

Analyzing the changing risk and regulation landscape in practice

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In April this year, the CAA worked through the most high-profile practical example of regulating risk that I have experienced, when the Icelandic volcano Eyjafjallajökull erupted and there were no flights in UK airspace for six days while a safe level of ash for aircraft operation was established.

Volcanic ash of considerable volume in the UK's atmosphere was unprecedented – the last time was over 500 years ago. Eyjafjallajökull erupted continuously, throwing up very fine ash containing glass to high levels in the atmosphere. Due to the unfriendly, unusual weather conditions the ash did not disperse and, moreover, was covering the busiest airspace in the world, where turning sharply to avoid visible ash has its own considerable risks. Aircraft have never (intentionally) flown through ash, anywhere in the world, as the longstanding international guidance is to AVOID, AVOID, AVOID: an approach developed after serious safety incidents, for example, the total engine failure of a BA aircraft that flew through ash near Indonesia.

The problem we faced was that the standard zero-tolerance response to ash did not work in congested European airspace, and while we were fairly certain there was little real evidence to support such an approach, it is not sufficient for a regulator to merely jump to another standard without evidence. So we had to very swiftly consider where precaution meets practicality and develop the evidence base to allow us to answer the question: What level of ash is it safe to fly through? This process was further complicated by the fact that industry, not the CAA, hold most of the information – so the regulator was a facilitator. It does not take much regulatory experience to see that legal issues of liability for all players in the aviation industry are critical.

The issue brought the debate about regulating risk into hundreds of thousands of people's lives. It led the news for a week, was costing the UK economy hundreds of millions of pounds, and stranding 100,000 more people every day: very few textbook models of risk regulation have previously been tested in those circumstances.

Responding to Eyjafjallajökull's eruption highlighted several areas where regulation has evolved over the last decade.

In a stark form, the event encapsulated much of the difficulty about a zero-tolerance approach because, when faced with the practicality of trying to keep aviation operational, the highly precautionary approach that had characterized international guidance does not work. There are, of course, cases where complete avoidance is both essential and well evidenced, but the challenge here was a different one: namely to move from a standard with no evidence behind it to one with enough evidence to satisfy the regulator as to safe ash tolerance levels.

That the CAA was able to take this approach is indicative of a broader trend in the handling of risk, where regulators are both much more aware of the complexities around risk and more sophisticated in calibrating their response. They are better at analyzing what constitutes good regulation, they think about the operational impact of their work and whether their regulation can be effectively enforced. They are better at communicating, ensuring that the regulatory approach addresses the real problem as perceived by the public, and that the way regulations are operationalized works with the grain of industry. Regulators are now more transparent about what they are doing and why, again aiding understanding and better outcomes. Finally, the governance of regulators has improved, leading to a more collective approach, and there has been a steady process of updating regulators' legislative frameworks.

So, regulation has become more thoughtful, more evidence-based and more transparent. But, on the other hand, there are also areas where that progress has been stilted, and in some areas we are possibly being overly optimistic to think that there will be change. We still lack an over-arching principle as to the purpose (and also perhaps the limits) of regulation, for instance. The Hampton principles are very useful in helping to frame good regulation, but they are essentially operational in nature, and we do not yet have a universal view as to what we believe regulation should achieve.

The industry will still respond to risk and regulation according to the way in which it perceives its interests are being threatened. That is natural for a competitive industry where companies must consider their commercial interests, but it is a challenge for regulators. The press is equally driven by commercial pressures, which does not always result in a balanced view of risk being presented to the public.

Moreover, the public are still perceived as combining an unwillingness to take risks with a belief that every problem can be solved and every risk managed out of existence. Uncertainty is inevitable, however, and rare events occur relatively frequently. The debate is further confused by those in authority who despair at the apparently idiosyncratic nature

of the risk/benefit analyses that individuals will make for themselves. Over the years this has led to frequent calls for a public debate about risk in order to develop a more informed response from the population at large.

However, I do not think we are likely to make a huge sea-change in that understanding – the public are not homogenous, and their approach to risk will always be highly individual because it is dependent on unique factors. In conclusion, therefore, the challenge remains the same: how to work with, rather than against, the complexity of public expectation, alongside the commercial imperatives of industry, in order to produce good regulatory outcomes. The past decade has shown regulators becoming more sophisticated at managing that balance, but it is important to recognize that regulators can only do their business if they are broadly in tune with the times in which they live.

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