

SUMMARY OF LECTURES/DISCUSSION AND WORKSHOP

## MANAGING UNCERTAINTY AND CORPORATE GOVERNANCE

Held at the Isaac Newton Institute for Mathematical Sciences, Cambridge 2/3 August 2001

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In the Chair: **The Rt Hon The Lord Jenkin of Roding**, Chairman, The Foundation for Science and Technology

Speakers: **Professor Myron Scholes**, Stanford University and Oak Hill Platinum Partners  
**Dr David Allen**, Group Chief of Staff and Executive Vice-President, BP plc  
**Sir Ian Prosser**, Chairman, Six Continents plc

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PROFESSOR SCHOLES considered the effects on companies of salient events – events of such magnitude that experience of the past was no guide to prediction of the future: where it could be said that disorder replaces order. Examples were the sudden economic and financial volatility in the 70s; the Asian financial crises; the introduction of the Euro; the 2000 market collapse. Results of these were various, but common factors were the obsolescence of models of behaviour which market participants had hitherto used; a period of chaos, often associated with a pause in growth; and a subsequent development of new techniques and models which absorbed the consequences of the crisis. Examples of the latter were the new financial instruments such as index funds and hedging contracts following the 1970s volatility; improved modelling of markets and financial risk after the Asian crisis; stronger merger activity and product growth following the introduction of the Euro; a better understanding of technology risk after 2000. Dealing with salient events required active involvement which recognised that old thinking had become obsolete; developed greater flexibility in the use of models and, through teamwork and better management, made better use of human resources. Various tools, such as risk shifting, diversification and reinsurance, could help manage risk from salient events, but it was crucial to recognise the need to incorporate increased

adjustment costs and adequate liquidity; proactively to hedge risk; and to balance the costs of risk management against the dead-weight costs of the consequences of model failure. Luddites might seek to use controls to avoid or manage risk, but it would be next to impossible to control transactions – as opposed to institutions- or set boundaries to regulation in a dynamic society.

DR ALLEN said that risk and uncertainty were inevitable in commercial life: the challenges were to understand risks, and, as important, persuade others that you understood the risks. A brief overview of the oil and gas industry showed its capital intensity to be characterised by “big bets”; its operations to be subject to operational and political risks; its technology to be changing rapidly, and oil prices to be highly volatile. BP itself had moved from being a regional to becoming a global player; from wide diversification to greater focus, but still with businesses with different profiles. It wanted to be a “first mover” and needed its managers to combine entrepreneurship – for which they needed space to develop their own priorities and projects – with performance discipline – which meant coherence through central guidance. This was not easy in a large company. BPs history demonstrated how it had attempted to meet its aims – in 1992 to 1997 it had concentrated on improving performance and focus through a better structured

board and management, and specific simple targets; in 1997 to 2000 it had consolidated within the sector, increasing the scale of operations many times: this meant that it had to develop a full understanding of strategic risk - including the risk of uniting companies with diverse cultures - and means of managing it. In 2000/01 the challenges were to evolve the strategic model of a global company and retain the best features of the past, while encouraging the belief in the need for change, and offering opportunities for change. The key features of their strategy, based on the sectoral characteristics and their own experience, were a "long wave length" approach - working through cycles - a holistic perspective; encouraging flexibility in delivery while developing an organisational structure that facilitated key strategic intervention; using a financial framework that linked strategy to risk and a planning framework that linked strategy to delivery - wherever possible seeking simplicity of process and structure. The aim, in short, was to run a big company like a small one.

SIR IAN PROSSER said that business was all about risk: success was dependent on taking risks; uncertainty was about the opportunity for success as well as the possibility of failure. Of course risk must be managed and, wherever possible, quantified by executive management. But there had also to be a qualitative judgement, based on experience - an important function for non-executives. Non executives had a difficult role - they were either invisible, if things went well when the executives got the credit, or highly visible if things went badly, when they got the blame (see Marconi and Marks and Spencer). The Combined Governance Codes demanded that boards accepted collective responsibility for risk management. This meant that non-executives, as well as executives, understood the company's risk exposure and management. There had, therefore, to be a major risk review process, within which risk assessment had to be explicit, recognising not only full financial cost (see Bhopal and Exxon Valdez) but also reputational damage. It was for executives to develop the risk review, starting from the bottom up, and establishing the hierarchy, but non-executives must understand the process and the risk profile. They should be brought onto Audit or Risk Control Committees, which looked at the issues. Research showed that the crucial factor, which differentiated companies that had suffered reputational damage from major disasters but recovered, from those that went into decline, was their perceived ability to manage risk.

A major theme in the following discussion was the changing political and social attitudes, which encouraged control through regulation, rather than leaving the consequences of risk with individual companies. There were several reasons for this:

happen again" after any financial or physical catastrophe; and the growth in the belief that Governments should, and could, protect the public ( who, after all, were often the ultimate victims ) from misfortune. Companies sometimes colluded with this, thinking that it would limit litigation. But this was a doubtful advantage; more important were the downsides, based on the fact that ways will always be found around regulation, if transactions are involved; the long time scale through which good companies attempted to manage risk and the short timescale of governments, obsessed with votes at the next election; and the certainty that the informational transfer to governments and regulators would always be inadequate, both because of lack of will on the part of the transferor, and the inability of the transferee to process and take decisions on, vast quantities of data. Basically, regulators did not believe in risk: their attitude could be summed up by a City regulator who thought that insurance underwriters must be regulated closely because they took risks. It was possible that public perception of the use of mathematical models, and cost benefit analysis by companies could, in some areas, be successful in limiting or replacing the role of regulators. Nevertheless, in major areas of risk, such as climate change and inflation, risk could be managed only through government action. It was vital that both executives and non-executives understood the social, economic and political consequences of governments' taking, or failing to take, action in such areas. Indeed, it was here, that non-executives, who should have a wider experience than executives and who would see matters from a different perspective, could play a valuable role.

They could also be valuable in assessing and managing the sort of risks engendered by political and social movements, as faced, for example, by Monsanto and Huntingdon Life Sciences. But this did not excuse executive management from their primary responsibility to forecast, assess and manage such risks. They must see systems are in place; the job of non-executives was to oversee and monitor the structure. In Monsanto's case, the responsibility for mishandling the launch of GM foods, and misjudging public reaction, lay with the executive managers: it was doubtful whether non-executives could have done much. In certain areas, such as pharmaceuticals, scientific risk was hugely important. It was not only a question of deciding the right resources to put to R&D, but also whether these resources were addressing the best opportunities for, and worst threats to, the company. Sometimes a scientific audit committee of the board could be valuable. In this case, a non-executive director, with respected, and relevant, knowledge could be important because he/she would not share the company's scientific culture.

sensible and appropriate use of them could enable companies to take on risks greater than they thought they could carry when relying on hunch, or inadequate extrapolation from past experience. Of course, they could also have the reverse effect, of making companies aware that they were carrying risks greater than they thought they had allowed for.

**CORPORATE GOVERNANCE WORKSHOP**  
(Held at the Isaac Newton Institute for Mathematical Sciences, Cambridge on 3<sup>rd</sup> August, 2001)

PROFESSOR SCHOLLES spoke about the growth of risk transfer and the tools of risk management. He discussed risk hedging, diversification, and the need for insurance providers to become more client, and less product, centred. Capacity in insurance markets varied and it was crucial to understand them to limit costs. There would be greater and more frequent financial crises in the future because of globalisation, common risk systems, and greater transparency through “mark to market”. Returns must be risk adjusted and resources allocated in the light of adjustment costs. In discussion, it was accepted that it was low probability events that could cause the most difficult problems; the issue was how to price them correctly.

PROFESSOR SMITH & DR GOODMAN offered a case study showing how low probability/high severity events could be bounded by quantitative methods: the justification for BPs use of internal insurance for risks. From past data curves were constructed on probability/cost of loss. This led to the Board being able to make judgements on the assumptions that should be used in assessing options. In discussion, it was acknowledged that risk protection was important; the question was how much did you pay. The assumption was that transferring risk to the most efficient market would be the best course. But – taking the Piper Alpha case – risk was transferred from the company, which knew the circumstances, Occidental, to ignorant Lloyd’s underwriters: was this justifiable?

PROFESSOR HOLSTROM set out his view on the proper functions of PLC boards. Their function was limited because they did not understand, as did the management, the problems and opportunities of the company. They had to concentrate on understanding the management’s vision, and looking at the risks inherent in that vision. They should be searching for areas where they see something different, because of their different experience and background. This was most difficult to do when things were going well. They should monitor management, always searching to see that the information they got was adequate, but not interfere or try to develop a separate strategy. The existence of Codes can ease tension, as managers

each other. They must recognise that boards, as well as management, can be a risk for a company. Essentially, their job was to sack or retain the CEO. In discussion, the duty of the Chairman to enforce respect for the Board from management, to ensure important issues were dealt with at the right time, to support executives as well as judge them, to understand the business (and any business being acquired), and deal with high profile events such as disturbances at the AGM were emphasised. The duty of non-executives was summarised as being to ask questions, monitor management and take decisions. Doubts were expressed about whether it were possible for non-executives to carry out all the responsibilities the Codes placed on them. The different attitudes of independent directors in the USA were described but it was suggested that this was more a function of the types of company than different national attitudes. Smaller company’s directors might be expected to become more deeply involved in strategy and other issues than in large companies.

PROFESSOR ROBERTS AND MR DAY spoke about creating and evaluating strategy under uncertainty. They were looking at the functions of senior management, not boards. Executives must have the information that enables them to plan for strategies when things go wrong. But on some things, essentially the political, economic and social environment within which the company operated, their knowledge will always be limited. Belief will govern what individuals think the future holds, and the question for boards and managers is whether it is better to have managers who have strong beliefs about possible futures, or those who have less certainty. “True believers” will motivate and attract staff, and drive projects based on their beliefs. But the danger is that their beliefs may be wrong; and their commitment to them may hinder them from recognising this. So “visionary” companies will be over represented at both the top and bottom of success scales. The job of boards is to recognise the dangers of strong beliefs, as well as utilise them.

PROFESSOR KAY discussed the limited range of decisions which managers and boards could take in the real world. The range was always much more limited than theory would suggest. Often decisions which are categorised as “bad” were the only ones possible to take in the circumstances. He cited the mobile telephone auction. Commentators now thought that mistakes had been made in bidding for licences. But, in practice, because of the expectations of investors and others, it was, in practice, impossible to avoid bidding at a price, which would be likely to secure licence. He cited a personal example, where he had supported a board decision which he thought mistaken, because the damage that would have been incurred if argument had continued (or no decision taken) would have

objective, without recognising this, can lead to disaster. You achieve optimum value by doing other things – rather on the analogy that happiness comes, not through seeking it directly, but by doing things you have, or want to do. The antithesis between analysis and hunch, or gut, feeling as a basis for decision was unhelpful. Both had a place – analysis role is to refine and help managers in developing and testing their gut feelings. In discussion, it was suggested that learning from the past would be inhibited unless greater reliance was placed on modelling and mathematical analysis. Of great importance was the use of techniques to organise and use the ever-larger quantities of data, which flowed across managers' desks. Failure to do this could mean that increased data could lead to reduced performance, as either it was all ignored, misunderstood or led to no decision being taken.

MS BREARLEY described the systems that Rail Safety (a non-profit company separated from Railtrack) used to analyse the data about rail accidents and incidents with the view to giving a comprehensive and comprehensible overview to their board. Decisions about advice to priorities in investment by Railtrack and Train Operating Companies could then be determined and standards set.

Sir Geoffrey Chipperfield KCB

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