

# Book Review: Laws of Fear: Beyond the Precautionary Principle, by Cass R. Sunstein

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Book Review

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*LAWS OF FEAR: BEYOND THE PRECAUTIONARY PRINCIPLE*  
BY CASS R. SUNSTEIN (CAMBRIDGE & NEW YORK:  
CAMBRIDGE UNIVERSITY PRESS, 2005) 234 pages.<sup>1</sup>

BY BRYAN BOODHOO<sup>2</sup>

## I. INTRODUCTION

Regulators have used the precautionary principle for decades. Although it came to prominence as a tool for making environmental policy decisions in the face of scientific uncertainty, regulators and governments have invoked the precautionary principle in areas such as food safety, crime prevention, and terrorism. In its weakest form, the precautionary principle posits that the absence of decisive evidence of harm is not a reason to refuse to regulate.<sup>3</sup> A comparatively stronger version posits that when an action poses unknown risks, that action should be prohibited until scientific evidence shows the damage will not

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<sup>1</sup> [*Laws of Fear*].

<sup>2</sup> The author is an LL.M. candidate at Osgoode Hall Law School and a graduate of Cornell University Law School (J.D.), York University (M.A.), and McMaster University (Hons. B.A.).

<sup>3</sup> *Supra* note 1 at 18.

occur.<sup>4</sup> In Cass Sunstein's book, *Laws of Fear*, which is based on a number of lectures he gave at University of Cambridge, the author's initial thesis is that in its strongest form, the precautionary principle is inconsistent. Sunstein argues that there are risks on all sides of a social situation.<sup>5</sup> Not only are there risks against which the precautionary principle guards, but there are also risks that arise from the regulation that the precautionary principle mandates.<sup>6</sup> Because there are risks associated both with regulating and not regulating, the precautionary principle, Sunstein argues, gives no clear policy direction.<sup>7</sup>

Although the risks of regulation may not be as obvious as the risks against which the precautionary principle guards, both types of risk can be serious. In a 2004 survey, scientists were asked what notable achievements would have been prevented or limited by the precautionary principle.<sup>8</sup> The resulting list included airplanes, air conditioning, antibiotics, automobiles, chlorine, open-heart surgery, and refrigeration.<sup>9</sup> This list demonstrates that the decision to prohibit potentially harmful activities can in itself have comparable or greater harms than the harms against which the precautionary principle guards. For example, experimental open-heart surgery may kill the patient in question, but a prohibition on experimental surgery may also cause the death of the patient as well as others who might have been saved by the knowledge that could have been gained from that surgery. When faced with a choice between potential harms associated with action and inaction, the strongest form of the precautionary principle offers little guidance. Against which harms should regulators guard?

Sunstein's contribution to the expansive literature surrounding the precautionary principle is not in disproving the precautionary principle in its strongest form, but rather in showing how psychology affects regulation, particularly the precautionary principle. Sunstein uses cognitive concepts to explain why regulators apply the precautionary principle to some risks but not to others. He proposes that by

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<sup>4</sup> *Ibid.* at 19.

<sup>5</sup> *Ibid.* at 4.

<sup>6</sup> *Ibid.* at 14.

<sup>7</sup> *Ibid.*

<sup>8</sup> *Ibid.* at 25.

<sup>9</sup> *Ibid.*

recognizing cognitive biases, regulators may be able to apply the precautionary principle more precisely. Sunstein suggests a method by which regulators can use cost-benefit analysis to help refine applications of the precautionary principle.

## II. CHOOSING THE RISKS

Different people and different nations choose different risks against which to take precautions. For example, while the United States took precautions against mad cow disease, European nations acted with caution regarding genetically modified foods.<sup>10</sup> Psychology, according to Sunstein, explains why different people and different nations apply the precautionary principle to different risks. Sunstein focuses on five factors: (1) the availability heuristic; (2) probability neglect; (3) loss aversion; (4) a belief in the benevolence of nature; and (5) system neglect.<sup>11</sup>

The availability heuristic is a cognitive short cut that allows people to assess risks based on their past experiences. People who have had recent, intense experiences of earthquakes, for example, are more likely to protect themselves against earthquakes than people who have not had those experiences.<sup>12</sup> Thus, the frequency and intensity of an event influence a person's assessment of the probability of that event happening again.<sup>13</sup>

Probability neglect occurs when people focus on worst-case scenarios without contemplating the chances that those scenarios will occur. For Sunstein, probability neglect explains why the precautionary principle seems to give clear policy guidance. Without considering the probability of a risk occurring, the precautionary principle will lean towards prohibiting risky activity. Notably, the availability heuristic can lead to probability neglect. Regulators tend to overestimate the likelihood of a recent disaster reoccurring.

Theories of loss aversion assert that "loss from the status quo is seen as more undesirable than a gain is seen as desirable."<sup>14</sup> As a result

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<sup>10</sup> *Ibid.* at 20.

<sup>11</sup> *Ibid.* at 35.

<sup>12</sup> *Ibid.* at 37.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.* at 41.

of loss aversion, people tend to be more aware of the potential negative results of a decision rather than any foregone benefits.<sup>15</sup> According to a related cognitive concept, people tend to prefer familiar risks over unfamiliar ones.<sup>16</sup>

The belief in the benevolence of nature is a belief that nature is essentially benevolent and that human action carries risks.<sup>17</sup> System neglect asserts that people tend to “fixate on isolated problems and do not see the complex, system-wide effects of particular interventions.”<sup>18</sup> All of these concepts help to make the precautionary principle operational. By explaining why people fear certain risks more than others, Sunstein helps demonstrate why regulators invoke the precautionary principle for some risks and not others.

Sunstein focuses his discussion on probability neglect, showing that emotions can affect risk assessment. In a study he conducted to measure the roles of probability and emotion in risk assessment, Sunstein surveyed eighty-three University of Chicago law students about their willingness to pay to prevent the risk of cancer caused by arsenic in drinking water. He divided the participants into four groups and asked the first two groups how much they would be willing to pay to prevent a cancer risk of 1 out of 1,000,000 and 1 out of 100,000 respectively. He posed the same scenarios to the third and fourth groups, but described the symptoms as “very gruesome and intensely painful, as the cancer eats away at the internal organs of the body.”<sup>19</sup> In both cases, when Sunstein posed the question using emotional language, the participants’ willingness to pay increased by more than 20 per cent.<sup>20</sup> Sunstein concludes, in part, that his experiment is evidence that emotions can lead to probability neglect. However, the participants’ willingness to pay in groups three and four may have been influenced by their desire to avoid painful deaths. Additionally, the participants, as law students, do not represent the general population, nor are there enough of them to make Sunstein’s findings statistically significant. A better experiment

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<sup>15</sup> *Ibid.* at 42.

<sup>16</sup> *Ibid.* at 43.

<sup>17</sup> *Ibid.* at 44.

<sup>18</sup> *Ibid.* at 46.

<sup>19</sup> *Ibid.* at 77.

<sup>20</sup> *Ibid.*

could have been designed and executed. Nevertheless, Sunstein provides other convincing evidence that fear can lead to probability neglect.

Concern or fear of a harm can perpetuate itself through a group of people. Someone not concerned about global warming, for example, will probably become more worried about the problem if multiple sources express concern, especially if the concern focuses on worst-case scenarios.<sup>21</sup> The media can perpetuate this problem by covering stories of risk based on economic self-interest rather than the likelihood that an event will occur.<sup>22</sup> Although it is not unreasonable for individuals to take precautions based on fear or heuristics, governments should have a better foundation for their policy decisions.

### III. SOLUTIONS TO COGNITIVE BIAS

Cost-benefit analysis is often offered as an alternative to the precautionary principle. By comparing costs and benefits based on a common measure, usually money, regulators who use cost-benefit analysis attempt to make policy decisions that maximize efficiency. Cost-benefit analysis has its limitations. On the benefits side, eliminating the risk of a great harm that has a low probability of occurring is roughly equivalent to eliminating a moderate harm with a moderate probability of occurring. There is little room in a cost-benefit analysis for regulators to distinguish between these two types of risks. On the cost side, regulators should not consider the severity of the costs or the distribution of those costs among the population, so long as regulatory decisions maximize efficiency. Sunstein attempts to reconcile the differences between cost-benefit analysis and the precautionary principle by introducing "cognitive cost-benefit analysis."<sup>23</sup> Unlike traditional cost-benefit analysis, cognitive cost-benefit analysis does not depend upon economic efficiency; rather, it uses the accounting methods of cost-benefit analysis to avoid cognitive biases by "showing what is at stake" in regulatory decisions.<sup>24</sup>

There are problems, however, with trying to incorporate cognitive cost-benefit analysis into the precautionary principle. By

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<sup>21</sup> *Ibid.* at 94.

<sup>22</sup> *Ibid.* at 102-03.

<sup>23</sup> *Ibid.* at 129.

<sup>24</sup> *Ibid.* at 130.

assigning monetary values to risks, regulators convey a false sense of certainty about risks, which are inherently difficult to quantify. The assumption that harms can be compared allows cost-benefit analysis to give clear policy direction. If this assumption is wrong, or if regulators do not compare all relevant factors among different policy choices, then the guidance that cost-benefit analysis offers will not be reliable. Even though Sunstein suggests a limited use of cost-benefit analysis, it seems difficult to justify favouring a precautionary approach over a cost-benefit approach, even if regulators only use a limited cognitive cost-benefit analysis. If the precautionary principle pointed towards regulation, and cost-benefit analysis suggested that regulation would not be efficient, would it not follow that the precautionary principle suffered from probability neglect and thus should be avoided? In other words, because of its purported certainty, a cost-benefit analysis, even if used in Sunstein's limited cognitive sense, threatens to replace, not refine, the precautionary principle.

In itself, cognitive cost-benefit analysis does not help determine when regulators should use the precautionary principle. Sunstein introduces factors to assess when the precautionary principle should be used:

1. the level of uncertainty that triggers a regulatory response;
2. the magnitude of anticipated harm that justifies such a response;
3. the tools that will be chosen when the principle applies (tools such as disclosure requirements, technological requirements, or prohibitions); and
4. the margin of safety that applies in the face of doubt.<sup>25</sup>

The first factor establishes the probability of a risk. The second factor establishes how much harm that risk poses. The third factor gives regulators a choice of appropriate responses to risk. This factor rejects prohibition as the only regulatory response for taking precaution. The last factor, the margin of safety, applies when there is doubt about the probability of a risk. As Sunstein notes, "If the magnitude of the harm is high, then regulators need not require as much evidence that it is

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<sup>25</sup> *Ibid.* at 119-20.

probable.”<sup>26</sup> In emergency situations, regulators should act with less evidence than they normally would require.

These factors, however, do not fit easily into a cognitive cost-benefit analysis. Regulators could use these factors to adopt a balance of harms test, but Sunstein does not mention this alternative.

In a balance of harms approach, the last factor allows regulators initially to assess what level of evidence they will need to act. The first two factors weigh the risk of harm of not regulating with the various risks based on different regulatory responses. The third factor confirms that prohibition is not the only way that regulators can respond. The concept of harm more easily encompasses notions of unjust distribution of harms and irreversible loss than does cost-benefit analysis. Additionally, a balance of harms test does not purport to give clear guidance, nor does it relieve regulators from the responsibility of making decisions. As such, it is a better safeguard on the application of the precautionary principle than cognitive cost-benefit analysis.

Although the precautionary principle cannot give clear guidance for many policy issues without addressing underlying cognitive biases or applying some other measure, such as cognitive cost-benefit analysis, Sunstein suggests that a limited version of the precautionary principle—an anti-catastrophe principle—can give guidance in limited situations.<sup>27</sup> The anti-catastrophe principle calls for regulators to take precautions against irreparable, catastrophic harms if the risk of those harms meets a minimum probability threshold and the cost of regulating is not too great.<sup>28</sup> Although the anti-catastrophe principle is merely an application of the four factors, listed above, in special circumstances, it shows that regulators need not rely on cognitive bias to gain guidance from the precautionary principle if they apply the precautionary principle in limited circumstances.

#### IV. DISCUSSIONS OF LAW AND PSYCHOLOGY OUTSIDE OF THE PRECAUTIONARY PRINCIPLE

Sunstein’s discussion of fear, law, and psychology goes beyond the precautionary principle. He discusses how law and psychology can

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<sup>26</sup> *Ibid.* at 117.

<sup>27</sup> *Ibid.* at 114.

<sup>28</sup> *Ibid.* at 114-17.

influence the methods regulators use. In the chapter called "Libertarian Paternalism," Sunstein demonstrates how two opposing ideas of regulation can be reconciled. Generally, libertarians embrace freedom of choice, whereas paternalists believe that a state body should ensure that citizens reach the most beneficial ends. Although it is accepted that governments can act paternalistically on some issues and take a libertarian view on others, Sunstein shows that there is a continuum of policy decisions.<sup>29</sup> For example, many employers have optional retirement savings plans, whereby employees can choose to have a portion of their salaries put into retirement savings accounts. A common problem, however, is that not enough workers use these plans to save for their retirements. In an effort to solve the problem, some employers created retirement savings plans such that workers were automatically enrolled in the plan but could opt out at any time. As a result of changing the default position, there was a significant increase in employee retirement savings.<sup>30</sup> The opt-out satisfied the libertarian goal of personal choice while allowing employers to address the larger problems of decreasing rates of retirement savings.<sup>31</sup> Hence, changing the default position can give regulators more tools with which to approach problems.

Sunstein also discusses whether certain government measures should be prohibited based on second-order balancing. A first-order balancing test weighs risk of harm to parties to determine when regulators or the judiciary should act. The judiciary can stop a mining company from drilling, for example, if drilling would affect another party's property. Second-order balancing, in contrast, weighs the likelihood of misuses of a policy instrument against its possible uses. Sunstein summarizes an argument against torture based on second-order balancing:

It might be concluded not that torture is never justified in principle, but that unless torture is entirely outlawed, government will engage in torture in cases in which it is not justified, that the benefits of torture are rarely significant, and that the permission to torture will lead, on balance, to more harm than good. I am not sure that this view is

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<sup>29</sup> *Ibid.* at 177.

<sup>30</sup> *Ibid.* at 175-76.

<sup>31</sup> *Ibid.* at 177.

right, but it is entirely plausible. And if it is, we might adopt a barrier to torture, even when public fear is both extreme and entirely justified.<sup>32</sup>

Despite being unconvinced by the second-order balancing argument against torture, Sunstein questions whether second-order balancing arguments could be the basis for the defence of other rights.<sup>33</sup> However, Sunstein does not explain why he does not find the second-order balancing argument against torture convincing. If the second-order balancing argument is unconvincing because it does not weigh heavily enough in favour of the prohibition of torture, then second-order balancing arguments are unlikely to be useful for the defence of any right. It is hard to imagine a second-order balancing argument more in favour of rights over excessive government action, and thus more convincing, than the one for the prohibition of torture. Alternatively, Sunstein may not be convinced by the argument because there is not enough evidence for the claims that torture will be misused and that it rarely yields beneficial results. Sunstein, however, offers no test to determine the level of evidence necessary to justify upholding rights based on a second-order balancing test. If second-order balancing can be applied at all, it should be applied to situations where governments are likely to overreact based on emotions of fear or revenge. The issue of torture can present such a situation. This is an area where psychology could be further applied to regulatory analysis to expand the scope and refine the application of second-order balancing arguments.

## V. CONCLUSION

Sunstein uses cognitive concepts to show that the precautionary principle in its strongest form is unworkable. Throughout the book, Sunstein advocates a much weaker form of the precautionary principle. He suggests incorporating cost-benefit analysis into the precautionary principle, having a minimum threshold for invoking the anti-catastrophe principle, and not using the precautionary principle when it is based on emotions. All of these suggestions would limit the number of scenarios in which the precautionary principle should be invoked.

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<sup>32</sup> *Ibid.* at 218.

<sup>33</sup> *Ibid.*

Notably, Sunstein does not reject the precautionary principle. In its weakest form, the precautionary principle posits that lack of decisive evidence is not a reason to refuse to regulate. Indeed, the anti-catastrophe principle calls for regulation with less than decisive evidence. Thus, Sunstein's anti-catastrophe principle gives policy guidance for some scenarios.

Sunstein's most significant contribution to the precautionary principle is his application of cognitive concepts. By showing the cognitive biases that underlie the precautionary principle, and by suggesting ways to avoid those biases, Sunstein's work helps create a better understanding of the limits of the precautionary principle. By narrowing its application, Sunstein helps the precautionary principle become more relevant for regulators.