THE EXPRESSIVENESS OF REGULATORY TRADE-OFFS

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Trade-offs between a sacred value—like human life—against a secular one—like money—are described as taboo. People are supposed to be offended by such trade-offs and to punish those who contemplate it. Yet, the last decades have witnessed the rise of the cost-benefit state. Most of the major rules promulgated today undergo a regulatory impact analysis and agencies monetize risks as grave as those to human life and values as abstract as human dignity. Prominent academics and lawmakers advocate attention to costs and benefits as an element of rational regulation. The cost-benefit revolution is a technocratic coup, however, if citizens see regulatory trade-offs as a symbolic denial of the values they hold dear.

This Article presents three experiments evaluating responses to a cost-benefit justification for regulatory policy. Across a range of conditions, the studies uncovered no evidence of diffuse hostility towards a consequentialist approach to saving lives. The last of these studies found, however, that telling subjects that they were expected to vindicate the sanctity of life resulted in them doing so. This third experiment demonstrates the malleability of norms and expectation surrounding regulatory trade-offs.

Taken together, the data suggest that people do not normally perceive regulatory trade-offs as symbolic affronts that call for an expressive defense of the value of life. While these results do not imply the normative desirability of the cost-benefit paradigm, they suggest the absence of any broad opposition to consequentialism in public life. These findings have implications for the democratic legitimacy of the administrative state and its institutional design. They also bear on the relationship between tort and regulation as mechanisms for risk control. Insofar as tort judgments are expressive and regulatory decisions not, regulation that pre-empts the common law of torts might help temper the tangible costs of symbolism.

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**I. Introduction**

The last decades have witnessed the birth of a cost-benefit state in the United States. A series of executive orders have entrenched cost-benefit analysis in regulatory practice. And courts have interpreted statutes to permit, even require, agencies to engage in consequentialist reasoning.\(^1\) The result is that federal policymaking is increasingly justified in cost-benefit terms.\(^2\) Two examples are illustrative. On June 22, 2011, the Food and Drug

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\(^1\) For the purposes of exposition, this Article sometimes equates textbook cost-benefit analysis and consequentialism. Consequentialism, however, does not necessarily entail the reducibility of all goods to a single dimension of evaluation. See Amartya Sen, *Plural Utility*, 81 PROCEEDINGS OF THE ARISTOTELIAN SOCIETY 193 (1980).

Administration published a final rule designating the color graphics that must accompany health warnings on all cigarette packages. In exercising the authority delegated to it under the Family Smoking Prevention and Tobacco Control Act, the agency weighed, among other things, the costs of altering existing package labels against the benefits from a reduced incidence of cancer. To compare these very different things, the Food and Drug Administration assigned three monetary valuations to a life-year: $106,308, $216,615, and $318,923. Though it ultimately found the benefits of the graphic warnings to exceed their costs, the agency’s logic implicitly acknowledges that the financial burden on cigarette manufacturers—were it large enough—could have trumped the health interests of cancer victims. Similarly, the Department of Justice in implementing the Prison Rape Elimination Act estimated “the monetizable benefit to an adult of avoiding the highest category of prison sexual misconduct (nonconsensual sexual acts involving injury or force, or no injury or force but high incidence)” to be between $310,000 to $480,000. The number is higher for juvenile victims: $675,000. These figures were used to set national standards such as training prison staff to prevent sexual abuse and restricting the placement of youthful inmates in adult facilities. The agency’s arithmetic favored these precautions. But the underlying premise of its evaluative mode is that rape could become too pricey to avert.

Defenders of cost-benefit analysis extol it as a pillar—if not the foundation—of rational governance. They also claim for it a popular

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4 Id. at 36708. This rule was eventually vacated by the United States Court of Appeals for the District of Columbia Circuit on free speech grounds. A divided panel held that because the agency lacked evidence regarding the effect of the graphic warnings on smoking rates, it had failed to establish that the regulation “directly advanced” a substantial government interest. R.J. Reynolds Tobacco Co. v. FDA, 696 F.3d 1205, 1222 (2012), overruled in part by Am. Meat Inst. v. USDA, 760 F.3d 18 (D.C. Cir. 2014) (en banc).
6 Id. at 36741.
8 Id.
9 Id. at 37,108.
10 Id. at 37,188—95.
mandate. According to a scholar of the regulatory state, “cost-benefit analysis is a well-established technique that tends to add positive legitimacy to the decisions of policymakers.” 12 This is because “economics is accepted within academic and political circles as well as the general population as a legitimate tool of policy analysis.” 13 This was also the view of President Obama when he embraced a cost-benefit paradigm for federal regulation. 14 “That’s what the American people want,” he said, “and that’s what they deserve.” 15

Social scientific theory and evidence, however, calls these assertions into question. Cost-benefit analysis treats all goods 16 as fungible by reducing them to prices. Yet the trading of something sacred—like life or the environment—for something secular—like money—has been described as taboo. 17 Such transactions evoke outrage and disgust, and a person who engaged in them is branded as amoral or depraved. Some things, it is held, are priceless and should not be exchanged or commodified. 18 Hence, surveys conducted to price non-market goods “have frequently experienced protest rates of 50 percent or more.” 19 Asked to state the minimum amount they will accept for pollution or the maximum amount they will pay for conservation, many members of the public “refuse to play the game.” 20 This argued that a science-based approach to lifesaving would establish regulatory priorities based on relative risk, promote wise investments in lifesaving, minimize the unintended risks and undue burdens of regulation, and deploy market-oriented policy instruments that may stimulate innovation while minimizing costs.”). 12 Michael A. Livermore, Can Cost-Benefit Analysis of Environmental Policy Go Global?, 19 N.Y.U. ENVTL. L.J. 146, 164 (2011) 13 Id. 14 CASS R. SUNSTEIN, THE COST-BENEFIT REVOLUTION 19 (2018). 15 Id. 16 In this Article, the term “good” is generally used in its broadest sense to refer to valued or valuable things. 17 Jonathan Baron & Mark Spranca, Protected Values, 70 ORGANIZATION BEHAVIOR & HUMAN DECISION PROCESSES 1 (1997); Philip E. Tetlock et al., The Psychology of the Unthinkable: Taboo Trade-Offs, Forbidden Base Rates, and Heretical Counterfactuals, 78 JOURNAL OF PERSONALITY & SOCIAL PSYCHOLOGY 853 (2000). 18 See, e.g., FRANK ACKERMAN & LISA HEINZERLING, PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING (2004); Robert H. Frank, Why is Cost-Benefit Analysis so Controversial, 29 J. LEGAL STUD. 913, 913 (2000) (“The cost-benefit principle says we should install a guardrail on a dangerous stretch of mountain road if the dollar cost of doing so is less than the implicit dollar value of the injuries, deaths, and property damage thus prevented. Many critics respond that placing a dollar value on human life and suffering is morally illegitimate.”). 19 ROBERT CAMERON MITCHELL & RICHARD T. CARSON, USING SURVEYS TO VALUE PUBLIC GOODS: THE CONTINGENT VALUATION METHOD 34 (1989); 20 MITCHELL & CARSON, supra note 19, at 166; see also Matthew Adler, Welfare Polls: A Synthesis, 81 N.Y.U. L. REV. 1875, 1907 (2006) (“Moral prohibitions on degrading the environment may be seen as absolute, or at least never overridable by benefit
is because “most [United States] citizens believe that to treat the value of some environmental goods as reducible to a cash equivalent is itself to express an inappropriate attitude toward the environment.” The same kind of normative belief also explains the massive verdicts handed down against tort-feasors who take the cost-benefit standard as their lodestar. Consider the notorious case of the Ford Pinto. The jury there awarded a staggering $125 million in punitive damages against Ford after it learnt that the car manufacturer had pitted customer lives against the financial cost of moving the Pinto’s vulnerable gas tank. Though the common law of torts does not demand the elimination of all risk, Ford was punished because its approach “manifested a ‘callous indifference’ to the sanctity of human life.”

Psychological studies exploring analogous themes have fostered the impression that “[a]version to [cost-benefit analysis]” is “widespread.”

The rise of the cost-benefit state is therefore problematic. Does the cost-benefit revolution represent the conceit of a technocratic elite imposing its own vision of the good on the rest of society? Or is it indicative of a larger evolution in people’s moral attitudes about consequentialism in public life? To the extent that agencies are formulating policies and making rules on the basis of a decision procedure that many citizens reject, they—and their decisions—suffer from a legitimacy deficit, a state of affairs that might undermine trust in the administrative state.

This Article explores whether regulatory trade-offs between fatal risks and financial costs are generally understood as a symbolic affront to the sanctity of human life. It answers this question through three survey experiments. These experiments ultimately suggest that people do not perceive a cost-benefit test for regulatory decision-making as expressing

to the respondent. This explains infinite [willingness-to-accept-s]. A perceived moral prohibition on degradation might translate into an objection to the very enterprise of contingent valuation and thus ‘protest votes’: refusals to answer, or zero [willingness-to-pay-s], or (once again) infinite [willingness-to-accept-s].”

21 EYAL ZAMIR, TASTE, VALUES, AND THE FUTURE OF LAW AND ECONOMICS 16 (2017); see also HERMAN B. LEONARD & RICHARD J. ZECHHAUSER, COST-BENEFIT ANALYSIS APPLIED TO RISKS: ITS PHILOSOPHY AND LEGITIMACY, IN VALUES AT RISK 31, 31 (DOUGLAS MACLEAN ED., 1986) (“COST-BENEFIT ANALYSIS, PARTICULARLY AS APPLIED TO PUBLIC DECISIONS INVOLVING RISKS TO LIFE AND HEALTH, HAS NOT BEEN NOTABLY POPULAR.”).

disregard for the good being sacrificed, even in cases involving danger to life and limb.

To set the background for the empirical studies, Part II of the Article reviews the theory of taboo trade-offs and juxtaposes the aversion to risk-money trade-offs against the rise of cost-benefit state. It thereby motivates research into popular understandings of the cost-benefit paradigm in administrative law. Part III—the core of this Article—starts by elaborating the relationship between social meaning and social norms. Because people regularly negotiate between fatal risks and costly precautions, such trade-offs are taboo in virtue of the values, attitudes, or beliefs they symbolize, not the outcomes they produce. The norms and understandings that obtain in a particular relational sphere prescribe the kinds of comparisons must be avoided or rejected, and when. Adherence to these norms and understandings exhibits respect for the things at stake. Their violation, on the other hand, demonstrates a lack of insight into—even contempt for—the goods that are truly important, even sacred. The contingency of social meaning implies that the expressiveness of a trade-off cannot be determined in the abstract or in a vacuum. The symbolic freight of regulatory trade-offs is therefore investigated through three experimental studies featuring two different policy scenarios. The first and second experiments find no evidence that a cost-benefit rationale for deregulating the trucking industry evoked broad hostility to the policy or condemnation of its source. The third experiment, a variation on an earlier study designed around an environmental clean-up program, illustrates the malleability of the norms and understandings surrounding regulatory trade-offs. Part IV then discusses the bearing of these empirical findings on debates about the positive legitimacy of the cost-benefit state, the desirability of transparency into agency deliberative processes, and the substitutability of regulation and tort law as mechanisms for controlling risk. Part V concludes.

II. A TALE OF TWO PHENOMENA

A. Taboo Trade-Offs

Why are some trade-offs unthinkable? To trade one good off against another is to treat them as being in commensurable. And though limits on

27 See Timur Kuran, Private Truths, Public Lies: The Social Consequences of Preference Falsification 176 (1995) (“An unthinkable belief is a thought that one cannot admit having or even characterize as worth entertaining, without raising doubts about one’s civility, morality, loyalty, practicality, or sanity.”).

28 A trade-off does not, on some understandings on the term, always involve a comparison. A person who stops to retrieve her dropped wallet while crossing a road
our time and resources compel us to promote some interests and values at the expense of others, we are taught and expected to deny the comparability—much less equivalence—of goods held to be sacred and beyond price and goods regarded as ordinary or profane. A refusal to countenance such comparisons not only demonstrates a proper appreciation of these goods. 29 It is oftentimes a prerequisite for participating in a range of practices and relationships that enrich our lives and give them pleasure and purpose. 30 Someone who offers a friend money to miss her birthday party is mistaken about the very notion of friendship: she does not “get it.” 31

The friend who tries to buy her way out of a birthday party exemplifies a more general proposition: the relational sphere a good is embedded in determines how it should be allocated or exchanged. In a seminal exposition of this idea, Fiske posited four schemas that underlie all social interactions: the communal sharing model, the equality matching model, the authority ranking model, and the market pricing model. 32 These schemas govern the distribution and transfer of goods between individuals in a given relationship. Thus, the communal sharing model distinguishes between those who are members of a community and those who are not. 33 Members of the community have claims against one another that do not apply to outsiders, and resources are shared on the basis of need and not, say, or dessert. 34 The equality matching model, on the other hand, is defined by in-kind reciprocity. 35 Relations under this model are not purely about exchange, though parity in the benefits given and received is usually expected. The third model is authority ranking. 36 Privileges and exposures herself to the danger of an accident. One might say that she trades risk for money. It is more tenuous, however, to suggest that she has compared the two. This Article, however, defines trades-off as comparisons. To trade-off between two goods is to weigh or balance them; unreflective choices or reflexive behavior do not constitute trade-offs.

29 MICHAEL WALZER, SPHERES OF JUSTICE 8–10 (1983)
30 JOSEPH RAZ, MORALITY OF FREEDOM 351 (1986) (arguing “that belief in incommensurability is itself a qualification for having certain relations.”).
33 Fiske, supra note 32 at 694—95.
34 Id.
35 Id.
36 Id.
responsibilities are determined according to an individual’s rank in a defined hierarchy. Finally, the market pricing model captures the relative anonymity and impersonality of modern economic transactions where goods are treated as alienable and fungible. Background norms designate the schema applicable to a particular situation or organization. For example, families tend to adhere to the communal sharing model, friends to the equality matching model, and street gangs to the authority ranking model.

Invoking the wrong schema is not only gauche. It causes distress and gives offense. Religious organizations, for example, are supposed to eschew the market pricing model. People are accordingly disturbed to learn that Catholic churches in the United States are sending prayer requests to congregations in rural India which fulfill those requests in return for a portion of the donations. Their discomfiture is only soothe by a communal sharing justification for the practice, viz. that “[f]rom the perspective of the Catholic Church everyone is part of God’s community. It does not matter to God who says the Mass. Priests, and their congregations for that matter, are undifferentiated in God’s eyes.” Similarly, people do not take kindly to a roommate’s offer to pay them for taking out the garbage. Such a deal is appropriate to servants or employees, not roommates. A proposal to foot the offeree’s share of the utilities bill, however, is more palatable because it conforms to the equality matching, not market pricing, model.

People are threatened and angered by trade-offs that comprehend “the value of something governed by the socially meaningful relations and operations of one relational model in terms of a disparate relational model.” Such trade-offs are taboo. Decision-makers who so much as contemplate a taboo trade-off are judged harshly. An administrator who hesitates to authorize an expensive liver transplant for a dying five-year-old because the funds could be used to procure better equipment and doctors for the hospital is subject to moral censure, even if he ultimately affirms the

37 Id.
38 Id.
40 Id.
43 Id.
44 Tetlock et al., supra note 17, at 858—59.
sacred good (life) over the secular one (dollars). This is because the very thought that life might have a price is sacrilegious. “[T]o compare is to destroy.” Likewise, juries punish defendants who meticulously compute the returns on life-saving precautions even though the duty of reasonable care under tort law seems to require just such a calculus. In theory, “conduct is negligent if its disadvantages outweigh its advantages, while conduct is not negligent if its advantages outweigh its disadvantages.” “The disadvantage in question is the magnitude of risk that the conduct occasions” while “[t]he ‘advantages’ of the conduct relate to the burden of risk prevention that is avoided when the actor declines to incorporate some precaution.” In practice, defendants who openly perform a balancing test do so at their own peril. In Grimsley v. Ford Motor Co., a jury awarded punitive damages of $125 million against the defendants for the death and serious injury of two victims who were travelling in an automobile that had stalled on a freeway. The automobile, a Ford Pinto, erupted in flames after being rear-ended, and the disaster was later blamed on the placement of the fuel tank above the rear axle of the vehicle, the exposure of bolt heads capable of puncturing a dislodged fuel tank, and the lack of adequate protective structures. A former engineer for Ford who supervised its crash-testing program stated that the company had estimated the cost of rectifying these deficiencies at $9 per automobile but ultimately decided to forgo any modification. The California Court of Appeal did not disturb the trial court’s judgment, characterizing this testimony as evidence that “Ford could have corrected the hazardous design defects at minimal cost but decided to defer correction of the shortcomings by engaging in a cost-benefit analysis balancing human lives and limbs against corporate profits.”

45 Id.
46 Fiske & Tetlock, supra note 42, at 256.
47 Id.
49 RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL AND EMOTIONAL HARM § 3 cmt. e.
50 Id.
51 See Frank Partnoy, Corporations and Human Life, 40 SEATTLE U. L. REV. 399, 404 (2017) (proposing shield laws to “encourage corporate actors who are currently unwilling to consider risks to human life explicitly (because of concerns about regulation and tort liability) to develop a framework for considering those risks”).
52 119 Cal. App. 3d at 773.
53 Id.
55 Grimsley, 119 Cal. App. 3d at 813.
institutional mentality,” the appellate court concluded, “was shown to be one of callous indifference to public safety.”56 The Ford Pinto case has since passed into lore. It is cited as a flagrant example of a corporate immorality, a cautionary tale for those who might otherwise be tempted to place profits over people.57 As two legal scholars tell it, “Ford had displayed contempt for Grimshaw’s value” by “treat[ing] Grimshaw as possessing merely a price, not a dignity.”58

But this narrative fails to explain Ford’s culpability given that the legal standard of reasonable care entails a comparison between “human lives and limbs”59 and things of lesser import.60 Scaldingly hot coffee, for example, is capable of inflicting burns. Yet, “[t]o determine whether a coffee maker is defective because it holds the beverage at 179°, we must understand the benefits of hot coffee in relation to its costs.”61 At high temperatures, aromatic compounds evaporate from the surface of coffee, enhancing the sensory experience of the beverage.62 The law of negligence tolerates the occasional injury because consumers like their coffee hot.63 Likewise, the legally acceptable height for a cricket ground fence depends on the probability and severity of the harm inflicted by a runaway ball on passersby.64 Such an inquiry balances health and safety against sport and leisure, thereby acknowledging that the former does not always trump the latter.65

Therein lies a profound tension. On the one hand, our upbringing and socialization teaches us to exalt the primacy of the sacred over the secular. The creep of market pricing into protected spheres of social and cultural life is denounced; to reduce everything to dollars is to blaspheme. “[A]nyone who tries to [price] human life is certain to unleash a flood of angry

56 Id.
59 Grimshaw, 119 Cal. App. 3d at 813.
61 McMahon v. Bunn-O-Matic Corp., 150 F.3d 651, 658 (7th Cir. 1998). McMahon involves a design defect claim which, “in Indiana is a negligence claim, subject to the understanding that negligence means failure to take precautions that are less expensive than the net costs of accidents.” Id. at 657.
62 Id. at 658—59.
63 Id. at 659.
64 Bolton v. Stone [1951] AC 850 (HL) [850] 867 (appeal taken from Eng.).
65 Id.
vilification from the self-appointed custodians of everyone else’s morality.” On the other hand, no value is truly infinite, to be pursued at the expense of all others. Elimination of every potential risk to life is infeasible. And even if it were, a thoroughly uncompromising stance on health and safety threatens to impoverish our existence by asphyxiating entire domains of human activity. The result is, perhaps, a “‘two cultures’ problem:’” “[a] culture has developed around public policy analysts that sees the risk-benefit criterion as obviously acceptable; but the culture of public opinion itself tends to regard that criterion as distressing.”

To forestall public outrage, decisionmakers have been advised to mask taboo trade-offs by re-describing their decisions as a struggle between two competing sacred values: a tragic trade-off. This could be achieved by “budgetary legerdemain,” that is, by talking not of money but of the things money can buy. Instead of emphasizing the great expense required to save an endangered species from extinction, officials might float the possibility of reducing greenhouse gas emissions by sponsoring the installation of state-of-the-art filters in power stations. Decisionmakers ensnared by a taboo trade-off have also been counseled to obfuscate. Vague and superficial rationales are usually enough to placate the average person. Should anyone turn inquisitive, an “indignant” denial refuting the offending comparison is in order. “Stealth[]” and “plausible deniability” are necessary evils that facilitate prudent solutions to the problem of scarce resources.

B. The Rise and Rise of the Cost-Benefit State

Despite these admonitions, recent history has witnessed the rise of a cost-benefit state. All three branches of the United States government

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67 Schwarz, supra note 54, at 1041; see Sunstein, supra note 15, at 27—28.
68 Paul J.H. Schoemaker & Philip E. Tetlock, Taboo Scenarios: How to Think About the Unthinkable, 54 CALIFORNIA MANAGEMENT REVIEW 5, 12—14 (2012); see ZAMIR & TEICHMAN, supra note 26, at 97.
69 Id. at 14; see also Maarten P. Zaal et al., Monetary compensation can increase public support for the siting of hazardous facilities, 37 JOURNAL OF ENVIRONMENTAL PSYCHOLOGY 21, 28 (2014)
70 Schoemaker & Tetlock, supra note 68, at 22; ); see ZAMIR & TEICHMAN, supra note 26, at 97.
72 Schoemaker & Tetlock, supra note 68, at 22.
73 Id.
74 Stuart Shapiro, The evolution of cost-benefit analysis in US regulatory
appear to have converged to the same basic tenet: that rigorous attention to a rule’s costs and benefits makes for better regulation. Cass Sunstein lauds this development as a “revolution” that “weakened the hold of interest groups, popular opinion, anecdotes, and intuitions” and “given new authority to experts, above all in science, statistics, and economics.”

At the heart of this revolution, he claims, is a principle that “operates a little like a constitutional amendment”: “No action may be taken unless the benefits justify the costs.”

By most accounts, the seeds of the cost-benefit revolution were sown in 1981 when President Ronald Reagan signed Executive Order 12291. Though the Army Corp of Engineers had used cost-benefit analysis to evaluate flood control projects in as early as the 1930s, Executive Order 12291 applied generally to executive agencies and represented a signal change in the regulatory philosophy of the federal bureaucracy. Henceforth, “[r]egulatory action shall not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society” and “regulatory objectives,” chosen to maximize the net benefits to society.”

To implement this optimific logic, the executive order directed executive agencies to prepare a regulatory impact analysis for every major rule they intended to promulgate. The regulatory impact analysis must set out all potential benefits and costs of the proposed rule, including those considered to be unquantifiable in monetary terms. It must also give reasons for rejecting cheaper means of attaining the same ends. Regulatory impact analyses were to be submitted to the Director of the Office of Management and Budget (OMB), a constituent agency of the Executive Office of the President of the United States.

The assimilation of welfare economics into policymaking was swiftly criticized as an instrument for deregulation. Indeed, it was advertised as...
such by Vice President George H.W. Bush who claimed to be heeding popular calls for less regulation and more economic growth. Executive Order 12291, the Vice-President explained, “provide[d] a mechanism for [the administration] to monitor regulatory activity and to coordinate [its] program of regulatory relief.” 84 But ethical doubts about cost-benefit analysis swirled.85 Steven Kelman argued in a contemporaneous essay that cost-benefit analysis debases the values it quantifies, likening it to “the thermometer that, when placed in a liquid to be measured, itself changes the liquid’s temperature.”86 And even in 1981—before the public’s enthusiasm for pruning burdensome regulations waned—45% of respondents polled by two media outlets agreed that “[p]rotecting the environment is so important that requirements and standards cannot be too high, and continuing environmental improvements must be made regardless of costs.” 87

The change in party control of the White House following the election of President William Clinton in 1992 brought hopes that President Reagan’s welfare economic approach to regulation might be curtailed. President Clinton did repeal Executive Order 12291. But he issued in its stead Executive Order 12866 which, generally speaking, preserved many of the principles and procedures established by President Reagan.88 President Clinton’s order was sensitive to the difficulty of quantifying all costs and benefits and identified “distributive impacts” and “equity” among the factors to be considered by agencies. But the United States government’s basic “[r]egulatory [p]hilosophy” remained unchanged:

Federal agencies should promulgate only such regulations as are required by law, are necessary to interpret the law, or are made necessary by compelling public need, such as material failures of private markets to protect or improve the health and safety of the public, the environment, or the well-being of the American people. In deciding whether and how to regulate, agencies should assess

87 MICHAEL MAYERFELD BELL, AN INVITATION TO ENVIRONMENTAL SOCIOLOGY 183 (2012).
all costs and benefits of available regulatory alternatives, including the alternative of not regulating . . . . [I]n choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits . . . , unless a statute requires another regulatory approach.

Executive Order 12866 “thus rejected the view that an assessment of costs and benefits is an unhelpful or unduly sectarian conception of the basis of regulation.” 89 With few exceptions, the executive order also maintained the system of centralized review instituted by President Reagan. An executive agency contemplating regulation that might “[h]ave an annual effect on the economy of $100 million or more” had to provide the Office of Information and Regulatory Affairs (OIRA) in OMB a cost-benefit justification for its action, quantification being mandated “to the extent feasible.” 90 The agency’s analysis was to be made publicly available after promulgation of the regulation.

President George W. Bush retained Executive Order 12866, making amendments to it in two executive orders 91 that were later rescinded by President Barack Obama. 92 President Obama reaffirmed Executive Order 12866 in Executive Order 13563, adding “human dignity” and fairness” to the list of things that agencies may take into account. In an editorial for the Wall Street Journal, he assured the American public that

Where necessary, we won’t shy away from addressing obvious gaps: new safety rules for infant formula; procedures to stop preventable infections in hospitals; efforts to target chronic violators of workplace safety laws. But we are also making it our mission to root out regulations that conflict, that are not worth the cost, or that are just plain dumb. 93

As Sunstein who served as OIRA Administrator from 2009 to 2012 put it, Executive Order 13563 “cemented the cost-benefit revolution” and “has

90 This requirement also applied to regulations exerting a “material” and “adverse[]” influence on “the environment, public health or safety, or [s]tate, local, or tribal governments or communities.”
something like the status of a constitution."94

Despite his professed distaste for many of President Obama’s policies, President Donald Trump has not disturbed Executive Orders 12866 and 13563.95 Though President Trump instructed executive agencies to eliminate two regulations for every new regulation they sought to introduce in Fiscal Year 2017 and capped the “total incremental cost” of new and eliminated regulations at zero, he has not officially abandoned the cost-benefit criterion.96 To echo Michael Livermore and Richard Revesz, “cost-benefit analysis is here to stay.”97

Though the executive branch is primarily responsible for the birth of the cost-benefit state, the courts have assisted by gradually reading ambiguous legislation to permit, not preclude, agencies from regulating on the basis of cost. In 2001, the Supreme Court established in Whitman v. American Trucking Associations that a statutory instruction to the Environmental Protection Agency (EPA) to set national ambient air-quality standards (NAAQS) “requisite to protect the public health” while leaving “an adequate margin of safety” did not leave room for cost-benefit analysis.98 Writing for the majority, Justice Scalia declared it “fairly clear” that the Clean Air Act (CAA) prohibited the agency from “consider[ing] costs in setting the standards” and “refused to find implicit in ambiguous sections of the CAA an authorization to consider costs that has elsewhere, and so often, been expressly granted.”99 But eight years later, the Court ruled in Entergy Corp. v. Riverkeeper, Inc., that the “best technology available” standard of the Clean Water Act did not bar the EPA from deliberating “[a] technology’s costs and of the relationship between those costs and the environmental benefits produced.”100 Rather than interpret legislative

94 Sunstein, supra note 15, at 20.
99 Id.
ambiguity to foreclose cost-benefit analysis, the Entergy court imputed to Congress the intent to commit the issue of regulatory costs to the sound discretion of the agency. As contemporary scholarship noted, “Entergy mark[ed] an important shift in the Court’s orientation toward cost-benefit balancing in [environmental, health, and safety] regulation.”101

This understanding was confirmed in a pair of cases decided in 2014 and 2015. In EPA v. EME Homer City Generation, the Supreme Court concluded that the CAA authorized through its silence a cost-sensitive allocation of emissions reductions among states that “contribute[d] significantly” to another state’s nonattainment of NAAQS. 102 The law “d[id] not dictate a method for apportionment” among polluting states and the absence of such a formula “effectively delegate[d] authority to EPA to select from among reasonable options.”103 The Court accordingly upheld the EPA’s use of cost thresholds to determine the obligation of states exporting one percent or more of a NAAQS to a downwind state. Most recently, the Supreme Court held in Michigan v. EPA that the EPA was not only permitted but obliged to pay heed to costs in regulating power plants under a provision that allowed such action only where “appropriate and necessary.”104 Justice Scalia who, ironically, authored the majority opinion in Whitman held for the Court that “the phrase ‘appropriate and necessary’ requires at least some attention to cost.”105 As he went on to explain, “[o]ne would not say that it is even rational, never mind ‘appropriate,’ to impose billions of dollars in economic costs in return for a few dollars in health or environmental benefits.”106 Even the four dissenters in Michigan agreed that “[c]ost is almost always a relevant—and usually, a highly important—factor in regulation.”107 By their lights, unless Congress indicates otherwise, “an agency must take costs into account in some manner before imposing significant regulatory burdens.”108 The upshot, some have suggested, is that “CBA is becoming a generic, judicially imposed requirement for regulation.”109

Congress too is poised to make cost-benefit analysis the law of the administrative state. True, Congress introduced the cost-benefit standard

103 Id. at 4.
105 Id. at 2707.
106 Id. at 2707.
107 Id. at 2716.
108 Id.
into legislation as early as the 1930s. The Flood Control Act of 1936 provided for federal contribution to flood-control projects “if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected.” Similarly, in amending the Safe Drinking Water Act in 1996, Congress mandated a thorough examination of the “quantifiable and non-quantifiable” benefits and costs of setting a particular maximum contaminant level for potable water. Recent legislative initiatives, however, are different in kind from the preceding examples. The Regulatory Accountability Act of 2017 seeks to codify the cost-benefit paradigm by embedding it in the Administrative Procedure Act. The Act covers all federal regulatory activity, regardless of subject matter. The House version of the Act requires agencies engaged in rulemaking to publish cost benefit analyses at the time the rule is proposed and when it is finalized. It also instructs the OIRA Administrator to “establish guidelines for the assessment, including quantitative and qualitative assessment, of the costs and benefits of proposed and final rules.” “The rigor of cost-benefit analysis required by such guidelines shall be commensurate, in the Administrator’s determination, with the economic impact of the rule.” This regulatory reform bill passed by a 238-183 vote in the House of Representatives in January 2017. The Senate version of the Act was ordered reported by the Committee on Homeland Security and Governmental Affairs a year later in February 2018. The Senate’s Regulatory Accountability Act differs from the House’s in several details. It imposes on agencies a duty to provide a cost-benefit justification but only for rules that are likely to have an annual effect on the economy that equals or exceeds $100 million. According to Senator Portman (R-OH), a

111 See also Am. Textile Mfrs. Inst. v. Donovan, 452 U.S. 490, 510 (1981) (giving the act as an example of when Congress clearly intended that the agency engage in cost benefit analysis).
112 42 U.S.C. 300g-1.
113 See, e.g., Christopher J. Walker, Modernizing the Administrative Procedure Act, 69 Admin. L. Rev. 629 (2017).
115 Id.
116 Id.
sponsor of the senate bill, the Regulatory Accountability Act satisfies the “need [for] a smarter regulatory process that promotes job creation, innovation, and economic growth, while also continuing to protect public health and safety and the environment.”

In short, the arc of the regulatory state appears to be bending towards cost-benefit analysis. But explicitly ascribing a price to public health and safety—and the environment—is a fraught enterprise. “[T]he very societal attitudes that make pricing such goods costly also make their too-obvious trade-off by regulation and command painful.” Psychologists therefore warn that “[i]n many cases, to discuss [a taboo] trade-off candidly is to commit political suicide.” Politicians who are caught affixing dollar values to entities governed by [community sharing], [authority ranking] or [equal matching] rules should expect brief careers. And transparency can hurt policymaking bodies that engage in cost-benefit reasoning by provoking dissent and undermining their legitimacy.

An experiment conducted on 155 college students in 2000 “reveal[ed] that it is possible to transform previously popular politicians and acceptable policies into objects of scorn by revealing that the politicians performed taboo mental calculations in reaching their conclusions.” Participants in that study were told that the fictitious Danner Commission had investigated a government toxic waste clean-up program that was saving an estimated


121 GUIDO CALABRESI & PHILIP BOBBITT, TRAGIC CHOICES 39 (1978) (“Allocation through responsible political processes does not avoid the market defect of directly valuing things; lives for example, we prefer to think of as beyond price . . . If the political process refuses to provide a group such as the aged with hemodialysis, the clear assertion has been made that some lives are not worth saving. To the extent that our lives and institutions depend on the notion that life is beyond price, such a refusal to save lives is horribly costly.”).


124 Id. at 63.

125 Calabresi & Bobbitt, supra note 121, at 39; see also Jenny de Fine Licht, Policy Area as a Potential Moderator of Transparency Effects: An Experiment, 74 PUBLIC ADMINISTRATION REVIEW 361, 367 (2014) (concluding that “in policy areas typically handling trade-offs that potentially violate the taboo of trading human well-being against money, transparency can have negative rather than positive effects for public legitimacy beliefs.”).

126 Tetlock, supra note 71, at 252, 256.
200 lives at a cost of $200 million. Due to the commission’s findings and recommendations, the program was reformed and able to save the same number of lives at a cost of $100 million. The government could, however, maintain its funding for the program at $200 million and thereby save an estimated 400 lives. The Danner Commission advocated “redirecting the saving of $100 million to other uses, including reducing the deficit, increased funding for programs to stimulate economic growth, and lowering taxes.” In one experimental condition, respondents read that the commission had “conclude[d] that ‘morally this is the right thing to do.’” In the other condition, the commission is heard to say “that the cost of saving the additional 200 lives is about $500,000 per life – a cost that it still considers too high and one that cannot be justified given other needs and priorities.” Support for the Danner Commission’s recommendation plummeted to approximately 35%.

III. THE EXPRESSIVENESS OF REGULATORY TRADE-OFFS

A. Social Norms and Social Meaning

Do Americans approve of the cost-benefit state? Or did the cost-benefit revolution succeed only by stealth? Will the prevalent and open use of quantitative cost-benefit reasoning further democratic governance by giving voice to the deliberate preferences of citizens? Or will it instead undermine trust and confidence in the institutions of government?

A late 2016 survey of 204 Americans found that when asked whether “[t]he government should assign a dollar value to each human life—perhaps $9 million—and weigh the costs of regulation against the benefits of regulation,” 68 of them “strongly disagree[d],” 52 “somewhat disagree[d],” 42 were neutral, 37 somewhat agreed and only 4 strongly agreed. Still, “[t]rade-offs must occur whenever we feel good citizenship requires a declaratory commitment to sacred values, but society lacks the requisite
resources—we cannot literally ‘leave no child behind’ or ‘guarantee top-quality healthcare to all.’”

How is the apparent hostility to cost-benefit analysis to be understood, given the fact that “[p]eople, including parents, trade risk for dollars all the time?” A promising answer is that the objection is not to trade-offs per se, but to their expressive content. This appears to be the position taken, for instance, by Richard Pildes and Elizabeth Anderson. They concede—as they must—“that few, if any, values are rationally protected from all trade-offs.” But as they go on to explain, the lexical priority of some values over others is not established through such a “rigid and uncompromising stance.”

Instead, hierarchical distinctions are maintained through more subtle social and legal practices that express the higher worth of some values by protecting them against certain kinds of trade-offs against lower values. When higher values are at stake, particular kinds of comparisons with lower values are considered inappropriate, immoral, or unjust—comparisons that would express a degradation or depreciation of the higher values.

Pildes and Anderson do not, however, offer a theory of the kinds of trade-offs that “express a degradation or depreciation of the higher values” and are hence forbidden.

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137 Cass R. Sunstein, Risk and Reason: Safety, Law, and the Environment 127 (2002); (1991); see Tetlock et al., supra note 136, at 97—98 (“Most of us are arguably better classified as . . . neither fanatical defenders of deontic principles nor devoid of sentimental attachments to these principles. We just realize, at some level of awareness, that even the most precious things can become too expensive to defend.”).


139 Id. at 2150.

140 Id.; see Jane B. Baron & Jeffrey L. Dunoff, Against Market Rationality: Moral Critiques of Economics Analysis in Legal Theory, 17 CARDOZO L. REV. 431, 433 (1996) (suggesting that “choices among alternative approaches to law and policymaking—especially the choice between cost-benefit and other approaches—are significant apart from the results they produce” because they “reflect how we think about various social ‘goods.’”); see also Shelly Kagan, Normative Ethics 221 (1998). To be absolutely clear, saying that the comparison of higher values to lower ones is expressive is not to claim that moral statements do not have truth values and are instead expressions of one’s feelings or attitudes. Cf. Matthew D. Adler, Expressive Theories of Law: A Skeptical Overview, 148 U. PA. L. REV. 1363, 1384 (2000).

141 Pildes & Anderson, supra note 138, at 2150 (emphasis omitted); see Richard
Now, one might hold that derogatory trade-offs are precisely those that fail to give the higher values their due. Such a position is adumbrated by Charles Fried who insists that it is “confused, wrong, . . . morally repugnant,” “odd,” “unacceptable,” and “anomalous” to “symbolize our concern for human life by actually doing less than we might to save life” or “by spending more on human life than in fact it is worth.” It is unclear which one of the quoted epithets most accurately captures the argument being made. Fried might plausibly be taken as saying that it is conceptually impossible to symbolize concern for human life by taking decisions that save fewer or more lives than warranted. Call this the correspondence view. If the correspondence view is correct, the expressive theory advanced by Pildes and Anderson is otiose. If a trade-off denigrates human life only if it strikes the wrong balance between competing goods, then all that is needed for practical reasoning is a theory of value. In the absence of such a theory, the expressive theory is mute. Given such a theory, the expressive theory is superfluous.

The correspondence view, however, is wrong. An action may stand for a value, attitude, or belief, even though it does not produce or promote the thing being symbolized. Social norms and understandings determine the expressiveness of actions and the meanings they carry. Shaking hands, for instance, conveys goodwill despite the risk of spreading infectious

143 Cf. Jason Brennan & Peter Martin Jaworski, Markets without Symbolic Limits, 125 Ethics 1053 (2015) (arguing that because the semiotic meaning of monetary transactions is conventional, there is a moral reason to avoid codes whose adoptions result in systematically bad outcomes).
Indeed, Robert Nozick contends that an indicator of an action being performed for its symbolic meaning “is [its] persistence . . . in the face of strong evidence that it does not actually have the presumed causal consequences.” Robert Nozick, The Nature of Rationality 27 (1993).
The social meaning of a handshake rests on the background rules and knowledge that surround, even constitute, the practice, not epidemiological facts. Similarly, whether a trade-off “express[es] a degradation or depreciation of the higher values,” and is therefore perceived by individuals as a “test [of] their fealty to [those] values” depends on social norms and understandings, and not—or at least not only—welfare consequences. Symbolic behavior might be required in some situations, but not others. Thus,

[m]any people . . . will leave their spouses for a month to do a job they do not like in order to earn some money. And yet they will not agree to leave the spouse for the same month for an offer of money, even a significantly larger sum of money. They will feel

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146 See H.W. Will & Helen M. Mathews, Transfer of Infection by Handshakes, 17 THE PUBLIC HEALTH JOURNAL 347 (1926) (asserting that ‘[h]and-shaking seems even more important in the transference of disease than the use of a common towel”).

147 Anderson & Pildes, supra note 141, at 1525 (“Expressive meanings are socially constructed. These meanings are a result of the ways in which actions fit with (or fail to fit with) other meaningful norms and practices in the community.”); see ANDREI MARMOR, SOCIAL CONVENTIONS: FROM LANGUAGE TO LAW 151 (2009) (holding that “symbolism is conferred on [an] action by the social convention that requires it,” and that “the conventions [also] determine the particular circumstances in which such conduct is called for,” thereby “alleviating the need to deliberate in each and every case about how exactly one should behave.”).

148 Pildes & Anderson, supra note 138, at 2150 (emphasis omitted).

149 Philip E. Tetlock & Gregory Mitchell, Situated Social Identities Constrain Morally Defensible Choices: Commentary on Bennis, Medin, & Bartels, 5 PERSPECTIVES ON PSYCHOLOGICAL SCIENCE 206, 207 (2010). Anderson and Pildes later clarify that their theory requires people to adequately express the right attitudes towards others, “the standard of adequacy [being] public, set by objective criteria for determining the meanings of action.” Elizabeth S. Anderson & Richard H. Pildes, Expressive Theories of Law: A General Restatement, 148 U. PA. L. REV. 1512 (2000). The public meanings of action, in turn, are “not [necessarily] determined by shared understandings of what the action means.” Id. at 1524. Rather, such meaning only “have to be recognizable by [a community that] . . . exercise[s] enough interpretive self-scrutiny.” Id. at 1524. So “a white man who checks into a hotel and drops his car keys into the hands of the first black man he sees near the door” insults the latter, even if the insult was not intended. Id. at 1524. To my mind, this example demonstrates that the assumptions underlying a particular action may render that action expressive, even though no communication occurs because the actor did not intend to send a message and the observer did not receive one. But “interpretive self-scrutiny” does not always explain evolutions in social meaning. For instance, tips were regarded as an insult in the early twentieth century United States but have become almost mandatory today. Id. at 1525; VIVIANA A. ZELIZER, THE SOCIAL MEANING OF MONEY 95—99 (1994). So even if actions can be expressive without being communicative, they are so partly in virtue of background norms, norms that are themselves contingent. I do not take Anderson and Pildes to argue otherwise.
indignant that someone supposes that they are willing to trade the company of their spouse for money from a stranger.\textsuperscript{150}

The normative order that gives the offer of money its social meaning also require that the offer be swiftly and emphatically rebuffed.\textsuperscript{151} The proposed transaction disparages the intimacy of marriage. “Parting with one’s spouse for a job . . . does not have this symbolic significance and therefore is not perceived as equally objectionable.”\textsuperscript{152} To equate the two cases is to fundamentally misunderstand them.\textsuperscript{153}

This last example shows that it is not absurd or incoherent to protest a trade-off in one setting while condoning it in another.\textsuperscript{154} The social meaning of a trade-off does not exist in the abstract or in a vacuum.\textsuperscript{155} Granted, some comparisons are so beyond the pale they almost necessarily express apathy or disregard for important goods. Hesitating to rescue a drowning person for fear of ruining one’s clothes manifests a shocking indifference to the value of human life regardless of time or circumstance. But very few trade-offs are like that. If they have symbolic freight, it is in virtue of the norms and understandings governing the particular situation and the relationship it is embedded in. The same is a fortiori true of regulatory trade-offs, defined as the weighing or balancing of competing goods in the course of formulating policy.

B. General Methodology

So, do Americans perceive regulatory trade-offs between death and dollars as denigratory of human life? This Article adopts an experimental approach to such an inquiry. The first two experiments are administered in the form of the form of a news story that people might encounter in their daily lives, as opposed to stylized hypotheticals. The story describes a proposal to suspend one element of the hours for service (HOS) rules for truck drivers.\textsuperscript{156} Subjects learn that truck drivers who have hit the limit of

\begin{itemize}
  \item \textsuperscript{150} RAZ, supra note 30, at 348—49.
  \item \textsuperscript{151} Id. at 349.
  \item \textsuperscript{152} Id.
  \item \textsuperscript{153} Id.
  \item \textsuperscript{154} See JONATHAN WOLFF, ETHICS AND PUBLIC POLICY: A PHILOSOPHICAL INQUIRY 182—184 (2011) (surmising that the taboo against the commodification of some goods is not “rooted in the nature of [the] goods [themselves],” but in “other social factors”).
  \item \textsuperscript{155} See Lawrence Lessig, Social Meaning and Social Norms, 144 U. PA. L. REV. 2181, 2188 (1996) (“One cannot use meaning talk to speak in ways that purport to be general laws of humanity. Meaning prescriptions, and descriptions, are more local, more contingent. Meanings are often contestable and sometimes hard to know.”).
  \item \textsuperscript{156} This policy issue has been selected because it comes under the purview of an administrative agency that has almost no public visibility or ideological valence, thus
\end{itemize}
seventy hours a week may not resume driving unless they meet two requirements. First, they must rest for 34 consecutive hours. This is the continuous rest requirement. Second, those 34 hours must include at least two 1 a.m. to 5 a.m. periods. This is the morning rest requirement. Respondents are then informed of a proposal to suspend the morning rest requirement while retaining the continuous rest requirement.

After introducing the HOS rules and policy issue, the story continues by presenting two dominant perspectives: one emphasizing traffic safety and one invoking the right to autonomous agents to order their own affairs. This passage of the story reads:

According to scientists, undisturbed rest during those early morning hours is critical for alertness, and many have already come out to condemn the idea.

“This action is reckless. It spells danger not only for truck drivers, but also motorists who share our nation’s roads with them,” said Jill Clarke, 65, who is chair of Citizens for Safer Highways.

The truck drivers themselves, however, have differing opinions. Bill Kallam, 62, of Richmond, Virginia supports the early morning rest requirement because it ensures that drivers are well-rested. But Alex Sims, 58, of Springfield, Illinois, said the rule should be repealed entirely.

“The law should not be able to dictate your sleeping and working hours,” Sims said during a truck-stop interview along Interstate 81 after dropping off a load of yeast at a livestock-feed plant. “Only a driver knows when he’s tired. And if you’re tired, take a nap.”

Subjects in both experiments were exposed to both arguments regardless of their assignment to a control or treatment group. The presentation of these arguments is integral to the experimental design. They lend verisimilitude to the experiment and articulate reasons for and against the proposal. The

calling on respondents to draw on their latent stereotypes of a federal administrative agency. See Joshua D. Clinton & David E. Lewis, Expert Opinion, Agency Characteristics, and Agency Preferences, 16 POLITICAL ANALYSIS 3, 18—19 (2008) (estimating an ideology score of 0.07 for the Department of Transportation as compared to a score of -2.01 for the Commission on Civil Rights and a score of 2.40 for the Department of the Navy).

157 This scenario is adapted from an actual regulation that requires truck drivers who have driven more than 60 hours in a week (if the employer operates commercial motor vehicles every day of the week) or 70 hours in eight days (if the employer operates commercial motor vehicles every day of the week) to rest for 34 consecutive hours before driving again. 49 C.F.R. § 395.3.

158 Id.
argument from safety reminds all subjects that human life is at stake. And the argument from autonomy furnishes a non-consequentialist ground for deregulation, one that might be imputed to the policy source in the absence of any reported justification. An autonomy-based rationale dispels the impression of a trade-off.

Subjects for all experiments in this Article were recruited through Amazon’s Mechanical Turk, an online platform where registered users complete posted tasks for a fee. Workers on Amazon Mechanical Turk are referred to colloquially as “Turkers.” To ensure the integrity and reliability of the sample, only Turkers based in the United States who had completed more than 50 previous tasks and maintained an approval rate above 95% were eligible for the surveys.159

Participants recruited on Amazon Mechanical Turk do not constitute a random draw of the adult residents of the United States. That said, Amazon Mechanical Turk samples tend to be more representative of the general population than other convenience samples.160 Turkers are also not appreciably different from members of the population in unmeasurable ways.161 Moreover, Turkers appear to be more attentive than college

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159 See Kuziemko et al., How Elastic Are Preferences for Redistribution? Evidence from Randomized Survey Experiments?, 105 AMERICAN ECONOMIC REVIEW 1478, 1484 (2015) (taking similar precautions); see also Peer et al., Reputation as a sufficient condition for data quality on Amazon Mechanical Turk, 46 BEHAVIOR RESEARCH METHODS 1023 (2014) (finding that Turkers who have approval ratings above 95% provided higher quality data than does who do not).

160 Michael Buhrmester et al., Amazon’s Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data?, 6 PERSPECTIVE ON PSYCHOLOGICAL SCIENCE 3 (2011); Adam J. Berinsky et al., Evaluating Online Labor Markets for Experimental Research: Amazon.com’s Mechanical Turk, 20 POLITICAL ANALYSIS 351 (2012); Caslet et al., Separate but equal? A comparison of participants and data gathered via Amazon’s MTurk, social media, and face-to-face behavioral testing, 29 COMPUTERS IN HUMAN BEHAVIOR 2156 (2013); Marc Dupuis et al., An analysis of the Use of Amazon’s Mechanical Turk for Survey Research in the Cloud, in ICCSM2013-PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON CLOUD SECURITY MANAGEMENT 10 (Barbara Endicott-Popovsky, ed., 2013); Jeremy Kees et al., An Analysis of Data Quality: Professional Panels, Student Subject Pools, and Amazon’s Mechanical Turk, 46 JOURNAL OF ADVERTISING 141 (2017); see also Christoph Bartneck et al., Comparing the Similarity of Responses Received from Studies in Amazon’s Mechanical Turk to Studies Conducted Online and with Direct Recruitment, 10 PLOS ONE 1 (2015).

161 The Demographic and Political Composition of Mechanical Turk Samples, Sage Open 1 (2016); Morgan N. McCredie & Leslie C. Morey, Kevin E. Levay et al., Who Are the Turkers? A Characterization of MTurk Workers Using the Personality Assessment Inventory, 26 ASSESSMENT 759, 764 (2019); see also Scott Clifford et al., Are samples drawn from Mechanical Turk valid for research on political ideology?, RESEARCH AND POLITICS 1, 7 (2015) (concluding that “the same values and personality traits that motivate ideological differences in the mass public also divide liberals and conservatives on MTurk.”); but see Yanna Krupnikov & Adam Seth Levine, Cross-Sample Comparisons

Electronic copy available at: https://ssrn.com/abstract=3432927
students, and data collected from them through the internet appear to be no less reliable than those obtained through other traditional survey modes. Most importantly, results obtained on Turkers have been shown to be similar to those established in population-based settings.

C. The First Experiment: Speaker Identity

1. Design

The first experiment explores whether justifying a de-regulatory measure on the basis of the monetary cost of saving a statistical life influences people’s support for the measure. It also seeks to evaluate the impact of a cost-benefit approach to regulation on lay impressions of the body’s expertise and trustworthiness. It is possible for people to approve of

and External Validity, 1 JOURNAL OF EXPERIMENTAL SOCIAL SCIENCE 59, 76 (2014) (finding “an unusually high degree of savviness among MTurk participants relative to others”).

162 David J. Hauser & Norbert Schwarz, Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants, 48 BEHAVIOR RESEARCH METHODS 400 (2016); Kees et al, supra note 160; but see Joseph K. Goodman et al., Data Collection in a Flat World: The Strengths and Weaknesses of Mechanical Turk Samples, 26 JOURNAL OF BEHAVIORAL DECISION MAKING 213 (2013) (finding that “MTurk participants are less likely to pay attention to experimental materials, reducing statistical power”).


164 Gabriele Paolacci et al., Running experiments on Amazon Mechanical Turk, 5 JUDGMENT & DECISION MAKING 411 (2010); Goodman et al., supra note 162; Berinsky et al., supra note 160; Jill D. Weinberg et al., Comparing Data Characteristics and Results of an Online Factorial Survey between a Population-Based and a Crowdsource-Recruited Sample, 1 SOCIOLOGICAL SCIENCE 292 (2014); Kevin J. Mullinix et al., The Generalizability of Survey Experiments, 2 JOURNAL OF EXPERIMENTAL POLITICAL SCIENCE 109 (2015); Kees et al., supra note 160; Irvine et al., supra note 163; see also Jonathan de Quidt et al, Measuring and Bounding Experimenter Demand, 108 AMERICAN ECONOMIC REVIEW 3266, 3294—95 (2018) (replicating experiments previously conducted on a MTurk sample on subjects drawn from a representative online panel and finding “little evidence of systematic differences between participant pools”); but see Krupnikov & Levine, supra note 161, at 77 (warning of the divergence between Amazon MTurk and other samples where the experimental design required more “buy-in” from subjects).
a decision while also criticizing the agent who made it.  

The experiment simultaneously varied the source of the proposal and the source’s justification for the proposal. The idea to suspend the morning rest rule was randomly attributed to one of three entities: (1) Congress, (2) the Federal Motor Carrier Safety Administration (FMCSA), or (3) a fictitious industry group, the National Federation of Truck Companies (NFTC). The source of the proposal appears in the headline and is mentioned in the first and last paragraph of the story. At the same time, the story ended in one of two possible ways. In one scenario, respondents were told that the “paper has reached out to [members of the House Committee/ the FMCSA/ the NFTC] for comment.” By contrast, the other scenario presented a cost-benefit argument for deregulation:

In response to an inquiry from this paper, [a member of the House Committee/ a spokesperson for the FMCSA/ a spokesperson for NFTC] explained that policymaking involves difficult trade-offs between traffic safety and increased transportation costs, costs that would eventually be passed on to American consumers. An independent study conducted by researchers at Amherst University had found the early morning rest requirement to be highly disruptive, adding approximately two hundred million dollars to costs and lost wages each year while only saving an estimated eight lives annually. It is a tough call to make, the [congressman/ spokesperson/ spokesperson] said, but the [committee/ agency/ federation] is confident that the proposal strikes the right balance between the legitimate interests of competing stakeholders.

The cost-benefit stimulus laid bare the trade-off between lives on the one hand and profits and income on the other. But it also acknowledged the hard choices faced by policymakers forced to arbitrate between competing goods and values.

After reading the story, participants were asked about the extent to which they support or oppose the proposal. They were also queried for their opinion of the source, specifically whether they agree or disagree that the source “can be trusted to get the facts right” (accuracy), “can be trusted to tell us the facts” (truthfulness), “is likely to take advantage of circumstances to advance its own interest” (opportunism), and “is likely to consider all

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165 Eric Luis Uhlmann et al., *When it takes a bad person to do the right thing*, 126 COGNITION 326, 326 (2013).

166 In order to standardize the credibility of the cost-benefit analysis across conditions, the numbers are attributed to an academic study conducted by the fictitious Amherst University.
factors in making a decision” (thoroughness). Demographic information was also collected at the end of the survey.

2. Sample

As some respondents did not enter their completion codes into Amazon Mechanical Turk, a total of 1009 surveys (instead of the 1000 originally intended) were completed and recorded for the first experiment. Respondents’ ages ranged from 19 to 86 (Figure 1). 521 were male and 488 were female. 105 identified themselves as “extremely liberal,” 251 as “liberal,” 120 as “slightly liberal,” 203 as “moderate,” 123 as “slightly conservative,” 153 as “conservative,” and 46 as “extremely conservatism.” Participants in this survey are therefore younger and more liberal than the American population. Males are also marginally overrepresented in this sample relative to national statistics.

3. Results

Subjects were asked – after having read the news story – for their degree of support or opposition to suspending the morning rest requirement. Their responses were coded on a scale of 1 to 7 where 1 corresponds to “Strongly oppose”; 2 corresponds to “Moderately oppose”; 3 corresponds to “Slightly oppose”; 4 corresponds to “Neither support nor oppose”; 5 corresponds to “Slightly support”; 6 corresponds to “Moderately support”; and 7 corresponds to “Strongly support.” The average score in each group is depicted in Figure 2. At first glance, invoking a cost-benefit justification for suspending the early morning rest rule did not turn people against the idea, regardless of the identity of the speaker.

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167 The sample size is larger than planned because the respondents who did not submit their completion codes were not counted towards the quota.


More formally, define the sample average treatment effect (SATE) as the expected difference in outcomes between a unit in the sample if it were treated and the same unit if it were not. The SATE is estimated by taking the difference between the mean of the observed control outcomes and the mean of the observed treated outcomes. To know how much store to put by any particular estimate of the SATE, it is also useful to compute a standard error. The smaller the standard error, the more precise the estimate is.

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172 The Neyman estimator gives a conservative estimate of the standard error of the SATE. Splawa-Neyman, *supra* note 171; see Athey & Imbens, *supra* note 171, at 89—90. Sharp bounds for the standard error have since been derived but the estimator is not widely used. Peter M. Aronow et al., *Sharp bounds on the variance in randomized experiments*, 42 The Annals of Statistics 850 (2014). Standard errors of SATEs are computed based on the Neyman estimator unless otherwise stated.
Treatment in this experiment consists of the source’s reliance on a cost-benefit rationale. Taken across all three sources, the SATE is an increase in support of 0.213 on the 7-point scale, with a standard error of 0.125. Though this increase might still be the product of random variation ($p=0.088$, two-sided t-test), it runs counter to the prediction of a taboo trade-off. Far from rendering the deregulatory proposal repugnant, the cost-benefit justification seems, if anything, to have made it more palatable! Now, the SATE is an average. It elides differences in how individuals respond to treatment. As relevant here, people’s receptivity to risk-money trade-offs might depend on their ideological disposition. The conventional view, repeated throughout legal scholarship, is that conservatives espouse cost-benefit analysis while liberals are suspicious of it.\textsuperscript{173} If this is true, cost-benefit reasoning should persuade conservatives, not liberals. To test the validity of this hypothesis, I perform an ordinary least squares regression of respondents’ support for suspending the early morning rest requirement on treatment, ideology, and the interaction of treatment and ideology.\textsuperscript{174} Ideology is self-reported and scored on a 1-7 scale, 1 being “extremely liberal” and 7 being “extremely conservative.” The higher a respondent’s ideology score, the more conservative she is.

As it turns out, the data does not bear out the prevailing wisdom (Table 1). Respondents’ susceptibility to the cost-benefit argument did not appear


\textsuperscript{174} See Winston Lin, \textit{Agnostic Notes on Regression Adjustments to Experimental Data: Reexamining Freedman’s Critique}, 7 THE ANNALS OF APPLIED STATISTICS 295 (2013).
to be a function of ideology.\textsuperscript{175} Regardless of how the case was presented, liberals tended to resist the proposed deregulation more than conservatives.\textsuperscript{176} But there is no indication that liberals are more hostile to the cost-benefit paradigm and conservatives, more sympathetic to it.

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<tr>
<td>Constant</td>
<td>3.705***</td>
</tr>
<tr>
<td></td>
<td>(0.090)</td>
</tr>
<tr>
<td>CBA</td>
<td>0.204</td>
</tr>
<tr>
<td></td>
<td>(0.123)</td>
</tr>
<tr>
<td>Ideology</td>
<td>0.155**</td>
</tr>
<tr>
<td></td>
<td>(0.052)</td>
</tr>
<tr>
<td>CBA : Ideology</td>
<td>0.021</td>
</tr>
<tr>
<td></td>
<td>(0.074)</td>
</tr>
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<p>| | |</p>
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<td>Observations</td>
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<td>R\textsuperscript{2}</td>
<td>0.024</td>
</tr>
<tr>
<td>Adjusted R\textsuperscript{2}</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Note: \*p<0.05 \textsuperscript{175} This can be seen from estimate for the coefficient on the treatment-ideology interaction term. An estimate of 0.021 and a standard error of 0.074 implies that the null hypothesis of there being no relationship cannot be rejected. \textsuperscript{176} This can be seen from the estimate for the coefficient on the ideology term: 0.155 with a standard error of 0.052.

Table 1: Ordinary Least Squares regression of respondents’ support for deregulation in the first experiment on a treatment indicator, ideology, and a treatment-ideology interaction. Support for deregulation is represented on a seven-point Likert scale, one being “strongly oppose” and seven being “strongly support.” The treatment variable is binary, taking on a value of one if a cost-benefit justification was given and zero otherwise. Ideology is represented on a seven point Likert scale, one being “extremely liberal” and seven being “extremely conservative.” HC-2 robust standard errors are given in parentheses.

In sum, there is no evidence that people were more likely to oppose a policy if it was justified by its proponent in cost-benefit terms. This was so despite the unequivocal comparison made between money and lives. If anything, cost-benefit reasoning appeared to bolster support for the
deregulatory measure.

People’s impressions of a source were also undisturbed by a consequentialist approach to regulation. Recall that respondents were asked whether they agreed or disagreed that the body proposing the suspension of the early morning rest requirement “can be trusted to get the facts right,” “can be trusted to tell us the facts,” “is likely to take advantage of circumstances to advance its own interest,” and “is likely to consider all factors in making a decision.” Their responses were coded from 1 to 7 where 1 corresponds to “Strongly disagree”; 2 corresponds to “Disagree”; 3 corresponds to “Somewhat disagree”; 4 corresponds to “Neither agree nor disagree”; 5 corresponds to “Somewhat agree”; 6 corresponds to “Agree”; and 7 corresponds to “Strongly agree.” On the whole, cost-benefit analysis did not alter respondents’ trust in the source to “get the facts right” ($p=0.985$, two-sided t-test).  

Figure 2: Average degree of agreement with the statement that the source can be trusted to get the facts right in the first experiment.

With the caveat throughout that the absence of evidence against the null hypothesis does not prove it true. See, e.g., RAMON E. HENKEL, TESTS OF SIGNIFICANCE 35 (1976)
Neither did it shake respondents’ trust in the source to “tell [them] the facts it has” \((p=0.6303,\) two-sided t-test) or their belief that the source “consider[s] all relevant factors in making a decision” \((p=0.9104,\) two-sided t-test). Perceptions of the source as opportunistic were likewise unchanged \((p=0.9344,\) two-sided t-test). Finally, separating the conservatives in the sample from the liberals did not produce qualitatively different results (Table 2).\(^{178}\)

\begin{table}[h]
\centering
\begin{tabular}{llll}
\hline
 & Accuracy & Truthfulness & Opportunism & Thoroughness \\
\hline
Constant & 4.092\textsuperscript{***} & 3.986\textsuperscript{***} & 4.654\textsuperscript{***} & 4.187\textsuperscript{***} \\
 & (0.063) & (0.071) & (0.066) & (0.068) \\
\hline
\end{tabular}
\end{table}

\(^{178}\) These results are consistent with a prior finding that an agency’s publication of its own cost-benefit analysis had little if any influence on public trust in government. Stiglitz, supra note 134, at 185.
Table 2: Ordinary Least Squares regression of respondents’ perception of the source in the first experiment on a treatment indicator, ideology, and a treatment-ideology interaction. Support for deregulation is represented on a seven-point Likert scale, one being “strongly oppose” and seven being “strongly support.” The treatment variable is binary, taking on a value of one if a cost-benefit justification was given and zero otherwise. Ideology is represented on a seven point Likert scale, one being “extremely liberal” and seven being “extremely conservative.” Huber-White standard errors are given in parentheses.

The results of the first experiment are intriguing. Participants were not outraged by a cost-benefit calculus that pitted lives against costs and lost wages. The appeal to cost-benefit analysis, if anything, made respondents more favorably disposed towards the deregulatory measure being proposed.

D. The Second Experiment: Quantification of the Cost-Benefit Argument

The first experiment did not find widespread aversion towards cost-benefit reasoning in policymaking. One explanation might be the extremely high costs of the early morning rest requirement as described in the treatment condition. By repudiating the early morning rest requirement, the source placed an upper bound of $25 million on the value of a statistical life. This ceiling is greater than most academic and governmental estimates. Moreover, the source may not have been sufficiently implicated in the cost-benefit analysis conducted by the third-

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179 Cf. Zamir, supra note 25, at 117.
180 But see Sunstein, supra note 137, at 127 (noting that it is not the low value being placed on a human life that provokes outrage but the explicit trade-off between risk and cost).
party. Though the source acknowledged the “difficult trade-offs between traffic safety and increased transportation costs,” it did not expressly reject the early morning rest requirement on account of its modest benefits.

The second experiment was designed to address these concerns. To test whether the high upper bound on the value of a statistical life might have dampened objections to the risk-life tradeoff in the first experiment, the second experiment features two additional treatment conditions: one that sets the value of a statistical life at no more than $1.25 million, and one that describes the stakes but does not attempt to quantify them. In addition, the treatment conditions commit the policy source more deeply to a consequentialist rationale: deregulation is advisable “because very few lives are expected to be saved by the early morning rest requirement.”

1. Design

The second experiment, like the first, was based on the HOS rules for truck drivers. As before, survey respondents started by reading a news story describing the proposed suspension of the early morning rest requirement except that this time, the proposal is attributed solely to the FMSCA. The story highlights the same two frames for thinking about the issue: public safety and freedom of choice. But it now concludes in one of four possible ways. In the control condition, respondents learned that the “paper has reached out to the FMCSA for comment.” In the un-quantified cost benefit balancing condition (un-quantified), respondents were informed that:

In response to an inquiry from this paper, a spokesperson for the FMCSA explained that policymaking involves difficult trade-offs between traffic safety and increased transportation costs, costs that would eventually be passed on to American consumers. Because very few lives are expected to be saved by the early morning rest requirement, the agency is confident that the proposal strikes the right balance between the legitimate interests of competing stakeholders.

In the low value of a statistical life condition (low), respondents were told that:

In response to an inquiry from this paper, a spokesperson for the FMCSA explained that policymaking involves difficult trade-offs between traffic safety and increased transportation costs, costs that would eventually be passed on to American consumers. An independent study conducted by researchers at Amherst University had found the early morning rest requirement to be highly disruptive, adding approximately $10 million dollars to operating costs and lost wages each year while only saving an estimated
eight lives annually. Because very few lives are expected to be saved by the early morning rest requirement, the agency is confident that the proposal strikes the right balance between the legitimate interests of competing stakeholders.

The agency’s proposed course of action indicates that it values a statistical life at no more than $1.25 million. The low condition thus implies an upper bound of $1.25 million on the value of a statistical life. The high value of a statistical life condition (high) is identical to the low value of a statistical life condition save that the costs of the early morning rest requirement were stated as $200 million, not $10 million. The high condition therefore implies a much greater upper bound of $25 million on the value of a statistical life.

After being exposed to story, respondents were probed about the extent to which they support or oppose the proposal. They were then polled for their impressions of the FMSCA, specifically whether they have a “favorable or unfavorable view” of the administrative agency. Demographic information was also collected at the end of the survey.

2. Sample

As some respondents did not enter their completion codes into Amazon Mechanical Turk, a total of 2006 surveys (instead of the 2000 originally intended) were completed and recorded. Respondents’ ages ranged from 19 to 85 (Figure 5). 1128 were male and 878 were female. 267 identified themselves as “extremely liberal,” 544 as “liberal,” 293 as “slightly liberal,” 384 as “moderate,” 250 as “slightly conservative,” 196 as “conservative,” and 72 as “extremely conservative.” Similar to the participants in the first survey, participants here were younger\(^\text{181}\) and more liberal\(^\text{182}\) than the national population. Males were overrepresented.\(^\text{183}\)

3. Results


The degree of support for or opposition to the suspension of the morning rest requirement under each of the four conditions is illustrated in Figure 6. Looking at these distributions, it appears that cost-benefit arguments bolstered support for suspending the early morning rest requirement. More rigorously, the SATE of relying on un-quantified cost-benefit reasoning is a rise in support of 0.198 on the 7-point scale with a standard error of 0.117. The possibility of this increase being due to chance alone, however, cannot be confidently excluded ($p=0.092$, two-sided t-test). Moving on, the SATE of relying on quantified cost-benefit analysis that implies a lower upper bound on the value of a statistical life is 0.325, with a standard error of 0.119. This effect is statistically significant, meaning that it is extremely unlikely to be observed in the absence of any true difference between treatment and control ($p=0.006$, two-sided t-test). Finally, the SATE of relying on quantified cost-benefit analysis that implies a high upper bound on the value of a statistical life is 0.301, with a standard error of 0.115. This effect is also statistically significant ($p=0.009$, two-sided t-test).

In sum, by numerically comparing the lives saved by the early morning rest requirement to the financial toll it exacts in operating costs and lost wages, the agency convinced respondents that the early morning rest
requirement ought to be suspended. This finding holds whether the implied upper bound on the value of a statistical life is $1.25 million or $25 million.

In addition, the SATE of invoking qualitative cost-benefit balancing or quantified cost-benefit analysis does not vary much by ideology. Table 5 displays the output of an ordinary least squares regression of respondents’ support for suspending the early morning rest rule on treatment, ideology, and the interaction of treatment and ideology. The estimated coefficients on all interaction terms are positive, suggesting that conservative respondents are more easily swayed by a cost-benefit argument. These values, however, are very small and likely fortuitous.

<table>
<thead>
<tr>
<th></th>
<th>Support for Deregulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.537***</td>
</tr>
<tr>
<td></td>
<td>(0.083)</td>
</tr>
<tr>
<td>Un-quantified</td>
<td>0.204</td>
</tr>
<tr>
<td></td>
<td>(0.117)</td>
</tr>
<tr>
<td>Low</td>
<td>0.335**</td>
</tr>
<tr>
<td></td>
<td>(0.119)</td>
</tr>
<tr>
<td>High</td>
<td>0.298**</td>
</tr>
<tr>
<td></td>
<td>(0.115)</td>
</tr>
<tr>
<td>Ideology</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.052)</td>
</tr>
<tr>
<td>Un-quantified : Ideology</td>
<td>0.096</td>
</tr>
<tr>
<td></td>
<td>(0.074)</td>
</tr>
<tr>
<td>Low : Ideology</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td>(0.073)</td>
</tr>
<tr>
<td>High : Ideology</td>
<td>0.077</td>
</tr>
<tr>
<td></td>
<td>(0.071)</td>
</tr>
<tr>
<td>Observations</td>
<td>2006</td>
</tr>
</tbody>
</table>
R²          0.011
Adjusted R² 0.007

Note: *p<0.05  **p<0.01  ***p<0.001

Table 3: Ordinary Least Squares regression of respondents’ support for deregulation in the second experiment on treatment, ideology, and a treatment-ideology interaction. Support for deregulation is represented on a seven-point Likert scale, one being “strongly oppose” and seven being “strongly support.” The treatment variable takes one of four values: “control,” “un-quantified,” “low” or “high.” The reference category in this regression is “control.” Ideology is represented on a seven point Likert scale, one being “extremely liberal” and seven being “extremely conservative.” Huber-White standard errors are given in parentheses.

Finally, cost-benefit arguments did not have a discernible influence on people’s impressions of the FMCSA.” Recall that respondents were asked—having read the news story—whether they had a “favorable or unfavorable view” of the administrative agency. A favorability score was obtained by coding respondents’ answers from 1 to 7 where 1 corresponds to “Extremely unfavorable”; 2 corresponds to “Moderately unfavorable”; 3 corresponds to “Slightly unfavorable”; 4 corresponds to “Neutral”; 5 corresponds to “Slightly favorable”; 6 corresponds to “Moderately favorable”; and 7 corresponds to “Extremely favorable.” The distribution of scores for each group is summarized by Figure 7.
The FMCSA’s un-quantified balancing of costs and benefits diminished its standing by 0.023 on a 7-point scale, with a standard error of 0.071. This decline, however, might be due to random variation ($p=0.741$, two-sided t-test). In contrast, a resort to hard numbers improved the standing of the FMCSA, though the observed differences could also be plausibly due to chance ($p=0.710$, two-sided t-test; $p=0.900$, two-sided t-test). The SATEs of the low and high conditions on respondents’ perceptions of the FMCSA are similarly small and inconclusive. There are no signs of consequentialism tarring the agency’s public image.

Overall, there is little indication that the cost-benefit arguments turned people against the policy being endorsed or tainted their impressions of the endorser, the FMCSA. On the contrary, reliance on quantified cost-benefit analysis engendered greater agreement to the agency’s recommendation.

4. Discussion

a. The Because Heuristic and Manipulation Checks

An interesting feature of the data is the absence of any observable difference in outcomes across the low and high conditions. This apparent uniformity deserves comment and further investigation because it raises the possibility that the survey responses were rendered mindlessly, that is, without evaluation of the news story’s contents. A famous study illustrated, for instance, that people waiting to use a copy machine acceded more readily to a stranger’s request to skip the queue when the request was accompanied by a vacuous reason as compared to no reason at all. When the request involved a small number of copies, both genuine and placebic reasons generated the same level of compliance: 94% and 93% respectively. This phenomenon is sometimes dubbed the “because heuristic.” Put simply, “people tend to process small requests mindlessly.” Its relevance here is that subjects in the treatment conditions might have favored deregulation because the agency offered them a justification for its proposal whereas the control condition remained silent on the agency’s rationale for relaxing the early morning rest requirement.

\[184\]

184 The SATE for the low condition is 0.027 with a standard error of 0.074. The corresponding statistics for the high condition are 0.009 and 0.071 respectively.


186 Id.

187 Id.

188 See, e.g., FRANK KARDES ET AL., *CONSUMER BEHAVIOR* 360 (2d ed. 2014)

189 Id.
The observed treatment effects might therefore be attributable to the because heuristic.

The reply to this critique is the following. If the justifications offered by the agency were actually processed, then the results do corroborate the absence of any taboo against cost-benefit reasoning in the tested scenario. This is because respondents understood but did not repudiate the cost-benefit argument being proffered.

The second experiment included a manipulation check that can be used to assess the empirical validity of the premise, i.e. that the justifications offered by the agency were actually processed. Participants were asked post-response whether they recalled the agency’s stated reason for backing off the early morning rest requirement. 92.4% of respondents in the control group answered–correctly–that no explanation had been given by the FMCSA for its policy change. In contrast, only 24.9% of respondents assigned to the unquantified condition remembered the cost-benefit reasoning proffered by the agency. The passage rate for the low and high conditions registered at 71.0% and 70.7% respectively. These last two percentages are reassuring. They confirm that a large majority of respondents who were apprised of the costs and benefits of deregulation in numerical terms received and retained that information. Yet the agency’s willingness to trade death for dollars did not elicit disapprobation.

There remains the question of why subjects approved equally of a trade-off between eight lives and $10 million and a trade-off between eight lives and $200 million in equal numbers. Though the studies presented here do not speak directly to this aspect of human decisionmaking, such insensitivity to numbers is characteristic of reason-based as opposed to preference-based choice, especially in situations implicating personal values and self-identity. The second experiment thus suggests that Americans are acceptive of consequentialist reasons for scrapping life-saving regulation.

b. External Validity and Heterogeneous Treatment Effects

Finally, are results obtained on Turkers descriptive of the United States

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190 Dropping respondents who do not pass a manipulation check may result in biased estimates of the treatment effect and is not done here. Jacob M. Montgomery et al., How Conditioning on Posttreatment Variables Can Ruin Your Experiment and What to Do about It, 62 AMERICAN JOURNAL OF POLITICAL SCIENCE 760, 776 (2018); Peter M. Aronow et al., A Note on Dropping Experimental Subjects Who Fail a Manipulation Check, POLITICAL ANALYSIS (forthcoming 2019).

citizenry as a whole? Short of procuring an expensive population sample, the robustness of such an inference might be assessed by searching for heterogeneity in the treatment effect. Suppose that the treatment effect varies by, say, the age and sex of the individual being treated. Then the sample average treatment effect might diverge from the population average treatment effect to the extent that the sample is disproportionately young or male vis-à-vis the population. 192 Conversely, the unrepresentativeness of the sample is less of a problem if the treatment effect were homogenous. The sample average treatment effect (SATE) is likely to be a good estimate for the population average treatment effect (PATE).193

Machine learning techniques are helpful for exploring heterogeneous treatment effects in the second experiment. Specifically, the average treatment effect for respondents sharing particular attributes—termed the conditional average treatment effect or CATE—may be empirically derived using a meta-learner and a base learner.194 The basic idea is the following. First, estimate the statistical relationship between control and treatment outcomes and personal attributes.195 The base learner chosen for this task, the Bayesian additive regression trees model, is very flexible; it is able to capture non-linear structures in the data.196 The output returned by the base learner is used to make counterfactual predictions of outcomes. 197 Take a respondent sorted to the control condition. Her recorded outcome is the outcome under the control; the potential outcome under treatment is unobserved. But the latter can be predicted from the outcomes of comparable respondents in the treatment group. Likewise for a respondent assigned to the treatment condition. Her potential outcome

195 Id. at 4.
196 Hugh A. Chipman et al., BART: Bayesian additive regression trees, 4 THE ANNALS OF APPLIED STATISTICS 266 (2010); Donald P. Green & Holger L. Kern, Modeling Heterogenous Treatment Effects in Survey Experiments with Bayesian Additive Regression Trees, 76 PUBLIC OPINION QUARTERLY 491 (2012).
197 Künzel, supra note 194, at 4.
under the control is unobserved but can be predicted from the outcomes of comparable respondents in the control group. From these counterfactual predictions, a treatment effect is imputed for each respondent. For respondents in the control group, the imputed treatment effect is simply the difference between the predicted outcome under treatment and the measured outcome. For respondents in the treatment group, it is the difference between the measured outcome and the predicted outcome under the control. The base learner is then deployed a second time to describe these imputed treatment effects as a function of personal attributes. This step is done separately for respondents in the control group and respondents in the treatment group. The estimator for a CATE is a calibrated average of the corresponding estimators for treated respondents and those assigned to control. This entire procedure constitutes a meta-learner—the X-learner.

The attributes fed into the algorithm here were age (continuous variable), gender (indicator variable), level of education (indicator variables), ideology (continuous variable), and party affiliation (continuous variable). The learners were trained and tested on data from the second experiment. The distribution of the estimated CATE for every experimental condition and outcome is displayed in Figure 8. As can be seen, the estimates reveal a fair amount of potential heterogeneity in individual responses to treatment. For instance, the CATE of the agency invoking an unquantified cost-benefit argument on support for deregulation of the trucking industry ranges from a decrease of 0.546 to an increase of 0.890 on a 7-point scale, depending on the characteristics of the recipient. The histograms suggest that some people do take exception to the balancing of deaths against dollars and predictably so.

\footnote{Id.}  
\footnote{Id.}  
\footnote{Id.}  
\footnote{Id.}
Figure 6: Distribution of conditional average treatment effects for each outcome-treatment combination in the second experiment. Conditional average treatment effects are estimated using machine learning techniques.

To evaluate the impact of heterogeneous treatment effects on the generalizability of the survey experiment, I generate predicted treatment effects for the American population using ANES’s 2016 sample. For every individual captured by the ANES survey, the machine returns a predicted treatment effect that is conditioned on that person’s reported attributes. The average of these predicted treatment effects—weighted appropriately—produces an estimate of the population average treatment effect (PATE). Recall that the SATEs of the FMSCA’s cost-benefit justification on support for the suspension of the early morning rest requirement are 0.198 for the unquantified condition, 0.325 for the low condition, and 0.301 for the high condition. Estimates of the PATEs turn out to be a little higher, especially for the unquantified condition: 0.316, 0.376, and 0.395 respectively. Taking perception of the FMCSA as the relevant outcome variable, the PATES are -0.190 for the unquantified condition, 0.056 for the low condition, and 0.066 for the high condition compared to SATEs of -0.023, 0.027, and 0.063 respectively. Except for the

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202 V160101 from the ANES dataset is used to weight individual observations. See Matthew DeBell, How to Analyze ANES Survey Data, AM. NAT’L ELECTION STUD. (May 2010), available at https://www.electionstudies.org/wp-content/uploads/2018/05/HowToAnalyzeANESData.pdf.
unquantified condition, the PATEs, like the SATEs, are small and positive.

Overall, these results give some confidence that the qualitative conclusions of the second experiment for the low and high conditions are likely to carry over to the general population.203

E. The Third Experiment: Manipulating Norms

Previous studies demonstrated that decisionmakers who entertained taboo trade-offs were punished for their moral transgressions. For example, the Danner Commission experiment reported in 2000 found that “explicit spelling out of the trade-off [between human lives and the economy] . . . tarnished the image of a previous well-regarded reformist commission, rendering suspect its entire policy agenda.”204 And Sunstein’s 2016 poll revealed sizeable opposition to regulating on the basis of the value of a statistical life. In contrast, the experiments related here and—failed to detect any such disapproval of cost-benefit analysis.205 A related study by Edward Stiglitz—fielded through Amazon Mechanical Turk—also did not uncover any evidence of cost-benefit analysis attenuating trust in the government.206

Among other things, the presence or absence of a price tag on life could explain the divergent results. Emphasizing the price being put on life may be too obtrusive if the purpose of the experiment is to evaluate public acceptance of risk-money trade-offs in regulation. An experiment that tries to provoke a denunciation of taboo trade-offs might register one because participants believe that they are expected to articulate such views. This possibility is heightened where the study is conducted by a faculty member on students in a laboratory.207 In contrast, online experiments are less

203 A caveat is that there may still be unobserved differences between Turkers and other members of the population that are not accounted for in the analysis. For instance, Turkers may be more socially detached than less frequent users of the internet. McCredie & Morey, supra note 161. There is some anecdotal evidence, however, that Turkers are not oblivious to the value of human life and how it is to be vindicated. Turkers participating in my ultimately successful replication of W. Kip Viscusi’s Ford Pinto experiment sent emails expressing their anger and disgust at the automobile manufacturer. One Turker insisted that she “had to comment! Regardless of this company having one of the best safety ratings, the fact that they were aware of the defect and chose to do nothing makes them a terrible company in my opinion.”

204 Tetlock, supra note 71, at 256.

205 SUNSTEIN, supra note 14, at 27.

206 Stiglitz, supra note 134, at 183—86.

207 Daniel John Zizzo, Experimenter demand effects in economic experiments, 13 EXPERIMENTAL ECONOMICS 75, 77 (2010) (counselling against “the physical presence of the experimenter (where noticeable) or the use of a sample of one’s own students in experiments”); see Ivar Krumpal, Determinants of social desirability bias in sensitive surveys: a literature review, 47 QUALITY & QUANTITY 2025, 2041(2013) (stating that
susceptible to social desirability bias\textsuperscript{208} and may also mitigate demand
effects by reducing or eliminating the opportunity for subjects to observe
the experimenter or their peers.\textsuperscript{209} It is crucial in studying taboo trade-offs
to be alert to demand effects and social desirability biases.

Demand effects occur because subjects endeavor to please the researcher.\textsuperscript{210} An experiment is a form of social interaction and participants
navigate it based on their preconceived notions about the research enterprise
and the more immediate cues they pick up from their surroundings.\textsuperscript{211}
Specifically, subjects “recognize that they are not merely responding to
a set of stimuli but are doing so in order to produce ‘good’ data, that is,
data characteristic of a ‘good’ subject.”\textsuperscript{212} They may therefore modify their
behavior or answers to satisfy the experimenter.\textsuperscript{213} For instance, when
participants in an experiment were invited to shred valuable coupons that
were otherwise theirs to keep, a third of them did so.\textsuperscript{214} This occurred
despite the fact that there was no material incentive for destroying those
coupons.\textsuperscript{215} And students who believed an investigator to be from “The

researchers “have made some progress in reducing measurement errors due to deliberate
misreporting on sensitive topics, principally by increasing the anonymity of the question-
and answer process.”); see also Duane P. Schultz, \textit{The Human Subject in Psychological
Research}, 72 \textit{Psychological Bulletin} 214, 221 (1969) (comparing the relationship
between the experimenter and the subject to other “one-sided relationships [such as] those
of parent and child, physician and patient, or drill sergeant, and trainee”); \textit{but see} Berinsky
et al., \textit{supra} note 160, at 266 (speculating that Turkers have a greater “concern for pleasing
the researcher.”).\textsuperscript{208}

\textsuperscript{208} Allyson L. Holbrook & Jon A. Krosnick, \textit{Social desirability bias in voter turnout
reports: Tests using the item count technique}, 74 \textit{Public Opinion Quarterly} 37 (2010); see
Frauke Kreuter et al., \textit{Social Desirability Bias in CATI, IVR, and Web Surveys: The

\textsuperscript{209} Zizzo, \textit{supra} note 207, at 77; see also Lars J. Lefgren et al., \textit{Effort, luck and voting
for redistribution}, 143 \textit{Journal of Public Economics} 89, 91 (2016) (discussing the pros
and cons of using an online subject pool).

\textsuperscript{210} See, e.g., de Quidt et al., \textit{supra} note 164, at 3267.

\textsuperscript{211} Martin T. Orne, \textit{Demand Characteristics and the Concept of Quasi-Controls, in
Artifacts in Behavioral Research} 110, 110—11 (Robert Rosenthal & Ralph L.
Rosnow eds., 2009); George Loewenstein, \textit{Experimental Economics from the Vantage-
Point of Behavioral Economics}, 109 \textit{The Economic Journal} 25, 30 (1999); Zizzo, \textit{supra}
note 207, at 75.

\textsuperscript{212} Orne, \textit{supra} note 211, at 111

\textsuperscript{213} See e.g., Fredrik Carlsson et al., \textit{Demand effects in stated preference surveys}, 90

\textsuperscript{214} Piers Fleming & Daniel John Zizzo, \textit{A simple stress test of experimenter demand

\textsuperscript{215} See also Nicholas Bardsley, \textit{Dictator game giving: altruism or artefact?}, 11
\textit{Experimental Economics} 122, 131 (2008) (demonstrating that the generosity observed
in dictator games disappears once first-movers are given the opportunity to take, rather than
just give, money and arguing that previous findings are explained by experiment demand,
Institute of Social Research” were more likely to give situational reasons for a murder than those who believed the investigator to be from “The Institute of Personality Research.” The latter tended to explain the murder in dispositional terms. Demand effects are a fundamental threat to the relevance and thus utility of controlled experiments for the social sciences. Experiments do not validly and reliably tell us anything about attitudes and behavior in the wild if their outcomes are artifacts of the experimental setting. Researchers therefore go to some lengths to obscure the true nature of their inquiry from subjects. They conjure cover stories for their studies, employ between subject designs so that participants cannot compare across different conditions of the experiment, and resort to various subterfuges to make the experimental treatment less obvious.

Social desirability bias may also infect experimental findings. Participants embellish their record of conformity to social norms and expectations, especially if they perceive themselves to be under evaluation. To illustrate, research on the impact of advertising on voter

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218 See e.g., John G. Bullock, *Elite Influence on Public Opinion in an Informed Electorate*, 105 AMERICAN POLITICAL SCIENCE REVIEW 496, 499 (2011) (telling participants in an experiment comparing the relative influence of party cues and policy information that the study examined “reactions to ‘news media in different states.’”).

219 See e.g. Dorothee Mischkowski et al, *Promises, Expectations, and Social Cooperation* 14 n.15 (Oct. 28, 2016) (employing a between-subject design because it might otherwise become “apparent to subjects that [the experimenters] were studying the effects of promising and expectations, and subjects may distort their answers to conform to their beliefs about [the experimenters’] hypotheses, or, more minimally, to create a false impression of consistency”), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2856564

220 See, e.g., Anthony Fowler & Michele Margolis, *The political consequences of uninformed voters*, 34 ELECTORAL STUDIES 100, 103 (2014) (“embed[ding]” political information in letters to the editor rather than “providing [it] outright” so as to “minimize experimental demand effects”).

221 See Orne, *supra* note 211, at 111 (“If the experimental task is such that the subject sees himself as being evaluated he will tend to behave in such a way as to make himself look good.”); Roger Tourangeau & Ting Yan, *Sensitive Questions in Surveys*, 133 PSYCHOLOGICAL BULLETIN 859, 860—62 (2007); see also Yonas Alem et al., *Why (field) experiments on unethical behavior are important: Comparing states and revealed behavior*, JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION (2018), (finding that in a “natural setting, people may actually behave inconsistently with the way in which they
turnout reported that “among young people who reported voting in [the 2002 midterm] election, only 32% actually did,” a phenomenon explained by the “pressure [on people] to say they voted in elections, even when they did not.”\textsuperscript{222} Social desirability bias is greater in situations that are morally or ethically salient.\textsuperscript{223} It is therefore especially likely to surface in the present context. This is because people who reason on the basis of “harm and welfare consequences” are not seen to be taking a moral stand.\textsuperscript{224} Worse, people who are willing to sacrifice a life to save others are perceived as being less empathic and having inferior moral character than those who refuse to do so.\textsuperscript{225} They are disfavored as social partners and seen as less moral and trustworthy.\textsuperscript{226} Critically, individuals are aware of how others judge them and they therefore tailor their views to the occasion.\textsuperscript{227} An experiment that emphasizes the symbolic meaning of a trade-off invites—and therefore receives—socially expected responses.\textsuperscript{228}

1. Design and Sample

To examine the latency of demand effects and social desirability biases in the study of taboo trade-offs, I replicate a version of the Danner Commission experiment on 1513 Turkers.\textsuperscript{229} All subjects were apprised of

\begin{itemize}
\item \textsuperscript{222} Lynn Vavreck, \textit{The Exaggerated Effects of Advertising on Turnout: The Dangers of Self-Reports}, 2 QUARTERLY JOURNAL OF POLITICAL SCIENCE 325, 333 (2007)
\item \textsuperscript{224} Tamar A. Kreps and Benoît Monin, \textit{Core Values Versus Common Sense: Consequentialist Views Appear Less Rooted in Morality}, 40 PERSONALITY & SOCIAL PSYCHOLOGY BULLETIN 1529 (2014).
\item \textsuperscript{225} Uhlmann et al., \textit{supra} note 165.
\item \textsuperscript{226} Jim A.C. Everett et al., \textit{Inference of Trustworthiness From Intuitive Moral Judgments}, 145 JOURNAL OF EXPERIMENTAL PSYCHOLOGY: GENERAL 772, 772 (2016); see ERIC A. POSNER, LAW AND SOCIAL NORMS 192-98 (2000) (arguing that people make claims of incommensurability in order to signal their loyalty and trustworthiness).
\item \textsuperscript{227} Sarah C. Rom & Paul Conway, \textit{The strategic moral self: Self-presentation shapes moral dilemma judgments}, 74 JOURNAL OF EXPERIMENTAL SOCIAL PSYCHOLOGY 24 (2018).
\item \textsuperscript{228} See Zhi Xing Xu & Hing Keung Ma, \textit{How Can a Deontological Decision Lead to Moral Behavior? The Moderating Role of Moral Identity}, 137 JOURNAL OF BUSINESS ETHICS 537, 544 (2016) (taking precautions against social desirability bias in an experiment studying the relationship between moral identity, moral decision, and moral behavior).
\item \textsuperscript{229} As in the first two experiments, Turkers had to be from the United States and were required to have an approval rating above 95% earned over at least 50 completed tasks.
\end{itemize}
the choice between keeping the funding for a government clean-up program at $200 million or redirecting $100 million towards fiscal priorities and incurring a loss of approximately ten lives. Like in the original experiment, some learners that the Danner Commission had “conclude[d] that morally, reducing the program’s funding is the right thing to do” while others were informed that the Commission had “conclude[d] that the cost of saving the additional 10 lives is about $10 million per life—a cost it considers too high and one that cannot be justified given other needs and priorities.” Subjects were then asked whether they favored keeping or redirecting funding and for their perception of the Commission, both measured on a 7-point scale.

The replication experiment also featured a twist. Prior to taking the survey, participants were randomly sorted to one of three possible introductions. The conventional introduction asked subjects to “read the following scenario carefully” and to answer the questions that follow. In contrast, the other introductions spelled out an experimental hypothesis. The pragmatic introduction disclosed that “[t]his research studies pragmatic decision-making. The expectation is that people will not punish a decisionmaker who quantifies the value of a human life because they recognize the necessity of making reasonable and consistent trade-offs when resources are scarce.” The principled introduction announced that “[t]his research studies ethical decision-making. The expectation is that people will punish a decisionmaker who quantifies the value of a human life because life is sacred and beyond price.” The purpose of these manipulations is to deliberately induce demand effects and social desirability biases in both directions so as to evaluate their severity.  

2. Results

The outcome of the replication experiment is presented in Table 4.

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230 For explanations and details, see de Quidt et al., supra note 164, at 3271—76. See also Jonathan Mummolo & Erik Peterson, Demand Effects in Survey Experiments: An Empirical Assessment, AMERICAN POLITICAL SCIENCE REVIEW (forthcoming) (adapting a similar approach and finding limited evidence of experimenter demand effects).
Figure 6: Average degree of agreement with the statement that the source can be trusted to get the facts right in the first experiment.
First, the conventional arm found no trace of a negative reaction to the commission’s embrace of a taboo trade-off. The cost-benefit rationale bolstered support for the re-deployment of funds, though the SATE of 0.284\textsuperscript{231} does not pass the ordinary thresholds for statistical significance ($p=0.155$, two-sided t-test). The cost-benefit rationale also appeared to improve the agency’s standing, though the SATE of 0.056\textsuperscript{232} is tiny and probably attributable to random variation ($p=0.652$, two-sided t-test). These results suggest that the dramatic findings of the original experiment have not held up over time.\textsuperscript{233}

\textsuperscript{231} The standard error is 0.199.

\textsuperscript{232} The standard error is 0.123.

\textsuperscript{233} Psychologists have documented a generational shift in moral beliefs. Millennials are more utilitarian than their elders and especially the baby boomers. They are less prone to believing that some exchanges are wrong in and of themselves and more open to sacrificing a life to save others. Ivar R. Hannikainen et al., \textit{Is utilitarian sacrifice becoming more morally permissible?}, 170 COGNITION 95, 100 (2018); see also Simon McNair et al., \textit{Age differences in moral judgment: Older adults are more deontological than younger adults}, 32 JOURNAL OF BEHAVIORAL DECISION MAKING 47 (2019).
An analysis of the other arms reveals the susceptibility of the experimental scenario to demand effects and social desirability biases. The results obtained under the pragmatic and conventional introductions are similar. The invocation of a consequentialist rather than deontological justification failed to incite animosity towards the commission’s recommendation; instead, it boosted average support for re-allocating environmental clean-up funds towards “reducing the deficit, increasing funding for programs to stimulate economic growth and lowering taxes” by 0.323, though this increase falls short of statistical significance ($p=0.105$, two-sided t-test). The commission’s reputation also escaped unscathed (SATE=-0.003; $p=0.979$, two-sided t-test). In contrast to the pragmatic arm, the principled arm returned estimates that varied substantially from the conventional ones. Support for the commission’s position did not rise. (SATE=-0.001; $p=0.995$, two-sided t-test). More notably, perceptions of the commission worsened by 0.389, a statistically significant decline ($p=0.001$, two-sided t-test).

3. Discussion

To summarize, the original qualitative findings of the Danner Commission experiment are recovered in only one instance. Pricing life diminished the standing of the offending government body, but only if subjects were first told that the researcher anticipated a vindication of the

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234 The standard error is 0.199.
235 The standard error is 0.116.
236 The standard is 0.204.
237 The standard error is 0.121.
238 As Andrew Gelman and Hal Stern remind us, “the difference between ‘significant’ and ‘not significant’ is not itself statistically significant.” Andrew Gelman & Hal Stern, The Difference Between “Significant” and “Not Significant” is not Itself Statistically Significant, 60 THE AMERICAN STATISTICIAN 328 (2006). In this context, the admonition means that the fact that the difference in one arm of the experiment achieved statistical significance while the difference in another arm did not should not be taken as strong evidence of a genuine difference in differences between the two arms. It is possible, however, to test whether the difference in differences is statistically significant. Applying the central limit theorem, the difference between two differences in sample means converges in law to the normal distribution. See, e.g., LARRY WASSERMAN, ALL OF STATISTICS: A CONCISE COURSE IN STATISTICAL INFERENCE 77 (stating the central limit theorem); ROBERT D. MASON, DOUGLAS A. LIND, & WILLIAM G. MARCHAL, STATISTICS: AN INTRODUCTION 297 (1991) (stating that the difference between two normal distributions follows a normal distribution). Computing the t-statistic for these differences in differences, I find that the consequentialist treatment had a disparate influence on favorability scores in the principled arm as compared to the conventional ($p=0.010$, two-sided t-test) and pragmatic ($p=0.022$, two-sided t-test) arms of the experiment.
sanctity of life. The asymmetry between the pragmatic and principled arms is not too surprising. Compromise does not signal virtue; taking a stand does. Telling subjects that they are expected to understand the reality of constraints is unlikely to elicit greater solicitude for cost-benefit reasoning. On the other hand, telling them that they are expected to disavow the wrongheaded notion that life can be priced turns the experiment into a test of their insight and humanity, and subjects respond accordingly. The outcome of the replication experiment thus illuminates the malleability of these social norms and expectations.

The discussion so far has treated demand effects and social desirability biases as experimental contaminations of people’s underlying values, attitudes, or beliefs. But many of the dispositions and motivations influencing study participants are not unique to the research setting. The same forces may shape public discourse about regulation. If detractors of a particular risk-money trade-off or, indeed, the cost-benefit paradigm succeed in fixing its social meaning, they are likely to provoke greater hostility to it.

IV. DESIGNING THE REGULATORY STATE

239 Is this just another case of framing? The answer depends on how framing is understood. As Michael Cacciatore, Dietram Scheufele, and Shanto Iyengar complain, there is “a lack of consistency around how the concept is defined or how these definitions connect with the explanatory models underlying the theory.” Michael A. Cacciatore, Dietram A. Scheufele, & Shanto Iyengar, The End of Framing as we Know it . . . and the Future of Media Effects, 19 MASS COMMUNICATION AND SOCIETY 7, 8 (2016). A conception of framing that “encompasses virtually all types of persuasive effects,” however, “has little to no actual explanatory power.” Id. at 9. There have therefore been proposals to restrict framing to “variations in how a given piece of information is presented to audiences, rather than differences in what is being communicated.” Id. at 10; see Thomas J. Leeper & Rune Slothuus, Can Citizens Be Framed? How Persuasive Information More than Emphasis Framing Changes Political Opinions (June, 2018) (unpublished manuscript) (“A notable feature of most, if not all, framing studies is that they confound testing the impact of the framing of an issue with the impact of persuasive information.”); see also Elizabeth F. Emens, Changing Name Changing: Framing Rules and the Future of Marital Names, 74 U. CHI. L. REV. 761 (2007) (distinguishing between phrasing, context, and information). Under the informational-equivalence definition, the outcome of the third experiment is not an instance of framing because the introductions convey substantively different versions of the experimental hypothesis. Rather than engage in a tussle over nomenclature, this Article advances a social meaning explanation for the empirical results presented.

240 Kreps & Monin, supra note 224.

Taken together, the data suggest that people do not normally perceive regulatory trade-offs as symbolic affronts that call for an expressive defense of the value of life. This general claim stands in need of further research because of the highly contextual nature of social norms and understandings and because the experiments presented here are unavoidably limited in the policy areas and issues they address. But the evidence here sustains the legitimacy of the cost-benefit administrative state, where legitimacy is understood descriptively or positively, not normatively or morally. It also counsels greater transparency into agency deliberation by assuaging fears that exposing the consequentialist foundation of agency decision-making might undermine popular trust and confidence in regulatory institutions. Looking further afield, the expressiveness of trade-offs is an important dimension in analyzing the relationship between tort and regulation as mechanisms for allocating and reducing the costs of fatal risks. An influential account of tort law, for example, explains its advantage over regulation in terms of “moral costs.” This theory is built on an empirical foundation: that managing taboo trade-offs through torts rather than regulation is less taxing on the collective psyche. Insofar as the experimental results described here undermine that premise, they vitiate a substantial justification for tort law. More broadly, the symbolism of tort judgments as opposed to regulatory decisions suggests that tort and regulation are less functionally equivalent than thought. It is to these implications that I now turn.

A. The Legitimacy of the Cost-Benefit Administrative State

Many regulatory decisions come down to “a relatively simple choice: dollars or risks?” Confronted by this question, many abjure cost-benefit analysis. To them, repudiating cost-benefit analysis is “the appropriate


243 See, e.g., Richard H. Fallon, Jr., Legitimacy and the Constitution, 118 HARV. L. REV. 1787, 1794—95 (2005) (distinguishing between legal, sociological, and moral legitimacy); see also Tom R. Tyler, Psychological Perspectives on Legitimacy and Legitimation, 57 ANNUAL REVIEW OF PSYCHOLOGY 375, 377, 385 (2006) (explaining that “[c]entral to the idea of [descriptive] legitimacy is the belief that some decision made or rule created by [an] authority[y] is valid in the sense that it is entitled to be obeyed by virtue of who made the decision or how it was made” and noting that “recent evidence suggests that societal allocations are legitimated through the procedures that produce them”).

244 CALABRESI, supra note 122.

245 Sunstein, supra note 137, at 126.

246 See, e.g., DANIEL A. FABER, ECO-PRAGMATISM 117 (1999) (“At the heart of much of the opposition to cost-benefit analysis is a sense that economics may undermine valuable social norms and impoverish social discourse.”).
way to put priorities exactly where they belong—on the protection of life and health.”

Some things, they insist, are beyond price. And it is paternalistic for policymakers to substitute their theories of rationality for the web of values shared by citizens. As Senator Joseph Biden asserted at Justice Breyer’s confirmation hearings, “it’s incredibly presumptuous and elitist for political scientists to conclude that the American people’s cultural values in fact are not ones that lend themselves to a cost-benefit analysis and presume that they would change their cultural values if in fact they were aware of the cost-benefit analysis.”

His criticism stings because defenders of the cost-benefit paradigm sometimes claim for it hypothetical assent: people would ratify cost-benefit analysis if they were fully informed and given adequate time to ruminate on the matter. The democratic pedigree of the cost-benefit state is dubious, however, if those whom it governs reject its consequentialist premise.

The survey experiments reported here demonstrate, however, that a cost-benefit approach to regulation is not necessarily perceived as violative of the sanctity of life. Subjects were more supportive of a deregulatory measure that threatened the safety of highway users after being told by an administrative agency that too few lives were being saved by the existing rule. Rather than punish the agency for daring to compare life and money, those exposed to the cost-benefit argument were, if anything, swayed by it and became more inclined to suspend the early morning rest requirement. This finding implies, contrary to the tenor of the existing literature, that Americans are willing to tolerate, even embrace, cost-benefit analysis in the public domain. The contrast between two New York Times articles, one written in 1966 and the other in 2011, is telling. The earlier piece urged the federal government to develop “a crashproof car” and condemned “the concept of balancing cost versus benefits” as fallacious.

“How,” it asked, “[might one] arrive at a true balance when human lives are at issue?”

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247 Id.
248 See generally ACKERMAN & HEINZERLING, supra note 18; see also ANDERSON, supra note 21, at 195 (“I object to the use of cost-benefit analysis in choices involving human lives and environmental quality because these goods are not properly regarded as commodities.”).
249 See Abramowicz, supra note 134, at 1719 (arguing that “the more we are willing to allow agency officials’ judgments of social welfare to count in cost-benefit analysis, the less of a claim cost-benefit analysis has to improving democracy.”).
piece published thirty-five years later was more equivocal. 253 That piece described the federal bureaucracy’s multiple answers to “the value of a human life” and canvassed perspectives from both critics and champions of the prevailing regime. One of those critics, Robert Weissman, the then-president of Public Citizen, pushed for “higher values for injury and for fatalities.” But neither he nor the correspondent asserted the pricelessness of human life.

How has this come to be? According to social scientists, policymakers who are forced to give up a sacred good must do one of two things “to avoid incurring the righteous wrath of the masses”: they “need to persuade citizens to abandon the illusion that anything can be infinitely important . . . [or] transform taboo trade-offs into tragic ones.” 254 The latter course is of course deceptive if the money saved is never used for the purposes advertised. The experiments here did not try to present the trade-offs at issue as anything other than a straight-up comparison between death and dollars. Neither do most agencies. One might suppose, then, that Americans have finally been disabused of the notion that life is beyond price. This explanation is plausible. It is no less true, however, that individuals have always traded risk for money in their daily lives, selecting, for instance, cheaper products over safer ones. So it is an exaggeration to say that people have woken up to the realization that no good—not even life—can be absolutely valuable. 255 Rather, it may be that they no longer see all life-saving regulation as expressive in nature, if they ever did. 256

A policy issue may, of course, become salient in the public discourse and come to stand for a proposition larger and more abstract than itself. An example is the EPA’s intimation that risks to the elderly be given less priority than risks to the younger population. 257 As part of its 2003 assessment of the benefits from the Clear Skies initiative, the agency conducted a sensitivity analysis that valued a statistical life at $6.1 million for a person under 65 and $3.8 million for a person over that threshold. 258 This difference between the two values of a statistical life was dubbed the “senior death discount,” and eventually abandoned by the EPA in the face


254 Tetlock et al., supra note 136, at 98.

255 Cf. CASS R. SUNSTEIN, FREE MARKETS AND SOCIAL JUSTICE 265 (1997) (separating “a claim of incommensurability” from “a claim of infinite value”).

256 Cf. id. (speculating that people expect their judgments of incommensurability to “be expressed through regulatory proscriptions”).


258 Id.
of trenchant and unrelenting criticism.\textsuperscript{259} As analyzed by Marion Fourcade, “[t]he symbolic order has its own logic,” and “[the differential treatment of] older Americans . . . conflict[ed] with the very powerful culture of formal and procedural equality, and its translation in antidiscrimination laws.”\textsuperscript{260} Nothing here should be taken to deny the potential for regulatory decisions to turn into sites for the vindication of shared values. Indeed, the outcome of the replication experiment hints at the ability of epistemic or hierarchical authorities to define the social meaning of risk-money trade-offs and thereby shape public attitudes towards those who undertake such comparisons. The suggestion being advanced here—one that requires and merits further study—is that the run-of-the-mill regulatory trade-off is not symbolically inflected.

If policymaking is always expressively laden, the cost-benefit state’s blithe indifference to the social meaning of its decisions should rightly provoke outrage.\textsuperscript{261} Americans, however, seem amenable to a mode of public decision-making that compares the benefits of regulation to its costs even where the former involves risks to life or limb and the latter only money. Cost-benefit analysis does not appear to be a deeply illegitimate procedure, quietly imposed by the technocracy on a resistant citizenry.

B. Transparency and its Discontents

The expressiveness of regulatory trade-offs also bears on the desirability of transparency. Openness in public affairs is usually presented as an unalloyed good that enhances accountability and fosters democracy. By exposing corruption and incompetence in government to scrutiny, transparency ensures that those in power exercise their authority responsibly and in the service of those whom they claim to represent. And by making official data and records available to all, transparency enhances civic discourse and empowers citizens to debate the decisions being taken in their


\textsuperscript{260} Marion Fourcade, The political valuation of life, 3 REGULATION & GOVERNANCE 291, 295 (2009).

\textsuperscript{261} Pildes & Sunstein, supra note 26, at 70.
name. Transparency thus guards against misrule and gives citizens the information they need to be autonomous, self-governing, members of the polity. Some have therefore ranked it as a basic, or human, right.

But the public’s right to know is not absolute. Transparency may be restricted to improve the quality of public decision-making: closed-door deliberations encourage officials to speak freely thereby fostering the full and frank consideration of all policy alternatives. According to one strand of thought, inputs should be shielded from disclosure to a greater extent than outputs. Generally speaking, outputs are the products of data acquisition, scientific analysis, or group deliberation. Inputs, on the other hand, consist of the views exchanged as part of the output-generating process. Inputs are entitled to more secrecy than outputs because of the attenuated benefits from learning about the fractious reasoning underlying a decision. Though cost-benefit analysis straddles input and output, Cass Sunstein argues that it ought to be classified as output and hence disclosed because it “is an important safeguard against ill-considered regulations.” By spelling out the expected consequences of regulatory action, publication of regulatory impact analyses “enlists sunlight as disinfectant.” The EPA appears to have taken a similar perspective on this issue. An advanced notice of proposed rulemaking issued in June 2018 sought comments on

263 Id. at 115.
264 Patrick Birkinshaw, Transparency as a Human Right, in TRANSPARENCY: THE KEY TO BETTER GOVERNANCE 47 (Christopher Hood & David Heald eds., 2006)
265 As a legal matter, the Freedom of Information Act exempts from disclosure “inter-agency or intra-agency memoranda or letters which would not be available by law to a party other than an agency in litigation with the agency.” 5 U.S.C. § 552(b)(5); N. L. R. B. v. Sears, Roebuck & Co., 421 U.S. 132, 151 (1975) (“Manifestly, the ultimate purpose of this long-recognized privilege is to prevent injury to the quality of agency decisions.”); see also United States v. Farley, 11 F.3d 1385, 1389 (7th Cir. 1993) (explaining that “[s]ince frank discussion of legal and policy matters is essential to the decisionmaking process of a governmental agency, communications made prior to and as a part of an agency determination are protected from disclosure.”); see also United States v. Nixon, 418 U.S. 683, 705 (1974) (stating that “the importance of . . . confidentiality [between high government official and their advisors] is too plain to require further discussion” because “[h]uman experience teaches that those who expect public dissemination of their remarks may well temper candor with a concern for appearances and for their own interests to the detriment of the decisionmaking process.”).
267 Id. at 187—188.
268 Id. at 194.
269 Id.
how the agency might improve the transparency of its balancing of costs and benefits.  

Consider, in this regard, a recent call for simpler and timelier cost benefit analysis. Most citizens are, at present, unlikely to encounter a regulatory impact analysis. These documents – prepared by federal agencies before and after the promulgation of a final rule – are obscure to the general public. Though they are usually available in print and online, regulatory impact analyses are not easily located by those who do not know where to look. They also tend to be long, dense, and intimidating for the uninitiated. Christopher Carrigan and Stuart Shapiro therefore propose that agencies publish crisp, abbreviated, evaluations of a range of regulatory possibilities at an early stage of their rulemaking. The idea is to “empower potential critics to more effectively participate in the regulatory process, prompting agencies to obtain public input on realistic policy alternatives.” Back-of-the-envelope cost benefit analysis does not, therefore, represent a fundamental change to the prevailing logic and structure of the administrative state. Its hope is to improve regulation by inviting stakeholders to contribute their knowledge and perspectives to the consequentialist enterprise.

But making society alive to the trade-offs that have hitherto been submerged incurs, in Guido Calabresi and Philip Bobbitt’s terms, the “costs of costing,” that is, “the external costs—moralisms and the affront to values, for example—of market determinations that say or imply that the value of a life or of some precious activity integral to life is reducible to a money figure.” By exposing the consequentialist foundation of public decision-making to all, transparency threatens to erode trust in the institutions of government. “Subterfuges” help mitigate the costs of costing, but they buy quiescence at the price of “candor and honesty” in public affairs. This is no easy compromise for

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270 83 Fed. Reg. 27,524.
271 Christopher Carrigan & Stuart Shapiro, What’s wrong with the back of the envelope? A call for simple (and timely) benefit-cost analysis, 11 REGULATION & GOVERNANCE 203 (2017).
272 A regulatory impact analysis issued between 2009 and 2012 is on average 128,289 words long! Carrigan & Shapiro, supra note 271, at 205.
273 Id. at 204—207.
274 Id. at 207.
275 Calabresi & Bobbitt, supra note 121, at 32.
276 For instance, an experiment in Sweden concluded that transparency into the decision-making process incited greater animosity towards a municipal committee’s refusal to fund safety road dividers, likely because the committee had implicitly balanced the lives of commuters against other fiscal priorities. de Fine Licht, supra note 125, at 367.
277 Id. at 78–79
honesty and openness are structural values which define a society at least as much as “the sanctity of life” and “all men are created equal.” They are no more absolute than the other values. But a society consistently forgoes them only at great peril, for without them who is to say when or how any values are affirmed.\footnote{Id. at 50.}

The abstract principle that life is inviolable and its value beyond measure may be axiomatic for a society, but its vindication at every turn is potentially ruinous.\footnote{See Claire A. Hill, \textit{Cheap Sentiment}, 81 LAW \& CONTEMP. PROBS. 67, 68 (2018) (describing “cheap sentiment” as a “social pathology” that “can be an impediment to sound policymaking in many different spheres”).} If conventional accounts of our moral attitudes and beliefs are right, openness may stymie the judicious allocation of scarce resources. Cost-benefit analysis has to flourish in the dark.\footnote{Robert R.M. Verchick, \textit{The Case Against Cost-Benefit Analysis}, 32 ECOLOGY L.Q. 349, 355 (2005) (book review).}

The data presented here implies that this dilemma is no longer as sharp as it might have been, at least in the United States.\footnote{Cf. de fine Licht, supra note 125.} Assuming one takes a consequentialist rather than deontological approach to transparency,\footnote{See David Heald, \textit{Transparency as an Instrumental Value}, in \textit{TRANSPARENCY: THE KEY TO BETTER GOVERNANCE} 59, 60—61 (Christopher Hood & David Heald eds., 2006) (elucidating the “limits to beneficial transparency”); Sunstein, supra note 266, at 189 (defending a welfarist approach to transparency by asserting the importance and usefulness of asking “concrete questions about the human consequences of competing approaches”).} the experiments reported here augur in favor of greater public oversight and engagement in the regulatory process.

\section*{C. Liability versus Regulation}

Finally, thinking about the expressiveness of trade-offs raises interesting questions about the competing and coordinate rationalities of tort and regulation.

take on tort law is at once descriptive and normative.\textsuperscript{284} The descriptive contention is that judges have consciously or otherwise shaped the law towards social efficiency.\textsuperscript{285} Put differently, the socially efficient resolution of any given dispute is a good predictor of case outcomes, the language and tenor of judicial opinions notwithstanding. The normative contention, on the other hand, urges the abolition or reform of doctrines and rules that are not wealth-maximizing.\textsuperscript{286} Judges, lawyer-economists argue, should turn their backs on these vestiges of the common law and re-articulate a tort jurisprudence that assigns losses to least-cost avoider and encourages optimal precaution. Both the descriptive and the normative dimensions of law and economics see tort and regulation as animated by the same ends.\textsuperscript{287} This perspective is now mainstream and “deeply entrenched.”\textsuperscript{288}

In an influential contribution to the field,\textsuperscript{289} Calabresi elaborated the advantage of tort liability over regulatory standards by adverting to “moral costs.”\textsuperscript{290} To develop this theory, he first introduces a category of goods—

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  \item maximized as an intrinsic or instrumental value is beyond the scope of this Article. See Louis Kaplow & Steven Shavell, Fairness versus Welfare 35—37 (2002). For the purposes of exposition, I treat wealth maximization and social efficiency as synonymous. Cf. Jules L. Coleman, Efficiency, Utility, and Wealth Maximization, 8 Hofstra L. Rev. 509, 521 (1980) (distinguishing “tests for ordering or ranking states of affairs” from “the characteristic[s] in virtue of which the states of affairs are to be ranked,” and pointing out that efficiency belongs to the former and wealth the latter).
  \item See, e.g., Ariel Porat, The Future of Law and Economics and the Calabresian External Moral Costs, 16 Jerusalem Review of Legal Studies 153, 166 (2017) (agreeing that “tort law is a good place to deal with merit goods, and it has an advantage over other mechanisms in preventing external moral costs”); Ehud Guttel, The Law and Economics of Merit Goods: Discussion of The Future of Law and Economics, 16 Jerusalem Review of Legal Studies 142, 147 (2017) (acknowledging that “this characterization of the tort system is convincing and captures a central feature of the tort system”).
  \item John C.P. Goldberg & Benjamin C. Zipursky, Torts as Wrongs, 88 Tex. L. Rev. 917, 918 (2010); see Scott Hershovitz, Harry Potter and the Trouble with Tort Theory, 63 Stan. L. Rev. 67, 110 (2010) (“In the wake of The Costs of Accidents, it has become fashionable to think of tort law as a substitute for regulation, or even as a kind of regulatory regime.”).
  \item See, e.g., Ariel Porat, The Future of Law and Economics and the Calabresian External Moral Costs, 16 Jerusalem Review of Legal Studies 153, 166 (2017) (agreeing that “tort law is a good place to deal with merit goods, and it has an advantage over other mechanisms in preventing external moral costs”); Ehud Guttel, The Law and Economics of Merit Goods: Discussion of The Future of Law and Economics, 16 Jerusalem Review of Legal Studies 142, 147 (2017) (acknowledging that “this characterization of the tort system is convincing and captures a central feature of the tort system”).
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“merit goods”—whose pricing by the market (“commodification) or distribution by the government (“commandification”) is experienced as a form of “mental suffering.” The “pain” caused by the commodification or commandification of merit goods constitute moral costs. According to Calabresi, regulation incurs high moral costs because it makes the trade-off between money and merit goods “too obvious.” The common law of torts mitigates these costs by authorizing the monetization of merit goods under the guise of compensation or restitution. This feature, Calabresi maintains, accounts for the existence of the tort system despite its expense and cumbersomeness. The plausibility of this explanation depends, however, on an empirical fact: whether people are distressed by the flagrant consequentialism of health, safety, and environmental regulation. The absence of deep and diffuse aversion to cost-benefit reasoning in the regulatory settings presented by the experiments tells against the idea that it is less agonizing to manage fatal risks through tort than through regulation. If the balance struck by agencies between financial burdens and human lives do not give rise to popular angst, there is nothing to be gained from cloaking such trade-offs in the righteous language of torts.

More fundamentally, the fact that the same comparison might be anodyne in one context and odious in another allows us to conceive of tort and regulation as serving distinct—though related—functions. Both address the involuntary risks posed by some to others. But the possibility of regulatory decisions not being expressive in the same way tort judgments are opens the door to a stylized understanding of regulation as tending to our wellbeing, and torts, to our values.

An important strand in the law—one that predates the “profound revolution” wrought by economic analysis—understands torts to be compensatory, not regulatory, in nature. The injury inflicted by one

291 Id. at 26, 27, 31.
292 Id. at 27.
293 Id. at 31.
294 Id. at 35—36.
295 Id. at 36, 40.
298 See Richard A. Epstein, Defenses and Subsequent Pleas in a System of Strict Liability, 3 J. LEGAL STUD. 165, 165 (1974) (describing corrective justice as “the implicit
person on another, unless excused or justified, represents a wrong that the law seeks to correct. Some risks are mutually imposed and do not give rise to liability because they are a concomitant of social life. Other risks, however, are unreasonable, and a victim may legitimately expect to be compensated for the harms caused by exposure to such risks. Damages are recovered by the victim from the tort-feasor because the former has a right not to be endangered by the latter’s activities. These two conceptions of tort law might be reconcilable. For instance, one might characterize tort law as a form of regulation while still allowing the principles of corrective justice to cabin its reach. Or one might hold tort law to be fundamentally compensatory in orientation while acknowledging its secondary function of deterrence.

It is not necessary to arbitrate between these legal theories for the time being. As a practical matter, the reasonableness of a defendant’s conduct is usually evaluated by the jurors who apply their lay understandings of justice and responsibility to the case at hand. These understandings may deviate from the prescription of law and economics in distinct and important ways. For instance, optimal deterrence might require punitive damages to be inversely related to a tortious injury’s probability of detection. A tort-feasor who is successfully sued only some of the time has little incentive to adopt the socially efficient level of precaution. She bears the full cost of precaution but only internalizes a fraction of the cost of accidents.

assumption upon which the common law approach to the law of torts has rested throughout most of its long history.”).

299 Id.; Richard A. Epstein, A Theory of Strict Liability, 2 J. LEGAL STUD. 151 (1973); JULES COLEMAN, RISKS AND WRONGS (1992)

300 George P. Fletcher, Fairness and Utility in Tort Theory, 85 HARV. L. REV. 537 (1972); see Bamford v. Turnley (1862) 122 Eng. Rep. 27 (“It is as much for the advantage of one owner as of another for the very nuisance the one complains of, as the result of the ordinary use of his neighbour’s land, he himself will create in the ordinary use of his own, and the reciprocal nuisances are of such a rule may be indicated by calling it a rule of give and take, live and let live . . . .”); but see Richard A. Epstein, The Temporal Dimension in Tort Law, 53 U. CHI. L. REV. 1175, 1180 (justifying Baron Bramwell’s “live and let live” doctrine in economic terms).

301 See, e.g., ERNEST J. WEINRIB, THE IDEA OF PRIVATE LAW (2012)


303 Id.

304 See, e.g., DAN B. DOBBS ET AL., THE LAW OF TORTS §§ 163 (2d ed. 2011) (“Because part of the jury's role is to make normative decisions or value judgments, courts do not ordinarily grant summary judgment on negligence issues, even if the facts are undisputed. In other words, the jury must still weigh the risks and utilities associated with the facts it has determined to exist.”)

Conversely, a tort-feasor whose negligence is always penalized should not be made to pay more than the amount needed to make the victim whole. An award of punitive damages under such circumstances induces the tort-feasor to take excessive precaution, that is, precaution whose marginal benefit is surpassed by its marginal cost. Jurors, however, seem to reject this simple formula for computing punitive damages, even after being instructed to apply it.  

Despite being aided by a table illustrating the appropriate amount of punitive damages for a given probability of detection, many participants in an experimental study did not return the number prescribed by economic theory.  

Half of these respondents were college graduates or professionals who presumably should have been able to derive the optimally deterrent dollar figure had they been so inclined.  

And in another survey, University of Chicago law students steeped in the economic analysis of law nevertheless objected to the judicial nullification of an award of punitive damages against a “grotesquely reckless” employer despite being told to assume that there was “no chance” of a hurt employee not seeking and receiving compensation.  

Respondents vindicated the righteousness of exemplary damages for an especially blameworthy defendant.  

These results are striking. They indicate that from the perspective of those who sit in the jury boxes, the principle of corrective justice runs deep in tort law. Punitive damages are not imposed to deter harmful behavior that eludes easy detection. They are expressive in nature.  

Reckless conduct
asserts the superiority of the wrongdoer over the victim.\footnote{Jean Hampton, \textit{A new theory of retribution}, in \textit{LIABILITY AND RESPONSIBILITY} 377, 386—96 (R.G. Frey & Christopher W. Morris eds., 1991).} The wrongdoer says, in effect, that “\textit{I} am high and \textit{you} are low. \textit{I} can be negligent in marketing [a defective product] because \textit{you}, the customer, do not matter very much.”\footnote{Galanter & Luban, \textit{supra} note 58, at 1432.} Punitive damages restore moral parity by subjecting the wrongdoer to “expressive defeat”.\footnote{Hampton, \textit{supra} note 312, at 396—409.} To achieve this result, “[t]he magnitude of punishment must reflect the magnitude, and if possible, the nature of the asserted inequality between wrongdoer and victim.”\footnote{Galanter & Luban, \textit{supra} note 58, at 1432.} Recalling the case of the combustible Ford Pintos:

Ford had determined Grimshaw’s and other customers’ prices through the technique of cost-benefit analysis. The jury therefore chose to inflict a monetary defeat on Ford that incorporated within it a reference to Ford’s analysis, a defeat that Ford could not help but understand because the jury held up the cost-benefit analysis as a mirror in which all would recognize the moral truth of the situation.\footnote{Id.}

Exemplary damages are a form of \textit{contrapasso}. They convey a message to the wrongdoer that is also heard by the community at large.\footnote{See Jennifer K. Robbenolt et al., \textit{Symbolism and Incommensurability in Civil Sanctioning: Decision Makers as Goal Managers}, 68 \textit{BROOK. L. REV.} 1121, 1138 (2003).}

The expressiveness of punitive damages is not an anomaly in the law of torts. There is a “moral, symbolic element of the tort system” that comes from labelling the defendant as a wrongdoer.\footnote{Eduardo M. Peñalver, \textit{Acts of God or Toxic Torts? Applying the Tort Principles to the Problem of Climate Change}, 38 \textit{NAT. RES. J.} 563, 576 (1998).} Thus, “[even if] the tort system . . . play[s] a marginal role in compensation for injury, it occupies an important symbolic role that may best explain the energy and emotion it generates.”\footnote{Daniel W. Shuman, \textit{The Psychology of Compensation in Tort Law}, 43 \textit{U. KAN. L. REV.} 39, 65 (1994).} By contrast, regulatory policy does not usually carry symbolic freight. Or so it is ventured.\footnote{But see Eric A. Posner & Cass R. Sunstein, \textit{Death and Dollars}, 72 \textit{U. CHI. L. REV.} 537, 595 (2005) (suggesting that the higher political salience of regulatory decisions vis-à-vis a singular tort could produce “bad or troubling effects,” “[t]he most obvious [of which] is that the symbolism of sensible and disaggregated regulatory decisions may bother people because such decisions seem in conflict with other values—here we have in mind the controversy over valuing human lives at all, or the likely more intense controversy over . . .”)}. The experiments here, being
modest in number and scope, do not prove this assertion. But they corroborate it. Respondents did not spurn the trade-off between traffic fatalities, on the one hand, and the financial burdens of compliance and lost wages, on the other, as a communal denial of the intrinsic and infinite value of life. Neither did they vilify the Danner Commission for comparing deaths from pollution to the economic disadvantages that accrue from a larger deficit, slower growth, and higher taxes.321

What might account for this putative difference between liability and regulation? The most important dimension, perhaps, is that tort liability is private while governmental regulation is public. A tort suit is filed by a plaintiff against a defendant, the gravamen of the complaint being that the defendant’s breach of a duty owed to the plaintiff resulted in foreseeable injury. A tort claim is thus interpersonal in nature. A regulatory decision, on the other hand, is impersonal in character. Richard Craswell for instance doubts whether the government is subject to the same ethical demands that fall on individuals.322 The government is “by most liberal accounts . . . an inanimate institution, which is justified . . . by what it contributes to its . . . citizens.” 323 It does not, therefore, have to demonstrate self-understanding through its choices.324 And though public officials are animate persons, Robert Goodin contends that they do not as a general matter have a duty to any one citizen to do or not do something.325 Rather, their duty is “to see to it that something [is] done or not done.”326 These positions are defended as normative arguments in favor of utilitarianism in public affairs, but they also evoke an intuition that those subject to a misguided regulation are not wronged like a tort victim is. The disparate relational norms governing the private and the public spheres might explain why tort judgments appear to have an expressive quality to them that regulatory standards lack.

A second dimension that separates regulation from tort liability is that the former operates ex ante whereas the latter is imposed ex post. The

321 Except when they were told that they were expected to do so.
322 Craswell, supra note141, at 1461.
323 Id.
324 Id.; but see DOUGLAS KYSAR, REGULATING FROM NOWHERE: ENVIRONMENTAL LAW AND THE SEARCH FOR OBJECTIVITY 54—56, 65 (2010) (urging that the very notion of agency implies that the state’s “choice[s] . . . reveal[] something intimate and foundational about our collective identity”).
325 ROBERT E. GOODIN, UTILITARIANISM AS A PUBLIC PHILOSOPHY 72—75 (1995); see also Thomas Nagel, Ruthlessness in Public Life, in PUBLIC AND PRIVATE MORALITY 75, 84 (Stuart Hampshire ed., 1978) (“Within the appropriate limits, public decisions will be justifiably more consequentialist than private ones.”).
326 Id. at 74.
wisdom of a regulatory rule or standard is debated in the abstract while the reasonableness of a tort defendant’s precaution is judged in the aftermath of a palpable harm to life or limb.\textsuperscript{327} The occurrence of an accident does not only magnify the dangerousness of an activity through hindsight bias;\textsuperscript{328} it also arouses feelings of sympathy for the victim and precipitates a search for blame.\textsuperscript{329} The vividness of the accident and its aftermath transform the trial into a defense of the sanctity of life.\textsuperscript{330} Eloquent lawyers stoke the jury’s anger by telling the story of a defendant who allowed greed to trump basic decency.\textsuperscript{331} “With appropriate rhetoric, a skillful plaintiff’s lawyer can vivify and dramatize, for the jury’s benefit, the traditional public sense of the sanctity of life.”\textsuperscript{332} The reality and dramatization of grievous injury or death is typically absent from agency decision-making.

The expressiveness of tort vis-à-vis regulation—if true—introduces a wrinkle into the choice between liability and regulation for managing risk.\textsuperscript{333} The tort system as administered may punish defendants more severely than warranted by the overall welfare consequences of their negligence. There is no doubt value in such a practice for “[a] large part of the richness of our lives consists in symbolic meanings and their expression.”\textsuperscript{334} And symbolic public acts are vital for a society because they declare and reaffirm its fundamental normative commitments.\textsuperscript{335} At the

\textsuperscript{327} Posner & Sunstein, supra note 320, at 594 (“The victims of regulated conduct are not identified, so their personal characteristics do not stand out (although sometimes a disaster or crisis may provoke the regulation). Whereas court cases are emotionally rich, regulatory decisions often (though not always) seem dry and technical, even though usually much more is at stake.”); see Karen E. Jenni & George Loewenstein, Explaining the “Identifiable Victim Effect”, 14 JOURNAL OF RISK & UNCERTAINTY 235, 254 (1997) (“Most policy decisions about risk involve statistical fatalities, while most private decisions involve identifiable fatalities.”)

\textsuperscript{328} Kim A. Kamin & Jeffrey J. Rachlinski, Ex Post ≠ Ex Ante: Determining Liability in Hindsight, 1 LAW & HUM. BEHAV. 89 (1995)

\textsuperscript{329} James K. Hammitt & Nicholas Treich, Statistical v. identified lives in cost-benefit analysis, 35 JOURNAL OF RISK & UNCERTAINTY 46, 63 (2007)

\textsuperscript{330} See Neal Feigenson, Emotional Influences on Judgments of Legal Blame: How They Happen, Whether They Should, and What to Do About It, in EMOTION AND THE LAW: PSYCHOLOGICAL PERSPECTIVES 45 (Brian H. Bornstein & Richard L. Wiener eds., 2010).

\textsuperscript{331} See Neal Feigenson, LEGAL BLAME: HOW JURORS THINK AND TALK ABOUT ACCIDENTS 151—170 (2000).


\textsuperscript{334} NOZICK, supra note 144, at 30.

\textsuperscript{335} See Allan Gibbard, Risk and Value, in VALUES AT RISK 94, 101—02 (Douglas Maclean ed., 1986) (entertaining the possibility that “[i]t may be dehumanizing to stand idly by when strenuous, expensive effort has a substantial chance of saving lives”).
same time, however, outsized awards may awe potential tort-feasors into taking precautions that are expensive and time-consuming but accomplish little.\textsuperscript{336} To the extent they do, regulation that displaces or pre-empts the common law may help achieve balance between the symbolic and, perhaps, didactic utility of tort remedies and the prudent allocation of scarce resources.\textsuperscript{337}

V. CONCLUSION

Pushed by successive presidential administrations as a device for rationalizing regulation and centralizing control, the cost-benefit paradigm for managing health, safety, and environmental risks has gained traction in both judicial and legislative circles. But there are reasons to doubt the positive legitimacy of the cost-benefit revolution. Past research in the social sciences have documented a popular aversion to taboo trade-offs.

The survey experiments presented in this Article indicate that Americans do not comprehend a cost-benefit standard for life-saving regulation as an expressive denial of the priceless ness of life. Now, it might be true as a normative matter that citizens ought to reject the brand of

\textsuperscript{336} Availability bias—the tendency to overestimate the probability on an event whose instances come easily to mind—could magnify the impact of a large tort judgment. Steven Garber, Product Liability, Punitive Damages, Business Decisions and Economic Outcomes, 1998 WIS. L. REV. 237, 275—284 (1998); see also Theodore Eisenberg et al., Reconciling Experimental Incoherence with Real-World Coherence in Punitive Damages, 54 STAN. L. REV. 1239, 1244—45 (2002). An example of socially wasteful precaution is the claimed tendency of physicians to prescribe medically unnecessary tests so as to head off the threat of tort liability. Polinsky & Shavell, supra note 305, at 880; see Daniel Kessler & Mark McClellan, Do Doctors Practice Defensive Medicine?, 111 QUARTERLY JOURNAL OF ECONOMICS 353 (1996) (finding evidence of such a practice in treatments for heart disease); see also Michael Frakes, Defensive Medicine and Obstetric Practices, 9 JOURNAL OF EMPIRICAL LEGAL STUDIES 457 (2012) (finding evidence of such a practice for some obstetric procedures but not others).

\textsuperscript{337} See Klass, supra note 311, at 1573—74 (contending that insofar as the “private law aspects of tort law are seen as valuable in our society, a federal scheme of regulation and compensation cannot replace tort law in meeting these goals, although it may meet other important goals such as providing compensation to victims without the cost and difficulty of litigation.”); Kyle Logue, Coordinating Sanctions in Tort, 31 CARDOZO L. REV. 2313 (2010) (analyzing the interaction between tort law and other mechanisms for the social control of risk and suggesting rules for achieving optimal deterrence); see also Victor E. Schwartz & Phil Goldberg, A Prescription for Drug Liability and Regulation, 58 OKLA. L. REV. 135 (2005) (arguing for judicial deference to the Food and Drug Administration in tort cases involving pharmaceutical drugs that are beneficial but may trigger harmful side-effects); Catherine M. Sharkey, Tort-Agency Partnerships in an Age of Preemption, 15 THEORETICAL INQUIRIES IN LAW 359 (2014) (arguing for judicial deference to the Food and Drug Administration in determining whether a federal regulation pre-empts a state law cause of action).
consequentialism in public life that treats all things as commensurable and fungible. A recent critique of cost-benefit analysis, for example, draws a distinction between goods that are essential for human agency and goods that are not.\textsuperscript{338} People have a special claim to the former and “[a]s a society we owe it to each other to secure the basic conditions necessary for people to lead decent and independent lives.”\textsuperscript{339} Descriptively, however, agencies that trade deaths for dollars are not, it seems, punished in the court of public opinion. Their decisions are not reviled nor do their reputations suffer. The cost-benefit state does not appear to be facing a legitimacy crisis.

None of this implies tolerance for callous or cavalier treatment of values held dear. The social meaning of a choice is largely a matter of norms. Certain situations invite—even demand—a symbolic declaration of the primacy of the sacred over the profane, of people over profits. Others do not. This fact helps us make sense of the apparent contradiction displayed by those who routinely make such trade-offs while condemning the idea that there can be a price tag on life. It also offers insights into the relationship between regulation and tort. Insofar as tort judgments are expressive and regulatory decisions not, regulation that pre-empts the common law of torts might help temper the tangible costs of symbolism.

\textsuperscript{338} Keating, \textit{supra} note 173, at 251—52, 258—59.

\textsuperscript{339} \textit{Id.} at 196.