begging the question: if there is such uncertainty, is legal certainty needed? Perhaps the answer is that competition law works – but the conceptual confusion underlying it adds to the costs of enforcement and hampers the achievement of the policy objectives underlying it. Hence the need for the sort of meditations on the worlds of law and economics found in this book.

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doi:10.1017/S0266267107001599

Laws of Fear: Beyond the Precautionary Principle, edited by Cass R. Sunstein. Cambridge University Press, 2005, xii+234 pages

The main objective of Cass Sunstein's book, *Laws of Fear*, is to attack the strong version of the Precautionary Principle as a justification for regulatory action. Specifically, he presents a critique of the concept that regulators should take steps to protect fully against all potential harms. Sunstein argues that this concept is literally incoherent, because regulation in itself introduces its own risks, and therefore the strong version of the Precautionary Principle is paralysing, since it forbids the very steps that it requires.

Sunstein divides his book into sections on problems with and solutions to the strong Precautionary Principle. In summarizing the main arguments in the book, this review follows an identical structure.

1. PROBLEMS

Sunstein states that the weak version of the Precautionary Principle – that a lack of decisive evidence of harm should not offer grounds for refusing to regulate – is a principle to which no reasonable person could object. For example, we may quite legitimately place controls on exposure to low level carcinogens, even if their effect on human health has not been proven. However, he argues that in practice, a stronger version of the principle is often adopted. For instance, he cites cases in European courts that have ruled that activities that potentially harm health or the environment ought to be prevented when there is scientific uncertainty as to the nature of the damage or the likelihood of the risk, *until scientific evidence shows that the damage will not occur*. Since regulation imposes its own risks, we face the contradictory inevitability that some form of "damage" will *always* occur. European courts, according to Sunstein, have yet to resolve the question of whether the Precautionary Principle must be applied in a way that is alert to the fact that the regulation of one risk leads to other risks.

Sunstein goes on to argue that if we were to take potentially costly steps to address *all* risks irrespective of how likely they are, we would soon be impoverished. But do people even recognize the existence of some risks? Sunstein states that people may be more tolerant of "naturally-occurring" risks than they are of "man-made" risks; for example, many people may readily favour a ban on DDT due to its potential harmful effects and accept that this removes an effective source of combating malaria in poor countries. Consequently, the risks generated by regulatory measures may be widely overlooked, a form of myopia that has given the Precautionary Principle undue merit.

However, many man-made risks *are* widely tolerated, including those associated with aeroplane travel, medical interventions, and radio, possibly because most of us have benefited from these technologies, which has lent particular salience to their merits. Had the strong Precautionary Principle been followed these technologies would never have been sanctioned, given that they all entail some form of risk. Sunstein notes that costly precautions are generally taken against only those hazards that appear to be especially salient (which is why the focus of regulatory attention may differ across countries); similarly, man-made risks may be overlooked when the benefits of the associated technologies are particularly salient and widely felt.

The tendency for some risks to be particularly salient is tied in with the "availability heuristic", whereby the risks that people deem as relevant are, for one reason or another, foremost in their consciousness, while other risks are barely visible. Moreover, the effects of the availability heuristic can lead to a vicious circle of "substandard" judgment, in that availability can help to determine beliefs, and beliefs help determine availability in that people seek information that confirms their preconceptions. This vicious circle may lead to particular beliefs gaining pre-eminence throughout the population as a whole, a "cascade effect". Media coverage of issues escalates the problem, with sensational reporting used as a mechanism of economic self-interest, designed to increase ratings and circulation figures. In these circumstances, pressures from the electorate may almost compel policy makers to regulate against the "relevant" risks, offering an explanation for – if not a justification of – the guiding power of the strong Precautionary Principle.

Sunstein offers further explanations for why the Precautionary Principle is, to some extent, "underwritten". For instance, people tend to neglect probabilities and demonstrate excessive concern for *improbable* worst-case scenarios, particularly when the worst-case scenario is easy to "visualize" (*cf.* the availability heuristic) and/or is "affect-rich", producing strong emotions such as fear; people may often believe in the "benevolence", or at least an "acceptance", of nature (*cf.* the DDT example, given above); people have a psychological tendency to demonstrate a

strong aversion to losses from the status quo, leading them to "exaggerate" the potential losses of action, and "downplay" the potential gains (again, *cf.* the DDT example); and people are prone to "system neglect", also termed "tradeoff-neglect", which is a failure to recognize that an action aimed to address a specific issue can impact on other parts of "the whole". In sum, in democratic countries, where governments have a responsibility to respond to the wishes of the electorate, the above factors can cause a failure to account for the full costs and benefits of regulation, which can lead to error-driven policy action that responds to "excessive" fear. Occasionally, namely when most people are not at risk of suffering from unjustified burdens, Sunstein states that a phenomenon such as probability neglect can lead to violations of civil liberties for some specified subgroups of a society, such as the interred Japanese Americans in the Second World War (and, as a more recent possible example, the prisoners in Guantanamo Bay).

In some circumstances, namely where the risks of a bad outcome cannot be accurately assessed but where the bad outcome is potentially devastating, Sunstein argues that it makes sense to adopt a form of Precautionary Principle that he terms the Anti-Catastrophe Principle. But he emphasizes that even here one has to be aware that steps taken to reduce the possibility of one catastrophe may in themselves increase the risk of catastrophe elsewhere; for example, those risks associated with the war in Iraq, or the negative impact of policies to slow global warming on standards of living in developing countries. Therefore, although, according to Sunstein, "rational" nations should take precautions against some risks, the potential "costs" of action should not in any circumstances be overlooked.

In the second part of his book, Sunstein offers some possible alternatives to the Precautionary Principle. It is to those that we now turn.

2. SOLUTIONS

In considering regulatory action, Sunstein believes the tasks are to identify all of the relevant risks, to specify the appropriate "tools" (e.g., disclosure requirements, technological requirements, or prohibitions), and to impose margins of safety vis-à-vis the "target" risks and the risk consequent on reducing it. As such, he states that it might not be helpful for policy-makers to present people with a wide range of information that includes both reassuring and less assuring accounts, as the latter run the risk of generating excessive fear. I am personally not quite sure how policy-makers can prevent such information from being disseminated, other than through draconian measures (e.g., placing heavy restrictions on press freedoms) that entail their own obvious risks, and I am also less than convinced that policy-makers are especially adept at determining what the

"appropriate" information is. To be fair, Sunstein recognizes these possible problems, and his somewhat more subtle recommendation that specialists be used to attempt to better educate and inform the public of the objective probabilities of target risks and the corresponding risks of regulation, is well taken. In his own words, this may help democratic governments to "respond to people's values, not to their blunders" (p. 126).

Occupying a more central place in Sunstein's suggested "solutions" is the recommendation to use cost–benefit analysis (CBA) rather than the Precautionary Principle, mainly because CBA encompasses a wider perspective through the formal assessment of the costs as well as the benefits of regulation. Sunstein discusses in some depth the use of the monetary value of a statistical life (VSL) used in CBAs, highlighting that such valuations are often "risk-specific". That is to say that people view some types of risk as worse than others; for example, involuntarily incurred risks are often perceived as worse than those that are voluntarily incurred. Sunstein argues that differential VSLs may often be justifiable, but that more work is required to uncover the reasons for, and appropriate sizes of, these differentials, because random, arbitrary variations, caused perhaps by a combination of fear, neglect, and people's susceptibility to powerful interest groups when inferring their willingness to pay (WTP) for a particular regulation or product (e.g., their WTP for a smoking cessation policy), are not justifiable.

VSL is usually inferred from people's WTP for reductions in particular risks; Sunstein highlights a number of problems with the WTP methodology. For instance, it is possible that people often adapt to things that are bad for them, including bad health risks, and would not therefore be willing to pay anything for some products or policies that would improve their lives, a form of "happy slave" scenario. Furthermore, in making WTP judgments, people may be hindered by inadequate information and bounded rationality. Here also the availability heuristic may play a role in leading people to underestimate or overestimate particular risks, or they may distort low probabilities, or may simply be unable to grasp the meaning and implications of extremely low risks, seeing little difference between, say, a 1 in 50,000 and a 1 in 500,000 chance of death. Another objection to WTP noted by Sunstein is the view that people have a right not to be subjected to risks above a certain magnitude, irrespective of their WTP to avoid that risk. Sunstein retorts that rights are resource dependent and therefore protection against harms is dependent upon the size of a society's resources, but does concede that the intentional or reckless infliction of harm ought to be in all cases forbidden. Finally, Sunstein acknowledges that WTP may not be very useful when small "individual" risks translate into catastrophic "population" risks, but despite all these possible objections to using WTP, Sunstein's enthusiasm for CBA betrays a curious overconfidence in the WTP methodology when

he states that "In many cases ... WTP is not a result of inadequate information and bounded rationality is not leading people to err" (p. 156). I also support the CBA approach for the reasons offered by Sunstein; namely that CBA gives a firm account of all that is at stake in a regulatory decision in a way that potentially responds to excessive and insufficient fears, and that translating the effects of regulation into monetary terms may discipline the analysis and promote coherence. But one cannot deny that significant improvements in its underlying methods are warranted in order to render it a genuinely useful policy tool and to quell somewhat the attacks of its opponents (Cookson 2003), and that therefore, as implied by Sunstein himself (p. 174), at the very most, CBA can only be used as a loose guide to decision making.

Sunstein's second main alternative to the strong Precautionary Principle comes under the banner of "libertarian paternalism", which proposes that although democratic governments should listen to what people have to say, laws and policies ought to reduce rather than replicate the errors to which people are prone. Thus, policy makers ought to attempt to influence people's preferences through their knowledge of heuristics such as default rules (i.e., the propensity for individuals to be heavily influenced by an "established" rule that has never been subjected to serious reflection – for example, the propensity to donate organs differs greatly across countries depending on whether "opt-in" or "opt-out" rules are chosen), anchoring and framing effects, because it is now widely known that people often lack clear, stable and well-ordered preferences. Under libertarian paternalism it is still crucial to protect people's ultimate right to choose, but choices are presented in such a way as to attempt to limit their inherent biases and bounded rationality.

Libertarians may object to the paternalistic aspect of Sunstein's proposal, but he contends that some degree of paternalism – merely in deciding on the options and how they are to be presented to people – is unavoidable, and thus it is sensible to present them in such a way as to limit people's biases. In some cases, Sunstein's view carries weight. For example, in recent years the publicly financed healthcare service sector for elderly Americans (Medicare) has introduced pharmaceutical coverage within its benefit package, but has provided a bewildering array of healthcare plans (with differing copayments etc.) for people to choose from, rendering it almost impossible for anyone to choose (other than by luck) what is "best" for them. Such complicated and extensive "choices" often lead to an inability to choose well, and indeed may lead to a failure of the completeness axiom (i.e., the assumption that people can express a meaningful preference between "goods"), a basic requirement in the economics discipline. Sunstein argues that those who advocate greater choice often do so on the grounds that it is good for both freedom and welfare, but he argues, correctly it seems, that the act of imposing choice is

in itself paternalistic, and may indeed be damaging to the people that it is meant to benefit. Policy makers who are currently attempting to introduce greater personal choice in the welfare states of many European countries ought to take note.

In other cases, I am less convinced about the "workability" of libertarian paternalism. For instance, Sunstein suggests that some patients will be excessively influenced by hearing that of 10,000 people who have undergone a particular operation, one or two have serious complications (p. 180), with the implication presumably being that the medical doctor should "conceal" to some extent the complication rate. But how do we determine "excessive" influence in this context? What are the legal ramifications for doctors who act to conceal this information, particularly with respect to patients who suffer from the complications? And might such concealment serve to erode *trust* between the patient and the doctor, problematic because trust is the bedrock of the patient–doctor encounter?

Another gripe that I have with Sunstein's presentation of libertarian paternalism is that he seems to somewhat underplay the possible importance to people of "freedom" or "autonomy" as an end in itself, preferring instead to limit the "reach" of freedom to its implications for outcomes/welfare (NB. In many contexts, I view "choice" as distinct from "freedom", because one could maintain that people ought to be free not to choose). Sunstein is of course entitled to his view, but a greater discussion of "freedom as an end" in his book would, I feel, have brought more balance to his case, particularly since it is possible to interpret many branches of political philosophy as at least partial attempts to preserve or create freedoms, and because it is very probable that most people value their freedom, irrespective of whether it does them any "good".

3. CONCLUDING COMMENT

On the whole, however, my gripes are relatively minor. In his book, Sunstein presents a powerful critique of using the strong Precautionary Principle as the basis for regulatory action, and presents some interesting potential alternatives that may, in time, help policy makers reach decisions that genuinely improve people's lives.

Sunstein is surely right in suggesting that policy makers (and, perhaps even more importantly, scholars) ought to question *everything*, including the possible negative effects of policies to which they are ideologically attached. For instance, policies to protect against global warming and international terrorism, which probably attract politicians from opposite ends of the ideological spectrum, both have significant potential negative repercussions, and policy makers should not be fearful of including these potential repercussions in their policy assessments. Nor should they adopt a myopic approach to arguments that challenge their ideological positions,

which runs the risk of replicating the phenomenon of what Sunstein terms "group polarisation" in populations, whereby opposing ideological groupings refuse to give ground, thus generating more "heat" than "light".

One final lesson from Sunstein's book struck me, in that in writing this review I have of course focused upon the arguments presented by Sunstein himself, and thus there is a danger that I have overlooked the thoughts and views of others. Am I not therefore suffering from the very phenomenon that Sunstein warns against? The reader perhaps ought to be fearful that I am.

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doi:10.1017/S0266267107001605

The Methodology of Experimental Economics, by Francesco Guala. Cambridge University Press, 2005, xi+286 pages

This is a book that sorely needed to be written, and the experimental economics community should be grateful that Guala was the one to do it. In recent times the debates over methodology and the "scientific status" of experimental economics has become so integral to understanding the actual results of experiments, that many conversations which begin about the causes of, say, preference reversal, will end up being about the philosophy of science. Unfortunately, most scholars who know about the former will know little about the latter, which means that question and answer sessions at presentations of results can often be object lessons in how to talk at cross-purposes. I am happy to say that Guala is an exception to this general finding, and his book should be widely read to help improve the quality of such discussions. Debates between behavioural economists/constructed preference theorists and more neoclassical experimental economists/discovered preference theorists have become both more heated and more public, as the Nobel Prize being awarded to Daniel Kahneman and Vernon Smith brought such questions to a more mainstream audience (I will use the discovered-constructed preference terminology to refer to the two "sides"). The discovered preference theorists accuse the constructed preference theorists