDARDIZE MEASURES OF COSTS AND BENEFITS AND THE FORMAT OF ACCOUNTING STATEMENTS, (2000), available at <http://www.whitehouse.gov/omb/memoranda/m00-08.pdf> (last visited Dec. 2, 2005); DRAFT 2003 REPORT TO CONGRESS ON THE COSTS AND BENEFITS OF FEDERAL REGULATIONS, 68 Fed. Reg. 5,492, 5,513 (Feb. 3, 2003), available at [http://www.whitehouse.gov/omb/fedreg/2003draft\\_cost-benefit\\_rpt.pdf](http://www.whitehouse.gov/omb/fedreg/2003draft_cost-benefit_rpt.pdf) (last visited on Nov. 30, 2005).

58. Cass R. Sunstein, *Switching the Default Rule*, 77 N.Y.U. L. REV. 106, 130 (2002) (“In asking about whether to use WTP or instead WTA, some progress has been made on this question.”).

59. Sinden, *supra* note 12, at 206.

plausible conclusions reached by some scholars as to the appropriate metric are dependent upon both their underlying premises as to the purposes of conducting a cost-benefit analysis and upon their assessment of the sources and magnitude of the divergence between offer and asking prices. As such, these conclusions may in some instances require detailed data that is rarely available. No single resolution of this question stands out as being dominant across all possible initial premises and assessments of the sources and magnitude of the divergence. Nevertheless, that body of work taken as a whole provides useful guidance for resolving the valuation question with regard to any particular impact that is being assessed, and to any underlying premises as to the purposes that the inquiry is intended to serve.<sup>60</sup> I believe that it is possible to reach rather general and robust conclusions regarding the proper valuation approach from a close consideration and synthesis of these prior efforts, and I will attempt to demonstrate this below.

Let me first briefly and chronologically summarize<sup>61</sup> each major contribution made in recent years towards clarifying when offer prices or instead asking prices are the appropriate measures of “willingness to pay.” I will also include in this discussion a few comments regarding the merits of the various contributions. Then, I will offer a more comprehensive assessment of this body of literature taken as a whole. Finally, I will advance my own contribution to this effort.

### *1. Prior Efforts to Determine the Appropriate Measure of Willingness to Pay*

Frank Michelman was apparently the first legal scholar to show some awareness of the offer/asking price ambiguity.<sup>62</sup> In an important passage in his 1967 *Harvard Law Review* article dealing with the scope of government compensation obligations, he defined

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60. Sunstein, *supra* note 58.

61. This discussion will address the various critiques in chronological order, except that the contributions of Russell Korobkin (first presented in a 1994 student note, Korobkin (1994), *supra* note 21, and subsequently expanded and refined in a 2003 article, Korobkin (2003), *supra* note 48) will be discussed together just after the pre-2003 contributions, and except that the contributions of Richard Markovits (first introduced in a 1975 article, Markovits (1975), *supra* note 57, and then elaborated much more fully in a 1984 article, Markovits (1984), *supra* note 57) will both be discussed together just after the pre-1975 contributions, and except that the positions taken by OIRA on this question over the years will be discussed after the discussion of the Korobkin articles.

62. Michelman, *supra* note 57. See also Kennedy, *supra* note 57, at 403 (“The use of asking prices to value externalities from the setting of entitlements seems first to have occurred in Frank Michelman’s classic article on just compensation law.”).

“efficiency gains” as “the excess of benefits produced by a measure over losses inflicted by it . . . .”<sup>63</sup> He then stated that those benefits should be measured “by the total number of dollars which prospective gainers would be willing to pay to secure adoption” of the measure,<sup>64</sup> and that those costs should be measured “by the total number of dollars which prospective losers would insist on as the price of agreeing to adoption.”<sup>65</sup> In effect, he called for the use of offer price measures for the benefits created by a policy, and asking price measures for the costs imposed, in measuring net efficiency gains.<sup>66</sup>

Michelman did not offer a reasoned elaboration of his embrace of this sweeping “winners’ offer prices, losers’ asking prices”<sup>67</sup> resolution of the offer/asking price problem. He implicitly embraced a hypothetical competitive market valuation framework and concluded that his valuation approach best replicated the operation of such a market in which buyers must offer sellers a sum that sellers are willing to accept for the transactions to occur. Let me also note that Michelman drew no distinctions between: 1) those losers who lose benefits to which they have a prior legal entitlement, and 2) those losers who lose benefits to which they had no prior legal entitlement, including those losers whose losses are solely due to their empathy with those persons more directly affected by the measure under consideration. According to Michelman, the adverse impacts of any kind of loss imposed by a policy are to be valued at the losers’ asking prices.

Richard Markovits was the next scholar to address these questions, and in a rather opaque 1975 article<sup>68</sup> he declared in a footnote that the winners’ asking prices and the losers’ offer prices should be used to measure the impacts of a policy.<sup>69</sup> This is in

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63. Michelman, *supra* note 57, at 1214.

64. *Id.*

65. *Id.*

66. Michelman also defined two additional cost categories relevant to an overall efficiency assessment. “Demoralization costs” are defined as “the dollar value necessary to offset disutilities which accrue to losers and their sympathizers specifically from the realization that no compensation is offered.” *Id.* “Settlement costs” are defined as the alternative to imposing demoralization costs, i.e., “the dollar value of the time, effort and resources which would be required in order to reach compensation settlements adequate to avoid demoralization costs.” *Id.* While this rudimentary threefold cost categorization framework is somewhat awkward and potentially duplicative, the key feature for our purposes is that each of these latter two cost items are also to be valued by asking prices, not offer prices.

67. Duncan Kennedy colorfully refers to this valuation approach as “[w]inner’s bribe losers’ taken seriously.” Kennedy, *supra* note 57, at 411.

68. Markovits (1975), *supra* note 57.

69. “I will measure the winners’ gains from any policy by the number of dollars they would be willing to accept in lieu of the change in question. . . . Similarly, the losers’ losses should be measured according to the number of

direct contrast to Michelman's valuation formula. In that footnote, Markovits' justification for taking this approach was stated only very briefly.<sup>70</sup> However, it was later articulated somewhat more fully and confidently declared to be the "correct" and "non-arbitrary way to measure" benefits and costs in a 1984 article<sup>71</sup> he wrote in response to Duncan Kennedy's article that will be discussed in some detail below.<sup>72</sup>

Markovits' arguments appear to be based upon the assumption that the divergence between offer and asking prices stems solely from the wealth effects caused by the allocation of the entitlement at issue, and upon his recognition that this wealth effect will not, in general, be offset by compensating payments made as part of policy implementation. He concluded that it is therefore appropriate to use the winners' asking prices and the losers' offer prices for valuations.<sup>73</sup> All of the responses to Markovits' valuation approach of which I am aware are quite

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dollars they would be willing to give up to prevent the change from being adopted . . ." *Id.* at 2-3 n.4.

70. *Id.*

71. Markovits (1984), *supra* note 57, at 1182.

72. See *infra* text accompanying note 82.

73. Markovits' basic rationale is quoted at some length below:

[M]easures of the equivalent dollar gains and losses . . . can be accurate only if they are based on accurate assumptions about the wealth position of affected parties at the time at which the policy is implemented. Since, in practice, the winners under a particular policy will not have to pay a bribe to obtain that policy's implementation and the losers will not be compensated for the loss which the policy imposes upon them, cost-benefit analysts should measure the equivalent dollar gains and losses that a policy will generate on the assumption that the winners' and losers' wealth will not be altered prior to the policy's implementation. . . . In other words, under my approach the gains of the winners are measured (as they should be measured) by the number of dollars which the winners would have to be given on top of their original, *actual* wealth to be made as well off as they would be were the policy implemented. Similarly, by measuring the losers' losses by the number of dollars which they would have to lose to leave them as badly off as the policy would leave them, my approach measures the dollar size of their losses on the realistic assumption that their wealth will not be increased prior to the adoption of the policy. That is, under my approach the losers' losses are measured (as they should be measured) by the amount by which their original, *actual* wealth would have to be decreased for them to be as badly off as they would be were the policy adopted. . . . The conventional approach [utilizing winners' offer prices and losers' asking prices in accordance with Michelman's recommendation] fails because in effect it measures the relevant equivalent dollar gains and losses on *false* assumptions about the amount of wealth which the winners and losers will have when the policy is implemented.

Markovits (1984), *supra* note 57, at 1180-81 (emphasis added). Russell Korobkin is in accord with my interpretation of Markovits' rationale for his position. Korobkin (1994), *supra* note 21, at 677.

critical of that position<sup>74</sup> for one or more of three reasons: first, he fails to distinguish for valuation purposes between losses protected by legal entitlements and those that are not so protected;<sup>75</sup> second, he fails to recognize that the wealth effects of many entitlements will be insufficient to generate the magnitude of divergences between offer and asking prices;<sup>76</sup> and finally, because he fails to recognize that under his method of valuation both the implementation of a policy and its subsequent reversal may each be efficiency-enhancing, thus giving an indeterminate and unhelpful cost-benefit analysis result that leads to cyclical policy recommendations.<sup>77</sup> I agree with these critics that Markovits' approach is seriously flawed.

In 1976 Thomas Heller wrote an article which implicitly took issue with Michelman's position that asking prices be used to measure all costs that are imposed by policy measures. Heller first drew a distinction between "property rights" and those "other forms of legal entitlement" that do not provide for the full panoply of property rights protections.<sup>78</sup> For losses that are imposed in contravention of property rights, he concluded that the proper valuation of these costs is "the minimum amount an owner would demand to be paid in order to have a money equivalent to the value that consuming the asset would have yielded,"<sup>79</sup> (i.e., the losers' asking price). Conversely, for any losses associated with an "entitlement in a resource which is less than a property right," the proper measure of value is "the maximum amount that an individual could pay for an asset and still leave his or her level of welfare in the same position as if the asset had not been purchased,"<sup>80</sup> (i.e., the losers' offer price).

Heller's use of the phrase "entitlement in a resource which is less than a property right," apparently refers primarily to those losses that are protected only by liability rules requiring the payment of financial compensation for takings (e.g., most contractual rights), and not by the full panoply of property rights protections (e.g., the right to enjoin non-consensual takings).<sup>81</sup> Losses not regarded as losses of entitlements, and consequently not accorded any legal protection at all, would presumably, under

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74. See, e.g., Kennedy, *supra* note 57, at 408-10; Korobkin (1994), *supra* note 21, at 676-79.

75. Kennedy, *supra* note 57, at 408-10.

76. Korobkin (1994), *supra* note 21, at 678-79.

77. *Id.* at 676-78.

78. Heller, *supra* note 57, at 441.

79. *Id.* at 442.

80. *Id.*

81. *Id.* (citing the famous article, Guido Calabresi & A. Douglas Malamed, *Property Rules, Liability Rules and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972) which developed the distinction between property rules and liability rules).



the Heller scheme, also be regarded as losses imposed on persons who have "less than a property right" and would therefore be treated in the same offer price fashion for "willingness to pay" valuation purposes.

Heller therefore does not disagree with Michelman in regard to the use of offer prices to measure benefits, nor with the use of asking prices to measure those losses that involve entitlements protected by property rights. However, Heller would instead use offer prices to measure those losses of benefits that are protected only by liability rules, or that otherwise receive no legal protection at all. Unfortunately, Heller does not explain why the choice between the use of offer or asking prices to measure the "willingness to pay" to avoid losses should depend upon the nature of the legal protection provided against the imposition of those losses. As will be discussed below in connection with Duncan Kennedy's work, a plausible, though debatable, argument can be made for taking a different valuation approach for losses protected by some form of legal entitlement from that taken for valuing losses accorded no legal protection at all. It is not clear, however, why the line crucial for valuation purposes should instead be drawn between those losses protected by the full panoply of property rights and those losses accorded some, but more limited legal protection.

Duncan Kennedy in 1981 drew upon the work of Michelman,<sup>82</sup> Heller,<sup>83</sup> and Markovits<sup>84</sup> to conduct a much more sophisticated and insightful analysis of the offer/asking price conundrum than had any of these earlier writers,<sup>85</sup> and for this reason Kennedy's article is clearly the most widely read treatment of this topic. Kennedy describes several possible approaches to determining "willingness to pay," but his central point is that there is not only no consensus among economists regarding when to use offer prices and when to use asking prices,<sup>86</sup> there is also ultimately no correct answer implicit in the concept of efficiency.<sup>87</sup> This problem renders cost-benefit analysis inherently indeterminate and reduces it to simply another "language for carrying on political discussion . . . rather than a way of discovering facts about the external world . . . ."<sup>88</sup>

One of the three valuation approaches Kennedy discusses is described as the "traditional welfare economist's formula,"<sup>89</sup> which

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82. Kennedy, *supra* note 57, at 403-04.

83. *Id.* at 408-09.

84. *Id.* at 408.

85. *Id.* at 401-21.

86. *Id.* at 407.

87. *Id.*

88. *Id.* at 411.

89. *Id.*

he colorfully labels “winners bribe losers, taken seriously.”<sup>90</sup> In his view, that approach calls for valuing gains from a policy at the winners’ offer prices and losses at the losers’ asking prices;<sup>91</sup> this is the same approach Michelman recommended over a decade earlier.<sup>92</sup> Kennedy then offers two criticisms of that approach. First, he claims that it has a powerful bias in favor of preserving the status quo since gains are measured by offer prices and losses by often significantly larger asking prices. This obviously makes it a dubious method of valuation for those persons who would deny the legitimacy of the existing structure of entitlements.<sup>93</sup> Second, Kennedy notes that this approach leads to valuations that are dependent on whether the initial status quo or instead the state of affairs existing after implementation of the policy in question is defined as the baseline. While the initial status quo could obviously be considered as the baseline, and offer and asking prices for the benefit and cost impacts of a proposed measure calculated accordingly, it is Kennedy’s view that one could just as reasonably regard the state of affairs after the implementation of the measure with its resulting pattern of benefits and costs as the valuation baseline. From that perspective, an attempt by the losers to invoke state aid to undo the changes imposed and restore their original entitlements and other benefits could be regarded as the measure under consideration, thus reversing which effects are to be measured by offer prices and which are to be measured by asking prices.<sup>94</sup> This analytical reversal will lead to an equally powerful bias in favor of implementation of the policy and against the initial status quo.<sup>95</sup> In Kennedy’s view, the fact that an analyst can reasonably choose either of these two states as the valuation baseline creates a degree of freedom that renders the efficiency calculations potentially indeterminate in those instances where there is a significant divergence between offer and asking prices for the benefit or cost impacts at issue.

Kennedy then proposes a second, competing valuation approach which he aptly labels “no transaction costs, taken seriously.”<sup>96</sup> This approach rests upon replicating a hypothetical costless bargain among all affected persons, and upon recognizing the significance of the bargaining leverage distinction between persons whose losses of benefits are protected by legal entitlements and persons whose losses are not so protected. Under this approach, one would value gains at the winners’ offer

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90. *Id.* at 411.

91. *Id.* 409-10.

92. Michelman, *supra* note 57, at 1214.

93. Kennedy, *supra* note 57, at 412-13.

94. *Id.* at 413-14.

95. *Id.* at 414.

96. *Id.* at 415.

prices, and those losses suffered which are protected by legal entitlements would be valued at the losers' asking prices. However, those losses imposed upon losers without a legal entitlement to the benefits lost would be valued only at those losers' offer prices.<sup>97</sup> This approach would, in Kennedy's view, best replicate the hypothetical bargain that the parties would reach. In such hypothetical negotiations, some potential losers would be bargaining from entitlement positions and could therefore hold out for their asking prices, while the potential winners and losers without initial entitlement positions would have no such bargaining leverage and their effective valuations for purposes of those hypothetical negotiations would thus be more accurately measured by their offer prices.<sup>98</sup>

Kennedy claims the indeterminacy of the "winners bribe losers, taken seriously" method stemming from the freedom to define either the initial status quo or the post-measure state of affairs as the valuation baseline will not exist under this second valuation method.<sup>99</sup> However, he later identifies another source of indeterminacy that plagues this "no transaction costs, taken seriously" valuation method; the unrestricted choice available to analysts in choosing between using offer or asking prices to value losses of the nature of vicarious pain suffered by particular persons stemming from the abridgement of other persons' entitlements.<sup>100</sup> Kennedy's view is that one may choose to value most losses not protected by legal entitlements at the losers' offer prices, yet may nevertheless reasonably choose to value the subset of those losses that are of the nature of vicarious pain experienced as a result of others suffering losses protected by legal entitlements at the vicarious losers' asking prices since such losses have an entitlement infringement aspect (i.e., they are indirectly generated by transgressions against persons whose losses are protected by legal entitlements). The degree of freedom in valuation presented to analysts by this choice again raises

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97. *Id.* at 414-19.

98. *Id.*

99. *Id.* at 415. However, there does not appear to be any inherent reason why an analyst could not choose to use the post-measure state of affairs and distribution of entitlements as the baseline against which to evaluate a proposal to restore the initial situation, with the new entitlement structure defining a new pattern of offer and asking price valuations. This would lead to exactly the same potential baseline-choice indeterminacy problems that Kennedy has identified for the "winners bribe losers, taken seriously" method.

100. *Id.* at 417-19. "Once we recognize that there might be good reason for using C's asking price in deciding [the value of] B's entitlement without entitling C [to legally challenge the loss of B's entitlement] himself, it is clear that there is a set of necessary choices to be made here as elsewhere." *Id.* at 418.

potential indeterminacy concerns for this second valuation approach as well.

The third possible method of valuation that Kennedy proposes, perhaps with tongue-in-cheek, is “[t]he analyst makes up her own mind.”<sup>101</sup> Under this approach, the analyst simply chooses to value particular impacts of a measure at offer prices or asking prices on an ad hoc, selective basis with an eye towards reaching an overall efficiency conclusion that will reinforce the result favored by the analysts on political or ethical grounds.<sup>102</sup> Kennedy recognizes that candidly allowing for such unconstrained flexibility in valuation would, under many circumstances where the offer and asking prices diverge significantly, almost completely undercut the credibility of cost-benefit analysis as an analytical tool to assess efficiency consequences rather than only as a rhetorical device to invoke essentially arbitrary numbers to thereby further personal political purposes.<sup>103</sup> Nevertheless, he concludes that this unconstrained approach is “the only coherent procedure” for valuation because the indeterminacy of the other two approaches also robs them of credibility for analytical purposes, yet each approaches masks the indeterminacy with a superficial patina of neutrality in valuation.<sup>104</sup>

The next significant foray into this territory was a 1984 article written by the Canadian economist Jack Knetsch,<sup>105</sup> followed by a 1990 article in which he expanded upon his initial conclusions.<sup>106</sup> In the 1984 article, Knetsch claimed that conventional wisdom at that time accepted the Kennedy “no transaction costs, taken seriously” approach under which gains are measured by offer prices, and that losses of benefits protected by legal entitlements are measured by asking prices, but that losses of benefits not protected by entitlements are measured by offer prices.<sup>107</sup> His disagreement with that approach was with regard to its sharp dichotomy in the method of valuing losses with regard to the presence or absence of the protection of legal entitlements. In his view, people’s expectations as to the extent of entitlement protection accorded as to particular benefits they currently enjoy do not simply slot into a binary “legal protection is present or absent” classification. Instead, those expectations lie more along a continuum as to the perceived reliability of such legal protection if

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101. *Id.* at 410.

102. *Id.* at 410-11.

103. *Id.* at 411.

104. *Id.* Perhaps a better term here than “coherent” would be “candid.” The other two approaches discussed are each logically coherent but, in Kennedy’s view, are flawed in that they mask an implicit and debatable valuation assumption which may heavily bias the resulting calculations.

105. Knetsch (1984), *supra* note 57.

106. Knetsch (1990), *supra* note 33.

107. Knetsch (1984), *supra* note 57, at 11.

sought to prevent infringements.<sup>108</sup> Additionally, these expectations may vary along another dimension regarding the extent to which people anticipate that others who hold the legal entitlements will invoke formal enforcement of those rights.<sup>109</sup> According to Knetsch, people tend to discount their valuations of a benefit in accordance with their perception of how tenuous their legal rights are with respect to those benefits,<sup>110</sup> as well as how likely they believe it is that others will assert conflicting legal rights.<sup>111</sup> He therefore argues that asking prices are a more appropriate measure of “willingness to pay” for cost burdens than offer prices. Knetsch maintains this position, even in instances where the losers’ extent of entitlement protection is unclear or absent altogether, noting that asking prices are sensitive to these gradations in the levels of expected legal protection of the current enjoyment of benefits,<sup>112</sup> as well as to the strength of expectations held with regard to the necessity of having legal protection to maintain that current enjoyment.<sup>113</sup>

The difference in the method of valuation of losses between Kennedy’s “no transaction costs, taken seriously” approach and Knetsch’s suggested use of asking prices for all losses may be somewhat more significant in theory than in practice. This is

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108. *Id.*

“The welfare associated with any set of expectations and entitlements will likely, all other things equal, reflect their security; more tenuous ones will be discounted relative to ones more certain of protection. Any change in circumstances that adversely affected an expectation, even one known to be tenuous, would decrease the well-being of the individual. If the intent is to measure this welfare cost . . . it might then best be done in terms of the lump sum necessary to leave the person as well off as she or he would be without the change in expectations—the minimum compensation demanded [asking price] measure. The expectation might well be unwarranted . . . but the welfare change would still be best put and most appropriately measured in terms of the necessary compensation.”

*Id.*

109. *Id.* Knetsch notes that the reference point from which people value gains or losses may not accord with their understanding of the scope of their legal entitlements. Knetsch (1990), *supra* note 33, at 235 (citing to Robert Ellickson’s famous Shasta County study; Robert Ellickson, *A Critique of Economic and Sociological Theories of Social Control*, 16 J. LEGAL STUD. 67 (1987)).

110. Knetsch (1984), *supra* note 57, at 11.

111. Knetsch (1990), *supra* note 33, at 235.

112. *Id.* In a later co-authored article Knetsch again claims that asking prices, rather than offer prices, should be used to measure the value of losses in the specific context of non-pecuniary environmental losses. Rutherford, Knetsch & Brown, *supra* note 57, at 60-61. In that article, however, he supports this claim only by quoting Michelman’s 1967 article, and does not propose discounting for the strength of expectations of legal protection argument in favor of the use of asking prices.

113. Knetsch (1990), *supra* note 33, at 235.

because the divergence between the amount of a person's asking and offer price for a particular loss will, as Knetsch notes, likely decline in size as the affected person's expectation of legal and/or social norm protection against that loss diminishes.<sup>114</sup> However, even under circumstances in which a person understands that he has absolutely no chance of invoking a legal entitlement to protect his enjoyment of certain benefits, his asking price to part with those benefits may for other reasons<sup>115</sup> exceed his offer price to obtain those benefits (assuming he did not possess them), making the choice between the two valuation approaches potentially significant for the results reached in a cost-benefit analysis.

In 1991, Herbert Hovenkamp proposed the use of asking prices to calculate the value of all benefits and all costs resulting from a measure.<sup>116</sup> The essence of his argument is that offer prices do not accurately reflect valuations of either benefits or costs because offer prices are constrained by people's wealth, whereas asking prices are not so constrained.<sup>117</sup> Such an argument shows an unfortunate misunderstanding as to what is at issue in the offer/asking price conundrum.

Hovenkamp's point regarding the differential effects of wealth constraints on offer and asking prices obviously has some validity, because a person's asking price to relinquish a particular benefit could conceivably be very large, or even infinite, while his offer price to obtain that benefit is constrained by his wealth and is necessarily finite.<sup>118</sup> The potential differential impact of wealth constraints on the two measures could perhaps be a valid objection to the use of offer prices instead of asking prices in an attempt to measure the strength of people's subjective preferences in some explicitly utilitarian calculation. However, cost-benefit analysis is a more circumscribed exercise intended to determine whether a policy enhances efficiency as defined by "willingness to pay," and not whether it would pass muster under a broader utilitarian

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114. Knetsch (1984), *supra* note 57, at 11.

115. One may, for "endowment effect" reasons, have an asking price valuation for a currently enjoyed benefit that exceeds one's offer price valuation even when one has no expectation of being accorded legal protection to continued enjoyment. For extensive discussion of the endowment effect see generally Korobkin (2003), *supra* note 48; see also *infra* text accompanying note 163-65.

116. Hovenkamp, *supra* note 57. For an extensive and critical discussion of Hovenkamp's position, see also Korobkin (1994), *supra* note 21, at 679-82.

117. Hovenkamp, *supra* note 57, at 239.

118. However, one must also recognize that except for those few categories of losses to which potential losers object as a matter of absolute principle, wealth constraints generally affect people's asking prices as well as their offer prices because they influence assessments of the urgency of alternative uses to which any payments received in compensation for a loss could be applied. See Korobkin (1994), *supra* note 21, at 679-82 (discussing and critiquing Hovenkamp's argument extensively).

criterion. One may well be critical on utilitarian or other grounds of the use of the Kaldor-Hicks efficiency criterion that underlies cost-benefit methodology. Many of the external critics of cost-benefit analysis focus upon this feature. However, the offer/asking price question addressed in this Article only arises if one first takes the legitimacy of “willingness to pay” approach to valuation as a given, and then attempts to most accurately implement that general approach.

Hovenkamp’s conclusion that asking prices are the appropriate means of valuation of all impacts of a policy appears to be driven primarily by his view that using asking prices to measure all of its impacts would likely lead to evaluative results that would more closely track the results of a utilitarian calculation conducted without regard to wealth differentials than would using offer prices to measure some or all of its impacts. It may well be the case that the use of asking prices to measure all impacts would better align the results of cost-benefit analyses with utilitarian analyses, but Hovenkamp’s approach appears unjustified if the goal of these exercises is to accurately measure “willingness to pay” and efficiency consequences without regard to the consequences of the measure under consideration when viewed from a utilitarian perspective.

In 1993, Elizabeth Hoffman and Matthew Spitzer published an article which has since become widely known and cited for its discussion of the empirical evidence strongly suggesting that the divergence between offer and asking prices is pervasive, sometimes quite substantial, and very context-specific in magnitude.<sup>119</sup> In that article, they also reviewed some of the explanations offered by other writers for this divergence, including wealth effects,<sup>120</sup> prospect theory and the endowment effect,<sup>121</sup> the desire to close transactions,<sup>122</sup> value uncertainty,<sup>123</sup> and regret theory.<sup>124</sup> The authors briefly discussed the recommendations of Jack Knetsch, Duncan Kennedy, and others with regard to choosing between offer prices and asking prices in cost-benefit analysis,<sup>125</sup> but declined to offer a general valuation framework of their own. They instead concluded only that the available evidence suggested the relationship between offer prices and asking prices was a “far more complex pattern” than those prior writers had recognized, but that this evidence also left “many of

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119. Hoffman and Spitzer, *supra* note 50, at 66-85.

120. *Id.* at 85-87.

121. *Id.* at 87-91.

122. *Id.* at 91-93.

123. *Id.* at 93-96.

124. *Id.* at 94-96.

125. *Id.* at 106-12.

the details of this relationship unresolved.”<sup>126</sup> They also concluded that additional experimental evidence answering these remaining questions was needed before any firm conclusions could be reached regarding the appropriate valuation techniques to use in various contexts.<sup>127</sup>

The most comprehensive and insightful analyses of the offer/asking price conundrum to date have been the two articles on this topic written by Russell Korobkin almost a decade apart.<sup>128</sup> Because they are unfortunately not as well-known as the earlier Kennedy and Hoffman and Spitzer articles, let me briefly summarize and comment upon the main points Korobkin makes in each of these articles.

In his initial 1994 article<sup>129</sup> Korobkin first articulated his central argument that neither offer prices nor asking prices were necessarily the most appropriate measure for valuing benefits or costs under all circumstances, but that the appropriate valuation measure in each instance depended on what factors gave rise to a particular divergence between the two prices.<sup>130</sup> He began his discussion by summarily rejecting the “winners bribe losers, taken seriously” approach of Duncan Kennedy on the same baseline indeterminacy and status quo bias grounds that Kennedy had invoked to criticize that approach in his earlier article.<sup>131</sup> Korobkin also briefly noted what he describes as the “traditional efficiency analyst’s” valuation approach.<sup>132</sup> This simply utilizes offer prices for valuing all costs and benefits, thereby avoiding any special measurement difficulties that might be presented by the effort to obtain asking prices for some impacts.<sup>133</sup> I fully agree with Korobkin’s forceful rejection of that latter approach as “utterly unconvincing,”<sup>134</sup> “intellectually unsatisfying,”<sup>135</sup> and lacking intellectual coherence,<sup>136</sup> because it only begs the question of which

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126. *Id.* at 111.

127. *Id.* at 111-14.

128. Korobkin (1994), *supra* note 21; Korobkin (2003), *supra* note 48.

129. Korobkin (1994), *supra* note 21.

130. *Id.* at 666.

131. *Id.* at 675-76. See Kennedy, *supra* note 57, at 411-13 (asserting that baseline problems make the winners-losers formula indeterminate).

132. Korobkin (1994), *supra* note 21, at 676.

133. *Id.* at 675-76.

134. *Id.* at 676.

135. *Id.* at 701.

136. *Id.* However, Korobkin concedes that this comparison of winners’ offer prices and losers’ offer prices has some plausibility in the context of when a new entitlement is being created that did not exist prior to the implementation of the measure being considered. *Id.* at 676 n.63. Nevertheless, he is unwilling to endorse the use of such an offer price comparison under circumstances where a prior legal entitlement exists, but where it is unclear whether it is the winners or the losers from a measure that currently hold that entitlement. *Id.* at 701.



measure better represents value. Korobkin then offers a much more extensive critique of both Markovits' "winners' asking prices and losers' offer prices" and Hovenkamp's "use all asking prices" approaches as each being "incomplete and untenable,"<sup>137</sup> both for the reasons I alluded to earlier<sup>138</sup> and also because of their failure to recognize that different factors can give rise to the divergence between offer and asking prices. This latter fact is, in his opinion crucial for determining which measure better reflects value in a particular instance.<sup>139</sup>

Korobkin references the empirical literature existing at that time noting the pervasive and often substantial divergence between offer and asking prices,<sup>140</sup> and then turns to identifying the reasons for this divergence. He first claims that the "wealth effect" increase in the valuation of an entitlement at issue when measured by asking prices rather than offer prices is generally too small to account for the empirically observed magnitude of the divergence.<sup>141</sup> He also notes that attempts to measure asking prices may, for various reasons, overestimate those valuations more than do comparable attempts to measure offer prices.<sup>142</sup> However, he takes the position that asking prices often exceed offer prices for reasons other than such wealth effects or differential measurement errors, and then analyzes those other reasons for this divergence.

Korobkin's article does not directly address the proper means of valuation of the benefits of a measure; presumably he would value those benefits at the winners' offer prices as would Michelman, Knetsch, and Kennedy.<sup>143</sup> Instead, his analysis focuses on the more difficult issues raised by attempts to value the cost impacts of policies.

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137. *Id.* at 666.

138. *See supra* text accompanying notes 68-77 (concerning the Markovits proposal). *See also supra* text accompanying notes 116-19 (concerning the Hovenkamp proposal).

139. Korobkin (1994), *supra* note 21, at 665-66, 676-79 (criticizing the Markovits approach in some detail). *See also id.* at 679-82 (criticizing the Hovenkamp approach in some detail).

140. *Id.* at 667-69.

141. *Id.* at 684-86.

142. *Id.* at 686-87. "Empirical studies . . . indicate that people might, on average, overstate their WTA [asking price] more than they understate their WTP [offer price]. . . . If these results of controlled experiments are applicable in a wide variety of circumstances, they imply that in some cases WTA prices represent true value less accurately than WTP prices." *Id.* at 687.

143. *See supra* text accompanying notes 62-68 (discussing the Michelman approach); *supra* text accompanying notes 82-104 (discussing the Kennedy approach); *supra* text accompanying notes 105-115 (discussing the Knetsch approach). *But see supra* text accompanying 68-77 (discussing the Markovits approach); *supra* text accompanying notes 116-19 (discussing the Hovenkamp approach). Each utilizes asking prices to measure winners' gains.

Korobkin's taxonomy of the factors that may underlie a particular divergence between offer prices and asking prices is obviously based on the 1993 work of Elizabeth Hoffman and Matthew Spitzer, and on the work of the other writers to whom Hoffman and Spitzer had cited in their article. Nevertheless, Korobkin's view represents an important advance in that it organizes those disparate insights into a manageable factor list. He uses the terms "loss aversion"<sup>144</sup> and "endowment effect" interchangeably to describe the pervasive divergence between offer prices and asking prices for losses that exceeds what can be explained by mere wealth effects or differential measurement errors.<sup>145</sup> Korobkin then attempts to unpack this phenomena by defining<sup>146</sup> a group of various additional factors that may give rise to this divergence. One of those factors he labels the "attachment effect," the increased value people ascribe to something once they have learned how to enjoy it.<sup>147</sup> A second factor he identifies as the "dignity effect," which is the reluctance people may feel for cultural reasons to relinquish those entitlements in exchange for a cash payment.<sup>148</sup> A third factor, which he labels the "left alone effect,"<sup>149</sup> is grounded in a "psychic aversion to bargaining"<sup>150</sup> and in the desire to definitively close transactions and thus avoid the need for further consideration of transactional possibilities.<sup>151</sup> Finally, he calls the fourth factor the "regret effect,"<sup>152</sup> which is the fear a person may have that if he sells an entitlement he may later come to regret the transaction.<sup>153</sup>

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144. The term "loss aversion" describing the fact that asking prices may exceed offer prices even absent wealth effects was coined by Amos Twersky and Daniel Kahneman. See generally Amos Twersky & Daniel Kahneman, *Loss Aversion in Riskless Choice: A Reference-Dependent Model*, 106 Q.J. ECON. 1039 (1991).

145. Korobkin (1994), *supra* note 21, at 688.

146. Korobkin modestly does not claim that this preliminary analysis is definitive or exhaustive. "Much work remains to be done to develop a more complete understanding of when different factors cause the offer/asking price gap." *Id.* at 684 n.98.

147. *Id.* at 689.

148. *Id.* at 691-95. Korobkin illustrates this "dignity effect" by noting the widespread reluctance to provide sex in exchange for financial compensation, and also notes the existence of a widespread perception that one has a higher duty to act altruistically when one owns an entitlement whose relinquishment would injure another person than one does to purchase that entitlement to protect another person. *Id.* at 691-92.

149. *Id.* at 695-96.

150. *Id.*

151. *Id.*

152. *Id.* at 696-97.

153. See *id.* at 696 (recognizing that such "fear of regret" could also be impounded in offer prices because persons may fear regretting a purchase, but claims that this fear "could, logically, affect WTA [asking prices] more than WTP [offer prices]"). However, the fact that the regret effect "could, logically"

For Korobkin's purposes, the most important aspect of this taxonomy is that of the divergence between offer prices and asking prices that exceeds the amount that can be credibly explained by the wealth effect or by possible differential measurement errors, only the proportion of this divergence that stems from the attachment effect reflects a disutility that necessarily follows from the imposition of a loss. The disutilities generated by the dignity effect, the left alone effect, and the regret effect are each only associated with a policy that involves the loser *selling* an entitlement or other benefit rather than a coerced transfer of that entitlement or benefit.<sup>154</sup> Most cost-benefit analyses are conducted with regard to policies which, if implemented, will impose costs on the losers without the payment of compensation based upon their asking prices (if compensatory payments are to be made at all). Korobkin's central point is that such mandated losses should not be regarded as "sales" on the part of the losers. Therefore, those proportions of the differentials between asking prices and offer prices that are derived from the losers' assessment of the severity of these various sale-related disutilities should *not* properly be included as part of the valuation of a loss that will not in fact be accompanied by asking price-based compensation payments.

As discussed more fully below, however, a complementary argument can also be made that for such coercively imposed losses these downward adjustments of asking prices called for by Korobkin should also be accompanied by partially, or perhaps wholly, offsetting upward adjustments to reflect those special disutilities associated with being subjected to the "indignity of a forced taking" that are not captured by asking price measures determined with reference to a hypothetical consensual transaction.<sup>155</sup> Korobkin unfortunately overlooks this corollary adjustment that appears to be necessary to complete his method of adjusting asking prices in order to accurately reflect the actual disutilities borne by the losers because of losses resulting from coercive, uncompensated implementation of a policy.

Despite this minor omission, Korobkin's analysis makes a unique and important contribution to the enterprise of valuing losses in cost-benefit analyses. He offers a compelling argument: when an observed divergence between offer prices and asking prices for a loss results *solely* from the wealth effect and/or the attachment effect, then asking prices are "the most accurate

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affect asking prices more than it does offer prices obviously does not mean that it does so in any particular instance. Korobkin later offers a more complete justification for assuming that the regret effect has a larger impact upon asking prices than upon offer prices. Korobkin (2003), *supra* note 48, at 1254-55.

154. Korobkin (1994), *supra* note 21, at 696-97.

155. I am indebted to Richard Parker for this insight.

measure of value.”<sup>156</sup> Conversely, if the divergence is a result *solely* of the dignity effect, the left alone effect, and/or the regret effect, then those losses could be accurately valued by the losers’ offer prices *if* the analysis is being conducted of a typical mandatorily-imposed measure not including asking-price based compensation payments.<sup>157</sup>

Korobkin concedes that his analysis is incomplete in some regards.<sup>158</sup> Firstly, it is not clear whether he embraces the use of asking prices to value losses in all instances where offer prices and asking price measures of costs diverge solely because of the wealth effects created by posing the asking price question and not because of any of the other factors he notes may at times contribute to the divergence. It is possible that, despite his conclusion that under those circumstances asking prices provide “the most accurate measure of value,”<sup>159</sup> he might on other grounds nevertheless favor the use of asking prices only for the subset of those losses reflecting a loss of legal entitlements, similar to Kennedy’s “no transaction costs, taken seriously” approach, and not for other losses not protected by legal entitlements. He might alternatively favor some more complex approach to valuing costs that also takes into account the extent of expectations of legal and/or social norm protection, as Knetsch suggests.<sup>160</sup> Korobkin does not elaborate his position here in sufficient detail to be certain of his views.

Secondly, and more significantly, while Korobkin does advance plausible valuation recommendations for the two polar cases where all of the divergence between offer and asking prices stem from either the attachment and wealth effects alone, or from the combination of the dignity effect, left alone effect, or regret effect alone, he unfortunately does not clarify whether offer or asking prices should be used to value losses in the more general case where the divergence stems from all five of these factors. This may in fact be the most commonly recurring situation facing cost-benefit analysts.<sup>161</sup> To his credit, however, Korobkin recognizes that an observed divergence between the offer and asking price

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156. Korobkin (1994), *supra* note 21, at 697.

157. *Id.* at 696-97. This latter claim is incomplete to the extent it does not adjust offer prices upwards as necessary to include the value of the indignity of a forced taking. See *supra* text accompanying notes 155-56 (proclaiming the importance of adjusting offer prices upwards).

158. Korobkin (1994), *supra* note 21, at 707 (“The causes of the offer/asking gap are numerous . . . this compilation is far from exhaustive.”).

159. *Id.* at 697.

160. See *supra* text accompanying notes 109-13 (favoring increased complexity in valuing costs).

161. See Korobkin (1994), *supra* note 21, at 689 (taking the position that when the wealth effect or measurement error is what is causing an offer/asking price divergence “policymakers can select relatively easily which measure most closely approximates the subjects’ true value . . .”).

valuations of a cost impact may stem from all five of the effects that he describes, and that this may call for utilizing some weighted average of offer and asking prices for valuation<sup>162</sup> (though he does not elaborate on how these weights might be determined<sup>163</sup>).

Finally, as noted above, Korobkin does not incorporate an indignity from forced taking effects-based upwards adjustment of asking prices into his framework for policies that coercively impose uncompensated losses, even though such an adjustment would seem to be appropriate as a necessary complement to the downward adjustments he advocates to reflect the absence of particular disutilities associated only with consensual sale transactions.

The overall approach suggested by Korobkin in his 1994 article is very insightful in its identification of the various factors that may explain a particular divergence between offer and asking prices. However, even if one accepts all of his theoretical arguments, this approach is likely far too demanding in its data requirements to be feasible for conducting real-world cost-benefit analyses, given the severe data limitations often present with regard to asking prices. For each of the observed divergences between offer prices and asking prices for a particular class of cost impacts, an analyst following this approach would have to first identify the relative contributions of each of the five factors described by Korobkin with regard to that divergence. Then, for those instances in which a number of these factors were present, the analyst would have to determine whether, given that particular mix of factors present and their relative contributions, the appropriate valuation method was offer prices, asking prices, or some particular weighted combination of the two that would itself have to be justified in some way. Finally, the requisite disutility from forced taking effects adjustments would have to be made to those valuations. A very tall order, indeed!

In his 2003 article,<sup>164</sup> Korobkin discusses a number of other legal issues, but also revisits the offer/asking price question. In this article, he consistently refers to the divergence between offer and asking prices as the “endowment effect,” and again sets forth the various factors he believes give rise to this divergence. He also makes some modest revisions to his earlier classificatory scheme. In particular, he decomposes the single factor he described in his earlier article as the “attachment effect” into two separate factors:

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162. *Id.* at 708.

163. *See id.* (failing to discuss whether or how this weighted average would be further adjusted to reflect the relative significance of wealth effects on the divergence between offer and asking prices as compared to the overall impact of the four noted effects).

164. Korobkin (2003), *supra* note 48.

the “pure loss aversion effect” generally resulting from the “negative emotions associated with the abstract concept of loss,” and the loss-specific “attachment effect” stemming from specific emotional attachments people form with regard to particular benefits they enjoy.<sup>165</sup> He then combines the two factors that he earlier described separately as the “dignity effect” and the “left along effect” into a single factor which he now labels “disutility caused by selling.”<sup>166</sup>

Korobkin reaffirms his earlier argument that, in instances where the divergence between the two measures of “willingness to pay” can be explained solely by the regret effect and/or by the disutility from sale effect, offer prices provide an accurate measure of value with regard to proposals that will not actually involve asking price-based compensation payments.<sup>167</sup> Once again, he does not address the possibility of applying a comparable upward adjustment to reflect the indignity of a forced taking effect. He also reaffirms his position that where the divergence is caused solely by the combination of pure loss aversion, the attachment effect, and the wealth effect, then unadjusted asking prices are the appropriate measure of valuation.<sup>168</sup> However, he now qualifies to some extent this endorsement of the use of asking prices under those circumstances by expressing a Kennedy-like concern for the strong status quo-bias inherent in the use of the combination of offer price measures of gains and asking price measure of cost impacts.<sup>169</sup> He further qualifies his methodology by endorsing the use of offer price valuations instead of asking prices if asking price measures of valuation are “illegitimate.”<sup>170</sup>

This latter legitimacy qualification is not further elaborated on, but is potentially significant for valuation purposes in that it would inject a large dose of indeterminacy into cost-benefit analysis unless clear and widely-accepted criteria were developed for determining when a person’s disutility stemming from their loss aversion attitudes and feelings of attachment to a currently enjoyed benefit qualifies as legitimate so that asking price valuations may be appropriate. Korobkin also fails to further develop his preliminary comments in his 1994 article regarding how his approach is to be applied in instances where a number of different factors underlie the offer/asking price divergence, nor

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165. *Id.* at 1250-52.

166. *Id.* at 1252-54.

167. *Id.* at 1258.

168. “[I]f the status quo is a commodity for which people have an innate preference, it is difficult to argue that efficiency-minded lawmakers should not take this preference into account, just like any other preference.” *Id.* at 1264.

169. *See id.* (arguing that this conclusion “threatens to render public policy extremely conservative and opposed to change.”)

170. *Id.*

does he address the feasibility of applying his approach in light of the severe data limitations commonly facing cost-benefit analysts.

Korobkin's work represents the culmination of the academic commentary on this question to date. Let me now turn to the contributions that the OMB has made through the guidance it periodically provides to federal agencies who must submit cost-benefit analyses of their proposed regulations for OIRA approval pursuant to Executive Order 12866.<sup>171</sup>

While the various positions taken by the OMB over the years with regard to the offer/asking price question have not been supported by explicit rationales comparable either in extent or sophistication to those offered by the academic commentators discussed above, the OMB's statements are nevertheless highly significant as a practical matter since OIRA most often serves as the final arbitrator as to the adequacy of these analyses. I will therefore describe and briefly discuss the evolving position that the OMB has taken on this valuation question in recent years.

In 1992, the OMB first issued a rudimentary set of guidelines for federal agencies to follow in conducting cost-benefit analyses.<sup>172</sup> Those guidelines embraced the "willingness-to-pay" economic efficiency framework for valuing benefits and costs,<sup>173</sup> but did not specifically address the issues of the appropriate choice of a valuation baseline, or whether offer prices or asking prices were the more appropriate measures of a policy's benefits and costs.

In 1996 the OMB issued a more comprehensive "best practices" document that addressed a number of issues presented by cost-benefit analyses of proposed regulations.<sup>174</sup> That document in clear terms declared that the baseline for valuation should be the pre-policy status quo distribution of entitlements and other benefits enjoyed,<sup>175</sup> making no reference to Kennedy's arguments that this is an arbitrary baseline choice.<sup>176</sup> The OMB document also embraced valuing benefits and costs in accordance with "willingness to pay."<sup>177</sup> With regard to valuing benefits, the OMB

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171. Exec. Order No. 12,866, 58 Fed. Reg. 51,735, at 51,740 (Sept. 30, 1993).

172. OFFICE OF MGMT. & BUDGET, GUIDELINES AND DISCOUNT RATES FOR BENEFIT-COST ANALYSIS OF FEDERAL PROGRAMS, Circular No. A-94 (Revised) (1992) [hereinafter OMB (1992)], available at <http://www.whitehouse.gov/omb/circulars/a094/a094.html> (last visited on Nov. 30, 2005).

173. *Id.* at 6, 19.

174. See OMB (1996), *supra* note 31 (convening an "interagency group" to describe "best practices").

175. See *id.* ("The benefits and costs of each alternative must be measured against a baseline," which "should be the best assessment of the way the world would look absent the proposed regulation.")

176. See Kennedy, *supra* note 57, at 413-14 (cautioning that non-arbitrary meanings may lead to political posturing).

177. "The concept of 'opportunity cost' is the appropriate construct for valuing both benefits and costs. The principle of 'willingness to pay' captures

further stated that: "Either willingness-to-pay (WTP) or willingness-to-accept (WTA) can provide an appropriate measure of benefits, depending on the allocation of property rights. The common preference for WTP over WTA measures is based on the empirical difficulties in estimating the latter."<sup>178</sup>

This statement is somewhat opaque, to say the least. The academic commentators mentioned above that treated the allocation of property rights as significant in some way for valuation purposes did so with regard to valuing the *costs* imposed by a measure, not the benefits conferred. The "best practices" document unfortunately does not explain why the OMB views the allocation of property rights as also relevant for benefit valuation purposes. The OMB also does not explain whether, by using this phrase, it is referring to the pre- or post-policy implementation allocation of property rights, nor what the appropriate relationship is between a particular allocation of property rights and the method of valuation that should be selected. In contrast, Markovits and Hovenkamp each argued for the use of asking price measures for benefits each in sweeping, unqualified terms<sup>179</sup> without regard to the allocation of property rights that preceded or would result from a particular policy.

Moreover, it is not clear whether the OMB's recognition that offer prices are often utilized to measure benefits rather than asking prices because of the empirical difficulties in measuring asking prices is simply a descriptive claim regarding current practice, or is also intended to be an endorsement of that practice. The latter position would be contrary to Korobkin's summary rejection of that rationale for the use of offer prices.<sup>180</sup> Perhaps instead it is intended to be an implicit criticism of using offer prices for evaluating benefits without somehow grounding their use in the particular allocation of property rights present in a particular instance. With regard to valuing costs, the 1996 "best practices" document once again implicitly embraces the general "willingness-to-pay" measurement framework but does not address when offer prices and when asking prices should be utilized. This is a crucial and somewhat surprising omission in what is a fairly lengthy and otherwise relatively comprehensive document.

In 2000, the OMB issued an updated set of guidelines for measuring benefits and costs.<sup>181</sup> That document again reaffirmed

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the notion of opportunity cost[s]." OMB (1996), *supra* note 31.

178. *Id.*

179. See *supra* text accompanying notes 68-75 (condemning the conventional approach because it is grounded in faulty assumptions); *supra* text accompanying notes 116-19 (discussing the theories of Hovenkamp).

180. See *supra* text accompanying notes 132-36 (conceding the comparison's legitimacy, but not backing it completely).

181. OFFICE OF MGMT. & BUDGET, GUIDELINES TO STANDARDIZE MEASURES



the use of the existing status quo as the valuation baseline<sup>182</sup> and the use of the “willingness-to-pay” general valuation framework.<sup>183</sup> However, these new guidelines surprisingly did not address the offer/asking price question at all, neither for valuing benefits nor valuing costs.

In 2003, the OMB promulgated additional guidelines for conducting cost-benefit analyses.<sup>184</sup> Once again, the OMB reaffirmed the use of the status quo as the valuation baseline.<sup>185</sup> In these new guidelines, however, the OMB also addressed the offer/asking price question at greater length than it had in 1996:

“Opportunity cost” is the appropriate concept for valuing both benefits and costs. The principle of “willingness-to-pay” (WTP) captures the notion of opportunity cost by measuring what individuals are willing to forgo to enjoy a particular benefit. In general, economists tend to view WTP as the most appropriate measure of opportunity cost, but an individual’s “willingness-to-accept” (WTA) compensation for not receiving the improvement can also provide a valid measure of opportunity cost. WTP and WTA are comparable measures when the change being evaluated is small and especially where there are reasonably close substitutes available. WTP is generally considered to be more readily measurable and to provide a more conservative measure of benefits. Adoption of WTP as the measure of value implies that individual preferences of the affected population should be a guiding factor in the regulatory decision and that the existing distribution of income is acceptable.<sup>186</sup>

The latest OMB pronouncement quoted above is quite interesting and merits sentence-by-sentence parsing. Initially, the OMB again endorses the “willingness to pay” general valuation framework for cost-benefit analyses. However, it then takes a very different approach than the 1996 “best practices” document. It nowhere claims that the appropriate choice between the use of offer prices or asking prices to measure benefits depends on the allocation of property rights. Rather, it states much more ambivalently that while economists “tend to view” offer prices as the appropriate measure, asking prices “can also provide a valid measure” of benefits. No explanation of when asking prices are an appropriate alternative measure is given, perhaps suggesting that the OMB regards the use of asking prices as an acceptable

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OF COSTS AND BENEFITS AND THE FORMAT OF ACCOUNTING STATEMENTS (2000) [hereinafter OMB (2000)], available at <http://www.whitehouse.gov/omb/memoranda/m00-08.pdf>.

182. *Id.* at 1.

183. *Id.* at 9.

184. OMB Draft Guidelines for the Conduct of Regulatory Analysis and the Format of Accounting Statements, 68 Fed. Reg. at 5,513.

185. *Id.* at 5,517.

186. *Id.* at 5,518.

alternative valuation approach for benefits in all instances.<sup>187</sup> If so, given the consistent (though only implicit) rejection of Kennedy's "the baseline is arbitrary" position contained in all of the OMB's pronouncements, this new language suggests the OMB may now be implicitly embracing either of the dubious Markovits or Hovenkamp rationales for valuing benefits through asking prices, although no supporting justification is presented that would make their views here more clear.

One portion of the quote above declares that offer and asking prices are "comparable measures" – presumably meaning that any differences in magnitude are slight in both absolute and relative terms – for policies with small impacts and where reasonably close substitutes exist for the benefits or costs at issue. This statement is much too broad. As Korobkin makes clear, offer and asking prices can diverge significantly for any of a number of reasons, even in instances where the effects of the measure under consideration are small enough so that the wealth effect associated with asking price measures is insignificant. The existence of close substitutes might well reduce the significance of the attachment effect, but would not necessarily reduce the magnitude of the pure loss aversion effect, the disutility from sale, or regret effects in instances where they are present, nor would have a necessary relationship to the size of the indignity from a forced taking effect. Other things being equal, it is plausible that the smaller cost or benefit impacts of a measure which occur in contexts where close substitutes exist is likely to result in smaller absolute divergences between offer and asking prices. However, this will not necessarily result in smaller relative divergences, and these divergences would be unpredictable in size and may still be collectively large enough to significantly affect the outcome of an analysis.

Finally, the last two sentences of the quote make one wonder as to whether the OMB truly understands what is at issue in the choice between offer or asking prices as a valuation approach, or whether it is perhaps deliberately being evasive on the question. As the OMB states, offer prices are often more easily measurable than asking prices<sup>188</sup> and consistently provide a "more conservative measure of benefits" or, for that matter, of costs as well. However, if asking prices are the most accurate valuation measure for a

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187. The new guidelines, however, cryptically state in another passage that "[i]f the property . . . rights in the policy context support the use of . . . willingness-to-pay (WTP) measures . . .", suggesting that the OMB may still be of the view that the allocation of property rights is somehow relevant to the choice between offer price or asking price measures of benefits, although it is again unclear whether it is the pre-policy or post-policy allocation of property rights that is deemed to be significant. *Id.* at 5,520.

188. OMB (1996), *supra* note 31, at 22.

particular policy impact, an analyst would not necessarily be justified in using a less accurate measurement approach simply because it is easier to apply. It would of course be even easier to arbitrarily make up valuation numbers out of whole cloth, but this obviously would be an unacceptable approach! Similarly, just because a measure results in conservatively low valuations of benefits or costs, it does not justify its use over a measure that may give larger but more accurate valuations. The goal in cost-benefit analysis is neither to obtain the smallest possible valuation numbers for benefits or costs, nor to necessarily utilize the easiest to apply measurement approach regardless of its lack of accuracy, but rather to obtain the most accurate assessment of efficiency consequences reasonably possible given the constraints imposed by the available data.

Finally, the last sentence quoted above simply begs the question. The use of offer prices to value benefits and costs recognizes that individual preferences are the "guiding factor" and that the existing distribution of income is taken as a given in cost-benefit analysis. But the use of asking prices for valuations is also based upon those same two premises. The unaddressed issue is whether offer prices or asking prices more accurately measure the "willingness to pay" that results from those preferences and the initial wealth distribution.

Having summarized and briefly discussed the contributions that various scholars and the most involved governmental agency have made to the resolution of the offer/asking price conundrum, let me now offer my contributions to this inquiry.

## *2. An Improved Framework for Valuing Willingness to Pay*

Building upon the work of the various writers discussed above, I propose in this sub-section a general framework for determining when to use offer prices and when to use asking prices in determining "willingness to pay" for the purpose of conducting cost-benefit analyses.

### *a. Choice of Premises*

In my view, Duncan Kennedy is correct in asserting that there is no clear answer to the offer/asking price valuation question inherent in the concepts of Kaldor-Hicks efficiency and "willingness to pay."<sup>189</sup> The optimal valuation approach is obviously dependent upon the purposes which the cost-benefit analysis is intended to serve. For some purposes, use of the often significantly larger asking price measurements of "willingness to pay" for all policy consequences will be more effective. For other purposes, offer price measures of all impacts will serve better, and

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189. See *supra* text accompanying notes 86-88.

for still other purposes, offer price measures of some impacts and asking price measures of other impacts could prove most useful.

It is thus necessary that I clarify the assumptions regarding the purpose of cost-benefit analysis underlying my recommendations. My suggested valuation approach is explicitly based upon the premise that the proper goal of the cost-benefit analyst is simply to accurately measure the Kaldor-Hicks efficiency consequences of the measure in question. My recommendations will *not* be formulated to address in any way the threshold incommensurability problem that calls the entire framework of cost-benefit analysis into some question. *Nor* will I embrace a position regarding the wisdom of basing the valuation of the consequences of a policy on numbers derived from the existing distribution of wealth and entitlements, the legitimacy of ignoring distributional impacts, or the legitimacy of abstaining from consideration of the merits of a policy from utilitarian, philosophical, or religious perspectives that do not embrace the Kaldor-Hicks evaluative criterion. While such broader considerations are legitimate aspects of an inclusive overall decision-making process, I will assume for purposes of this Article that those considerations will be taken into account elsewhere in that process and that the appropriate role of cost-benefit analysis is simply to modestly evaluate efficiency consequences as a contribution to that decision-making process. My objective is solely to provide assistance for choosing between the use of offer price and asking price measures of the “willingness to pay” for costs or benefits in making that relatively restricted assessment.

#### b. Choice of the Baseline

My opinion is that the appropriate baseline from which to value the benefits and costs of a policy is the existing status quo prior to its implementation. Duncan Kennedy has argued that this is an entirely arbitrary baseline choice; that for a particular proposal one could just as reasonably choose the post-implementation state of affairs as the baseline for valuation and then evaluate the proposed restoration of the original status quo as being the actual policy under consideration.<sup>190</sup> Kennedy argues that an analyst is thus free to first do a “hypothetical reversal” of the entitlement baseline before engaging in a cost-benefit analysis, potentially rendering the efficiency conclusions of that analysis indeterminate if the valuations of the effects considered are significantly altered by that change in the baseline.

I disagree, however, and do not believe that such a hypothetical reversal is a reasonable option. The use of the status quo as a baseline for valuing proposed changes has a rather

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190. See *supra* text accompanying notes 94-96.

obvious special claim to legitimacy and practical usefulness that the use of the hypothetical post-policy implementation distribution of entitlements and other benefits does not. It is changes in the status quo that are invariably under consideration in practical policy deliberations, not whether the state should act to enforce the law and reverse the effects of unauthorized infringements, thereby restoring the initial entitlements and other benefits to the adversely affected persons. I therefore recommend that all impacts of a proposal should be characterized as either benefits or costs relative to the baseline of the status quo existing prior to the proposal's implementation. I note that the OMB has consistently been in full accord with my position.

### c. Valuing the Benefits of a Policy

My viewpoint is that the benefits of a measure should be valued at the offer prices of the persons receiving those benefits, whether or not those benefits will be accompanied by the conferring of a legal entitlement to their continuation. Most of the writers that I have discussed have also embraced this position, either explicitly or implicitly. Whether one embraces either the "no transaction costs, taken seriously" valuation approach, or the "winners bribe losers taken seriously" approach, offer prices are the appropriate measure of the "willingness to pay" for benefits.

I recognize that Richard Markovits and Herbert Hovenkamp have each instead argued for the use of asking prices to measure benefits.<sup>191</sup> As I have discussed, however, neither of their proposed approaches are convincing as to why asking prices are the appropriate measures of benefits,<sup>192</sup> and neither of these writers have received any support from any other scholars of which I am aware for their recommendations. I also recognize that the OMB at one point limited its endorsement of offer prices as a means of valuing benefits to those situations where this practice is justified by the particular "allocation of property rights." Although it did not elaborate on what was meant by this very broad phrase or why it took that position, the OMB later went further in qualifying the use of offer price valuations for benefits when it broadly claimed that asking prices "can also provide a valid measure"<sup>193</sup> of benefits. Again, it unfortunately did not elaborate concerning under what circumstances asking price measures would have validity. The OMB has never subsequently offered any sufficient justification for limiting the use of offer prices to value benefits in any of its publications. I also therefore reject the ambivalent OMB approach

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191. Markovits (1975), *supra* note 57; Hovenkamp, *supra* note 57.

192. See *supra* text accompanying notes 73-78 and 119-20.

193. See *supra* text accompanying note 186.

and call for the use of offer prices to value all benefits in conducting cost-benefit analyses.

d. Valuing the Costs of a Policy

In my view, the most difficult issue presented by the offer/asking price conundrum is the question of valuing the costs imposed by a measure. As discussed, the above commentators have taken a wide range of conflicting positions on this matter. A number of these writers have offered a sweeping recommendation calling for the use of asking prices to value all cost impacts. In sharp contrast, however, Richard Markovits called for the use of offer prices to value all cost impacts<sup>194</sup> and the OMB has suggested that use of offer prices to value costs is a valid, though not necessarily required, approach.<sup>195</sup> Still other writers have drawn distinctions for valuation purposes regarding whether the person bearing a cost has a legal entitlement to not have that cost imposed,<sup>196</sup> or whether that person has at least some expectation of enforcement of a legal entitlement,<sup>197</sup> or which underlying factors triggered the divergence between offer prices and asking prices with regard to that cost impact.<sup>198</sup>

I will address this complicated question separately for different categories of cost impacts, depending upon the losers' legal entitlement status. In those instances where those persons who would be losers from a proposal have a legal entitlement that would be contravened if the proposal is implemented, I generally favor the use of asking prices as the valuation measure. Most, but not all, the commentators agree with this general proposition. I will briefly discuss each of the four most prominent criticisms of this stance.

Richard Markovits flatly rejects this conclusion and calls for offer price measures of all cost impacts.<sup>199</sup> Jack Knetsch accepts the use of asking price measures to value such cost impacts that abridge legal entitlements, but only under those circumstances where the nature of the legal entitlement is full property rule protection rather than the more limited liability rule protection.<sup>200</sup> The OMB now accepts asking prices as among the "valid measures" of cost impacts, but exhibits a less than wholehearted endorsement of using asking price valuations under these legal entitlement circumstances as well as in other situations.<sup>201</sup>

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194. *See supra* text accompanying note 69.

195. *See supra* text accompanying note 186.

196. *See supra* text accompanying notes 78-82.

197. *See supra* text accompanying notes 108-11.

198. *See supra* text accompanying notes 128-70.

199. *See supra* text accompanying notes 68-78.

200. *See supra* text accompanying notes 105-16.

201. *See supra* text accompanying notes 186-90.

Finally, Russell Korobkin only agrees with using asking price measures for such losses to the extent that the divergence between offer prices and asking prices stems from factors other than the disutility from selling effect or the regret effect.<sup>202</sup>

The critical views of these first two commentators can be dismissed rather summarily. Markovits' position is completely untenable and can be easily rejected for the reasons previously discussed.<sup>203</sup> Knetsch's position also appears unjustified. Both full property rule protection and the more limited liability rule protection of entitlements are each still legal protection against an uncompensated taking, and such protection is something for which a person would have to be compensated to part with under either the "no transaction costs, taken seriously" or the "winners bribe losers, taken seriously" approach. If only liability rule protection is available for an entitlement, that fact will presumably be reflected in a lower asking price. However, that asking price would still generally exceed the offer price for that entitlement for the reasons discussed in the two Korobkin articles. I therefore do not believe that any distinctions should be made between property rule-protected and liability rule-protected entitlements for cost impact valuation purposes.

Even if true, the claims made by the OMB that offer prices are often easier to measure and produce smaller numbers than asking prices simply do not provide a convincing rationale for using offer prices to value such costs. If asking prices are the theoretically appropriate measure of "willingness to pay" for cost impacts, then the justification of offer prices in those instances would also have to show that the difference between the two valuation measures is always too insignificant in magnitude to affect the conclusions of the analysis, or at least that a fairly stable mathematical relationship exists between offer prices and asking prices so that offer price measurements could be appropriately scaled upward to provide accurate estimates of what is sought to be measured. However, no such showings have been made. Moreover, the available evidence suggests that the presence and magnitude of the divergence between offer prices and asking prices is unpredictable and at times is quite large, as well as very context-specific. If a theoretical analysis indicates that asking price valuation measures are appropriate, the substitution of offer price proxy measures that have a variable and potentially large downward bias simply is not a credible valuation approach in instances where there may be a significant divergence between the two valuation measures which could affect the conclusions reached, even if measurement difficulties are thereby reduced.

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202. *See supra* text accompanying notes 154-57.

203. *See supra* text accompanying notes 73-78.

Korobkin's argument that a deeper inquiry is necessary into the sources of the divergence between offer and asking prices for particular cost impacts of a policy before a valuation approach is chosen is far more telling and merits extended consideration. His insights unfortunately present serious and possibly insurmountable difficulties for cost-benefit analysts, and I will do my best to address his concerns.

My conclusion is that the practical difficulties that would be presented by the adjustments he recommends, and by the related indignity from forced taking effect adjustments that he overlooks, are overwhelming. As a "second best" solution, unadjusted asking prices should be used to value the cost impacts associated with a policy that contravenes legal entitlements.

One would expect that losses contravening clear legal entitlements would tend to generate particularly strong attachment effects on the part of the losers contributing heavily to the divergence between offer and asking prices for those cost impacts. Furthermore, when they are combined with any pure loss aversion and wealth effects that are also present, these effects together would often significantly dwarf the combined impact of the more subtle disutility from selling and regret effects. Where this is the case, the use of unadjusted asking prices for valuation of the costs imposed would have a solid justification as a reasonable approximation under the Korobkin framework, even for those policies that do not incorporate asking price-based compensation payments and, thus, do not impose any disutility from selling or regret effects upon the losers that would be reflected in their asking prices. However, this may not always be the case. The relative contribution of the losers' perceived disutility from selling an entitlement to the divergence between their offer and asking price magnitude is unpredictable, and could obviously be very large or even infinite in those instances where giving consent to the imposition of the costs was regarded by some losers as contravening important cultural values or moral principles. Under these circumstances, the measurement errors that would be introduced by utilizing unadjusted asking prices to value the cost impacts of a policy that are coercively imposed rather than consensually purchased from the losers could then be very large and even determinative of the overall efficiency conclusions.<sup>204</sup>

Korobkin is correct in asserting that, as a matter of theory, some form of downward adjustment that separates out that proportion of the divergence between offer and asking prices for such cost impacts that is due to the losers' perceived disutility

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204. Those measurement errors, however, may in some cases be partially or wholly offset by the adjustment for the indignity from forced taking effect.



from selling would appear be necessary for accurate measurement of “willingness to pay,” at least for those policies under which losses are coercively imposed rather than purchased. There may also be instances where the regret effect makes a relatively large contribution to the divergence, and where a similar downward adjustment would therefore be appropriate, although admittedly I do not have a very clear idea under what circumstances this would be likely to occur, nor how to ascertain the size of the requisite adjustment. As I have discussed, in those instances where such downward adjustments were made to the asking price measurements, there should also be made comparable upward adjustments to reflect the indignity from forced taking effects not incorporated in the asking price measures that are calculated in contemplation of hypothetical compensated transactions. These last adjustments would partially, or perhaps in some instances even wholly or more than wholly, offset those prior downward adjustments.

As discussed, Korobkin largely limits himself to analyzing the two polar cases where either all or none of the divergence between offer and asking prices is due to the combined disutility from selling and regret effects.<sup>205</sup> He unfortunately does not address in detail how his approach would be applied under more general circumstances where all of the factors identified simultaneously contribute to generating the divergence.<sup>206</sup> However, in his 1994 article he briefly suggests the possibility of using a weighted average of offer and asking prices to value costs where all of the factors that might give rise to a divergence between those measures are so commingled.<sup>207</sup>

This weighted approach average is conceptually sensible, with the appropriate weights clearly being the relative proportions of the divergence that can be attributed to each of the five major factors Korobkin identifies in his 2003 article: the wealth effect, the pure loss aversion effect, the attachment effect, the disutility from selling effect, and the regret effect. To implement such an approach in an actual cost-benefit analysis, however, one would have to engage in a truly Herculean effort of factor analysis with regard to each different category of significant costs imposed by a policy, with this entire analytical effort resting upon the shaky empirical foundations of often problematic asking price measurements. One would then somehow make further adjustments for the indignity from forced taking effects. In my opinion, this factor analysis framework is a theoretically well-grounded approach for properly adjusting asking price measures of

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205. *See supra* text accompanying notes 161-64.

206. *See supra* text accompanying notes 162-63.

207. *Id.*

the costs imposed by a policy that infringes upon prior legal entitlements. It makes it abundantly clear that any proxy measures utilized to make portions of such an analysis more tractable, such as the use of more easily obtained offer prices to value particular cost impacts, must be justified by showing that those proxy measures will correspond closely to this theoretically ideal adjusted asking price. This is the only way for the analysis to serve its purpose in sufficiently and accurately assessing efficiency consequences. However, it is difficult to envision a situation where an analyst would have adequate data available to actually be able to conduct such a factor analysis and make reasonable estimates of the proportions of the divergence between offer prices and asking prices for each particular category of cost impacts that were attributable to the disutility from selling or regret effects, not to mention the appropriate upward adjustments to reflect the disutility from forced taking effects.

Given this practical limitation and that these adjustments to asking prices would to some extent act in an offsetting fashion, I favor as an accommodation to this data constraint that unadjusted asking prices be used to measure those cost impacts that are accompanied by the infringement of legal entitlements. I recognize that the size of the theoretically appropriate upward adjustments to asking prices in order to reflect the disutility from forced taking effects generally will not exactly offset the comparable downward adjustments to asking prices that are appropriate to incorporate the disutility from sale and regret effects. In addition, the use of unadjusted asking prices which abstract from those adjustments may thus introduce an additional source of potential error into cost-benefit analyses. However, that potential source of error is likely far smaller than is the systematic and at times very large underestimation of costs that now results from the widespread use in cost-benefit analysis of unadjusted offer prices to measure cost impacts.

The real issue facing researchers is not whether to depart from theoretically ideal, comprehensive, and precise analytical frameworks as a concession to practical data availability limitations, but how far to go in doing so. My recommendation that several rather subtle and partially offsetting factors be ignored in valuing cost impacts is a relatively minor concession to data availability limitations and is therefore, in my opinion, a defensible practice. In contrast, the sweeping use of offer prices as a proxy for asking price measurements of costs is not a defensible practice given the systematic and sometimes very large downward bias thereby introduced into the efficiency assessment. Ultimately, it is all a matter of degree.

An even more difficult question is posed by the valuation of losses not protected by legal entitlements, but where the losers

may nevertheless have a perception of some possible legal protection from infringement. The same problem arises when they believe that some informal social norms will, as a practical matter, offer a degree of protection against appropriation of the benefits they currently enjoy. Under the “no transaction costs, taken seriously” approach, asking price measures would not be appropriate unless that perception of entitlement is accurate, since inaccurate perceptions confer no leverage in the hypothetical fully informed bargaining negotiations.<sup>208</sup> However, under the “winners bribe losers, taken seriously” approach, it would be appropriate to value those losses at the losers’ asking prices despite the problematic character of their entitlement perceptions. This would be subject to Korobkin’s adjustments where he argues that asking prices should not be utilized to the extent that the divergence between offer and asking prices is attributable to disutility from selling and regret effects.

The central issue here is easy to state, though difficult to resolve: should losers’ psychological attachments to benefits they currently enjoy but to which they have a dubious claim of legal entitlement be taken into account in evaluating the impacts of imposing those losses? Or should those losses be valued only at what the losers’ would be willing to pay for them, i.e., their offer prices? My choice here, concededly one with which reasonable people may disagree, is to give primacy to the actual status quo of the losers’ current enjoyment of those benefits, rather than basing the assessment upon the weak bargaining position that those losers with dubious legal entitlements would have in a hypothetical market-like negotiation among all affected parties, by valuing those losses as well at the losers’ asking prices. As a theoretical matter, I recognize the desirability of adjusting those asking prices downward where necessary to address Korobkin’s concerns that those asking prices may impound disutility from selling and regret effects not properly included in the evaluation of measures that will impose uncompensated losses, and then adjusting them upwards to reflect any indignity from forced taking effects. As a practical matter, however, I again believe that unadjusted asking prices are as close as it is practically possible to come to this theoretically correct figure given the severe data limitations usually present.

It is unclear whether the potential valuation errors that may be introduced if one uses unadjusted asking prices to measure cost impacts will vary predictably with regard to whether the losses are

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208. Kennedy, however, as noted above does regard the valuation of purely vicarious disutility caused by another person’s loss of an entitlement as something that can be reasonably done through use of asking prices even absent an entitlement to be spared such disutility. See *supra* text accompanying notes 100-01.

of benefits protected by legal entitlements, or instead of benefits to which the losers have no legal entitlement and perhaps even no expectations of legal or social norm protection. Other things being equal, a perception of entitlement could affect the strength of the attachment effect with persons perhaps feeling stronger attachments to benefits they not only enjoy, but also feel legally entitled to enjoy. However, there may also be a larger disutility to sell effect, a stronger regret effect, and a larger disutility from forced taking effect generally associated with a stronger sense of entitlement. There does not appear to be an adequate basis to conclude whether failure to make the Korobkin downward adjustments and the corollary disutility from forced taking effects upward adjustment to asking price valuations will likely cause more significant errors with regard to valuing costs associated with the loss of entitlements than with regard to costs not so associated.

#### e. Summary

My overall conclusions as to the appropriate method of valuing benefits and costs can be succinctly summarized. I first recommend that cost-benefit analysts utilize the existing status quo as the baseline from which all of the benefits and costs of a measure under consideration are to be assessed.<sup>209</sup> I then recommend that the benefits conferred by the implementation of a measure be valued by the winners' offer prices.<sup>210</sup> These recommendations are relatively uncontroversial and are in accord with most prior academic recommendations, governmental commentary, and conventional practice.

With regard to the costs imposed by a measure, regardless of whether they infringe upon existing legal entitlements, I recommend that they be valued at the losers' asking prices. This calls for a significant departure from the current widespread practice of utilizing offer prices to measure cost impacts, which can lead to very significant underestimates of actual "willingness to pay." Partly for reasons of practicality, and partly because they would result in partially or wholly offsetting adjustments, I recommend that no attempt be made to incorporate the Korobkin disutility from sale or regret effects downward adjustments to asking prices, or the corollary disutility from forced taking effect upward adjustments into the valuation procedures.

### III. CONCLUSION

Cost-benefit analysis of the efficiency consequences of proposed regulations is now an established and important part of

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209. *See supra* text accompanying notes 190-91.

210. *See supra* text accompanying notes 191-94.

the federal rulemaking process. If one engages in such analysis attempting to assess the Kaldor-Hicks efficiency consequences of a proposal, it is obviously crucial to correctly measure the "willingness to pay" of the affected persons. This can only be done if one first utilizes the appropriate baseline for determining whether to classify the particular impacts of the proposal as costs or benefits, and then correctly chooses between offer price and asking price measures of this "willingness to pay" for different impacts of the proposal under consideration.

Currently, the common practice of cost-benefit analysts is to utilize the status quo baseline and the more easily obtained offer prices<sup>211</sup> to value all of the cost and benefit impacts of a proposal from that baseline. As I have discussed, this is the appropriate choice of evaluative baseline,<sup>212</sup> and the correct method for valuing the *benefits* of a proposal.<sup>213</sup> However, I have also shown that this is an incorrect approach to take in valuing the *costs* of a proposal, which instead should be measured by the asking prices of the affected persons.<sup>214</sup> The use of offer prices to measure costs may often result in a substantial underestimate of those costs,<sup>215</sup> possibly resulting in an incorrect overall conclusion that the proposal will promote economic efficiency when it will not in fact do so. This problem is particularly likely when proposals are evaluated that include among their impacts the imposition of adverse environmental effects upon some persons whose asking prices to bear such burdens far exceed their offer prices.<sup>216</sup>

I call for cost-benefit analysts within the federal government and elsewhere to critically reexamine their use of offer price measures of costs. First, they should consider in each instance whether they will in fact have significantly greater ease in obtaining offer price measurements of a particular class of cost impacts than in obtaining asking price measurements. If so, they

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211. OMB (1996), *supra* note 31, at 22.

212. *See supra* text accompanying notes 190-91.

213. *See supra* text accompanying notes 191-94.

214. *See supra* text accompanying notes 195-210.

215. "The valuation disparity [between offer prices and asking prices] findings suggest that most economic assessments of losses will be seriously understated if willingness to pay measures [offer prices] are used, and decisions will likely be biased because of this." Knetsch (1990), *supra* note 33, at 230.

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However, if environmental degradation... imposes losses on individuals, this usual practice of using... [offer price measures of willingness to pay] will likely lead to large understatements of the welfare changes. As a consequence, too many environmentally disruptive projects will be encouraged, too many harmful activities will be allowed, inadequate mitigation measures will be undertaken when environmental values are at risk . . . .

*Id.* at 231.

should then consider whether this data collection cost advantage is sufficient to justify introducing downwardly-biased measurement errors of uncertain and potentially large size into the analysis, risking a radical underestimation of the costs of the proposal being evaluated. There are times, to be sure, where only a very "rough-and-ready" assessment of efficiency consequences is needed for assistance in decision-making and where minimizing the data collection costs is a paramount consideration. Under those circumstances, the use of offer prices to value cost impacts may be justified despite the potential strong bias in favor of the proposal's implementation that may thereby be introduced. However, there certainly are many other instances where accuracy of cost valuation and efficiency assessment is sufficiently important to merit the efforts necessary to obtain credible asking price data. A preliminary determination of when an adequate cost-benefit analysis for the decision at issue will require more accurate asking price measures of particular cost impacts needs to be made as a regular part of the analytical effort.