LCP INSIGHT CLARITY ADVICE

A guide to climate-related risks

Climate change and the implications for pension schemes

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Contents

Climate-related risks and opportunities are already relevant to pension scheme investments, sponsor covenant and funding. We recommend that trustees familiarise themselves with the topic and how it might affect their scheme.

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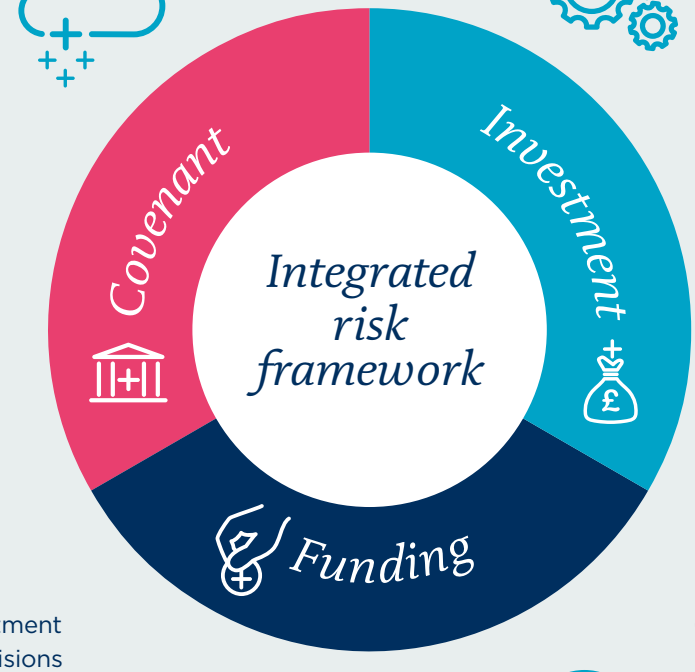
Introduction

Climate-related risks and opportunities will affect every part of the economy. They include physical risks from the climate itself and transition risks from actions which reduce greenhouse gas emissions. They are relevant for all companies to some extent, with transition risks being more important in the near term. Climate-related risks are therefore relevant for pension scheme investments, sponsor covenant and funding decisions. In this guide, we explain what climate-related risks are, how they are relevant to DB and DC pension schemes and what actions trustees can take to address them.

FIGURE 1

An integrated risk management approach to climate-related risks



What actions should pension scheme trustees take?

DB trustees

Here are some suggestions for you to consider:

- Consider climate-related risks as part of your integrated approach to risk management.
- Ask the sponsoring employer for its view of the climate-related risks and opportunities it faces and how it is responding to them.
- Ask your covenant advisers to assess the materiality of climate-related risks to the sponsoring employer.
- Decide on the financial relevance of climate-related risks to the scheme, to inform your investment strategy, and consider the investment options available to manage climate-related risks (see Box 5).
- Ask your investment managers about their approach to climate-related risks and opportunities, including when selecting new managers (see Box 6).
- Document your approach to climate-related investment risks in your Statement of Investment Principles.
- Discuss the relevance of climate-related risks as part of your next funding valuation, including how future impacts on insurer pricing might affect your long-term journey plan.

DC trustees and governance committees

Here are some suggestions for you to consider:

- Decide on the financial relevance of climate-related risks as part of your investment risk assessment.
- Consider the investment options available to manage climate-related risks (see Box 5) when designing the default strategy and choosing self-select funds.
- Ask your investment managers about their approach to climate-related risks and opportunities, including when selecting new managers (see Box 6).
- Document your approach to climate-related investment risks in your Statement of Investment Principles or equivalent.

What do I need to know about climate change?

The latest report from the Intergovernmental Panel on Climate Change (IPCC) confirmed that "warming of the climate system is unequivocal" and human drivers, including emissions of carbon dioxide, methane and nitrous oxide, "are extremely likely to have been the dominant cause of the observed warming since the mid-20th century"[1].

Climate change impacts – which are already being observed – include rising temperatures, more frequent and more severe extreme weather events, changing rainfall patterns and rising sea levels (see Box 1). Mitigation measures attempt to reduce greenhouse gas (GHG) emissions, particularly from the burning of fossil fuels, and are summarised by the phrase "transitioning to a lower carbon economy" (see Box 2). This involves switching to renewable energy, improving energy efficiency and reducing emissions from agriculture and deforestation. It will require significant changes in the energy, transport and agriculture sectors, with knock-on effects for the rest of the economy. One particular concern is the potential for stranded assets (see Box 3).

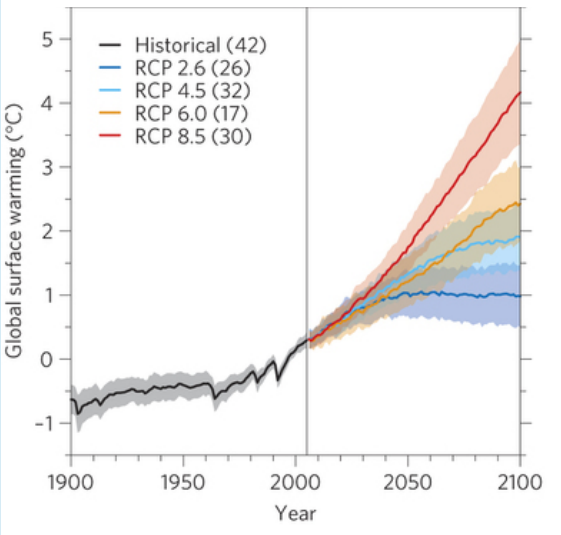
BOX 1

Climate change impacts

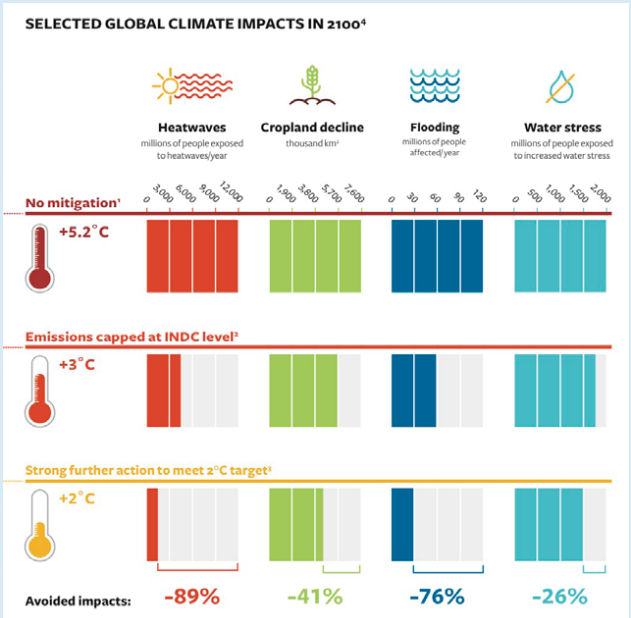
There is considerable uncertainty about the extent to which temperatures will rise, due to uncertainty about both the level of greenhouse gas emissions and about how the climate system will respond. Climate models show an increase in the global average temperature of between 1.5°C and 6°C by the end of the 21st century, relative to pre-industrial times (see left-hand chart below, noting that pre-industrial temperatures correspond to about -1°C).

Only a small proportion of scenarios stay within the internationally agreed limit of 2°C. The forecast impacts are serious, even if the 2°C target is met (see right-hand chart below). The national commitments made at Paris, known as Intended Nationally Determined Contributions (INDC), are estimated to correspond to roughly a 3°C increase (the middle scenario in the right-hand chart below).

Projected temperature rises under various emission scenarios[2]



Source: www.carbonbrief.org/media/132734/knutti.png



Source: www.avoid.uk.net/indcs

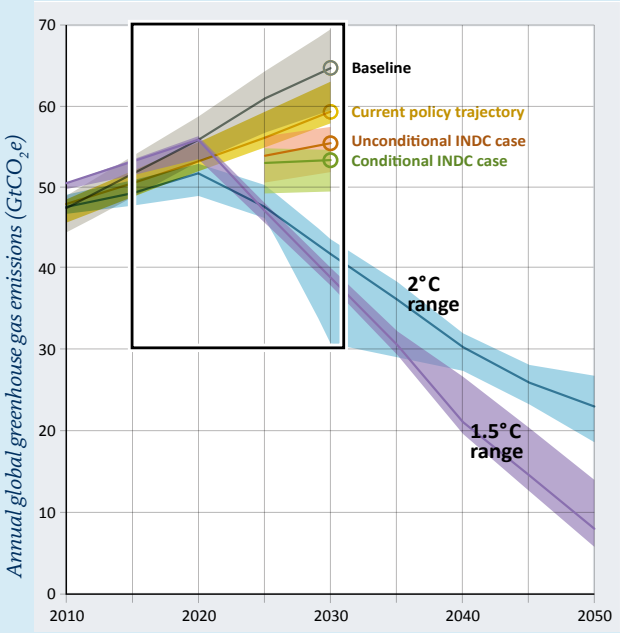
[1] Source: Climate Change 2014 Synthesis Report: Summary for Policymakers

[2] Projections taken from World Climate Research Programme's Coupled Model Intercomparison Project Phase 5 (CMIP5) models. The scenarios are the IPCC's four Representative Concentration Pathway (RCP) scenarios. The number of models used for each scenario is shown in brackets after the scenario name in the chart key.

BOX 2

Greenhouse gas emission projections

The international target to keep global average temperature rises below 2°C requires significant cuts in greenhouse gas emissions by 2050 (see blue and lilac shading on the chart opposite). At the 2015 Paris conference, world leaders agreed an aim of reaching peak emissions as soon as possible and achieving zero net human-related emissions in the second half of this century. However, analysis by the UN Environment Programme concluded that the specific pledges they made to reduce emissions after 2020, known as INDC, fall a long way short of what is required to meet the 2°C target (see red and green shading). Nonetheless this represents an improvement on their existing policies (see yellow shading) and the Paris Agreement includes a mechanism to strengthen their pledges every five years.



Source: United Nations Environment Programme: Emissions Gap Report, November 2016

In December 2015, 195 countries adopted the Paris Agreement, the latest in a series of international climate change agreements and the most ambitious yet. It strengthened their previous commitment to aim to hold the global average temperature rise to 2°C relative to pre-industrial times and introduced a new aspiration of a 1.5°C limit. It was supported by a series of national and regional commitments to reduce greenhouse gas emissions (see Figure 2 and Box 2). Although Donald Trump has announced that the US will withdraw from the agreement, other world leaders remain united behind it and it has significant support from many companies and investors.

FIGURE 2

Climate change commitments

Reduce greenhouse gas emissions 80% below 1990 levels by 2050

Reduce greenhouse gas emissions 40% below 1990 levels by 2030

Reduce greenhouse gas emissions 26% to 28% below 2005 levels by 2025

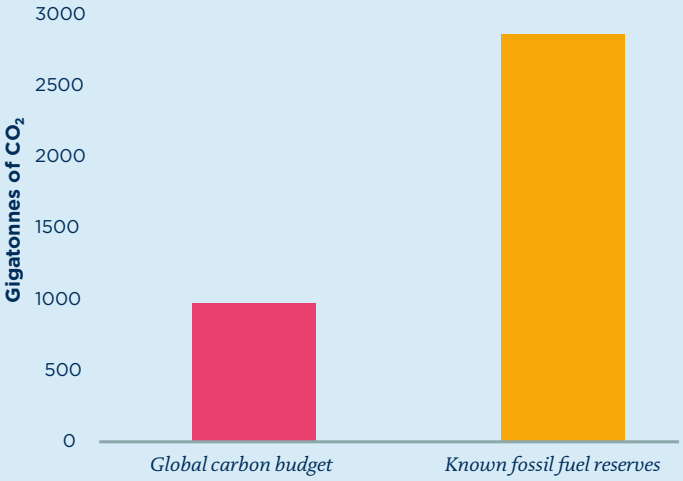
Carbon dioxide emissions start to decline by 2030

BOX 3

Stranded assets

Fossil fuel producers are particularly exposed to climate-related risks as the transition to a lower carbon economy poses an existential threat to their business. There is concern that a large proportion of their fossil fuel reserves may become "stranded" and hence worthless, which could mean that these companies are currently over-valued. The International Energy Agency has calculated that, to have an 80% chance of achieving the 2°C target, only around one third of known fossil fuel reserves can be burnt unless some form of carbon capture and storage becomes economically viable (see chart).

Carbon content of fossil fuel reserves vs. amount of carbon that can be burnt by 2100 (for 80% chance of meeting 2°C target)



Source: Carbon Tracker, Unburnable carbon 2013: Wasted capital and stranded assets, April 2013

"If [the IPCC's carbon budget] estimate is even approximately correct it would render the vast majority of reserves 'stranded' - oil, gas and coal that will be literally unburnable… A wholesale reassessment of prospects, especially if it were to occur suddenly, could potentially destabilise markets."

Mark Carney, September 2015

What risks and opportunities are there from climate change?

There is a wide range of climate-related risks and opportunities stemming from climate change itself, from measures to adapt to climate change, and from attempts to mitigate climate change.

The Task Force on Climate-Related Financial Disclosures (TCFD, see Box 4) distinguishes two types of risk:

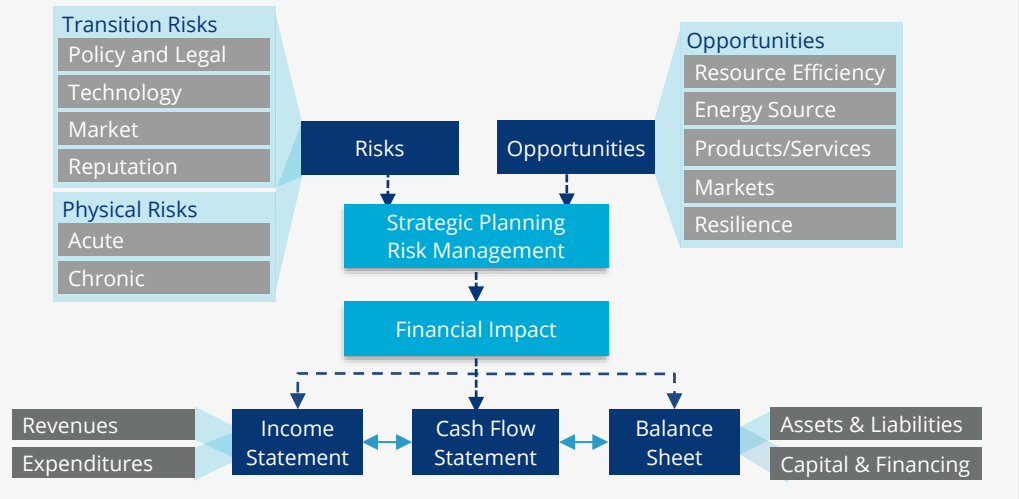
- **Transition risks** – policy, legal, technology and market changes may pose financial and reputational risks to organisations as we transition to a lower carbon economy; and
- **Physical risks** – acute risks from weather events and chronic risks from longer-term shifts in climate patterns may affect organisations' financial performance, both directly and indirectly through their supply chains.

There is a trade-off between these two types of risk: stronger mitigation measures will increase transition risks while reducing physical risks, whereas weaker mitigation measures will increase physical risks while posing fewer transition risks. The balance between the two will depend on the actions taken by governments, regulators, companies, investors and individuals.

The TCFD also identified five sources of opportunity – resource efficiency, alternative energy sources, new products and services, new markets, and developing resilience to climate change (see Figure 3).

FIGURE 3

Climate-related risks, opportunities and financial impact



Source: TCFD, Recommendations, June 2017

BOX 4

Task Force on Climate-Related Financial Disclosures

The Task Force on Climate-Related Financial Disclosures (TCFD) was established by the Financial Stability Board in 2015 in response to a request by the G20 Finance Ministers and Central Bank Governors. It is chaired by Michael Bloomberg and consists of 32 individuals in a wide range of senior roles across the globe. It was asked to develop voluntary, consistent climate-related financial disclosures that would be useful to investors, lenders, and insurance underwriters in understanding the serious risks that climate change poses to the global economy and organisations within it.

The TCFD published its final report in June 2017, setting out recommended disclosures covering governance, strategy, risk management, metrics and targets. The report describes the financial implications of climate-related risks and opportunities in detail and is an excellent introduction to the topic.

Core Elements of Recommended Climate-Related Financial Disclosures

Governance
The organization's governance around climate-related risks and opportunities

Strategy
The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management
The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Source: TCFD, Recommendations, June 2017

The TCFD is uniquely well-placed to drive meaningful improvements and harmonisation in disclosures across the globe due to its high profile members and supporters. We therefore expect its recommendations to be influential despite their voluntary nature.

"One of the most significant, and perhaps most misunderstood, risks that organizations face today relates to climate change. … The large-scale and long-term nature of the problem makes it uniquely challenging, especially in the context of economic decision making. Accordingly, many organizations incorrectly perceive the implications of climate change to be long term and, therefore, not necessarily relevant to decisions made today."

TCFD, Recommendations, June 2017 (emphasis added)

How are climate-related risks and opportunities relevant for pension schemes?

For DB schemes, an integrated risk management approach is well-suited to thinking about climate-related risks and opportunities because they will affect covenant, investments and funding (see Figure 1).

Covenant – All sponsoring employers will be exposed to climate-related risks and opportunities to some extent, although their nature and magnitude will vary considerably. Climate change is therefore a relevant consideration for covenant assessments, particularly over the longer term.

Investment – Climate change is also a relevant consideration for pension scheme investments, both when setting strategy and when selecting managers. Some climate-related risks and opportunities will affect investments in individual companies and others will have wider impacts that affect returns from whole sectors and asset classes. Investment managers differ in their approach to managing climate risks and the importance they place on them (see Box 5 and Box 6).

Funding – The extent of a scheme's climate risk exposure through its sponsor covenant and investments is relevant when determining the degree of prudence to be adopted when setting investment return assumptions. In addition, scheme liabilities may be affected directly through changes in mortality rates (see Box 7) and buy-out funding targets may be affected as insurers start to price in climate impacts.

For DC schemes, climate-related risks and opportunities are primarily relevant from an investment perspective, although they could also affect the employer's ability to pay future contributions. Whilst many schemes already offer an ethical fund, trustees and governance committees should now shift their attention to a much broader horizon. In particular, they should consider the implications for the design of the default strategy, where the majority of the member base is invested, and especially for younger members who have the longest period of exposure to climate risks.

Climate risks are relevant not only for the investment returns that DC members receive, but also the cost of providing their income in retirement (for example, through impacts on the price of annuities and other forms of longevity protection).

For both DB and DC schemes, a range of investment options are available to address climate change risks (see Box 5). Trustees and governance committees could also assess managers' climate change credentials as part of selection exercises and may wish to introduce additional self-select funds such as a fossil-free option.

BOX 5

Investment options

Investment managers are developing increasingly sophisticated ways to address climate change. There are five investment approaches which schemes can use to reduce their climate risks (see diagram). They can be used individually or in combination.

Integration
- Materiality assessment
- Financial analysis
- Risk management

Exclusions
- Coal companies
- All fossil fuel companies
- Heavy greenhouse gas emitters

Engagement – with companies, regulators and policymakers

Opportunities
- Renewable energy
- Energy efficiency
- Other climate solutions

Tilts
- Fossil fuel reserves
- Greenhouse gas emissions
- Climate solutions

Engagement – We expect climate change to be a theme for engagement activities by all managers, not only with the companies that managers invest in, but also with policymakers and regulators who can lead the mitigation of economy-wide risks.

Integration – We expect all active managers to integrate climate considerations into their stock selection decisions and (where relevant) their sector and asset class allocations.

Exclusions – Excluding the highest risk companies from investment portfolio is an obvious way to reduce climate risk exposure, particularly from stranded assets (see Box 3). Divestment campaigns are targeting certain investors, asking them to cease investments in fossil fuel companies, and several UK local government pension schemes have committed to do so.

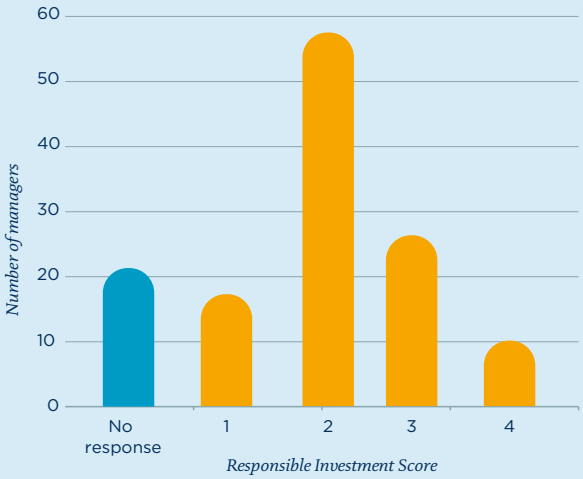
Opportunities – A complementary approach to exclusions is to allocate a small portion of the portfolio to climate solutions such as renewable energy.

Tilts – A recent innovation is the introduction of climate "tilted" indices which enable passive investors to reduce their climate risk exposure. These start with conventional market cap indices and adjust the weightings of the constituent companies to reduce the allocation to companies with fossil fuel reserves and high greenhouse gas emissions, and in some cases to increase the allocation to those with green revenues. Several climate-tilted funds are now available and are being used in the default strategies of some of the country's largest DC schemes, including HSBC Bank UK Pension Scheme and NEST.

BOX 6

How good are your investment managers at managing climate risks?

Our manager research programme incorporates responsible investment as part of the due diligence process, assessing how good managers are at incorporating environmental, social and governance (ESG) issues and stewardship practices (such as voting and engagement) in their investment processes. Climate change is an important example of an ESG risk, so we ask about it explicitly. We can use this information to help you understand how your managers measure up on climate change and support you in your discussions with them.



Every two years we invite managers to complete a survey which covers both ESG and stewardship. We supplement their responses with discussions at our regular research meetings with them, enabling us to take account of subsequent developments and fund-specific considerations. We assign a score between 1 (weak) and 4 (strong) for each manager, adjusting it for individual funds where appropriate. We find wide variation between managers and few of them received the highest grade in our latest survey (see chart).

What does the Pensions Regulator expect?

The Pensions Regulator explicitly mentions climate change in its investment guidance for both DB schemes and DC schemes. It:

tells trustees that where they think environmental factors are financially significant, they should be taken into account when making investment decisions.

says that trustees should decide on the financial relevance of longer-term sustainability risks from factors such as climate change, to inform their investment strategy.

encourages trustees to become familiar with their managers' stewardship policies and, where considered appropriate, seek to influence them.

There is no equivalent guidance for contract-based schemes, although the Financial Conduct Authority and the Pensions Regulator have said they have similar expectations for scheme quality and member outcomes.

What does the law currently require of pension scheme trustees?

When making investment decisions, trustees are required to take into account factors that are financially material to investment performance.

The Investment Regulations[3] require trustees to state the extent (if at all) to which they take account of social, environmental or ethical considerations in the selection, retention and realisation of investments.

How might pensions law change?

The Law Commission has recommended that the Investment Regulations for trust-based schemes are updated to distinguish between financial and non-financial reasons when taking account of social, environmental and ethical considerations. It has also recommended that equivalent reporting requirements are introduced for contract-based schemes' independent governance committees.

Separately, IORP II (the revised EU Institutions for Occupational Retirement Provision Directive) strengthens the existing investment disclosure requirements and introduces a legal obligation for trustees to consider environmental, social and governance (ESG) factors as part of their governance and risk management systems. We currently consider it likely that IORP II will be implemented in UK law before Brexit.

BOX 7

How might climate change affect UK mortality rates?[4]

The physical impacts of climate change are expected to affect UK human health in various ways, including:

- Increasing temperatures affecting heat and cold related mortality and illness;
- Flooding, including that caused by sea level rise, causing death, injury and mental health harm;
- Disruption to health and social care services, and damage to related infrastructure, due to extreme weather (potentially coinciding with increased demand);
- Vector-borne disease (eg West Nile and dengue viruses);
- Food safety (as infection rates are sensitive to temperature);
- Water quality and water supply interruptions; and
- Increase in outdoor leisure activities in warmer weather (potentially improving physical and mental health, but also increasing skin cancer risk).

In addition, there will be health effects resulting from the transition to a lower carbon economy. For example, climate change mitigation policies may improve health by increasing walking and cycling, reducing meat consumption and improving air quality. On the other hand, energy prices could rise (eg due to carbon taxes), making it more expensive to heat homes and import fruit and vegetables. Moreover, there could be macroeconomic impacts of climate change such as lower economic growth and higher food prices, resulting in lower healthcare spending and poorer nutrition.

All of these effects are difficult to quantify, particularly over the longer term. Some would act to increase UK life expectancy, whereas others would reduce it, making the overall impact highly uncertain.

From the perspective of setting mortality assumptions for pension scheme funding, the key question is the overall effect on changes in mortality rates compared with those currently reflected in assumed long-term improvement rates. This needs further research. In the meantime, trustees should note the uncertainties and consider the impact of different long-term improvement rates when setting mortality assumptions.

[3]The Occupational Pension Schemes (Investment) Regulations 2005 (SI 2005/3378)

[4]Based on an Institute and Faculty of Actuaries working party paper (forthcoming)

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