Government Actuary's Department

eNews from GAD

Actuarial analysis from the public sector

Issue 18, December 2014

Welcome to eNews – GAD's regular newsletter. In this edition, Ian Rogers outlines the recent changes in the government guarantee to the Pool Re scheme which supports provision of terrorism insurance in the UK. Here our analysis has led to a better outcome by shining a quantitative light on the issues resulting in significant savings for the government.

Government is increasingly using quantitative methods and analysis, for example various kind of models. It is critical that those responsible for the most important models within government are able to ensure these models fulfil their purpose and are used appropriately. As a department with actuaries skilled in modelling and model assurance, and subject to professional standards, GAD is ideally equipped to provide support.

GAD contributed to the 2013 Macpherson review, which reported on the status of model assurance across government. In the run-up to the next round of annual reporting, Gina Mosquera describes the progress on model assurance that has been made over the last year by departments.

Also in this issue, Alan Dorn considers current issues facing funded defined benefit pension schemes in government.

I hope that you enjoy this issue and would like to take this opportunity to wish you a very happy Christmas and New Year holiday. As before, previous issues of eNews are available on our website www.gov.uk/gad.

MARTIN CLARKE, GOVERNMENT ACTUARY

NEWS FROM GAD

Public service pensions forum

The new public service pension schemes to be introduced in April 2015 will be subject to new requirements on scheme governance. GAD will be holding a Forum on Tuesday 20 January 2015 for newly-appointed Chairs and Board members and officials in sponsoring departments. For more information contact Mark Shaw on 020 7211 2718 or at mark.shaw@gad.gov.uk.

Investment metrics and models

The Kay Review highlighted that the growth of intermediation in the investment chain has led long term investors to increasingly rely on metrics or models to judge performance of companies. As a member of the expert steering panel, GAD's Colin Wilson provided guidance to the BIS Research paper Metrics and models used to assess company and investment performance.

DEVELOPMENTS

Autumn statement

The Chancellor announced that from April 2015, the tax treatment on death of joint life and guaranteed term annuities will be changed to be consistent with that for uncrystallised funds and drawdown funds as announced in September. Future payments and remaining funds will be passed on tax free where the individual dies before age 75. On death after age 75 the beneficiary will pay tax at their marginal rate or at 45% where payment is made as a lump sum. Changes to ISA rules will enable a surviving spouse or civil partner to inherit the tax advantages of their partner's accumulated ISA savings.

Other provisions announced include maintaining the upper limit of age 75 for claiming tax relief on pension contributions and introducing flexibility to permit joint life annuities to be paid to any beneficiary.

Consultation on charges

Both the government and the Financial Conduct Authority (FCA) have issued recent consultations to address high charges. The FCA consultation includes proposed new rules which would require firms to implement a charge cap on the default funds of workplace personal pension schemes used for automatic enrolment.

New pensions legislation

The Taxation of Pensions Act 2014, which received Royal Assent on 17 December, provides for the fundamental changes to pensions taxation initially announced at Budget 2014. Parliament is also currently considering the Pension Schemes Bill, which sets a framework under which 'defined ambition' or 'shared risk' schemes can be established.

Pension Protection Fund Levy

The PPF has published its draft determination and levy estimate for 2015/16 of £635 million and has confirmed that it will be moving to a PPF specific insolvency model. It is expected to publish the final levy rules in December.

Solvency II

In advance of the implementation of Solvency II in January 2016 many detailed provisions have been, or are in the process of being, finalised. Both the Prudential Regulation Authority and FCA have issued a number of consultations over recent months, whilst at the European level legislation and Implementing Technical Standards have been published but these are both subject to further approvals.

VALUING GOVERNMENT GUARANTEES: KEEPING BRITAIN RESILIENT TO TERRORIST ATTACKS

The Government provides the insurance industry with a guarantee of financial support in the event of an extreme terrorist attack. This ensures that comprehensive and affordable insurance cover is available to help the wider economy remain resilient to the threat of terrorism. Ian Rogers explores some of the issues involved and looks at how GAD can help our clients consider the value of guarantees.


Ian Rogers

Why is the Government involved?

In April 1992 a truck bomb was detonated outside the Baltic Exchange in the City of London. This followed a series of terrorism incidents in the early 1990s, related to the situation in Northern Ireland. The scale and unpredictable nature of these losses started to impact the cost and availability of insurance against terrorism. With leading reinsurers no longer willing to provide terrorism cover for commercial properties, a new arrangement for transferring these risks was required.

Pool Re was set up in 1993 by leading insurers as a mutual reinsurance company with government support. As a mutual, it is owned by the insurance companies who participate in the arrangement. As a reinsurance company, it provides cover for large losses to insurance companies so they can provide the security that policyholders need.


The 'Gherkin' (30 St Mary Axe) now stands on the site of the former Baltic Exchange

(Photo © Andrew Dunn)

Government support was vital to ensure that Pool Re would be a viable proposition. In return for a share of premium, the government provides a guarantee that losses to the scheme will be paid even if Pool Re's own funds should prove insufficient. The financial strength of the government ensures there is confidence in the market that these payments will be met.

Note that the Pool Re scheme only covers terrorism losses in Great Britain, as there is a separate compensation scheme in place in Northern Ireland.

'Revised terms have been put in place.'

Without Pool Re, the withdrawal of terrorism insurance would have had potentially serious consequences for the British economy, which relies on financial protection from extreme events to operate efficiently and invest in the future. Much has changed over the last 20 years, but the government guarantee remains in place.

This year the government concluded a review of the pricing of this arrangement and revised terms have been put in place with effect from January 2015.

Why was the arrangement reviewed?

Her Majesty's Treasury (HMT) are responsible for government oversight of this arrangement. Officials at HMT and the Cabinet Office agreed that a review was needed as a lot had changed since Pool Re was established:

- the terrorism threat is more global, with recent events linked to al-Qaida whilst the situation in Northern Ireland has profoundly changed for the better
- after 9/11, Pool Re's cover was extended to include nuclear, chemical, biological and radiological attacks. This was done in response to further restrictions introduced in the international reinsurance market at that time
- despite several events (including the Manchester bombing in 1996 and the 7 July 2005 London bombings), Pool Re has become financially stronger through building up its funds.

VALUING GOVERNMENT GUARANTEES: KEEPING BRITAIN RESILIENT TO TERRORIST ATTACKS (continued)

In addition to changing aspects of the risk there have also been changes to guidance on the use of government resources. Managing Public Money was first published by HMT in October 2007 and updated in July 2013. This guidance clearly requires a commercial approach to charging for guarantees, that allows for the capital at risk.

Valuing complex contingent liabilities and commercially pricing risk are core skills of actuaries, so it was no surprise when HMT asked GAD to help.

> ‘HMT… guidance clearly requires a commercial approach to charging for guarantees .’

How did GAD help?

The key challenge was to place a commercial value on the government guarantee in the face of significant volatility of the underlying costs and the absence of a fully functioning market. Despite the considerable uncertainty involved, GAD was able to apply commercial actuarial techniques to the data available to offer insights into how a fair commercial price might be set.

Given the high level of underlying uncertainty associated with terrorist attack events GAD used a number of different approaches in order to assess the value of the guarantee. These ranged from calculations of probability-weighted outcomes to use of the available market data in order to assess current commercial requirements. This provided assurance that the range of estimates produced was robust.

The guarantee is especially relevant for very large loss scenarios and so GAD’s work required considering extreme but plausible scenarios, such as a large dirty bomb in Canary Wharf. Extreme events like this have a very low probability but a very high impact. There is insufficient historical data on events of this type to base the exercise on past experience. Instead, the work combined use of the limited data with expert input across a range of relevant research areas. This allowed the use of different scenarios to inform the level of risk to government associated with the arrangement.

A key part of the analysis was ensuring that it could be readily presented and understood by the range of stakeholders in the process. This required reporting that was clear about its purpose, the methodology followed and the conclusions reached.

As well as providing technical support on the pricing and a fresh understanding of the nature of the guarantee, GAD were also able to offer advice on other options and wider risk considerations to inform HMT’s decision making.

What is the outcome?

Early in November, Pool Re considered final government proposals and wrote to its members recommending their support. At an extraordinary general meeting on 21 November, members of Pool Re voted unanimously in favour of the new terms. This ensured that the market in terrorism insurance would continue to function and provide security.

The government formally announced this agreement in the Autumn Statement on 3 December, which quoted the financial impact as an extra £175m yearly income to government.

Is this relevant to me?

Although the government arrangement with Pool Re is unique, the techniques for valuing guarantees and modelling risks can be applied to many situations across government. The risks from existing guarantees can change over time, so keeping them under review can identify any actions that may be required to ensure ongoing value for taxpayers.

If you are pricing a guarantee or reviewing an existing contingent liability GAD may be able to help. To find out more, please contact Ian Rogers (ian.rogers@gad.gov.uk or 020 7211 2710).

ARE YOU STILL GETTING THE CRITICAL DECISIONS RIGHT? ASSESSING PROGRESS AGAINST THE MACPHERSON RECOMMENDATIONS

Analytical models are extensively used across UK Government to inform decision-making in the public sector. Many of these models influence key investment decisions and must respond to a fast-changing policy environment. Therefore, it is crucial to ensure that models are robust and of sufficiently high quality to be used confidently by the end users.

In the run-up to the next round of annual reporting and in advance of a wider HMT review, Gina Mosquera looks at some of the most recent developments in this area. The focus is on the recommendations published in the Macpherson review and the subsequent analysis of quality assurance procedures in place across government departments.

Gina Mosquera

The Macpherson review

In March 2013, HM Treasury published the Macpherson review, a report on the quality assurance (QA) of analytical models across government (see eNews issue 11). The report identifies the government's business critical models and their quality assurance processes, and makes eight recommendations for government on best practice principles for model quality assurance.

Eight recommendations from the Macpherson review

Appropriate quality assurance; if time constraints prevent this then this should be explicitly acknowledged and reported

Appropriate specialist staff to develop and use the models as well as undertake QA

A single Senior Responsible Owner for each model who should confirm that they are content with the QA processes

A governance statement from the Accounting Officer within each organisation's annual report confirming that an appropriate QA framework is in place

A clear plan for the right environment within organisations to create the best conditions for QA

A clear plan for the right process within organisations for how they will ensure they have effective processes to underpin QA

The establishment of a working group including cross-departmental expertise to continue to share best practice

A review in 12 months' time against the recommendations above

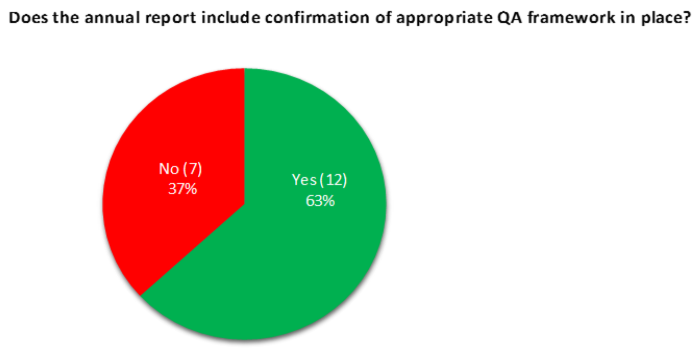
Progress since the review

In September 2014, GAD assessed the annual reports of the 19 central government departments included in the Macpherson review in order to check the extent to which the recommendations set out in the review have been implemented. This provides an indication of overall progress and also allows particular departments to assess how they compare to others.

For each department, the following were checked:

- confirmation, in their annual report, of an appropriate QA framework being in place (Macpherson recommendation 4)
- public availability of an up-to-date list of business critical models (recommendation 4); and
- confirmation of guidance being in place on how they will ensure they have effective processes to underpin appropriate QA across their organisation (recommendation 6).

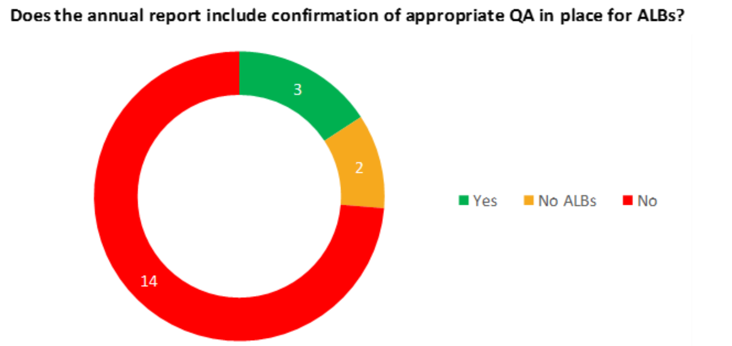
The pie chart below divides the departments according to whether there was reference to their QA plans in their annual report, or not. The results show a majority of departments complying with Macpherson recommendation 4, by including confirmation of an appropriate QA framework in the Accounting Officer's governance statement.



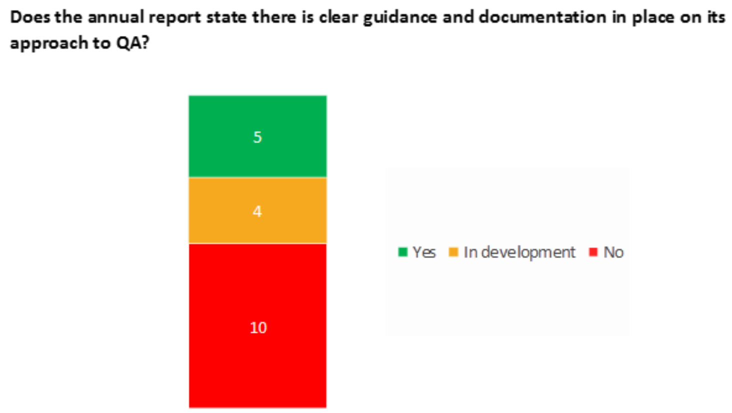
Of the 19 departments assessed, 17 manage a number of Arm's Length Bodies (ALBs). For example, the UK Debt Management Office is an executive agency of HM Treasury, and the Met Office is a trading fund of the Department for Business, Innovation and Skills.

ARE YOU STILL GETTING THE CRITICAL DECISIONS RIGHT? ASSESSING PROGRESS AGAINST THE MACPHERSON RECOMMENDATIONS (continued)

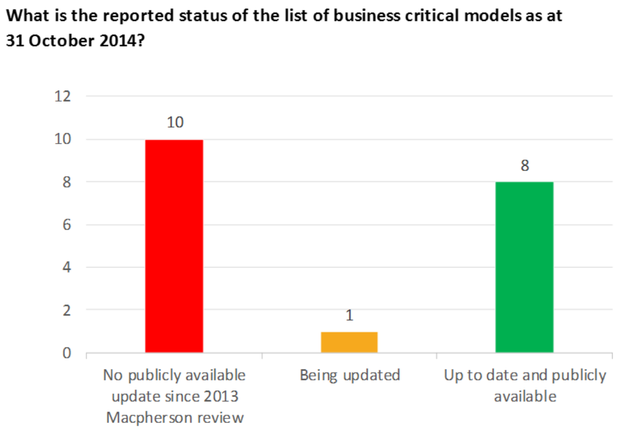
The doughnut chart below divides the departments further based on whether there was reference to a QA framework in the department annual report for their ALBs. Of the 17 departments with ALBs, 3 comply with Macpherson recommendation 4, but the remaining do not make any reference to a QA framework for ALBs.



The stacked bar below summarises the results on compliance with recommendation 6. Departments are divided into three groups: 5 departments confirmed that guidance is in place for their QA processes, 4 of them are currently developing the documentation, and the remaining 10 do not make any reference to QA guidance in their annual report.



Finally, the bar chart above right illustrates which departments have released a publicly available list of updated critical models since the publication of the Macpherson review in 2013. The results obtained show that 10 of the departments have not updated their list since their business critical models were identified as part of the research for the Macpherson review. Eight departments do comply with the recommendation, by having published a publicly available list reflecting their current business critical models, and one is currently updating their list.



What next?

In line with Macpherson recommendation 8, HMT is finalising a follow-up review to monitor how the departments across government have addressed the recommendations set out in the Macpherson review.

In parallel, the cross-departmental working group on model QA is maintaining its commitment to share best practice and experience. One of its latest undertakings is the creation of the Analytical Quality Assurance (Aqua) Book, a guide to the purpose and principles of producing quality modelling that supports government decision making. Both the one-year Macpherson review and the Aqua Book are due to be published in the near future.

We expect that departments are also beginning to consider the QA processes and guidance that will be referred in the next round of annual reports.

Further information

GAD provides a range of services on QA issues, from review of individual models to departmental processes. If you address QA as part of your role we may be able to help.

If you would like to discuss the use of models in decision making or any other aspect of QA at your department, please get in touch with your usual GAD contact.

FUNDED DEFINED BENEFIT PENSIONS IN GOVERNMENT: WHAT ARE THE ISSUES?

Many employers within government and the wider public sector operate funded defined benefit (DB) schemes. These schemes can pose significant financial risks to their sponsors and to government in general. This article outlines some of the issues for DB pension schemes connected to government.

Alan Dorn

What are the schemes?

Various employers with links to government operate funded DB schemes, for example: public bodies, arms-length bodies and private sector organisations sponsoring schemes with a Crown Guarantee

What is the issue?

At the heart of a DB pension scheme is a firm commitment to pay future benefits. Both their cost and when they must be paid for are uncertain. These costs can have a big impact on departmental budgets, and there are many issues and considerations specific to funded DB pension schemes in particular.

The parties involved

All funded DB schemes have the following stakeholders: members, trustees, sponsoring employer(s).

But for schemes with a link to government, the relevant government department is another key stakeholder. It typically provides funding (direct or indirect) to the sponsoring employer. It may also be ultimately responsible for funding the scheme, for example through an explicit guarantee or contract provisions.

Current issues

Some of the issues and questions currently facing funded DB schemes with a connection to government are as follows:

- rising pension costs due to factors such as the credit crunch and increasing longevity, together with cuts to departmental budgets
- volatile pension cost requirements following triennial actuarial valuations
- decisions about future scheme design, including whether to close the scheme
- for schemes operated by public bodies, reform of future benefits consistent with the main public sector unfunded schemes
- taking action to minimise levy payments to the Pension Protection Fund
- the abolition of contracting out of the state second pension from 2016 and its impact (if not addressed), this will lead to higher net pension costs due to increased National Insurance contributions
- assessment of sponsor 'covenant' – ie ability and willingness to pay contributions – taking account of any formal or informal support provided by the responsible department
- setting and monitoring scheme funding and investment strategy in the light of scheme design changes, sponsor covenant and government support.

How can GAD help?

GAD is uniquely well placed to assist departments in managing these risks, as we have considerable experience and expertise both in the running of funded schemes and the operation of government finances. For example, we have assisted departments to:

- put in place arrangements to avoid the need for material cash contributions
- understand the cost implications and risks of investment strategy changes
- identify ongoing risks to the budgeted cost of pension arrangements, and ways to manage these risks
- undertake reviews of existing support, funding and investment arrangements to better align these with the department's objectives
- assess the implications of the options available to address the scheme reform agenda
- monitor the ongoing risk exposure and performance of the investment arrangements to which they are exposed.

Where appropriate, we can also provide advice to trustees and sponsoring employers.

GAD contacts

Email: enquiries@gad.gov.uk   Telephone: 020 7211 2601

For details of our management team and office address please visit:

https://www.gov.uk/government/organisations/government-actuarys-department#people