

Sixty second summary

Stressed assured – is your funding strategy climate resilient?



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As a follow up to our recent [webinar](#), Peter MacRae explains how our new climate scenario stress testing approach works and what you can use it for.

A change is a good as a stress

We use asset-liability modelling to help our Local Government Pension Scheme (LGPS) clients set contributions for their employers. This means we take each employer's assets and liabilities and project them into the future under 5,000 different simulations, each with different investment returns, inflation, interest rates etc over time. We then analyse the whole range of outcomes to understand how likely a given contribution strategy will succeed, and therefore how much risk it requires the fund to accept.

Funding LGPS pensions is inherently uncertain and aiming for all 5,000 outcomes to succeed would lead to excessively high contributions. For a typical LGPS employer we might agree with the fund that 66-75% of the outcomes need to be successful. Or, to put it another way, we can accept a 25-33% chance that the strategy won't work, and that remedial action will be required in future.

These results all depend on the model, and it's natural to ask how much they might change if the model assumptions were different. In particular, how confident can we be that the results reflect the potential impact of probably the most important issue of the day: climate change?

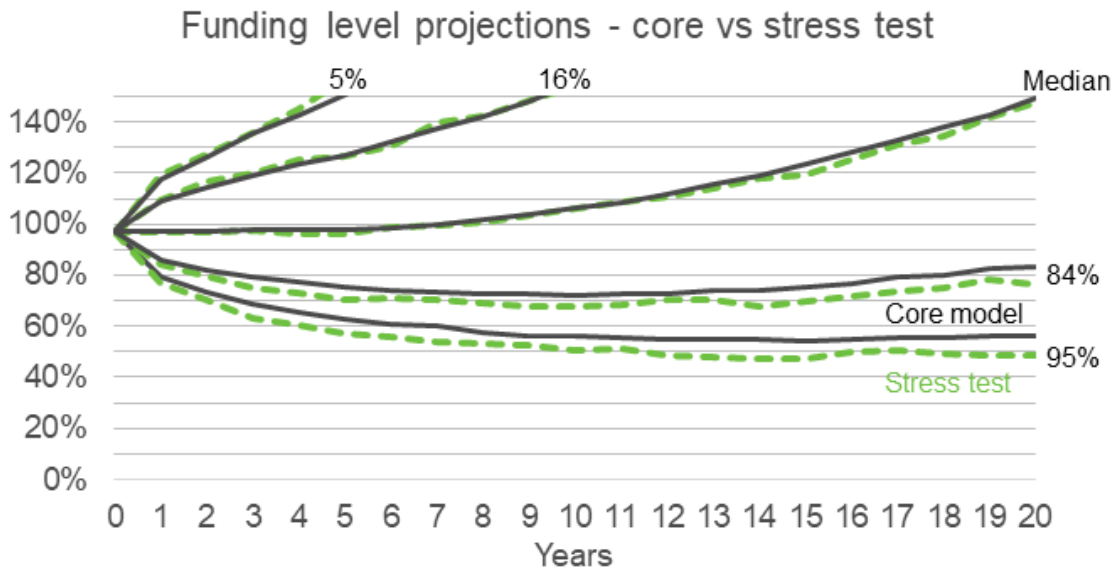
To tackle this question we see how the results change when we apply "stress tests". We've devised three scenarios differing in the timing and the strength of the world's response to climate change. In each one there is a period of significant market disruption in response to climate change countermeasures (or lack thereof). These scenarios don't cover every possible outcome, but they let us test three extremes and see how sensitive the results are, helping us understand how resilient the funding strategy is.

Stressed and be thankful?

The chart below shows the result of one of the stress tests for a real LGPS employer. The solid lines show the range of future funding level outcomes under the core modelling, and the dashed lines show how it changes under one of the climate scenarios. Each line is a different percentile, e.g. 95% of outcomes are better than the lowest line (only 5% are worse). The chart only shows funding levels up to 150% so we can see the less successful outcomes more clearly. The two median lines are very close together meaning that "average" results aren't radically different, but it's clear that the bad outcomes in the lower part of the chart are consistently worse in the climate scenario. This is a typical result, showing that the strategy might still have the same chance of success but that when things go wrong, they get much worse.

These results do not mean that we think the funding strategy is immune to climate risk. No strategy is immune to any risk – as mentioned earlier we already accept a good chance of failure even without the stress tests. Instead, the results give us comfort that the original modelling does not significantly underestimate the potential impact of climate

change. We can be reassured that we don't need to substantially increase our risk appetite (or employer contributions) because of climate risk.



Stress is more

Why bother with stress testing? In addition to supporting funding strategy decisions as described above, other reasons include:

- Taskforce for Climate-Related Financial Disclosures (TCFD) – stress testing will be a compliance requirement in the upcoming TCFD regime (LGPS consultation expected this summer!).
- Evidence of action - climate change is a topic of huge general interest from committee members, employers and scheme members. It also attracting attention from national oversight bodies, such as the Pensions Regulator. With funds increasingly setting net-zero targets on the asset side, the testing completes the circle by bringing in the liability side too.
- Governance and risk management – you'll be able to demonstrate that you are actively considering climate change in the funding strategy, giving confidence that your fund – and therefore members' benefits – are resilient to this most important of risks.
- Professional obligations - actuaries (and other advisers) are also under more pressure than ever to consider climate change, and we believe our stress test approach is a big step towards raising awareness levels.

We are recommending that all of our LGPS clients include the stress test analysis when they consider funding strategy for their main employers at this year's valuation. You may already have heard about it from your consultant, but if not, then get in touch with them to find out more.