Practical problem solving for reserving professionals

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Abstract

The paper looks at the changes in the role of general insurance reserving actuaries using real life examples. The recent GRIT report of the UK profession is referenced. .

Keywords

General insurance; reserving; provisioning; communication.

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Summary

The paper looks at the professional issues facing general insurance actuaries when recommending provisions, some of the real life problems encountered and practical solutions.

Introduction

"The actuary who is only an actuary is not an actuary." Frank Mitchell Redington
"The actuary who is only an actuary won't be an actuary for much longer." Anon

When we decided to write this paper, we had a very clear goal in mind – to look at the real life problems we have encountered in our careers, and to propose solutions. Having thought this through we realised that we should turn the problem on its head. After all, one of our guiding principles is to ask ourselves when something goes wrong or isn't working well, "What could I have done differently?"

So, what can actuaries do differently? How can the profession, corporately and individually, influence insurance firms' practice? This paper attempts to answer that question.

Some real life problems

The recent GRIT report from the UK actuarial profession was produced in response to criticism of the profession from various commentators in regard to reserving, but most of the conclusions relate to all actuarial work. There was a perception that provisions had run-off at higher levels than estimated, which obviously caused problems for companies and reduced the credibility of actuaries. The GRIT report is wide-ranging and covers more areas than this one issue. Some key development areas for actuaries are identified, including:

- Improving communication
- Becoming more assertive
- Giving better information on uncertainty
- Developing new techniques to better deal with today's problems

In our view, actuaries have contributed enormously to the understanding of General Insurance business over the last forty years, and have introduced great techniques for assessing provisions and understanding how an insurance business is working. Now is the time for the profession to build on this, and move to a pro-active position, rather than reactive. This paper sets out our views on how this could be achieved.

How actuaries may have contributed, or the "old-style" actuary

Actuaries are by nature shy and retiring and dislike putting themselves forward. They also rely very much on mathematical certainty to demonstrate their points. This has served the profession well in developing a role in General Insurance provisioning – from virtually zero involvement, we are now the natural port of call for an insurer wanting provisions advice. And the profession has built on this to become a natural adviser on premium rating and capital assessment.

But are we in a watershed period? Should the profession think about changing? Let's look at the skills and attributes of a traditional actuary.

- Very technical, very mathematical

There are many jokes about how introverted actuaries are, and there is an element of truth in them. The main thing that the profession is famous for is our mathematical ability. For over 150 years we have worked to apply mathematical techniques to complex situations. We have insisted on good data collection, storage and analysis. And we have, in the main, provided a sound basis for the insurance and pensions industries.

However, relying on maths does not always lead to the right outcome. Most reserving models use history to predict the future. Blindly assuming that the claims and legal environment going forward is the same as the past is a common trap for actuaries to fall into. In a business situation, there are always different points of view and different agendas. In general insurance provisioning, there is the senior manager who needs / wants a decent bonus based on the profits of the company. There is the underwriter who wants to continue to write business and has a gut feel about it coming good. There is the claims manager who knows his handlers are improving their estimates - not based on analysis, but on the conversations he has with them. So the traditional actuary will be challenged on his figures, and will have to admit to the judgement areas, and so may end up agreeing to a figure that is too low.

- Can't explain actuarial methods or results to non-actuaries and doesn't want to, or see the point.

If the traditional actuary believes that he is right, based on the maths, he may not want to explain himself. After all, the figures can't lie. So, a chasm develops between the business, who want to understand the issues and be able to manage them, and the actuary, who has worked out the answer and regards that as more than sufficient.

- Very knowledgeable but can't transfer that knowledge

The traditional actuary will produce a report that the auditors will love – lots of figures and charts – but with very little for a non-actuary. Despite having to understand an awful lot about the business to come up with an answer, this may not be clear to the business reader. And findings about changes in development patterns that may indicate changes in policyholder behaviour, or the market, may well be opaque. An opportunity for the business to react is lost, and this can only be detrimental.

- Sits in black box/ivory tower in backroom

However, some business information may not reach the traditional actuary, as he is not keen to engage with business colleagues. Some traditional actuaries actively avoid talking to claims colleagues claiming this can pollute the claims data – by telling the claims staff about actuarial findings, their behaviour may change and this would disrupt development patterns. It is also not unusual for the traditional actuary to never meet with the underwriter to discuss the business that has been written, or more importantly, the changes to the business.

This is dangerous for setting provisions, as major sources of information are lost, and key areas can be missed. If the business is changing, then the provisions will need to reflect this.

- Cranks handle on actuarial methods because “that’s how we’ve always done it”

A possible failing of a traditional actuary is reluctance to change methodology, despite new research and practice. The danger here is that new insights are not made, and the maximum value is not added. And, the value of the actuary is reduced as others don’t see the benefit of paying lots of money for an actuary when a statistician can crank the handle just as well.

- Doesn’t interact with underwriters/claims personnel/IT/etc

A General Insurance company has many different parts, each of which impacts on the whole. As a provisioning actuary is effectively putting together a picture of the company and its workings, he needs to understand each part. To quote the claims manager in The Incredibles, “A company is like an enormous clock. It only works when all the little cogs mesh together.” Whilst not a good role model, he did have a point. Sadly, the traditional actuary will rely on his figures to get a picture of the company’s workings, rather than adding some colour and depth from conversations with colleagues.

- Slow to recognise where changes need to be made

As the traditional actuary is stuck in his tower, he is unlikely to see what changes could be made. Changes may be forced on him by the company’s auditors, or by management, but he is unlikely to initiate change. Again, this puts the company at a disadvantage.

- Work product is not useful to ultimate users

Producing a point estimate for the provisions with little intelligible explanation does not add value to the business. Whilst a figure is needed to produce the accounts, the real value is added by understanding the figure, the uncertainty and the insights given by the different methods used. This value is implicit in the provisioning exercise and the actuary is the only person who can extract it. Sadly, the traditional actuary is unlikely to do this.

- Not regarded as a resource by colleagues

By not engaging with the business, and by producing a non-value-adding report, the traditional actuary does not leap to colleague’s minds when they have a problem. They are not aware of the traditional actuary’s skills and how useful they would be in setting prices, understanding data, assessing capital needs or developing a risk framework. So the traditional actuary does not get asked to take part, and another opportunity is lost.

- No role models (i.e., no perfect actuary)

The business actuary has not historically existed in General Insurance. For Life Insurance in the UK, the appointed actuary was responsible for all aspects of the company from pricing to the provisions.

- Doesn’t see career path other than chief/senior actuary

The traditional actuary's aim in life will be to be the chief actuary in a general insurer. It's a well-paid job with enough stress at quarter ends to make it interesting.

But he will not be able to see any other avenues that might be interesting or where he might add value. This is despite being in a position where he understands the whole of the general insurance business, from finances to claims to processing policies. People with these skills are rare and, by building on management skills, can add a lot to a company and even an industry as they have on the life side.

- Not business minded

By focussing on one element of the balance sheet / P&L, the traditional actuary misses the opportunity to look around, take stock and think strategically about the business that employs him. His colleagues, however, do do this, and expect others to do so too. One of the seven habits of highly successful people is to put yourself in the other person's shoes. If the traditional actuary did this, a whole new world of opportunity would open up, as he would be able to see where he could add value pretty quickly.

- Not financially minded

The traditional actuary does not always understand the implications of his recommendations – reduced profit; increased profit; unstable profit – and the effect of these on business decisions. An insurer could lurch from strategy to strategy based on a traditional actuary's figures, without really understanding what is going on underneath.

- Just produces work product – doesn't look for solutions

As a traditional actuary does not really understand the issues facing the business, he is unlikely to produce solutions to those issues, even where he has the skills and tools to do so, or at least contribute something of value to the debate. His focus is to produce the figures, and he will not be able to go beyond that.

The other issues described above make it unlikely that the business will want to invest in the actuarial team, so innovation and development work is unlikely to happen.

- Can't manage people

A natural focus on figures makes the traditional actuary prefer to deal with technical issues rather than people issues. This will lead to a demotivated team, where people either leave or become like the traditional actuary. It's not a recipe for innovation or adding value, and the sad thing is that more people become infected.

- Straight Line thinker

There is always more than one way to deal with an issue. Brainstorming with colleagues can produce more creative solutions than thinking alone in an office. The traditional actuary will prefer to think things through, and his mathematical training will lead him to a logical answer. This will be based on only his experience, though, so the business will lose out by having a limited range of options.

- Believes there is only one answer and it is his/hers

The converse is that once the traditional actuary has a solution to an issue, because it is logically thought through and therefore sound, he believes it is the one correct answer. This means he will be constantly disappointed by the business choosing to do different things to his recommendations.

A general insurer does need solutions, and these can be less than perfect (in our view, the best is the enemy of the good). However, a traditional actuary may take the view that sometimes there is no solution (rather like squaring the circle or finding a solution to a quintic polynomial). Whilst theoretically correct, this does not help a business or its customers.

- Believes actuarial exams actually teach all the skills needed to be an actuary and no further learning is needed

The traditional actuary, as someone who relies on mathematical theories, will rest on the laurels of qualifying as an actuary. After all, the exams are really hard and he's already got a maths degree, so he must be ready for the real world. The problem here is that the exams focus largely on the technical aspects of being an actuary, and cannot cover the whole of that. Actuarial science is constantly developing, in general insurance new situations (new claims, new coverages) emerge all the time and business is looking for a partner, rather than a technician.

- Knows lots about small areas and spends time on those to the exclusion of major problem areas.

This is a serious temptation for a traditional actuary – stick to what you know. An example here is risk – actuaries are good at modelling risks where there is historical data and a visible process. The models can be developed to a high level of detail and can constantly be refined. The traditional actuary will spend a long time modelling the process risk without communicating that the parameter risk is much more significant. This can leave a ompany vulnerable to the unknown unknowns, and these are the things that cause insolvency. Companies need creative, imaginative people who understand risk. The traditional actuary could do this, if only he realised it was important.

Conclusion

The traditional actuary is in a place where up to ten years ago they would have been adding value. However, the world has moved on and is a much more competitive place. Companies need a more holistic approach to managing general insurers – encompassing provisions, pricing, capital and risk – in order to survive. The tools and expertise are all there at the traditional actuary's disposal, all he needs to do is look up, look around and put himself into the business.

How actuaries can do things differently, or the "new" actuary

Many actuaries have thought about how they want themselves and their profession to be perceived. And there are more and more examples of general insurance actuaries who have moved from being technical actuaries to working at the sharp end of the business.

Let's look at the things a new actuary brings to a business, over and above being an actuary.

- Still technical and mathematical

The new actuary is still an actuary, with all that entails. This means technically proficient, numerate and with a good understanding of actuarial science. She takes being an actuary seriously and acts as a source of reliable and relevant information for the insurer for which she works.

- Good communicator

Alongside that, the new actuary actively looks for ways to get her message across. By having a good understanding of the technical workings of the company, plus qualitative information on its different divisions, she will know who needs to know what, and be able to bring it all together.

She will also innovate in ways of communicating – the actuarial report will not be the be all and end all of getting her message across. Reports, emails, meetings and, perhaps most important, informal chats will all be used in a concerted attempt to increase understanding of what she is saying. The new actuary will insist that her whole team operate in the same way, so that the actuarial department is consistent and open to other areas.

This pays off when there is a big issue, or she has a key idea. The groundwork is done and there is a high level of trust between her and her colleagues. And it reduces the need for highlighting caveats in formal reports (although they still need to be there), as colleagues understand what it is that she's telling them.

- Looks for solutions

The actuarial answer is not the final word on an issue. For any issue there will be different viewpoints in an insurer, and the new actuary takes account of these in her work. This involves talking to colleagues about the issue and allowing for their perspective.

This can be hard, for example, if the problem is that profits are too low, so senior managers' bonuses will be reduced. The new actuary will look for solutions that do not compromise the financial soundness of the insurer, and use communication skills to explain what has gone wrong. Such news should not be a surprise that emerges at the end of the year, though, and the new actuary will have been highlighting issues on emergence so that expectations are managed.

- Interacts with all departments in a company

This is the fun part of the job for the new actuary. It is a chance to talk to non-actuaries and understand their concerns. It is a good opportunity to show that the perceptions of actuaries are wrong – actuaries are not geeks who talk only about numbers, we are humans too!

The interaction can be formal – with regular meetings with the claims team, covering standard management information on claims trends, for example. Or it could be regular one-to-one chats with the claims director or the finance director on issues pertinent to them, for example, systems, changes in reporting information, progress to deadlines. Our favourite is the informal chat, preferably over a latte, where the company strategy can be discussed and future relationship developments can be identified. If it's with an underwriter, this chat may be done at the pub! This networkingcould include two-way training courses, or site visits to third party suppliers or claims offices.

- Is a resource for non-actuarial colleagues

Non-actuaries will use the new actuary as a sounding board for ideas. She may act as a partner to the project leader of a non-actuarial project, for example, bringing analytical and creative skills to the team.

An additional skill that the new actuary will develop is a keen political awareness. This is useful in understanding the culture of her employer, and thus how best to communicate results. Colleagues wishing to sense-check possible courses of action will use this skill.

- Understands how actuarial results affect company's financial results

The new actuary realises that actuarial figures do not exist in a vacuum, but affect the bottom line. This is particularly true of general insurance provisions, as they are the major contributor to the profit calculation.

The new actuary will also realise that her figures shape the future of the company – decisions are made based on the results, so communicating them effectively is key. And putting in place an appropriate challenge process and a transparent production process is also important to getting colleagues to understand results and use them appropriately.

- Understands how actuaries can help a company move forward

The new actuary builds on her understanding of how her figures affect the company's present and future profits to show colleagues which levers they can pull or classes of business to write to improve results. This could be done via capital modelling, with scenario testing to show key levers, or by showing the key elements of the P&L and explaining the drivers behind them.

The new actuary will also come up with ideas of her own to improve the company's bottom line and customer experience, based on her own assessment of the figures.

And the new actuary will keep up to date with actuarial developments, so that her advice to the company is the best it could be.

- Explains clearly how different assumptions affect the results

As part of having a transparent process for reserving, the new actuary will be clear on the major assumptions in the final result. These will be discussed with non-actuarial colleagues to gain their views on how reasonable the assumptions are, and also to demonstrate the materiality of them. This is part of an inclusive style of reserving, without taking the responsibility for the figures from the actuary. The major benefit is that colleagues understand the figures, are able to feed in qualitative and quantitative information and understand the importance of the assumptions. A side effect of this is that colleagues will see the need to set up management information systems that support provision of their views, and that will benefit the company.

- Career path includes managing director or similar

The new actuary will not feel restricted by being an actuary, but will want to gain wider experience and take on more responsibility. The chief actuary role is not the pinnacle of achievement – that is chief executive, or operations manager.

- Understands wider marketplace and implications on company's business

An insurer does not operate in a vacuum, so the new actuary needs to bring a wider perspective to bear on her work. Changes in standard market policy conditions will change claims profiles, changes in the underwriting cycle will change reserving patterns and volumes of business, catastrophes will change the way companies underwrite their business.

Understanding the marketplace, and what the company's strategy is will feed into the reserving process as well as the whole actuarial control cycle. The new actuary will make clear the options available to management in terms of prudential margins on the provisions, and the implications for profit.

- Can juggle conflicting priorities

Under the new actuary, the actuarial team will be in demand, so resources will be an issue. The new actuary should be able to demonstrate value for money in getting additional resource, but there may be short-term resource shortages. A new actuary will negotiate with the business to agree deadlines and priorities, and to explain the effect of not doing some tasks. Other sources of resources will be explored, such as consultants or temporary staff.

Again, the key to managing this situation is communication.

- Good trainer and people manager

The actuarial team represents the new actuary on a day-to-day basis, and she will want them to be good ambassadors. This involves appropriate training and development opportunities. An example is taking people to meetings, so they get exposure to senior managers and other ways of working. Speedy feedback on how staff have coped with tricky situations is useful, as is making opportunities for talking informally to staff.

The new actuary will score well in a quiz about her staff's personal lives.

- Can assess alternatives and provide appropriate recommendations

There is rarely a right answer in real life business situations – final decisions depend on individual assessment of the situation, and the strategy of the company. The new actuary will provide an assessment of different options, along with her own view, and allow the business to make a reasonable decision.

The key point here is that the new actuary will be embedded in the business, and be regarded as a partner in its success, rather than a back-room technical person.

- Believes in own work but not overconfident

The results produced by the new actuary and her team will be reviewed and challenged internally allowing her to be well briefed and to rely on the results. However, when presenting results, or participating in a debate, the new actuary will be prepared to change her conclusions in the light of new evidence or argument. This ability to be flexible is a strength and will be valued by the business.

- Doesn't bow to management pressure

The new actuary is not a pushover, however; she still has her professional integrity. Whilst being prepared to listen to the business, find solutions and be open to challenge are part of her skill set, making inappropriate assumptions or setting provisions that are too low is not. The groundwork laid by good communications and an open process should allow for reasonable debate when things go wrong, but there is always the possibility of pressure when bonuses or even jobs are under threat. The new actuary will have a clear line in the sand that she will not cross. She will also be clear on the process to follow should she be under pressure to cross it, and will clearly communicate this to senior management, so they understand the consequences of their actions.

- Understands the uncertainty and volatility in the results and how to communicate it

A key conclusion of the GRIT report is that actuaries have not been good at communicating uncertainty in the provisions. Quoting a point estimate without explain how uncertain it is is telling only half the story. The new actuary will always give context to results, having understood it well herself.

There is good advice in GRIT on how to communicate uncertainty, and the latest draft guidance for general insurance actuaries in the UK makes this essential for actuarial reports.

- Not afraid to admit being wrong or not knowing the answer

Mistakes do happen, and the new actuary will develop a no-blame culture in her own team. Being able to admit mistakes is hard, but the new actuary will regard this as part of her communications role to the business. In the words of Grandpa Potts in Chitty Chitty Bang Bang, "From the ashes of disaster grow the roses of success."

Where the new actuary does not know the answer, she will explain this clearly and be able to find out the answer if it is her area of expertise.

- Understands own limitations

Whilst the new actuary regards the world as her oyster, she is clear on what she doesn't know. She is not an expert on marketing, policy wordings, negotiating with reinsurers. If she tries to move into these areas there is a risk of treading on colleague's feet and destroying good relationships. The converse is that she trusts her colleagues to do their jobs, whilst relying on her own results to highlight problem areas in a non-judgmental way.

Her key focus is improving the business, not scoring points.

- Knows that actuarial exams teach very little of what need to know to be actuary

The new actuary regards each day as an adventure in learning and development. She will spend some time at the end of each day reflecting on what she has learnt and what she could have done better. A good support network of friends and colleagues will be able to challenge her and give advice on specific issues as well as longer-term development needs. She will probably have asked her employer to provide a mentor, so that she can stretch herself further.

The new actuary will regard the actuarial exams as a difficult hurdle to clear before starting on her real career. And she will make sure she keeps up to date with professional and technical developments so that her knowledge is current.

Conclusion

The new actuary is an actuary and a value adding professional. She has looked at the strengths she has and built on them to add value to her employer. In our view, this is the modern actuary, with the strengths of technical skills and a professional approach and framework, put into the real world.

How do we get there?

There may be a view that the profession needs both kinds of actuary. We dispute this. There is a need for very technical actuaries and actuaries who are familiar with technical skills but who are more skilled at business. And there is probably a continuum between them. Importantly, in our view, we believe that all actuaries need to be forward looking, good communicators and able to deal with people. The profession needs innovation in all aspects of actuarial work, and as our unique selling point is our technical abilities, then this needs to be cutting edge. And that doesn't happen without pro-active actuaries who can communicate and sell their findings. It is no good doing brilliant actuarial work if you can't tell people what you've done!

We recommend that the profession target these skills by developing a competency-based framework for actuaries that explains the behaviours the profession would wish to see actuaries demonstrating. For each one, the profession can recommend development options to increase expertise. We do not recommend that these are included in any study pre-qualification, but that they are covered in the professionalism course and that self-development can be included as part of CPD to some extent.

In addition, the profession in each country can collect examples of these behaviours to publicise and possibly reward. This will show all actuaries what is expected of them.

Of course, the traditional actuary may not notice these developments. A harsh view may suggest that these actuaries should be ejected from the profession. However, that does seem a step too far. A softer option would be for new style actuaries to find them and try to influence their behaviour – peer pressure is hard to resist.

In short, there is work to be done by the profession to help develop these new actuaries and, more importantly, new actuaries can lead by example.

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