

Environmental risks: implications for pensions advice

Summary of talk B16 at the ACA Members' Conference on 5 February 2016

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In December 2015, global leaders made their strongest commitment yet to tackling climate change and limiting the increase in the global average temperature to well below 2°C above pre-industrial levels. However, climate scientists tell us that achieving this aim demands profound and immediate changes to the ways we consume and produce energy. This implies a fundamental transformation of our economy. Will this transformation occur or will we face the potentially devastating consequences of massive climate change? Both scenarios pose major risks for the financial system and our work as actuaries.

1. Environmental risks

This session focuses on the two most obvious areas of environmental risk: the physical risks of climate change and the transition risks from measures to prevent climate change. The latter typically try to reduce greenhouse gas emissions by reducing energy use and/or generating energy from low carbon energy sources such as solar, wind or nuclear power. Other environmental risks include water scarcity, air quality, loss of biodiversity and natural resource availability. Environmental risks are often inter-related; for example, climate change is expected to exacerbate water shortages in some regions.

All economic activity is fundamentally reliant on the natural environment for energy and raw materials. Moreover, our economic, social and environmental systems are highly interconnected. The impacts of environmental risks could cascade through the economy in ways that are difficult to predict. For example, an extreme weather event may initially affect companies in a localised area, but it will have knock-on impacts through their supply chains with possible consequences at the economy-wide level.

Modelling the potential economic effects of environmental risks is challenging. The systems involved are not just complicated, they are complex. Simple models cannot capture all the relevant features and so may give unrealistic results. In particular, the ways that governments, businesses and individuals react to environmental risks (eg the extent to which they take action to mitigate climate change) will be a large determinant of the outcomes. However, although there is significant uncertainty associated with the detailed results of long-term environmental-economic modelling exercises, this is not a reason to ignore environmental risks.

2. Implications for pensions

The Pensions Regulator's integrated risk management framework is helpful in thinking through the potential implications of environmental risks for DB pension schemes:

- Understanding the sponsoring employer's exposure to environmental risks, its management of those risks, and its resilience under a wide range of possible futures can be an important part of the covenant assessment.
- Similarly, the companies in a scheme's investment portfolio vary in their exposure to, and management of, environmental risks. This has implications for stock selection (if the portfolio is actively managed) and stewardship (eg using voting and engagement to

encourage better risk mitigation). Other asset classes are also exposed to environmental risks to some degree, although for some (eg gilts) the effects are hard to model and mitigate.

- Liability cashflows may be affected, for example through macro-economic impacts on mortality and inflation. Currently, however, the main funding implications are likely to relate to the choice of discount rate. Environmental risks are potentially relevant for expected investment returns and the desired degree of prudence.

The Prudential Regulation Authority issued a report in September 2015 which summarised its initial thinking on the implications of climate change for life insurers. Over time, bulk annuity pricing could start to be affected (eg if capital requirements increase to reflect increased uncertainty) which has implications for schemes wishing to buy out, especially those targeting buy-out funding over the longer term.

Environmental-economic modelling typically indicates lower economic growth and investment returns than in the past, suggesting that conventional models may underestimate the downside tail risks. If pension provision costs more than expected, the problems of inadequate DC savings may be exacerbated.

Central bankers like Mark Carney have warned of the risks that climate change may pose to the financial system as a whole. The impacts of physical and transition risks are likely to be felt by many companies simultaneously. This could lead to systemic effects in the pensions sector, such as economic drag from widespread increases in DB deficit contributions, increased calls on the PPF, and greater reliance on state benefits due to insufficiency of DC provision. As such, climate change is a public interest issue that needs attention by policy-makers and regulators, not just individual schemes and advisers.

3. Practical responses

At a scheme level, actions that can be taken include:

- Incorporate environmental risks in covenant assessments.
- Mitigate DB and DC investment risks by taking account of environmental issues when selecting investments and exercising oversight of them.
- Consider inclusion of environmental risks in pension modelling (scenario analysis may be most practicable given the associated uncertainties).

Several recent studies have concluded that financial outcomes are likely to be better if significant action to reduce greenhouse gas emissions is taken than if global average temperatures are allowed to rise more than 2°C above pre-industrial levels. Investors such as pension schemes can be an important influence on whether climate change targets are met.

Given the systemic and public interest nature of environmental risks, action by policymakers and regulators is also desirable. Actuaries can play a role in raising awareness and encouraging action. The Institute and Faculty of Actuaries is active in this area; for example, it recently issued a policy briefing on managing the risk and uncertainty associated with climate change. It also has a Resource and Environment Board whose aims include supporting actuaries in all practice areas in understanding the implications of resource and environment issues for their work. If you would like to get involved, please get in touch.