Precaution, Proportionality, and Cost/Benefit Analysis: False Analogies

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The Politics of Precaution by David Vogel, and the edited volume, The Reality of Precaution each compare the United States with Europe over a range of regulatory areas. Vogel claims that the US and Europe changed places in recent years with Europe becoming more precautionary than the US. The edited volume covers a wider range of topics and finds that the results are mixed. The evidence of diversity in the edited volume appears convincing, but this essay argues that both volumes too narrowly focus on the precautionary principle. Rather it argues for a broader context that confronts precaution both with the proportionality principle, which is a mainstay of European Union law, and with the limitations of cost/benefit analysis and Impact Assessment. It unpacks the normative underpinnings of these concepts to suggest a broader frame for policy analysis.

I. Introduction

The two books under review confront the question of whether the United States or Europe is more or less "precautionary" in its regulation of risks. David Vogel in *The Politics of Precaution: Regulating Health, Safety, and Environmental Risks in Europe and the United States* (Princeton: Princeton University Press, 2012) defends the proposition that for one class of risks, the US and Europe switched places in the 1990's with the US moving from more to less precautionary relative to Europe. He argues that in the US Republican domination of the Congress and more systematic and better informed analyses of the nature of risks moved policy in a less precautionary direction. In Europe a series of regulatory failures contributed to heightened public distrust of EU policymaking and demands for more stringent regulation. In contrast, in the more wide-ranging edited volume, *The Reality of Precaution: Comparing Risk Regulation in the United States and Europe* (Washington DC: RFF Press 2011). Jonathan B. Wiener, Michael D. Rogers, James K. Hammitt, and Peter H. Sand collect research that documents the wide variation is relative precaution, both over time and over issues. Vogel himself acknowledges that his framework may not apply outside of the risks he studies, and even for those risks it is not a perfect fit. Even if Vogel's analysis is sound for the cases that he considers, *The Reality of Precaution,* with its wealth of cases and its statistical analyses, does a convincing job of undermining his thesis as a general characterization of US and EU differences. In short, it seems clear that even if Europe has shifted to provide more protective regulations than the United States in some areas, this is not a universal phenomenon, but is a function of particular features of each case on each side of the Atlantic.

Yet, taking that diversity as given, one is left wondering what the controversy is all about. Why does it matter which polity is "more" precautionary? Indeed, what is the precautionary principle and is it defined precisely enough to permit cross-national comparisons? As the authors all recognize, the precautionary principle has multiple definitions. However, even if one can agree on a definition, if one country or region is "more precautionary" than another is that a sign of good, progressive regulation or of popular fear run amok? The case studies in these volumes demonstrate that "it depends" both on the substantive regulation and on one's normative policy standard. My aim in this essay is to unpack the concept of precaution, which is central to both volumes, in order to connect it both with debates over the role of

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the proportionality principle in the European Union and with the value of cost/benefit analysis (CBA) as a policymaking tool.

II. The precautionary principle and risk

The precautionary principle originated in Europe as a "principle" although obviously the concept of risk regulation is familiar to all polities, including the US. It has been given a multifold set of interpretations.[1] In its strong forms taking precautions against uncertain future harms is similar to a strong doctrine of rights protection in that limiting risks must take priority over other considerations, such as the costs or even the size of the potential benefit. Assuming that costs are known with certainty and benefits are uncertain, it counsels the government to act with an extreme level of risk aversion for health, safety, and environmental risks.[2] Ranking polities overall as more or less precautionary in this strong sense will often not be possible because reducing one risk may in turn increase other risks. There are risk-risk tradeoffs.[3] However, a weaker form espoused by some commentators seems quite close both to cost/benefit analysis and the other fundamental principle of EU law – proportionality.

Under the EU Treaty, the precautionary principle is explicitly applicable only to environmental policies [Article 174 (2)], but the EU courts have given it a broader application. The European Commission gives the principle a moderate interpretation: Regulatory actions may be warranted in spite a lack of complete certainty about the results because of the harm that could result from not taking action. The harms could be serious and irreversible if no action is taken, and ongoing research can serve to correct defects in the current policy over time. That interpretation seems congruent with conventional cost/benefit analysis which also does not demand certainty as a precondition to action.[4] It fits with the way the cost/benefit test is applied by the US Office of Information and Regulatory Affairs in White House, which reviews major regulations to see if they pass that test. However, EU law and policymaking have not settled on a clear unified definition.[5]

Before proceeding, it is important to ask what is meant by "risk" in discussions of precautionary policies. Are the harms uncertain in and of themselves, or does one worry that real harms may be ignored by policymakers? The risks that are the subject of analysis in these books include: food safety, air pollution, hazardous substances, consumer product risks, medical errors, terrorism, among others. Most of these are problems that could never realistically be reduced to zero. Most are risks that are not one hundred per cent certain to cause harm to any particular person although they are certain to harm a statistical number of people. For example, one can be sure that tobacco will cause the premature death of many people, but no individual smoker is certain to die early. Thus, in one sense cigarette smoking and many other hazards are not risky at all at the level of society. Rather, they are certain to cause harm to some. Uncertainly exists only with respect to the exact number and identity of the victims. Most of the risks examined in these books are of this type, as opposed to minute but catastrophic risks, such as an asteroid hitting the earth – an event that most likely will never happen but that would be a disaster if it did.[6]

III. Proportionality and the Cost/Benefit Test

In the EU the precautionary principle co-exists with the proportionality principle. Oddly, neither the edited volume nor the Vogel book squarely confronts the possible tensions between these fundamental principles. The chapter on legal and administrative systems in the Weiner et al. book mentions proportionality but states that "it has no well-defined substantive content, imposes no concrete decision criteria on the legislative branch, and is applied sparingly by the courts

1 See Jonathan B. Wiener, "The Rhetoric of Precaution," in Wiener et al., eds., pp. 3 *et sqq*.

2 See G. Majone's critique of the use of the principle in EU law and practice. Giandomenico Majone, "Political Institutions and the Principle of Precaution", in Wiener et al., eds. *The Reality of Precaution*, pp. 411 *et sqq*.

3 Cass Sunstein, "Precaution against What? Perceptions, Heuristics, and Culture," in Wiener et al., eds., pp. 492 *et sqq*.

4 See Paul Craig, *EU Administrative Law* (Oxford: Oxford University Press, 2007), chapter 19 for an overview. See also, Joanne Scott, "European Regulation of GMOs and the WTO," 9 *Columbia J. of European Law* (2003) 213 *et sqq*.

5 Lucas Bergkamp and Turner T. Smith, Jr., "Legal and Administrative Systems: Implications for Precautionary Regulation," in Wiener et al, eds. At 434.

6 The Wiener et al. volume deals with both types. For example, there are chapters on tobacco, food safety, medical care, on the one hand, and nuclear power, and terrorism and weapons of mass destruction, on the other.

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in judicial review."[7] That may be true as a matter of formal law, but it seems to me that the authors have underplayed its importance.

The proportionality principle has its roots in German law, but it takes several forms. It originated as a way of resolving clashes between the protection of individual rights, on the one hand – especially property rights and the right to pursue an occupation – and policies that interfered with these rights, on the other. It acknowledged that rights are not absolute, but it aimed to accomplish policy goals with the least restriction on rights possible; the restrictions had to be in "proportion" to the overall benefits of the policy. This way of framing the principle remains important, but it has been complemented by an interpretation that requires balancing of benefits and costs for all policies, even when rights are not implicated. As applied by the EU courts, the policy must be "necessary" and "suitable", threshold inquiries that give legislators and regulators considerable discretion. Sometimes, however, the principle is expressed in a strong form that seems to approximate the economist's cost/benefit test. When applied by the courts, judges sometimes provide aggressive review that could be equated with that test.[8] Thus, the EU's General Court held that:

> [A] cost/benefit analysis is a particular expression of the principle of proportionality in cases involving risk management. It therefore considers it appropriate to examine the merits of the arguments relating to that analysis together with those concerning breach of the principle of proportionality.[9]

That statement makes all three principles – precaution, proportionality, and cost/benefit analysis – sound like the same thing. Even if the EU courts seldom move to that stage of review, proportionality in this strong sense is part of the policy rhetoric of the Commission. It is also consistent with its ongoing push to carry out Impact Assessments (IAs) for its own draft statutes and normative acts and to encourage Member States to move in that direction. The EU and the Organization for Economic Cooperation and Development (OECD) are working together to encourage Member States to implant IA in their legislative and regulatory processes.[10]

The Commission has seemingly equated the precautionary principle with proportionality and CBA. Its guidelines state that measures applying the precautionary principle should be proportionate and "based on an examination of the potential benefits and costs of action or lack of action (including, where appropriate and feasible, an economic cost/benefit analysis)." It elaborates that the cost/benefit exercise should compare

> the overall cost to the Community of action and lack of action, in both the short and long term. This is not simply an economic cost-benefit analysis: its scope ... includes non-economic considerations, such as the efficacy of possible options and their acceptability to the public.

It goes on to say that "the protection of health takes precedence over economic considerations."[11] Thus, on the one hand, the Commission seems to espouse what any good cost/benefit analyst would support, that is, an effort to include all costs and benefits, not just narrowly "economic" ones. On the other hand, it is unclear what it means for health to take "precedence." This could be a version of the precautionary principle that singles out certain risks – that is, health risks – for special treatment. One supposes, however, that the key here is the impact on health, not the *risk* of an impact on health. If the impact were 100% certain, it seems unlikely that the lack of risk would justify less spending to improve health.

7 Bergkamp and Smith, *supra* note 5, p. 445.

8 See Craig *EU Administrative Law, supra* note 4, chapter 17 for an overview.

9 T-13/99m *Pfizer Animal Health SA v. Council* [2002 ECT II-3305, para. 410.

10 See, OECD, *Better Regulation in Europe: An Assessment of the Regulatory Capacity in15 Member States of the European Union* (Paris: OECD, 2009). This initiative is discussed in Bergkamp and Smith, *supra* note 5, 447–452.

11 Commission of the European Communities, *Communication from the Commission on the Precautionary Principle,* COM (2000) 1, section 6. Later in the document it continues to struggle with role of "economic" cost/benefit analysis. Section 6.3.4 states that: "Examination of the pros and cons cannot be reduced to an economic cost-benefit analysis. It is wider in scope and includes non-economic considerations. However, examination of the pros and cons should include an economic cost-benefit analysis where this is appropriate and possible. Besides, other analysis methods, such as those concerning the efficacy of possible options and their acceptability to the public may also have to be taken into account. A society may be willing to pay a higher cost to protect an interest, such as the environment or health, to which it attaches priority. The Commission affirms, in accordance with the case law of the Court that requirements linked to the protection of public health should undoubtedly be given greater weight than economic considerations."

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IV. Tensions between principles in EU Law and policymaking

In spite of ambiguities in the definition of the precautionary principle and its connection to proportionality, EU policymaking does not appear to be moving toward an interpretation of the precautionary principle that is consistent with cost/benefit norms. Even under the interpretation of the principle that is most similar to the cost/benefit test, such congruence is illusory. The analogies drawn between cost/benefit analysis and the precautionary principle miss fundamental differences between the way the policymaking process is described and practiced in the EU and the normative defense of cost/benefit analysis by applied economists. If "cost/benefit analysis" stands for the tool developed by American and British economists in the post-World War II period, it is a technique that is in fundamental tension with the precautionary principles, at least as articulated by EU institutions. The cost/benefit technique is not designed to be just one among many tools brought to bear in policy debates. Rather, it is a comprehensive attempt to incorporate all the relevant factors into a unified framework to produce a policy recommendation. One way to see this is to consider the controversies surrounding some of the actions of the US Office of Information and Regulatory Affairs under the direction of Cass Sunstein in the Obama Administration. The regulations that prompted the most pushback from civil society groups were ones where a strict cost/benefit analysis, as performed by OIRA, clashed with more risk averse and precautionary recommendations from federal agencies and outside groups.

EU policymaking and its accompanying jurisprudence distinguish sharply between fact-finding, on the one hand, and politics or policymaking, on the other. Experts find facts and then politically responsible entities use these facts to generate a specific policy that makes tradeoffs based on proportionality and/or precaution. The problem with this duality, as these books and case studies show, is that, in practice, experts do not just report results. They also make recommendations. The recommendations from non-economists may conflict with the cost/benefit model under which analysts seek to maximize net benefits to produce policy recommendations. Facts, in the sense of raw information, are transmitted to the cost/benefit analysts from engineers, biologists, meteorologists, epidemiologists, etc., as well as from economic studies. These data, however, contain no information about the proper policy, or if they do, the economic analysts ignore it. Thus, a group that assesses the risk of a carcinogen, for example, may present a dose-response curve, that has a "knee", that is, a point beyond which small increases in exposure lead to large marginal increases in the incidence of cancer. The entire curve and its accompanying margins of error become an input into the cost/benefit analysis. There is no ex ante presumption in favor of picking any particular point on the curve. The optimal policy will depend on the costs relative to the benefits. The economists operate both as experts and as policymakers. They aggregate the costs and the benefits of a particular policy and recommend the policy that maximizes net benefits. In doing so they must decide how to evaluate uncertain events in ways that take account of how likely they are to occur at any particular point in time.

The real limitations of cost/benefit analysis as a proxy for precaution lie elsewhere. CBA is not just an effort to measure and think about the benefits and harms of a policy. It represents a particular normative commitment, derived from utilitarianism, that puts all costs and benefits on a common scale – usually money, given the lack of a cardinal utility scale. It discounts benefits and costs to the present, adds them up, and picks the level of the policy with highest next benefit. The technique represents a normative commitment to measuring benefits and costs in terms of individual preferences and to comparing across people in terms of their willingness to pay or to accept compensation, measured in monetary terms. It is not a neutral, purely technocratic exercise.[12] The technique is in fundamental tension with the European Commission's description of CBA as "an aid to decisionmaking, not a substitute for political judgment."[13] CBA is *meant* to be a commitment to selecting the option that maximizes net benefits so as to avoid succumbing to partisan political judgments.

12 Susan Rose-Ackerman, "Putting Cost-Benefit Analysis in Its Place: Reinventing Regulatory Review," 65 *University of Miami Law Review* (2011), 335 *et sqq*. A related article in French is "Études d'impact et analyse coûts-avantages: qu'impliquent-elles pour l'élaboration des politiques publiques et les réformes législatives", 4(140) *Revue française d'administration publique* (2011), pp. 787–806.

13 Bergkamp and Smith, *supra* note 5, quoting the Commission document at 448.

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Furthermore, even if one accepts the underlying premises of cost/benefit analysis, controversy arises over how to discount future benefits and harms, how to account for uncertainty, and how to measure variables – such as, human life and morbidity or the preservation of nature and wildlife – with no obvious market price. Such vexed issues are central to any discussion of whether a policy is more or less "precautionary". These debates are central to the comparisons in the books under review. Cost/benefit analysis draws both on concepts that are at the bedrock of modern economics as a technical discipline and on judgments that cannot be resolved through better techniques developed by clever economists. Rather, these judgments raise fundamental normative questions that cannot be settled by experts. They must be resolved by policymakers taking into account political realities as well as normative concerns.

Hence, cost/benefit analysis cannot objectively resolve difficult issues behind the use of the proportionality and precautionary principles and cannot mediate conflicts between them. First of all, it is based on a normative commitment to applied utilitarianism, and second, even given that normative perspective, it requires one to make judgments that cannot be based solely on technical economic reasoning. Consider two examples.

First, the precautionary principle implies that policymakers ought to be risk averse in setting health and safety policy. Cost/benefit analysis incorporates attitudes toward risk when it evaluates uncertain outcomes, and it is standard practice to assume that the state ought to be risk neutral when it makes policy except where irreversibilities are present. Overall, however, economics does not provide a scientifically valid way to determine the "proper" degree of risk aversion to use in applying the precautionary principle. It remains a normative choice.

Second, the concept of proportionality is bound up with considerations of who bears the costs of a program with broad social benefits. Yet, cost/benefit analysis treats the benefit and costs that accrue to different people as interchangeable. It does not matter who experiences them. One might build distributive weights into the analysis, but that begs the question of how to determine such weights. Maximizing net benefits is a value choice embedded in cost/benefit analysis that may clash with measures of policy impact that emphasize individual rights or give weight to the distribution of benefits across individuals and groups.

The EU courts have held that political decision makers need not accept the recommendations of experts, but if they do not, they must explain why and give reasons that are at least as scientifically sophisticated as those provided by the expert body.[14] These holdings highlight the way economic expertise and policymaking overlap and are potentially in tension. Suppose that the experts are economists who carry out a cost/benefit analysis that produces a recommendation. The study is competently done, and the experts explain how they selected an interest rate and a measure of risk aversion, and how they monetized non-market quantities. How ought the ultimate policymakers to respond? Is their only recourse to call in competing economic experts to challenge the study's reliability, as is suggested by the case law of the European courts? To accept that conclusion, however, fundamentally misunderstands the nature of cost/benefit analysis. It is not solely an application of economic expertise; rather it embodies a particular view of good policy that may differ from that of the EU's institutional actors. Either policymakers should ask the experts only to supply data, not conclusions, or if recommendations are included, EU decision makers should be able to reject these recommendations on policy grounds that contradict the normative framework used by the economic experts. Of course, they should also be able to do this for other types of experts as well, be they risk assessment specialists, scientists, or engineers. The point is simply that to the extent that any technique reduces a problem to a single continuous dimension or, conversely, articulates a policy in terms of a threshold that must be satisfied, policymakers should not accept such framing as a definitive straitjacket on their own choices. The results of such exercises are only as good as the persuasiveness of the underlying normative commitments. This holds for proportionality and precaution as well as for cost/benefit analysis. That conclusion is presumably what is behind the Commssion statement, quoted above, that CBA is only an aid to decisionmaking. However, if the Commssion does not look inside the black box of an expert CBA, it risks missing important aspects of the regulatory problems it faces. It may need transparently to decide how far an analysis based on applied utilitarianism comports with the goals of Member States and EU citizens.

14 Craig, *EU Administrative Law, supra* note 4, at chapter 17.

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V. Conclusions

If the rhetoric of precaution, impact assessment and cost/benefit analysis merely signals the need for sensible tradeoffs, then these concepts are a helpful addition to the vocabulary of policymaking. However, to the extent that they leave the way open for the uncritical devolution of policy choices to supposedly objective analysts, they represent an unfortunate and potentially dangerous abdication of political responsibility. Proportionality and precaution can be criticized on their own terms, but they should not be salvaged through redefinitions that conflate them with cost/benefit analysis unless there is broad public agreement on the technique's underlying premises and unless there is an open debate about value choices incorporated in all such studies.

Proportionality suggests balancing so that commitment to any goal is kept "in proportion" The precautionary principle tilts health and safety policy toward greater protections upfront in spite of uncertainty about the actual risks and benefits; it counsels risk aversion in the face of uncertainty about the future. Cost/benefit analysis is, in essence, a particular sort of balancing test that builds on the foundation of welfare economics. In the European Union (EU), where these three concepts vie for attention, judges and officials sometimes link both proportionality and the precautionary principle to cost/benefit analysis, but they often do not have a sophisticated understanding of what a competent cost/benefit analysis entails. Similar tensions surface in the United States where CBA is more well-established but is still subject to controversy.

These volumes will help further the debate over the relationship between technical competence, democratic legitimacy, and policymaking values of equity, efficiency and the protection of rights. First of all, each provides a wealth of detail about particular types of regulation where the future costs and benefits are not known for sure. They show that there is no one "right" answer settled on by policymakers either across countries or over time. Changing political coalitions and ideologies play a role as well as shifting public attention to different issues over time. Furthermore, advances in science and in data collection matter in particular cases, although they are sometimes swamped by public anxiety or indifference. Second, the discussions of Impact Assessment and cost/benefit analysis are, I believe, sometimes too uncritical, and they fail to acknowledge either the normative commitments these techniques represent or the fundamental value judgment that cannot be resolved through better technical analysis. They acknowledge the role of politics and the biases of citizens and decisionmakers. However, what is missing is a deeper confrontation with the value choices embedded in modern policymaking techniques. One hopes that the rich raw materials contained in both books will help to encourage more work that unpacks the tensions between conventional policy analytic techniques, on the one hand, and the value choices implied by modern risk regulation policy, on the other.

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