

Aon Investment Research and Insights

Dangers Ahead?

Navigating hazards using scenario analysis

March 2018

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About Aon Investment Research and Insights

Aon's robust portfolio of ideas, tools and researched solutions support trustees and sponsors to anticipate their future investment requirements.

By beginning to identify investment research and communicate ideas before they are needed we can shorten the implementation times for our clients and act in a timely way when opportunities are correctly priced.

To learn more and to access other research and insights from Aon's investment experts, visit aon.com/investment

Executive summary

According to author and political activist Helen Keller... “A bend in the road is not the end of the road...unless you fail to make the turn”. We believe that pension scheme trustees and sponsors should prepare for the hazards on the investment road ahead. One way of doing this is to ask ‘What if...?’ type questions. We call this ‘scenario analysis’.

- People often underestimate the probability or impact of extreme or unanticipated outcomes – for example, who would have predicted such low bond yields or that the UK would leave the EU?
- Behavioural biases mean that we often fail to prepare for different scenarios and the risks they may present.
- Scenario analysis can help trustee boards and corporate treasurers consider a range of possible outcomes seriously and without bias, so that they are better prepared.

Introduction

More than ever, sound decision making processes and preparation are needed to navigate the investment terrain, given the growing number of political, economic and financial risks and increased uncertainty over the future outlook.

Key market events can cause all sorts of surprises, market reactions and knee jerk responses, even when we know in advance the timing of events and the number of possible outcomes. Effective decision taking is essential if these market events are to be prepared for and dealt with well.

To make sound decisions there is a need for education and discipline to overcome embedded biases towards the status quo. Looking at making decisions under different scenarios can allow us to avoid cognitive and emotional biases, while gaining a better sense of priorities and the potential impact of real events. This allows decision making to deliver better results.

Aon’s scenario analysis assesses the effect on a pension scheme of a handful of carefully selected economic scenarios over the next five years. We can use this analysis alone or alongside asset liability modelling (ALM), which uses thousands of computer-generated scenarios.

ALM allows us to assess risk using conventional statistical tools and models, whereas scenario analysis allows us to take a forward looking approach based on certain economic conditions and expert judgement. This allows forward looking views to be incorporated into the scenarios, conditioned on market events.

Scenario analysis covers a range of outcomes, from pessimistic to optimistic. Some of these also address topical focuses of concern. For example:

- What if Brexit negotiations are acrimonious and there is no trade agreement between the UK and Europe?
- What if the US Federal Reserve raises interest rates too quickly?
- What if inflation starts to increase rapidly?

Other scenarios explore deep recession and financial crises, which are ideal for stress testing pension schemes to ensure that they can survive the worst conditions.

In the UK, the Pensions Regulator’s (tPR) guidance on integrated risk management specifies that the process should involve a consideration of ‘what if’ scenarios to test the scheme’s and employer’s risk capacities.

Scenario analysis is therefore a valuable tool for pension scheme trustee boards and corporate treasurers alike.

Scenario analysis and asset liability modelling

Markets move through periods of large gains and losses, driven by economic developments, political events around the world, market sentiment and many other factors.

We can capture these good or bad market impacts (and their associated probabilities) in our ALM analysis based on model simulations. These can be used to identify the range of possible outcomes for funding positions and contribution requirements. The wide range of economic and market simulations (in the thousands) include extreme events that have a low chance of happening but are extremely damaging to funding positions if they do occur.

This type of analysis is useful when trying to understand how bad things could get. However, these models are complicated and it can be hard to foresee the circumstances that are driving particular good or bad outcomes.

In contrast, our economic scenario analysis brings the range of outcomes to life by providing an explanation about the economic outlook, the assumptions we make about financial conditions (such as bond yields and asset returns) and the wider issues (such as inflation and economic growth) over a five-year time period for each scenario.

Examining how economic and market events may unfold is particularly useful for understanding the effect of stressed market conditions on assets and liabilities. It makes it easy to understand how different economic and market backgrounds can have a positive or negative effect on the funding positions and contributions requirements for institutional investors.

How scenario analysis can help

Make informed funding and investment decisions

Alongside the demonstration of the impact of scenarios on fund related positions, we provide a description that accompanies each scenario and explains the economic logic behind movements in assets and liabilities. This makes it easier to appreciate how a scheme might develop over time under different scenarios.

This is useful when making decisions that affect assets and / or liabilities, such as:

- reviewing the investment strategy;
- assessing the impact of increasing the interest rate and/or inflation hedge;
- considering the adequacy of contingent assets; or
- assessing the impact of benefit changes or risk settlement exercises

Stress test investment strategy

Understanding how extreme scenarios can affect assets and liabilities allows us to identify current weaknesses and make changes to deal with those risks. This ensures that pension schemes are better placed to withstand shocks.

The analysis can be applied to liquidity risk analysis to see under which scenarios the amount of cash and liquid assets held may be insufficient to meet the cash requirements of the liabilities.

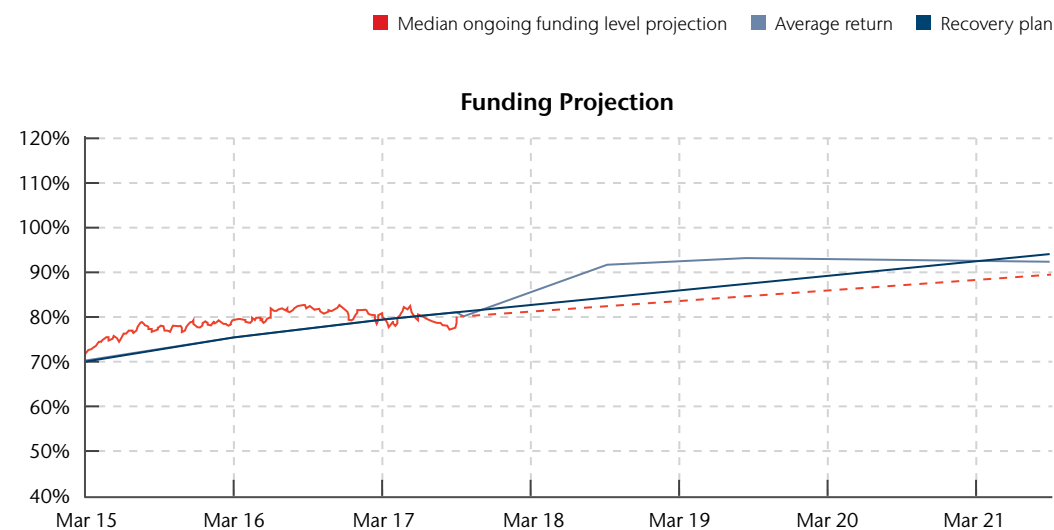
Better planning in preparation for future conditions

An insight into how the funding position develops, and the reasons behind this, allows opportunities and threats to be identified. This can then be used to prepare and have the right people and systems in place, at the right time, to enable a quick response to changing conditions. Our analysis and reporting also includes information for companies to link into their enterprise risk management frameworks if necessary.

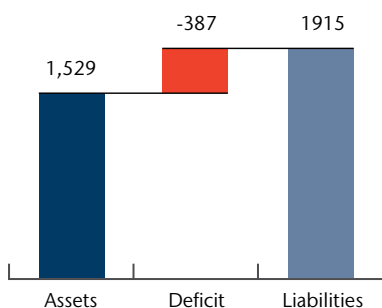
Review adequacy of cash contributions

Scenarios can be used to assess the size of a funding gap and what this means for future cash contribution requirements. This helps to assess whether current cash contributions are adequate and can support the dialogue between corporate sponsors and trustees when negotiating the level of future contributions.

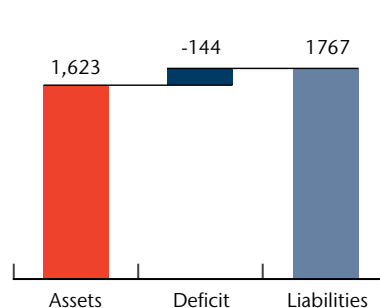
Example funding level and deficit projection – ‘Stagflation’ scenario analysis



March 2017 (£m)



March 2022 (£m)



We can model how a scenario impacts pension scheme's assets and liabilities over time.

Our economic scenarios

We currently produce nine economic scenarios — a base case scenario and eight alternative scenarios.

The base case scenario is based on our long-term views on asset returns. We produce the other scenarios to show changes away from the base case scenario.

We can categorise the economic environments that create these other scenarios into one of three groups:

Optimistic, Pessimistic and Topical.

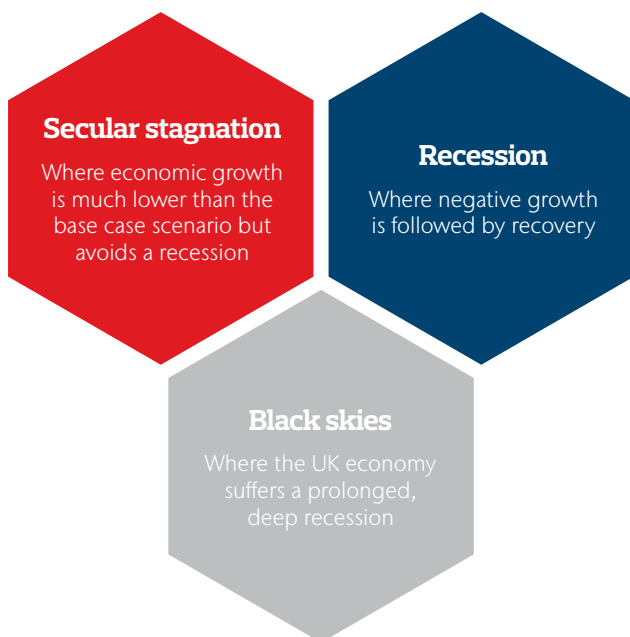
Optimistic scenarios

The optimistic scenarios have a more positive outlook for the economy and markets, compared with the base case scenario, and these scenarios are generally positive for funding positions.

There is currently only one scenario in the optimistic group, as most trustees and the companies providing pensions are more concerned about negative scenarios. This 'blue skies' scenario describes a path of strong recovery for the UK and world economy.

Pessimistic scenarios

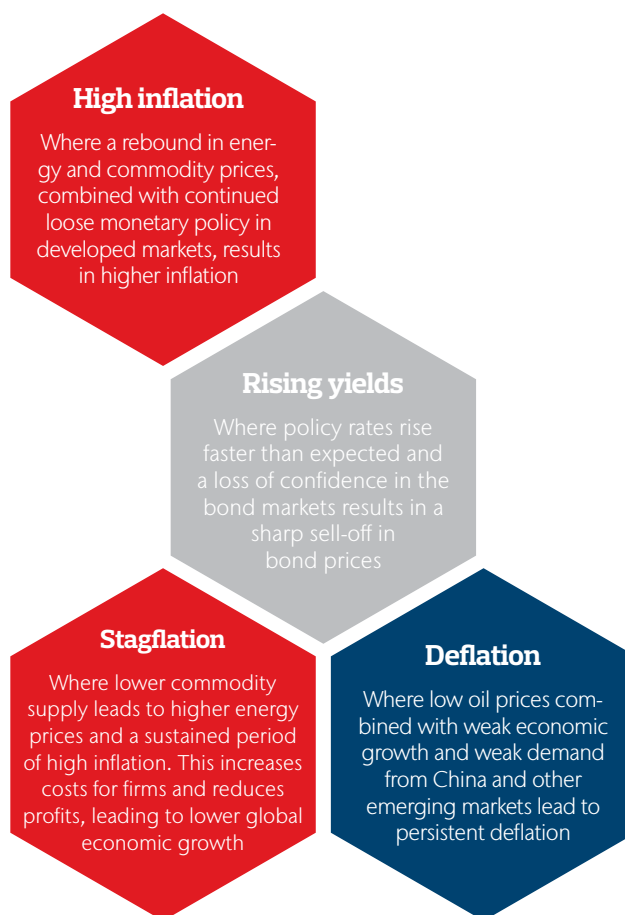
The pessimistic scenarios are characterised by weaker economic growth, lower bond yields and lower returns in equity markets (and other growth assets) compared with the base case scenario. They are usually negative for funding positions. There are currently three pessimistic scenarios.



Topical scenarios

The thematic scenarios explore the outcomes which will be immediately relevant due to recent economic trends or events.

Whether these scenarios are negative or positive for funding positions depends on their particular circumstances. There are currently six thematic scenarios.

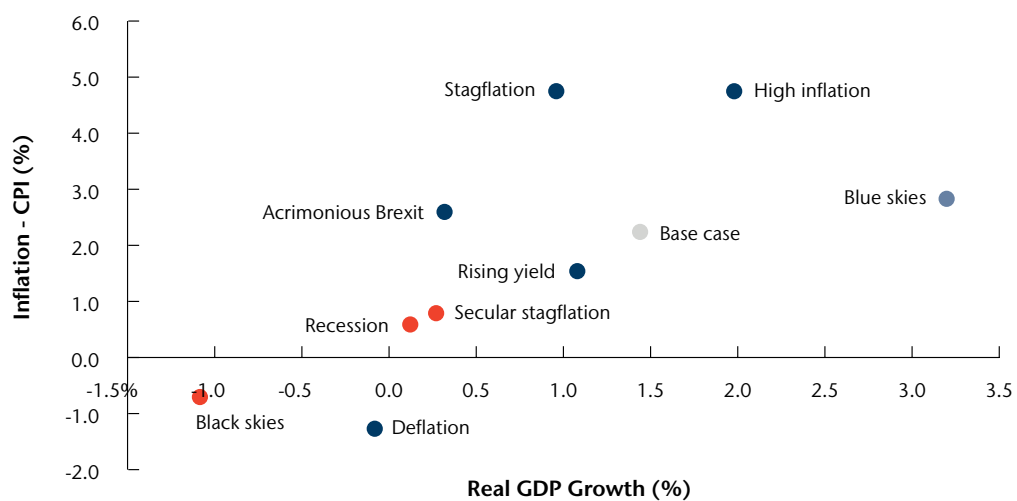


We also regularly produce scenarios based on ongoing themes, such as Brexit.



The following chart shows the average economic growth and inflation levels experienced over the next five years under each of the scenarios:

Economic growth and inflation



Source: Datastream/IIPD

Scenario projections

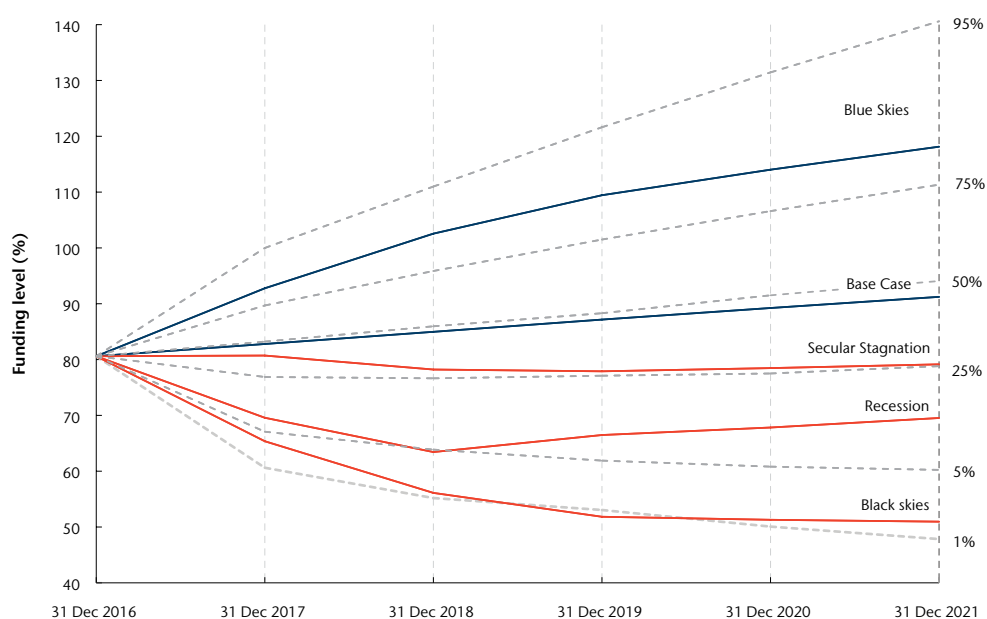
The charts on the following page show one of the outputs from our analysis, combining scenario analysis and ALM results. They show the possible size of the funding level through time under each scenario for an example pension scheme with a typical allocation of assets.

Funding level projections –

Core scenarios

Pessimistic scenarios can be used to undertake different degrees of stress testing. Optimistic scenarios are useful for considering de-risking strategies.

Deterministic projections of the funded status

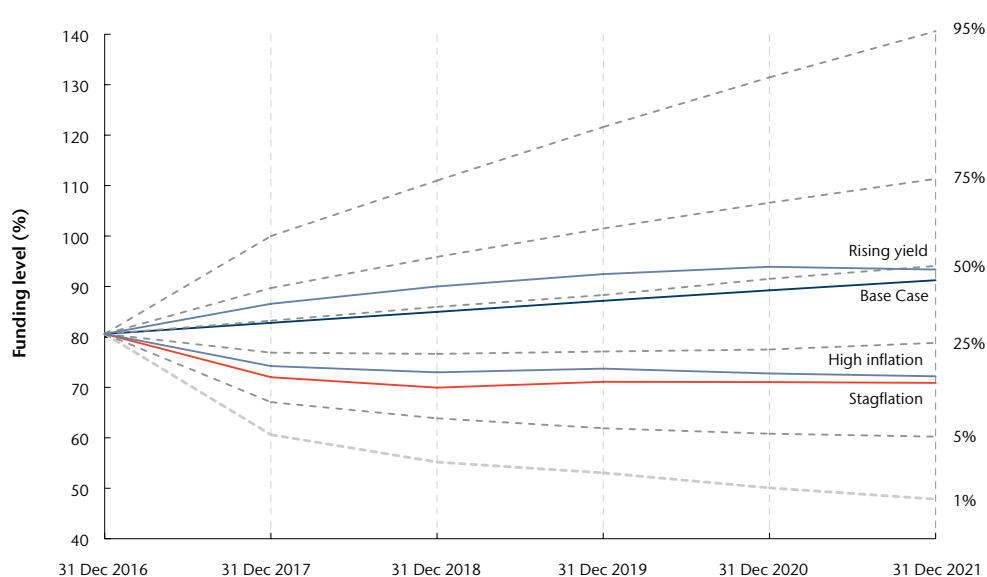


Funding level projections –

Topical scenarios

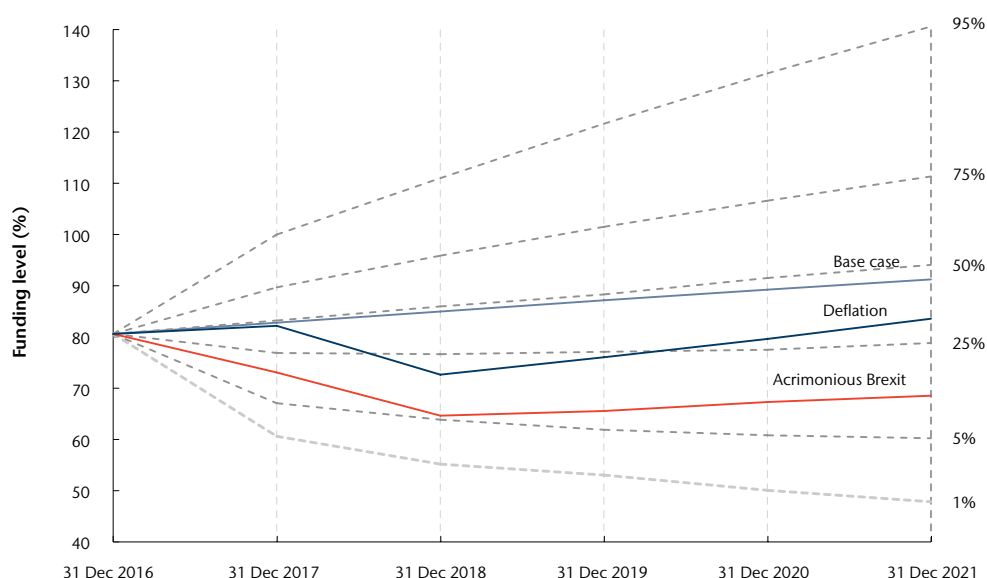
Topical scenarios cover a wide range of possible outcomes. Themes include high inflation and rising yield scenarios.

Deterministic projections of the funded status



Political risks, such as the impact of Brexit are assessed.

Deterministic projections of the funded status



Scenario extensions

More scenarios

Unlike ALMs, our economic scenarios do not describe all possible states of the world.

The aim is to illustrate a wide range of market outcomes that result from realistic economic states and which will have a major effect on the values of assets and liabilities.

Some of our clients have asked us to create other scenarios that are of particular concern to their business. In these cases, we have developed customised scenarios to meet their needs.

More time periods

We can extend our scenarios beyond five years where required. We can project the scenarios to 10 years or 20 years.

This is particularly useful for analysing illiquid assets which usually have longer investment horizons, and for understanding how these behave under stressed conditions as well as the long-term risks.

Conclusion

Pension schemes need to be prepared for the hazards that might lie on the road ahead. Economic scenario analysis is an essential tool for better understanding what could happen to pension schemes so that the dangers can be navigated successfully.

This knowledge can then be used to better plan now for all eventualities. Where we are tomorrow begins with what we do today!



We're here to empower results

Please contact your Aon consultant to discuss how scenario analysis can help your scheme.

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With thanks to our author

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