Cass Business School
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Pensions Institute

THE GOOD, THE BAD AND THE HEALTHY

The medical underwriting revolution in the defined benefit de-risking market

A Pensions Institute report for defined benefit pension scheme trustees, sponsoring employers, advisers, policy-makers and regulators

Andrew Hunt

David Blake

I think that in five years' time all small deals, pretty much, will have to go medically-underwritten, provided the market still exists.
Pension consultant, August 2015

I think top-slicing will really take off, because the big pension schemes don't mind spending money to look at this type of thing.
Pension consultant, September 2015

January 2016

The Good, the Bad and the Healthy: The medical underwriting revolution in the defined benefit de-risking market

Published January 2016

The Pensions Institute
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ISSN: 1367-580X

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The Pensions Institute (www.pensions-institute.org) is the first and only UK academic research centre focused on pensions issues. The views expressed in this report are those of the authors and not the Pensions Institute which takes no policy positions.

Preface

In February 2013, the Pension Institute published its first report, "A healthier way to de-risk: The introduction of medical underwriting to the defined benefit de-risking market". This first report covered the entrance into the bulk annuity market of insurers who underwrite using medical data on pension schemes and its publication coincided with the execution of the first transaction of this sort.

Since drafting that report, the market for bulk annuities generally and, specifically, the use of medical underwriting in bulk annuity pricing has grown significantly. To date, around 60 transactions and over £1bn of pension scheme liabilities have been written via medically underwritten bulk annuities. Major developments during this time period include:

- The Budget of April 2014, which removed the requirement for individuals to purchase an annuity at retirement and so impacted profoundly the sales of individual annuities for the insurers also operating in the bulk annuity market;
- The significant increase in the proportion of bulk annuities being medically underwritten over 2014 and continuing into 2015, now representing over 15% of bulk annuity transactions below £100m in value in the first half of 2015;[1] and
- The £206m Taylor Wimpey transaction in December 2014, which, at the time, was by far the largest medically-underwritten buy-in and a landmark top-slicing deal (where only a small number of individuals with the largest pensions in payment are insured); this deal has encouraged other pension schemes to follow.

When Partnership approached us in March 2015, we agreed it would be a good time to revisit the subject and update the previous report to assess the impact of these new developments.

In the course of conducting the interviews for this report, the proposed merger between Just Retirement and Partnership was announced on 11 August 2015. This announcement adds a further dimension to our findings, which are based on interviews of stakeholders before and after 11 August 2015, given the prominent role of Just Retirement and Partnership in such transactions.

Increasingly, defined benefit pension schemes in the UK are looking to insurance as a method of guaranteeing the benefits promised and relieving sponsoring employers of the ongoing obligation of funding and managing their schemes. Since the majority of defined benefit pension schemes are closed both to new members and to further accrual of benefits, they are effectively being wound down. This process can, however, take decades and so the insurance market has responded by offering to take on these liabilities in exchange for a price or premium. Insurance solutions come in a number of forms, and to date, over £100bn of UK pension scheme risk has been insured using these solutions since 2007.

1 Source: Partnership, based on medically underwritten bulk annuities under £100m in value known to have transacted over the first half of 2015 divided by the total market premium for sub-£100m bulk annuities, as published by various pension consultancies.

Within this market, the use of medical underwriting is a comparative newcomer (as discussed in our previous report). It uses information on members' lifestyles and health from questionnaires, telephone interviews and GP reports, to give more accurate calculations of life expectancy and potentially lower prices. A further development over the past couple of years was the emergence of "top-slicing". By insuring a relatively small number of high-liability individuals, the largest and most concentrated risks can be removed from a pension scheme which, in turn, can improve the effectiveness of other risk-management exercises, such as liability-driven investment. Medical underwriting allows these top-sliced transactions to be done at a more affordable cost, since the impact of the medical underwriting is more likely to be favourable for the scheme than traditional pricing methods.

This report attempts to assess the advantages and disadvantages of medical underwriting and its potential impact on the bulk annuity market generally.

We start by looking at the theoretical justifications for using underwriting, in terms of whether more data leads to lower prices on average, both in the wider context of insurance and then as applied to medical underwriting in bulk annuity policies in particular.

The rest of the report then discusses:

- the evolution of medically-underwritten bulk annuities to date and the competitive pressures currently operating in the marketplace;
- the factors needing to be considered when deciding whether to purchase a medically-underwritten bulk annuity;
- the processes involved in a medically-underwritten transaction, in terms of collecting the data and deciding which insurer to work with; and
- the potential evolution of the bulk annuity market generally in the foreseeable future, and the impact of medical underwriting within that.

These sections are based on interviews conducted with a wide range of individuals engaged with medically-underwritten bulk annuities, including professional pension scheme trustees, pension consultants, pension lawyers and insurers (including those who use medical underwriting, and those who do not) and reinsurers operating in the marketplace. A full list of the contributors to this report is given in the acknowledgements. We would like to thank the many people and organisations that helped with this research. Where we quote from interviews, the comments are anonymised. This technique, pioneered by the Pensions Institute for its practitioner reports, enables us to express the views of actual and potential market stakeholders more candidly and more fully than might otherwise be the case.

Finally, we conclude with our personal views on the prospects for medical underwriting within the bulk annuity market, along with a brief glossary and references used in this report.

The research was generously sponsored by Partnership, which commented on various drafts but did not seek to influence the conclusions of the authors in any

way. The views expressed here are those of the authors not the Pensions Institute, which takes no policy positions.

Information in this report was correct at the time of drafting (November 2015). However, in a rapidly developing market such as that for MUBAs, we are necessarily hostage to new developments. In particular, we are aware that, subsequent to this report being drafted, Legal & General transacted a £230m medically-underwritten buy-in in late December 2015, making this the largest medically-underwritten transaction to date. Although we have limited details on the nature of this deal, we believe the deal only goes to reinforce our report's conclusions.

Andrew Hunt and David Blake
The Pensions Institute, January 2016

For comments on, and questions about this report,
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Executive Summary

Growth

Rapid growth in medically-underwritten bulk annuities to date, with around 60 transactions and over £1bn of pension scheme liabilities insured.

3% of bulk annuities (by premium) under £100m were medically underwritten in 2013, 10% in 2014 and over 15% in the first half of 2015.

The largest single transactions to date have been the Taylor Wimpey top-slicing deal for £206m in December 2014 and a £230m top-slicing deal in December 2015 (name not yet announced). Larger ones may well follow.

Top-slicing, where a relatively small number of high-liability individuals are insured, is a recently introduced example of insuring scheme liabilities and offers significant potential for medical underwriting to provide a favourable impact on price. It can also be a cost-efficient method of substantially reducing the amount of risk in a large pension scheme.

Theory

We find that there is theoretical support for greater use of data reducing the breakeven price required by an insurer, caused by the reduced uncertainty regarding the potential timing and amount of the pensions payable and the resulting reduced uncertainty in reserving and profit emergence.

In addition, for specific schemes, more underwriting can produce significant reductions in the expected cost of the policy.

We find that there is significant potential for medical underwriting leading to a favourable impact on price for a pension scheme in a top-slicing transaction, since prudent assumptions are generally used to price these individuals if additional health data is not obtained.

However, there are many factors that contribute to bulk annuity pricing. The competitive pricing offered by the specialist medical underwriters to date are driven by a combination of the underwriting itself, the investment strategy used by the insurers, their appetite to write new business and the degree of competition in the marketplace.

Development

The process of collecting medical information has standardised considerably since the February 2013 report, in part due to the involvement of third-party medical data collectors.

However, there is still scope for further standardisation of the process for collecting more detailed information via telephone interviews and GP reports. The benefits of this will be further reduced time and cost.

A concern remains that should a pension scheme obtain medical data and/or

a quote from a medical underwriter, but then fail to transact, it could face the risk that traditional insurers concerned about selection may lock these pension schemes out of the traditional bulk annuity market at reasonable pricing (at least for a number of years).

Prospects

Sustained growth is expected in the bulk annuity market in the foreseeable future, despite the potential for the new Solvency II regulations to push prices up slightly at the margins.

Most market participants accept the theoretical justification of medical underwriting in top-slicing transactions. We understand that a number of top-slicing transactions are in the pipeline, leading to an increase in their number in the foreseeable future.

Most market participants interviewed believe that medical underwriting is now an established part of the bulk annuity market for smaller schemes, and will account for a substantial proportion of deals in future. Some are more bullish and suggested that almost all buy-ins for smaller schemes could go medically-underwritten in future.

However, the proposed merger between Just Retirement and Partnership may have repercussions on the penetration of medically-underwritten bulk annuities. What that impact will be depends on the pricing policy of the merged entity going forwards, and the response of both the other insurers and other potential new entrants using medical underwriting.

We predict a greater convergence between traditional and medically-underwritten bulk annuities, with the insurers that have been committed to medical underwriting to date competing in more traditional underwritten processes and traditional insurers developing their own ability to compete in medically underwritten transactions.

While the level of experience and understanding of medical underwriting and bulk annuities generally has developed substantially since February 2013, there is scope for further market education of pension consultants, insurers and trustees around this topic. This would help pension schemes make informed judgements and be able to transact efficiently and on the best possible terms. We hope this report supports this aim, although further work is needed in this area.

1. The Theoretical Justification for Underwriting

The key feature that sets medically-underwritten bulk annuities apart is, by definition, the level of underwriting on the insured lives performed when the annuities are sold. Consequently, in order to understand the potential impact of this enhanced underwriting on the bulk annuity market, it is helpful to understand the impact of underwriting on insurance and insurers more generally.

We do this first by considering the theoretical impact of underwriting on the reserves and capital for insurers, to assess the potential impact of more information on the funds insurers hold for solvency purposes. We then see how this can feed into the prices they offer to policyholders, and the other commercial effects that underwriting can have in a competitive market.

These theoretical results are then applied to the specific type of insurance policy considered in this report, namely bulk annuity policies. Further, the same themes arise in the interviews conducted with practitioners involved in the bulk annuity market in the later sections of the report.

1.1 Insurance and underwriting

Insurance is the business of transferring the financial consequences of adverse outcomes from one party to another, such as the risk of unexpected costs due to a car accident, a fire, untimely death, critical illness or living beyond ones savings. By taking on and pooling lots of different (weakly correlated) risks, the insurer can use the good fortune of the many who do not claim, to compensate the misfortune of the few who do. Part of the justification for this is that the insurance company understands these risks better than the individuals and companies buying insurance policies and, so, can manage them better.[2] Underwriting is the process whereby insurers obtain information about the risks they are taking on in order to obtain this deeper level of understanding. As such, it is one of the key functions performed by all insurers and underwriting will be important every time policies are valued.

Three reasons why an insurance company is required to put a monetary value on an insured risk are:

Reserving: Estimating the expected cost of the risk (known as the "best estimate") to determine the amount of money the company needs to hold to meet the expected number of claims that are made and the expected amount of each claim.

Capital: Estimating the additional funds that are required to be able to pay out the claims if the insurance company is unlucky and more claims (or more expensive claims) are made than was expected. Modern insurance regulations require that the amount of capital an insurer holds is sufficient to protect them against highly unlikely outcomes, for example, events that are only expected to occur at most once every 200 years. The amount of capital which needs to be held therefore depends on how uncertain the claims are.

2 Insurers can also manage financial risks better than individuals by pooling large numbers of independent (or at least low correlated) risks and by having access to more financial capital to protect against adverse events. They can also structure the insurance policies they sell in order to manage the risks they face, while still meeting their policyholders' needs.

Pricing: The price charged to the policyholder for the initial transfer of the risk in question.

Clearly, all three of these purposes are linked and, in practice, cannot be viewed in isolation from each other. Furthermore, each will depend on the how well the insurer understands the risks it is taking on, in other words, the level of underwriting it performs.

1.1.1 The impact of underwriting on insurance reserves

Consider first the reserves required to meet the best estimate of the expected cost of the claims arising from a policy that the insurer has sold. This will depend quite directly on the level of underwriting performed: the more underwriting that is performed, the more accurately this expected cost can be determined.

Consider a simple example: an insurance policy where the size of a claim is given by the value shown when rolling a six-sided die. If the die is fair, this expected cost is 3.5, i.e., the average value of the six faces. However, dice are not necessarily fair and, in this example, underwriting is equivalent to determining whether the die is fair or not and, if not, how it is unfair. For instance, it could be that red dice are slightly more likely to roll a 2 rather than a 5, giving an expected cost of less than 3.5 overall, whilst wooden dice might be biased towards rolling 6s and so give an average cost greater than 3.5. The process of underwriting reveals these biases and so allows for the true expected cost to be found rather than merely assuming the die is fair.

In the context of, say, motor insurance, it is obvious that factors such as age, sex and driving experience affect the expected cost of providing the insurance and so are analogous to the bias of the dice. Young male drivers who have just passed their driving test are clearly at a higher risk of having an accident than middle-aged women with 20 years of experience driving. Therefore, an insurance company will have to hold more reserves to pay out a greater expected amount to the former than the latter.[3] However, were no underwriting to be performed, the insurer would not be able to tell if a policy was written for a young man or a middle aged woman, so it would have to hold an average level of reserves in respect of all policies.

If an insurer writes a large number of policies across such a wide range of different policyholders that they form a representative cross-section of the population, then using assumptions based on averages might not be a problem when it comes to reserving. For the example of motor insurance, this would mean that the company needs to write policies for boy-racers, middle-aged women, the elderly, etc, in the correct proportions to match the total population. However, it is unlikely that most insurers will be able to do this in practice and most will have a bias towards writing policies for particular segments of the population. Therefore, using population averages for their reserving will result in the company holding the wrong level of reserves to back the policies it has written. Furthermore, without underwriting, the insurer will not know for certain that its policies differ from the national population and so will not know how wrong it is.

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3 Note that insurers in the EU are unable to reflect this difference in their prices due to a ruling of the European Court of Justice ruling in 2011. Since then, insurance pricing in the EU must be gender-neutral, although reserving does not have to be.

In addition, assumptions that might be right on average can be incorrect for each individual. The classic example of this is the old statement that the average family contained 2.4 children: a statement that, although it was right on average, was incorrect in every specific instance. This means that, even for an insurer who writes policies across the entire population, the reserves for each group of policies could be wrong, leading to a faulty understanding of the risks being written and an incorrect allocation of the reserves. Using the motor insurance example, the insurer may hold the correct amount of reserves in total, but will consistently hold too little for the young male drivers and too much for the middle-aged female drivers, which will affect the internal allocation of profits within the firm. Therefore, greater underwriting allows an insurer to understand the risks it takes on with far greater accuracy and so is essential to the process of correctly allocating reserves to meet their expected cost.

Also, the averaging effect might work initially but, over time, if there is no updating, it becomes unsuitable. For example, if a motor insurer changes its marketing and, because of this, the proportion of policies it sells to middle-aged women relative to young men changes, then average claim amounts that were appropriate initially may well become obsolete. Hence, underwriting can help the insurer automatically revise their assumptions to reflect changes in the composition of their policyholders.

Clearly, the impact of underwriting can be to increase or decrease the reserves needing to be held in respect of the policies, if, in the absence of underwriting, the reserves were set at a best estimate of the average of the population being insured. However, it is not necessarily the case that insurers always reserve on a best estimate basis, since some reserve "prudently" for some lines of business, using assumptions that are slightly more cautious to give reserves that are higher than a true best estimate. Reserving prudently is now discouraged by most modern insurance regulations, but still occurs in practice, especially where a true best estimate is difficult to find due to a lack of data.

Further, the potential impact will also tend to be bigger for a smaller collection of policies than a larger one, since the impact of any specific policy will be less in a larger group and writing more policies is likely to bring the insured population closer to the national average. Hence, the impact of greater levels of underwriting on the reserves required for an insurance portfolio will depend to a very great extent on the details of the policies being written.

1.1.2 The impact of underwriting on insurance capital

Having determined the appropriate level of reserves, the insurer's next task is to allocate capital to protect the company (and the policyholders) against being unlucky. The amount of capital allocated to a risk depends on how uncertain the risk is - more uncertain risks require more capital because there is greater potential to be unlucky. Modern insurance regulations focus on holding capital to protect against highly extreme and unusual outcomes, so while insurers do not strictly have to hold enough capital to protect against the very worst possible outcome, the amount required is not far off that level. Given this regulatory focus on low probability but high impact events, any action that the insurer can take to reduce the uncertainty it faces has a magnified effect in reducing regulatory capital. Underwriting therefore allows the insurer to understand the risks better and hence reduce many of the sources of this uncertainty and the amount of capital required.

From probability theory, we can see this from the law of conditional variances, which states that

$$\mathrm{Var}(X) = \mathrm{E}[\mathrm{Var}(X|Y)] + \mathrm{Var}(\mathrm{E}[X|Y])$$

This means that the variance (a measure of uncertainty) in the random variable, X, is composed of two parts: the first part is the uncertainty in X if an additional piece of information, Y, that influences X were known to the insurer, and a second part which is the uncertainty due to this additional information not being known to the insurer. Therefore, knowing the additional information, Y, removes the second term in this equation, reducing the variance of X in total. In short, the effect of additional information is to unambiguously reduce the uncertainty in X and so can only have a beneficial effect when determining the optimal capital for insurance risks.

A simple, real-world example of this is to think of the variation in height in the total population. This variation consists of the variation in height within each sex independently, plus the variation due to differences in height of the average man and the average women. For example, we might expect 95% of men to be between 165cm and 185cm tall and 95% of women to be between 155cm and 175cm, i.e., both sexes have height ranges of approximately 20cm, with men being approximately 10cm taller than women on average. However, when the total population is considered, 95% of people will have heights between 158cm and 182cm, i.e., there is a wider range from short women to tall men than within each sex independently.[4] Knowing the gender of the people whose height we are measuring, unambiguously reduces our estimate of the variance of their height.

To see how this relates to capital allocation for insurance, consider the example of the dice again. For a fair die, the expected cost of a roll is 3.5, but there is a 1 in 6 chance that the cost will be 6. Therefore, a prudent insurer would hold 3.5 in reserves and 2.5 (= 6 - 3.5) in capital so that it can pay out even in this unlucky adverse scenario. The traditional method of reducing risk is to write more risks to decrease the odds that adverse scenarios occur. If two fair dice are rolled then the average cost of each roll is still 3.5, but the odds that both dice show 6 (i.e., that the excess cost per die is 2.5) is now 1 in 36. If three dice are rolled, the odds that all three dice show 6 falls to 1 in 216. Therefore, an insurer holding 2.5 in capital per die protects against more and more unlikely occurrences as more fair dice are rolled. Alternatively, the insurer could reduce the amount of capital held per die and still protect against the same level of uncertainty. Reducing the potential uncertainty by pooling lots of independent (or at least low correlated) risks is an application of the "law of large numbers" which forms the bedrock of insurance.

However, if the dice being rolled are not fair then the calculation of capital in this example is wrong. If, say, wooden dice are more likely to roll a 6, this will both increase the expected cost (reserves) of the risk, but will also affect the probabilities of the adverse scenarios (i.e., rolling multiple 6s) and hence the amount of capital required. Without underwriting, there is not only uncertainty caused by the random nature of each dice roll, which can be reduced by applying the law of large numbers, there is also uncertainty over the fairness of the dice in question, which cannot be reduced by simply rolling more of them. Hence, underwriting (in this case, understanding how each dice is biased) can reduce this second source of uncertainty, leading to lower amounts of capital required.

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4 Figures are adapted from data from the US for 2007/08 - see https://www.census.gov/compendia/statab/2012/tables/12s0209.pdf.

As a further example, consider medical insurance that pays out in the event of serious illnesses (such as being diagnosed with cancer), but also in the event of more common but less costly ailments (say, breaking a leg). Since the expected cost of the policy is equal to the frequency of the claim multiplied by the average claim amount, it is possible for the expected total value of the claims under each type of insurance to be approximately the same. However, the amount of capital that would need to be held would depend on the likelihood of a high number of large claims occurring. Since cancer is more expensive to treat than a broken leg, the probability of a large number of cancer diagnoses will be very important when assessing how much capital is required for the combined policy book. The first step in assessing this is, therefore, understanding how many of the policies written are likely to claim for cancer rather than broken legs, which can be achieved through improved underwriting. Hence, by using greater underwriting and getting a better estimate of the number of cancer diagnoses, the insurer can get a better understanding of and potentially a reduction in the amount of capital it needs to hold.

However, there is a potential problem, since it requires more data to be able to understand the impact of each underwriting factor. With our dice example, we discover that the red dice are biased by rolling them a large number of times and noting that 2s are more likely to occur than 5s. It then requires considerably more data to find just how much more likely they are to roll 2s: it is comparatively simple to tell that the chance of rolling a 2 is greater than 1 in 6, but it is far harder to determine whether it is 1 in 5, 1 in 4 or some other value. As more risk factors are taken into account, more data is required to say anything about each of them. In this example, we can look at colour or material in isolation, but investigating whether red wooden dice are different from white wooden dice or red plastic dice requires significantly more data.

There is therefore a trade-off. Additional risk factors give an insurer more potential to understand each risk with greater precision if the impact of each risk factor is known. Ideally, we would want to understand the risks as precisely as possible, by using a large number of different factors and allowing for their interactions. But more risk factors mean that it is harder to determine the separate impact of each of them. Hence, the more factors we include, the less accurately we will be able to estimate the impact of each one. Hence, there is a trade-off between the precision of any estimate and the accuracy to which we can quantify the error in them.[5] In short, more risk factors means more precision, but less accuracy. Insurers attempt to deal with this problem by using the maximum amount of data possible to estimate the impact of each risk factor, and hence increase the level of accuracy with which each risk factor is measured. Often, this data is from national populations and so the impact of each factor can be estimated based on the largest relevant population size. Alternatively, it is possible to use data from reinsurers (in return for ceding risk to the reinsurer), who see data from a large number of different insurers.

However, there are still limits to this approach. For example, it is nearly impossible to quantify the impact of certain very rare diseases on life expectancy, even using national population data, because there are simply too few cases to be able to obtain credible statistics. Hence, there will always be some uncertainty

5 Precision can be thought of as the number of decimal places a number is quoted to, whilst accuracy is the potential error either side of this. For example, saying that someone's height is 1.732m ± 0.010m gives precision to the nearest millimetre, but is only accurate to the nearest centimetre.

regarding the impact of specific risk factors and this uncertainty will grow as more risk factors, specific to smaller subsets of the population, are used. In these situations, it is possible for an insurer to give partial recognition to some risk factors, to reflect the limitations in the available evidence. However, in many practical situations, the relevant risk factors for insurance are well understood, applicable to suitably large populations, and their impact can be estimated sufficiently accurately that the overall effect of greater underwriting is to reduce the amount of capital required.

This effect is most important for risks where there is the greatest uncertainty: typically those where there is a small probability of a very large loss and each policy is highly individual. Often, there are also relatively few of these policies written, so there is also a limited opportunity to benefit from the law of large numbers. An example of this might be in aviation insurance, where there are relatively few policies (at least in comparison with motor insurance) for a wide range of different types of aeroplane being flown by many different airlines in very different conditions. Furthermore, air crashes are rare events, but with potentially enormous financial consequences. Therefore, in aviation insurance, a great deal of underwriting is performed, in part, to understand as much as possible about each specific policy being written to reduce potential uncertainty. Furthermore, there is substantial information sharing between insurers, through bodies such as Lloyds of London, reinsurers or industry-wide groups, which enables as much data as possible to be brought to bear when trying to understand the impact of each risk factor in as much detail as possible.

This is magnified by the effect of modern solvency regulations which focus very much on just these low probability / high impact scenarios. In these circumstances, the impact of underwriting in understanding the frequency and magnitude of these outcomes, even slightly, can reduce the capital required to back each policy significantly.

Hence, the use of greater levels of underwriting is most likely to reduce the capital needed to be held for insurance policies, since it helps reduce the potential uncertainty in the policies and helps the insurer understand the potential worst case scenarios that might arise. This effect is most significant for underwriting factors which are well understood and which have a large impact on the potential cost of the policies, but has diminishing returns for rarer factors that have a smaller impact and less data to estimate that impact from.

1.1.3 The impact of underwriting on insurance pricing

Both reserves and capital are values which are internal to the insurer and, therefore, do not directly affect the policyholder. From the point of view of the policyholder, the most important value placed on the risk is the price being charged to transfer the risk to the insurer in the first place. This will also be affected by the amount of underwriting, but in a manner that is far more difficult to assess theoretically than the impact on reserves or capital.

In order for the insurer to break-even on writing the insurance policy, the price charged to the policyholder must, at least, cover both the expected cost of the policy (i.e., the reserves) and the expenses of writing the policy in the first place (e.g., admin, sales, etc). In addition, the price should also cover the cost of capital – that is the profits demanded by shareholders for supplying the equity

capital and the interest demanded by bondholders for supplying the debt capital to set up the insurance business in the first place.

Theory would suggest that greater levels of underwriting should reduce the cost of capital in respect of each policy (for a given level of capital) and/or reduce the amount of capital required and result in increased confidence in the profitability of a contract. This would manifest itself in a lower "best price" for end customers and/or higher margins for the insurer.

However, offsetting this will be the additional expenses associated with performing the underwriting, while the impact of greater underwriting on the reserves required could go either way (and should be zero on average). Therefore, the total impact of greater underwriting on price will depend on the balance between these factors. Low-cost underwriting that removes the major sources of uncertainty in writing new policies should reduce the average price charged. Nevertheless, there are diminishing returns to ever greater sophistication in underwriting if that leads to increasingly expensive data collection and underwriting processes.

Furthermore, the price of an insurance policy is, ultimately, set by supply and demand in the marketplace, i.e., the competitive forces the insurer faces. In markets with low competition, an insurer can charge prices higher than required to break-even and cover the cost of their capital, leading to additional profits. Conversely, in a fiercely competitive market, an insurer might price insurance policies below the break-even cost to win market share, in the same way a supermarket might sell milk as a loss-leader to encourage people into the store. Therefore, actual prices charged by insurers can diverge from what theory would suggest for prolonged periods. In the long-run, both of these situations are unsustainable - high profitability will encourage new insurers into the market and increase competition and writing low margin business over a long period will eventually force an insurer to raise prices or exit the market. However, the short-run can extend for many years and so theory can be a poor guide to real world pricing over short horizons.

1.1.4 Adverse selection

A further complication is the impact of underwriting on what is known as "adverse selection" in the marketplace. This arises because people often possess more information about their risk status than any insurer and can shop around for the best price for a policy. This can mean that an insurer using greater underwriting can gain an informational advantage over their competitors – writing the policies it believes will be most profitable and avoiding those which it thinks it would lose money on.

To see this, consider a simple example where policyholders need to renew their policies every year. Imagine there are two types of policyholder – low risk and high risk – and two insurance companies – Company A which uses underwriting to tell the difference between the two types of policyholders and Company B which does not. Company B will charge the same average price for all policyholders, whereas Company A will offer a lower price to low-risk individuals and a higher price for high-risk individuals. Since policyholders are able to shop around and will choose the lowest price available, low-risk individuals will buy insurance from Company A (to get the lower price), while high-risk individuals will buy insurance from Company B and receive an average price. Therefore,

Company B will have mispriced the policies it writes, by assuming the policies are average when in fact they are all high-risk. This is known as the "winner's curse" – because Company B does not use underwriting while Company A does, it will only win business where it makes a loss. In the long run, this would drive Company B into insolvency. Company B therefore has three choices: first, it can develop its own ability to use underwriting and compete with Company A on equal terms; second, it can recognise that it is likely to be selected against and raise its prices to allow for the fact that it will only get high cost policyholders (i.e., behaving as though underwriting had already been performed); or third, it can quit the market for this type of insurance entirely. For any of these outcomes, Company A performing underwriting has effectively forced underwriting on the whole market.

This effect can be seen in the market for motor insurance, where different companies specialise in selling policies to particular demographics, such as women or mature drivers. Such market segregation means that each individual insurer will only write policies for a relatively similar subset of the population, for which their particular underwriting experience gives them an advantage in assessing the risk. Any insurer entering the market but using inferior underwriting would find themselves only writing the subset of the market nobody else wanted, presumably newly qualified boy-racers, at loss making prices.[6]

Therefore, there is the potential for the existence of one insurer in the market performing enhanced underwriting to dramatically affect the behaviour of the other insurers as they try to avoid being selected against when people buy policies. This means that, in practice, there is a natural tendency in most insurance markets to continually improve and refine underwriting techniques in order to gain a competitive advantage over the other companies if they are to avoid falling behind in an underwriting arms race.

An example of this was observed in the market for retail annuities purchased by individuals at retirement. Initially, all retail annuities were priced on standard assumptions, which included generous margins for prudence, since it was assumed that only people in good health would consider buying one. Enhanced annuities were then introduced for individuals with specific medical conditions, such as a history of coronary heart disease or cancer, but were limited in the detail of their underwriting and were anticipated to take only a small fraction of the market. However, with time, the level of underwriting increased and the proportion of individuals obtaining enhanced annuities rose to around 30% of the total.[7] Many of the providers of traditional insurers were forced to start underwriting and offering enhanced annuities simply to compete in the new marketplace as well as having to recognise increasingly healthy lives within their non-underwritten annuity sales.

6 Another example is the introduction of smoking as a rating factor for life insurance in the US which gradually grew in usage but which took a long time to become the norm and eventually removed non-differentiated premium rates from the market.

7 Indeed, this proportion was mainly limited by the relatively low number of people who chose to shop around for the best annuity price.

1.1.5 Moral hazard

However, the use of greater underwriting cannot guard against the other potential danger when writing insurance policies, namely that of "moral hazard", where the insured individual changes their behaviour after purchasing the policy. An example of this would be a motorist who drives more recklessly because they know that they will no longer have to pay the full cost of any accidents they cause. Since underwriting is only performed at the point when the insurance policy is issued, it cannot protect against moral hazard, and so the policy itself will need to be designed in such a way as to minimise this.[8] However, greater underwriting can help an insurer focus in on potential areas where moral hazard might be an issue. This is especially true if the policy needs to be renewed repeatedly (such as annual motor insurance) and underwriting can be performed at each renewal date and the price of the policy adjusted accordingly.

1.1.6 Conclusion

In conclusion, the level of underwriting performed for insurance policies can have a dramatic impact on the valuation of the policies for the purposes of reserving, capital adequacy and pricing. For reserving, the impact is mixed, since greater underwriting can increase or decrease the expected cost of claims arising from a policy. Either way, greater underwriting gives greater insights into both the expected frequency and amount of any claim, and so increases the accuracy of the expected costs and reduces any biases present when underwriting is not used. However, greater underwriting is likely to reduce the amount of capital required for each policy, since it reduces the degree of uncertainty around the expected cost of the claims. Its impact on pricing can be mixed, since the insurer will need to balance the expected cost of the claims, the cost of providing capital to support the policy and the increased costs due to the expense of underwriting when setting prices. In addition, pricing will also depend on the level of competition in the marketplace. However, insurance is a competitive industry and the risk of adverse selection has tended to lead to ever more detailed underwriting over time across all lines of business.

1.2 Application to bulk annuity top-slicing

One application of this theoretical background is in "top-slicing" in pension schemes - purchasing insurance for the benefits of only those members with the largest pensions in payment. Top-slicing is a relatively recent innovation in the pension scheme de-risking market, but it came of age in 2014 when the Taylor Wimpey pension scheme top-sliced 99 of its highest liability members for £206m with Partnership.

From a pension scheme's point of view, insuring the scheme benefits can be highly advantageous. The vast majority of pension schemes in the UK are closed to new members and to the future accrual of benefits by existing members, meaning that they will slowly run-off over the course of many decades. In this context, it is natural for most schemes to eventually look to purchase insurance to cover the ongoing obligation to provide the benefits in the form of a "bulk annuity" contract. This relieves the sponsoring employer from any risk of having

8 For instance, by using deductibles (e.g., a policy excess) or the bonus/malus features of the policy (e.g., the loss of a no claims bonus) to ensure that the policyholder still bears some of the cost of making small claims.

to make additional payments to the scheme in respect of former employees who might have left decades before.

1.2.1 Types of bulk annuity

The most complete form of buying this insurance is known as a "buy-out". With this, individual annuity policies are bought by the scheme for each scheme member, and are tailored to provide the same benefits that would have been available in the scheme. Therefore, the liabilities of the scheme are completely transferred to an insurance company and the scheme can be wound up. However, the cost of buying-out the scheme can be significantly more than the assets set aside to fund the scheme on an ongoing basis, especially if the scheme contains a lot of members who are not yet retired. This is because, unlike pension schemes, insurance companies are required to hold significant amounts of capital in respect of non-pensioners, since the benefits for these people are considerably more uncertain (as they are longer term and subject to choices made by the member such as when they retire). However, it is rare that a pension scheme can buy-out specific individuals (for example, only the pensioners which are more affordable), since pension scheme trustees have a duty to treat all members fairly. Buying-out some members' benefits but not all could be felt to be favouring those individuals over the others in the scheme. Hence, many schemes cannot afford to buy-out all members' benefits (including those for non-pensioners) currently, but will have it as the long-term aim of the scheme.

A popular alternative method of insuring pension benefits is in the form of a "buy-in". This is a single insurance contract which covers members' benefits, but is held by the pension scheme rather than by the individual members. The main advantage of doing this is, since the payments from the buy-in policy are not made to the individuals named in the policy and can be shared out amongst the entire scheme membership, it is possible to buy-in a subset of members. For example, a buy-in can be obtained only for members of the scheme who have already retired and, in this case, the cost of the insurance contract is closer to the amount held by the scheme for these members. Hence, multiple buy-ins can be purchased as and when the scheme can afford to do so, slowly de-risking the scheme over a prolonged period rather than in one single transaction, as with a buy-out. However, ultimately, a buy-in policy can be converted to a buy-out policy in the individual members' names when the trustees wish to wind the scheme up and discharge their liabilities.

A top-sliced buy-in is a buy-in contract that only covers a relatively small number (typically, less than 100, but sometimes more) of the highest liability members (those with largest amount of pension in payment) in a pension scheme. These individuals typically receive a disproportionate amount of the total pension in payment – a rule of thumb is that 10% of the members of a pension scheme often receive between 40% and 50% of the total pensions in payment. Hence, top-slicing can significantly reduce the risk in a pension scheme despite insuring only a few scheme members.

When it comes to insuring pension scheme benefits, one of the most important risks is that people live longer than anticipated. At the level of the national population, this can be due to unforeseen improvements in medicine and lifestyle, which result in more people living longer than expected. For example, the improvements in the treatment and prevention of coronary heart disease over the past few decades has resulted in far faster improvements in life expectancy

than were expected, which have dramatically and adversely affected the finances of many pension schemes and insurance companies. On a smaller scale, the length of life of any specific individual is uncertain: while we might be able to estimate someone's life expectancy accurately, they may still live significantly beyond this. This is known as the "idiosyncratic" risk associated with the length of individuals' lives, and is typically reduced by pooling large numbers of different individuals.

Idiosyncratic risk can be very important in a top-sliced transaction due to the large amount of pension in payment for a small number of individuals, which means that there is little benefit from pooling for a pension scheme. From an insurer's perspective, insuring five individuals with £50,000 p.a. pensions involves greater idiosyncratic risk than insuring fifty individuals with pensions of £5,000 p.a.. Insurers, however, are able to pool this idiosyncratic risk across many different transactions in a way that pension schemes cannot.

1.2.2 The impact on reserves

We can consider the impact of underwriting in a top-sliced buy-in by considering the impact on reserves, capital and prices using the theory discussed above. First, the reserves required for a top-sliced bulk annuity policy will be determined by the expected lifetimes of the individuals being insured. For each individual, this depends upon how healthy that person is. However, this is usually quite difficult to establish from the data available to insurers when planning buy-outs and buy-ins. Traditionally, insurance companies have used the data available from pension scheme records to underwrite bulk annuity contracts. This has allowed them to use sex, age, amount of pension in payment, address (i.e., postcode) and sometimes occupation and salary as rating factors to assess how long members are likely to live. For larger pension schemes, experience data may also be useful especially where highly credible. Typically, women live longer than men of the same age and high-income individuals living in affluent neighbourhoods live longer than their less well-off peers. These rating factors are well-understood and effective for most pension schemes. However, they are generally proxies for the actual factors which impact the health of the specific individual – their level of exercise, smoking status, diet, etc – since this information is not typically available in pension scheme records.

The traditional underwriting factors are less useful for underwriting a top-sliced buy-in. This is because the individuals in such a transaction are often quite similar. By definition, a top-slice takes those pensioners with the highest amount of pension in payment, people who are likely to be very affluent and live in the most exclusive postcode areas. In addition, scheme-wide factors such as the industry of the sponsoring employer are likely to be less relevant, since executives for different schemes are likely to be more similar to each other than they are to the majority of their own workforces. Traditional underwriting factors would therefore indicate that all the individuals covered by a top-slice are likely to be very long-lived, and therefore expensive to insure.

There is also a lack of information regarding the impact of each of these traditional underwriting factors for individuals in the top-slice. For example, the most exclusive postcodes are, by definition, inhabited by relatively few people, meaning that it is considerably harder to obtain accurate estimates of the higher life expectancy of those living in them. In practice, this lack of accuracy means that insurers often err on the side of caution, by moving away from best estimate

reserves based on the true expected cost of the policies and towards including subjective margins for prudence. However, this will add to the cost of the policy to the policyholder.

Accordingly, in order for top-slicing to take off, insurers have needed to go beyond these traditional underwriting factors and enhance the underwriting performed by incorporating additional information about the lifestyles and health status of the individuals being insured. The most common way of improving the level of underwriting being performed is to ask members for information about their health and any medical conditions they might have.[9] Because the traditional rating factors would indicate these individuals are likely to be long-lived anyway, the impact of this additional information is not symmetrical: learning that a scheme member is in good health is not going to change the insurer's assumptions significantly, but learning that the member smokes or has a diagnosed health condition will make them revise down their estimate of that person's lifetime considerably, and with it the cost of insuring them. In addition, enhanced underwriting can reduce the need for any margins for prudence in the reserves, and so again reduces the cost to the insurer of the policy.

In addition, top-sliced buy-ins usually cover relatively few lives. This means that the relative impact of enhanced underwriting is likely to be larger than for buy-ins which insure more individuals. Combined with the asymmetric nature of the impact, this means that there is the potential for improved underwriting to substantially reduce the expected cost of the policy to an insurer. In contrast, when insuring a small pension scheme with the same number of lives, because these people would be assumed to be more typical in their health using traditional underwriting factors, enhanced underwriting could either increase or reduce the reserves relative to a best estimate.

1.2.3 The impact on capital

Looking next at the capital required for a top-sliced buy-in policy, the reduced uncertainty is likely to lower the amount of capital needed to be held in respect of the policy in the same manner as discussed previously. From 1st January 2016, insurers based in the EU have to comply with the new Solvency II regulatory capital regime. This explicitly requires insurers to hold capital sufficient to protect against occurrences that would be anticipated to happen once every 200 years (i.e., with a probability of 0.5% p.a.). Solvency II generally requires significant capital to support annuity policies, since they are long-term insurance policies where the total cost of the benefits received by the policyholder is highly uncertain. Furthermore, any block of business, such as a top-slice, that does not have a smooth and predictable run off is less desirable to an insurer. Therefore, reductions in the uncertainty of the future benefits as a result of improved underwriting can lead to reductions in the capital (or prudence margins) an insurer requires.

Alternatively, the insurer may choose to pass on some of the risk from the top-sliced buy-in policy using reinsurance, most usually via quota share reinsurance where the reinsurer takes a fixed percentage of any profits or losses arising from the policy. This will reduce the amount of insurer capital required to support the

9 Hence, lifestyle and medical underwriting is the key form of enhanced underwriting for annuities used today. In the future, other data may be introduced to replace or complement this, for example, utilising data from personal fitness apps or store cards.

policy – since the insurer carries less risk – but will also impact potential profit. The cost of obtaining reinsurance can depend on the level of underwriting performed by the insurer – generally, reinsurers will charge lower prices and take a lower profit share when they are more confident with the risk they are writing which, in turn, can depend on the degree of underwriting that has been done. Therefore, even if the insurer decides to reduce the amount of capital required for the buy-in by using reinsurance, the effectiveness of doing so can depend on the level of underwriting being performed. Hence, improved underwriting generally, and the use of medical data in particular, can result in reductions in the amount of capital required in respect of a top-sliced deal.

In addition to the impact that medical underwriting has on the assessment of the rates of mortality expected for individuals currently, it may also affect how the assessment of these rates of mortality will change in future. For example, the future rates of mortality for people diagnosed with coronary heart disease will depend to a far greater extent on improvements in bypass surgery and increased use of statins than mortality rates for the general population. There is some evidence to suggest that individuals in the highest socio-economic groups (such as those insured in a top-sliced buy-in) have experienced faster improvements in life expectancy in the recent past than the population average.[10] This would have the effect of increasing the reserves and capital needing to be held for a top-sliced deal relative to a traditional buy-in. The uncertainty in any differences in rates of change in mortality rates between the national population and a specific group of individuals (be they a pension scheme or people with a specific medical ailment) is known as "basis risk" and is an area of considerable current research.[11] While the impact of basis risk is highly uncertain, obtaining medical data can only help throw light on the potential future trends in mortality rates for the individuals being insured, which can help to reduce the amount of capital needing to be held to protect against basis risk significantly.

Furthermore, the interactions between the liabilities the insurer must pay out and the assets they hold in order to meet these obligations means that greater certainty in assessing the mortality of the pension scheme can have additional benefits. For example, insurers often hold illiquid assets that are not as freely traded as corporate and government bonds to meet their liabilities, since these often have higher risk-adjusted returns than more tradeable assets. Since it is more difficult to sell these assets quickly to generate cash, it is important to be able to reliably match the cashflows from the assets with the ongoing benefit payments. Therefore, gaining more certainty around the timing and size of the benefits to members allows a greater proportion of the additional asset return from holding illiquid assets to be passed through to the policyholder.

10 See Villegas and Haberman (2014).

11 For example, see "Longevity basis risk: A methodology for assessing basis risk" commissioned by the Institute and Faculty of Actuaries in the UK and issued jointly by Cass Business School and Hymans Robertson LLP in December 2014.

1.2.4 The impact on price

The final element in the total cost of writing a top-sliced buy-in policy is the expense incurred by the insurer. For a medically-underwritten transaction, there are additional expenses due to the costs of obtaining the medical information – writing to members, obtaining GP reports, etc. As explained later in this report current market practice is that these are usually met directly or indirectly by the insurer. The cost of performing medical underwriting will therefore depend on the number of members being insured. However, the costs of obtaining the additional medical data is usually relatively low compared with the fixed costs of the buy-in policy, typically under one tenth of one percent of the premium on a top sliced buy-in. This is often smaller than the expense incurred dealing in the investments needed to pay the premium.

These elements, and the impact of medical underwriting, also needs to be seen in the context of the insurer as a whole, rather than merely for each individual transaction separately or even the entire bulk annuity line of business. For example, insuring longevity risk from pension schemes can offer diversification against other risks an insurer holds, such as investment or credit risks, and can diversify against other lines of business for an insurer. Access to reinsurance will also be important, since it allows the insurer to selectively manage their overall risk portfolio, albeit at the cost of passing on the upside of the risks transferred.

Accordingly, the combined benefits of medical underwriting on the reserves, capital and expenses required by an insurer transacting a top-sliced buy-in are complicated and need to been seen in the overall context of the insurer's business model. However, the theoretical arguments presented above show that any insurer collecting medical data may be able to offer significantly lower prices for a top-sliced buy-in than a competitor without the ability to perform medical underwriting.

This potential to offer lower prices on the part of medical underwriters can also affect the behaviour of those insurers that do not use medical information. In a situation where two insurers are competing for the same business, the one not using all the information available will be concerned that, should they win, it will because they have not fully understood the risk of what they were taking on and so underpriced it. To avoid this so-called "winner's curse", insurers using only traditional bulk annuity underwriting factors may choose not to compete against medical underwriters for the same business due to their competitive disadvantage. In the context of pension scheme de-risking, this means that the traditional insurers have largely refrained from bidding for top-sliced deals, and almost all of the top-sliced deals transacted to date have been medically underwritten.

In addition, in top-sliced transactions, there is greater potential for adverse selection on the part of the pension scheme trustees when it comes to buying insurance. The individuals being insured in a top-sliced deal are often known to the trustees (they may even be trustees themselves), since they are frequently the former executives of the sponsoring company. Therefore, the trustees will often have inside information regarding their health status, such as whether they are still running marathons or have been lifelong smokers. If so, it is especially important to perform some form of medical underwriting in a top-sliced transaction, in order to ensure that neither the insurer nor the pension scheme has an informational advantage over the other regarding the health status of the members being insured.

Ultimately, however, a theoretical ability to offer lower prices due to medical underwriting does not automatically translate into lower prices being offered in practice. Bulk annuity pricing is complicated and there are many other factors in addition to life expectancy that contribute to the prices a pension scheme pays for insurance. This will also depend upon the level of competition in the marketplace and the market strategy of insurers with enhanced pricing capabilities. This is perhaps why top-slicing is a relatively new phenomenon in the pension scheme de-risking market. It is only in the last few years that the entry of multiple insurers with the capability to use medical underwriting has helped to lower prices for this segment of the market. The bulk annuity pricing strategy adopted by these new entrants perhaps reflects the margins they have been used to in the highly competitive retail annuity market (and adopted their business models to sustain). Combined with an increased risk awareness on the part of pension consultants and pension scheme trustees, this has been the spur to the development of the top-slicing market. All these factors will need to remain in place to ensure the continued growth of the market in future.

1.3 Application to full pensioner bulk annuity buy-ins

All these issues relating top slicing, such as the potential reduction in capital, also hold for buy-outs and buy-ins for smaller pension schemes. However, in this context, the impact of medical underwriting on the reserves for the policy is more symmetrical: since the members of a small pension scheme will be assumed to be in average health using traditional rating factors, the effect of new data can increase or reduce the reserves.

Medical underwriting means more refined risk selection which reduces cross subsidies between pension schemes, so some will pay more and some will pay less. Nevertheless, the increased certainty on life expectancy that medical underwriting brings should manifest itself in lower pricing, on average, for smaller schemes – acknowledging, as explained above, that life expectancy is one of many inputs into bulk annuity pricing – and that does appear to be the market experience, based on transactions to date. The first medically underwritten bulk annuities in 2013 were full pensioner bulk annuity buy-ins and there have been various transactions since then of various sizes.

However, for larger schemes, it is less likely that the medical ailments for specific individuals will have a material impact on the overall price for the scheme which, coupled with the increased costs of performing the medical data collection for large schemes, makes medical underwriting less advantageous. Therefore, it is unlikely that medical underwriting would make material inroads in insuring larger pension schemes.

1.4 Conclusion

In conclusion, medical underwriting is especially likely to reduce the price charged for a top-sliced buy-in, since the high-liability individuals insured in these transactions are assumed to live a long time based on traditional underwriting factors and a lot of uncertainty attached to their benefits could potentially be reduced by obtaining more data. However, whether or not this potential cost reduction is achieved will depend on the competitive environment operating in the insurance market at any given time. Furthermore, the desirability of a top-sliced buy-in for a pension scheme will also depend on the situation the scheme is in, in terms of funding level and overall risk appetite and the practical details of the process of purchasing a buy-in. It is these practical issues that the remainder of this report focuses on.

2. Developments in the Medically-Underwritten Buy-In Market

The previous section showed that there is the potential, in theory, for insurers using medical underwriting to have a competitive advantage in the market for bulk annuities, especially for small schemes and top-sliced buy-ins. In this section, we discuss whether these theoretical advantages have occurred in practice and analyse the recent developments in the medically-underwritten and top-sliced bulk annuities since 2013. These developments can only properly be understood in the context of the wider market for bulk annuities and pension scheme de-risking.

2.1 The growth of medical-underwriting

At the time of our last report on the medically-underwritten bulk annuity (MUBA) market in February 2013, there had been only one deal publicly announced. Since then, the market for MUBAs has grown explosively, with around 60 transactions and over £1bn of liabilities transferred. The vast majority of these have been transacted with either Just Retirement or Partnership.

One development that was unforeseen in 2013, however, was the "top-sliced" buy-in. The Taylor Wimpey pension scheme top-slice deal in December 2014 of £206m was a major milestone, highlighting to the market that even the largest pension schemes could benefit from MUBAs. While it is unknown how many of the deals transacted so far have been top-slices (since many deals are not publicly announced), it is certain that many more are in the pipeline. A pension consultant reported to us that

> *"Most deals we've seen have been top-sliced and all of the ones we've done have been top-sliced and lots more are in pipeline over the next couple of months."*

While our previous report suggested that MUBAs would only be of interest for schemes with fewer than 400 members, the advent of top-slicing opens up the possibility of a medically-underwritten transaction for part of even the largest schemes. As another pension consultant said

> *"I think that the Taylor Wimpey deal, with that being a billion-pound-plus pension scheme and a FTSE100 company, has definitely opened the eyes of a lot of people,"*

while a reinsurer added

> *"Taylor Wimpey was a milestone, a couple-of-billion-pound-sized scheme, but they saw they could insure £100m cost effectively. Other big schemes are realising that, and it has applications for large and medium-sized schemes."*

As confirmation of this, nearly all the major pension consultancies have now brought in expertise on medically underwritten transactions as part of their de-risking teams. A pension lawyer described it thus

> *"In the last three years, there was an evolution of the market place in terms of the advisors. Now all the big employee benefit consultancies have dedicated BPA teams keen on doing deals: you had a lot more dabblers two or three years ago."*

Indeed, consultancies that had initially been sceptical of medical underwriting or believed that it was not relevant to their clients have scrambled to catch up with some of the early adopters. A pension consultant told us

> *"I guess so, if I'm honest, we weren't that proactive at the start and while we do have a diverse client base, we definitely have a lot of very big schemes, whereas [other consultants] have a lot more small and medium-sized schemes that medical underwriting would work for."*

Furthermore, many of the major firms of pension lawyers also have built up experience of the specific issues on these transactions and so trustees thinking of embarking on a medically underwritten transaction can feel confident in their professional advisors.

2.2 Competition in the marketplace

When MUBAs first developed at the time of the last report, most of the transactions were exclusive with only one insurer involved. One pension consultant explained why:

> *"With the initial medically underwritten buy-ins, you went to only one insurer. So you went to Partnership, for instance, and they collected the data and did the buy-in… If the trustees selected a provider exclusively, often that provider was prepared to pay for medical data collection because they had the benefit of exclusivity with the trustees."*

However, one of the key developments over the past three years has been the development of a standard tendering process, where the data is collected by third parties and distributed to several insurers who each submit prices. One pension consultant described the first of these processes to take place:

> *"And what we said to Partnership, what we said to Just Retirement and L&G and Aviva, was that we didn't know how to select a provider up front to get a quote. How did we know who was going to be the best?… So we sat down with all four insurers round a table and tried to get them to agree a process and they really struggled with that. So in the end, we said this is what we are going to do and you tell us if you are willing to quote. So, all four insurers agreed to quote, although one insurer dropped out part way through the process, so we got three insurer quotes."*

Such a process obviously ensures that there is competition between the insurers and so enables the pension scheme trustees to feel confident that they are obtaining the best value possible from the transaction. We will discuss the practical details of the tendering process later in this report.

2.2.1 The potential for adverse selection

The four insurers mentioned above are, currently, the only ones willing to enter into a buy-in or buy-out on a medically underwritten basis. Of these, Just Retirement and Partnership are, by far, the most committed to medical underwriting in the marketplace, with Legal & General and Aviva being willing to transact on either a medically-underwritten or a traditionally-underwritten basis. Other insurers in the bulk annuity market do not currently price pension scheme liabilities on a medically-underwritten basis. From two different pension consultants:

"If you were to get quotes from Just Retirement and Partnership, and also ask traditional insurers for the same transaction, the latter will ask whether you're underwriting and, if you are, they won't want to be involved because if their quotes are competitive, it means the population is super healthy or they aren't competitive and they're wasting their time. So the insurers who don't use medical underwriting don't want to be part of a process where medical underwriting is going on."

and

"The issue then comes to whether they start collecting medical data on those members, because you've got some traditional insurers that don't want to quote because you've collected that information. So it comes to that decision whether do you get medical information or not, and that's based on who will quote."

Furthermore, obtaining medical data then rules out obtaining a quote on a traditional basis for the foreseeable future. One pension consultant put it thus:

"There's always this worry that, obviously, if you go down the medical route and then you decide that that's too expensive, what can you then do? If you then go down the traditional route, then you have to disclose that to the insurers. If you go down the medical route and chose not to [transact], is that going to impact on how those insurers view you? I suspect it would, I suspect that they might take a view that this must be a healthy bunch, so actually you could select against yourself by going down that route if you've got this view that your membership is healthy."

or, more simply from another consultant,

"You can't then go back to a traditional market. Well you could still try that, but it's a higher pricing now that you found that out."

However, we found mixed views from the traditional insurers as to whether they would provide a quote for a scheme that had previously collected medical data. One said

"We would not quote. They are literally precluding their options of doing further de-risking exercises and I know that our competitors are doing exactly the same thing. And really, why should we, because there are enough pension schemes out there, there is an oversupply of opportunity."

However, one of their competitors said that

"Ultimately, there is always a price at which we would quote, even if we feared we had been selected against. There are no hard and fast rules where we would say we definitely wouldn't quote. Some of them, we may adopt that approach, but it is not black and white."

while a pension consultant thought the attitude of the traditional insurers was as follows:

"It's not that they'll never touch it. It's that they won't touch it for a period of time. It depends on the insurer you talk to. But the ball park we're hearing is two to five years before things settle down. People who have either recovered and there's a new population coming through."

At the very least, it seems as if obtaining medical data and then failing to transact could lock a pension scheme out of traditional bulk annuities for a number of years at anything other than considerably higher prices. However, this may be a tactical position from traditional insurers, as a means of discouraging trustees from seeking medically underwritten quotes. One of the specialist insurers who uses medical-underwriting said:

> *"Even if an insurer doesn't have the capability to medically underwrite, they could analyse the medical data to determine whether the health profile of the members was close to average. In that case, they could still provide a price using a traditional approach, allowing them to still compete when medical data is collected."*

Ultimately, trustees need to be sure that they will transact if they decide to go down the medically-underwritten route.

This fear of selection against amongst the traditional insurers also extends to top-slicing, although to a lesser extent. When considering whether to insure the remaining liabilities for a scheme which has already performed a medically-underwritten top-sliced buy-in, one traditional insurer said

> *"I think as long as they warrant that the cut off [for who was included in the top-slicing deal] was determined pre the answers, I can't see why in itself the fact that they went through medical underwriting would change our price. The answer that medical underwriting provided might… It would be a sensible thing to say it's a piece of information which should be taken into account even if it is only about direction."*

A reinsurer added

> *"If someone comes to us with a scheme which has been top-sliced and said 'would you reinsure the bit which remains?', that's when we have to get worried, because you have to make sure that that slice was done at an appropriate level."*

This need for an objective cut-off when deciding who is insured in a top-sliced transaction was echoed by the vast majority of the pension consultants we spoke to:

> *"If you said I'll take this member, but not this one, the insurer gets a bit worried about that. If you said I'll take everyone over £10,000 [annual pension] or the top 25, there are no selection issues for insurers to worry about."*

> *"If somebody had done a deal on a medically underwritten basis and you could see no rhyme or reason as to how they'd chose the members, I think you'd have concern, because you'd be asking, 'Okay, did you pick out all the people in ill health, take them to a medical insurer and I'm now left with a sub-set?'. So on the top slicing, it's the very highest liability people, you've not selected them based on health, you've selected them based on liability. I can't see any reason, and no insurer is telling me there's a problem with future tranches if you do that first tranche on a medically underwritten basis."*

> *"It is fine, provided you can objectively demonstrate that you've chosen the population. There is a risk that you might, say, include those five people because we know those four are smokers and that person has high blood pressure. So, provided you can demonstrate you have an objective cut-off, say a pension of more than £30,000 p.a. [that should be fine]."*

This was also reiterated by a traditional insurer:

> *"I think we can coexist with top-slicing, if the slice is predicated on amount of pension. There might be some risk of asymmetry of knowledge there, if they slice there because they know it includes this ill guy into the slice, but I think we can deal with that around the edges. I think generally where it is demonstrated that the slice is objective, we can be pragmatic."*

2.2.2 Insurers using medical underwriting

However, on any specific transaction, opting to take the medically-underwritten route in a transaction can reduce the number of insurers who are willing to put in tenders for the scheme and so can reduce the competitive tension. Nevertheless, this may not be such a large problem for the small schemes that are most suited to medically-underwritten pensioner buy-ins or full buy-outs, since many of the insurers using traditional underwriting prefer to focus on larger schemes anyway and so a medically underwritten process may, in fact, help to generate more competitive tension. A pension consultant described the situation

> *"I think there are insurers who only play in the very large space, and there are insurers who play across the field, but when the market is busy they'll be picky and choosy as to what they quote on."*

Part of this reflects the different specialisations required for dealing with the issues in either large or small pension schemes. As one pension consultant put it:

> *"The big insurers have a lot of experience of doing these large transactions in terms of things like asset transition,"*

while an insurer described it thus:

> *"A big pension scheme will have an in-house pension manager, its own investment consultants, etc. Some of these schemes have teams of 60, 70, 80 people. Those guys are far more sophisticated buyers and so you are required to handle them differently, in terms of the analysis that is done, in terms of the investments and in terms of what the transaction actually looks like, it is just a different level of complexity."*

Coupled with the increased demand for medical-underwriting at the smaller end of the spectrum, the market therefore looks to be bifurcating between large scheme and small scheme specialists. However, another insurer disputed this:

> *"I think, at one point, you could characterise the market in that way, but I don't think that is necessarily true now. If you look at where L&G historically have been, they did very small schemes. But now they have done some of the biggest transactions, including the biggest transactions to date. It is harder to pigeonhole people these days and say they are doing big schemes. Rothesay have done sub-£100m schemes. Even for the medical insurers, the largest deal they have done is £200m or so, even though most are a good bit smaller than that. I think as opportunities come, people will look at where they can compete best and, increasingly, you are looking at people operating across the sector."*

Certainly, our understanding is that Aviva, L&G and Pension Insurance Corporation (PIC) are willing to quote across a wide range of scheme sizes, with

Aviva and L&G both willing to quote on a medically-underwritten or traditional basis.

In this regard, Aviva and L&G are two of the most interesting players in the market at the moment, since they compete in medically-underwritten and traditional tenders. To date, however, Just Retirement and Partnership have won most (but not all) of the schemes which have gone through a tendered medically-underwritten approach. One pension consultant describes it by saying

> *"L&G and Aviva can use medical information to refine pricing but what has happened so far is that they have lost out [on transactions] to Partnership and Just Retirement."*

So why do they participate in processes?

> *"Part of me thinks that is them wanting to keep a toe in the water, they want to see what is going on and have a hand in how the market develops and if the pricing changes they will be in a position to start winning some of that."*

However, most consultants also believe that, if the two largest insurers pulled out of the market for MUBAs, this would be a bad thing:

> *"Quite often up front, if we were talking to a client about approaching the market and we said to them that the only people we'll get you to quote are Just Retirement and Partnership, I think in some circumstances, they might have some reservations about starting that process. If I can go to the market and tell them I can get L&G, Aviva, Partnership and Just Retirement quoting, they'll start the process."*

2.2.3 Prices and medically-underwritten bulk annuities

So why go through a medically-underwritten process if it reduces the scope for competition? The answer, in most cases, is the belief that the prices offered by the medical-underwriters are worth it. To quote a couple of pension consultants:

> *"The other thing is that the pricing that is available via the medically-underwritten route is so much better than the best priced traditional insurer."*

> *"The quotes we're seeing in that space are very competitive, so it clearly is a competitive market."*

How competitive? Another pension consultant said

> *"I've seen several cases where you're looking at easily 3% ahead, sometimes more. Obviously, when you collect the medical data as well, that difference can be spread wider, say to 3% to 5%. In some cases, you might see in excess of that, you might even see 10% differences."*

However, while most interviewees agree that MUBAs offer some of the most competitive prices available, it is not at all certain that this is solely, or even mainly, due to the additional information from medical underwriting.

> *"The only way you can tell what the [impact of medical underwriting] was is if you had a vanilla quote from a traditional insurer and an underwritten quote*

from Partnership or Just Retirement on the same date… but if you go medically underwritten, you go medically underwritten, that's it. You don't also get a vanilla price [to compare]."

The problem in determining the impact of medical underwriting is that the trustees simply obtain a price to insure the liabilities, rather than having access to how that price was arrived at. As one independent trustee said

"From my perspective, it is a black box. I don't think trustees get into that detail."

So the reasons for any one insurer being more competitive when quoting on a deal are a mixture of factors:

"Part of it is medical underwriting, part of it is appetite to take on new business and part of it is assets, the equity release element. So it is a combination of factors, not just the impact of medical underwriting."

2.2.4 Asset strategies and equity release mortgages

We now look at the assets used to back the insurance contracts. In particular, the use of equity release policies[12] by Partnership and Just Retirement has been suggested as a factor contributing to their competitive pricing. One pension consultant said

"They suggest that they have their equity release assets which will give them a higher yield than other insurers, using corporate bonds, swaps or gilts."

Another described the advantages of equity release as

"Relatively high return: from what I've seen, the return is 6%-ish fixed in a low gilt yield environment – that's a hell of a return above gilts. Plus it is relatively secure if it's done on the right terms. It's usually secured against the value of a house, but actually that is leveraged up so you're securing against 25 percent of the value of the house. You've got a pretty secure loan there, which is very high yielding."

All things being equal, a higher yield on the investments made by the insurance company means a lower buy-in price for the pension scheme, since a greater proportion of future benefit payments can be met from the returns. Furthermore, writing both annuity policies (either bulk or individual) and equity release policies is attractive from a risk management point of view.

"Those two things go together, it's a virtuous circle. The money comes in from the bulk annuity which gets loaned out for the equity release, then the equity release goes into the bulk annuity portfolio to back the liabilities."

Furthermore, according to one pension consultant, equity release provides

"Some sort of hedge for the longevity on national level, because if they live longer the property is worth a greater amount to cover the extra pensions if members of the pension scheme live longer than anticipated."

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12 Loans issued to retirees to provide a lump sum or regular income in retirement, secured against the value in their home and repayable on either death or moving property.

Another consultant gave more explanation:

> *"If you've got an annuity business and you've got equity release, if everybody lives longer than expected, then their equity release products will be more profitable and offset the extra cost of the annuities. If people die sooner, that's good for the annuity business and the equity release isn't as profitable. There's a natural hedge."*

Since Just Retirement and Partnership are focused on the equity release market, this high-yielding and well matched asset forms a substantial part of their investment portfolios used to back the bulk annuity liabilities. According to one pension consultant:

> *"Just Retirement and Partnership have a lot of demand for equity release… Interestingly, other insurers also have this. So I think Aviva are the biggest equity release provider in the UK, but I'm not sure how dominant that would be as an asset within their bulk annuity portfolio. I think L&G bought a small firm that specialise in this, so maybe their intention is to branch into this."*

However, the traditional insurers have an offsetting advantage, in that their scale allows them to access and hold high yielding assets (e.g., private finance initiative (PFI) investments) that are not as easily accessible to the smaller insurers focusing on medical underwriting. The risk-adjusted return for a portfolio that includes equity release assets might therefore not be higher than the risk-adjusted return other insurers can achieve using different asset mixes and allowing for their own capital approaches. Consequently, the use of equity release by the medical underwriting specialists is a differentiator, but it is not clear it results in a material advantage and in practice may simply level the playing field against the scale advantages of the traditional insurers.

2.2.5 Appetite to write new business

The Chancellor of the Exchequer, George Osborne, declared in the March 2014 Budget that

> *"No one will have to buy an annuity."*

This change in legislation massively reduced the demand for individual annuities and the share prices of Just Retirement and Partnership roughly halved overnight, with those for other insurers such as Aviva also falling. Although the medical underwriters had already entered the bulk annuity market by the time of the Budget, it had a huge impact on their appetite to write new bulk business. A pension consultant described it thus

> *"Historically, their big business in retail annuities divided by four overnight. [Their strategy] was about diversifying into the bulk annuity market to recover."*

This had an impact on pricing, as one pension consultant put it

> *"I think it's mainly that they want to replace their individual business with bulk annuity business."*

Is the business they write profitable? One pension consultant, when asked that question, said

"I'm not sure I can answer, but as I understand it, they have been hitting their targets for what they want to achieve. Like any business, they might not expect to turn a profit immediately, you need to build up your reputation, build up a pipeline, all the rest of it, and the costs associated with doing that."

A medical underwriter explained

"I can't imagine any insurer is going to write bulk annuity business below breakeven. I think it is important to make the point that capital for annuity business is fungible. If we are able to write good quality bulk annuity business at similar margins to retail annuities then why wouldn't we?"

In other words, capital would move to other lines of business in preference to writing bulk annuity business at a lower margin. In their investor communications, both specialist medical underwriters report margins on bulk annuity business similar to that on retail annuity business. This indicates that they may have different commercial objectives to the traditional insurers regarding annuities broadly, which should not be surprising in a highly competitive market.

2.2.6 The impact of medical underwriting

The question then becomes how much value is added by the process of medical underwriting. Here, we encountered a range of different opinions, depending on the extent to which people believe the argument that the reduction in uncertainty when calculating the capital required by the insurer translates into a lower price overall. Unsurprisingly, the medical-underwriting insurers were enthusiastic:

"By collecting health and well-being information on a more granular level, an insurer can remove the need to solely rely on proxies for health status such as age, gender, pension size and postcode. More data means greater confidence, which means a lower risk margin, which means on average a better price."

"It's more accurate pricing, that's the bottom line. Post code, pension size, etc, are really just proxies for health status in the end, whereas medical underwriting takes you directly to health status."

A reinsurer supported this view:

"It has been consistently shown that if you use another layer of more granular data, for instance, medical data, you get better outputs than using crude methods like postcode. Just like cars - you used to get away with asking for very simple information for car insurance, now they ask for a lot more. So I see better use of information to get a better understanding of mortality is just a natural trend really."

There was further support from one pension consultant:

"Medical underwriting gives more certainty. We've seen this from traditional insurers if you give them data on marital status. We've done transactions where we've collected marital data, it's come up with exactly what you'd expect, but the premium's gone down by one or two percent because they've got the certainty. If they don't have the data, they assume something more prudent. And the same thing is happening with medical data… It is a two-way bet. But you're moving the starting point."

Even one traditional insurer acknowledged this argument:

"You might get a slight decrease [in price] because you get slightly more certainty and you have more information, so that might on average, over many schemes, mean that there is a slight reduction."

Furthermore, one medical underwriting specialist added:

"All the usual factors a traditional insurer uses are also used in addition to medical data. For example postcodes, industry type, experience data and so on. The medical underwriters simply capture a much richer insight into the life expectancy of pensioners in their mortality models and so benefit from the best of both worlds."

Furthermore, these traditional factors may be of limited value for some schemes. Another medical underwriter said:

"Of course, the actual mortality for some industries may not be fully captured using traditional pricing methods, if the scheme is not sufficiently large for the experience data to be sufficiently credible. For example, some industries have workers who were relatively well paid but led hard lives and had unhealthy lifestyles. For these, medical underwriting may be the natural choice."

Another point raised by a medical underwriter was on the more subjective benefits of additional data:

"All life insurance companies will have some level of governance around their pricing and their quotes and presenting to a pricing committee a proposal for a quote. If you have two identical scenarios: one scheme you have everybody's completed full underwriting reports, you are therefore very clear on what your best estimate is, compared to the same scheme without having underwriting or a very low level of response rates. Pricing committees get more comfortable with the former rather than the latter. They just get more comfortable with the lower uncertainty and are prepared to take a lower margin."

Most other people we spoke to, however, were more equivocal:

"For some schemes there is a considerable advantage - there has to be some winners and some losers. For the right scheme, you can see this is an advantage."

"I think the medical underwritten market is a bit of smoke and mirrors at the moment because it's very difficult to tell how much of it is driven by the medical aspects. I'm an actuary, I know that getting that more granular data can't be a bad thing; some schemes definitely would win from knowing that information as they would lose in terms of what they would have got if that market hadn't existed."

"The key point is this issue as to whether it is always cheaper. Certainly, if you are taking the baseline as average health, if you are doing medically underwritten, you will get some ups and downs, it is a zero-sum game. You might get a slight decrease, on average, over many schemes, because you get slightly more certainty and you have more information. But the notion that it is always cheaper is something that I struggle with."

Others, especially some traditional insurers and reinsurers, were a lot more negative.

"On average, medically underwritten business should have a marginal increase in the average cost across the market because it introduces the cost of data collection, the

cost of the GP reports, the cost of underwriting the business. But clearly on a case by case basis, you will have some cases where you get reductions, because there are some schemes that benefit."

"Medical underwriting is worse than a zero-sum game. If you're a scheme and go for a medically underwritten quote, then there are costs involved because the underwriting is not free, so someone is paying to write the medical evidence."

A couple of insurers state the issue that traditional underwriting assumes all members are in average health, whereas medical underwriting starts from the assumption that all members are healthy and then makes specific allowances for different medical conditions, which may lead to a different outcome on average.

"But when you've got your model, if you're using socio-economic data or scheme experience, you've got a broad average level of mortality going into the scheme. If you use medical underwriting, you start with the assumption that the scheme members are healthy and then you add on the known extra causes of mortality there. If you are underwriting, you're never going to pick up all the little things and it's also going to be slightly conservative on big things as well. So, if you medically underwrite everybody in the industry and try to do mortality quotes on that, you would come up with lighter mortality than average. So medically underwritten stuff only works if your scheme is unhealthy in the first place."

"The questionnaire asks you a series of questions about impairments, so it seems to be a system of debits to your health. Two people who answer no to all of the questions will be assumed to be in the same health. What we were surprised about, was that the bucket of people with no conditions was around 40% of the membership. They are all 70-75, you would expect them all to have some conditions, so the baseline shouldn't be zero. But zero was the most common answer."

However, this was contested by a medical underwriter:

"If you take a population with an average dispersion of lifestyle and medical profiles and medically underwrite them, you'll end up with a traditional basis result. The problem with the traditional approach however is that you don't know they are average because you don't have their lifestyle and medical profiles and, even if you did, what would you do with it? Medical underwriting offers that extra certainty which should mean sharper pricing."

As to whether medical underwriting alone could result in the price differences seen in practice with traditional underwritten quotes, most traditional insurers were pretty certain they couldn't.

"10% on a bulk annuity price is huge. That is almost three years in life expectancy at 65, something like that. It is pretty big."

"To get a 10% change in price, if you backsolve what that prudence margin needs to be to get that sort of change in price, it is just unrealistic."

"It's [a 10% change in price] like a 50% for life qx shock [i.e., mortality rates being permanently 50% higher than would otherwise be expected]. It's not mortality only… I buy that if you've got one big member who turns out they're terminal, yes, that they might have a £4m liability which has become £100k. But other than that, the idea that it could be a 50% qx shock for life doesn't make sense."

It therefore seems likely that the impact of medical underwriting alone for any specific scheme can be to increase or decrease the buy-in price, depending on whether the members are more or less healthy than average. For an average smaller scheme, the price after doing medical underwriting should be lower (due to the removal of margins for prudence), but the other factors that go into the pricing of bulk annuities might swamp this. However, most of the people we spoke to agreed that the insurers most committed to medical underwriting, namely Just Retirement and Partnership, were offering some of the most competitive prices for buy-ins at the present time.

From the point of view of the trustees of a pension scheme, whether this is due to the medical underwriting or other factors, such as the assets held as investments by the insurer or their appetite to write business, is largely irrelevant when securing members' benefits at an affordable price. However, it will be key to understanding how this competitive pricing will develop into the future, as we discuss later in this report.

3. Preparing for the Transaction

Suppose the trustees have made the decision to de-risk all or part of the scheme. Whether to select a medically underwritten bulk annuity will depend on a number of different factors, as we now describe.

3.1 Route-map to buy-in or buy-out

Although trustees have a statutory duty to act in the interests of the members of the scheme, it is not necessarily true that a buy-in or buy-out should be their highest priority. An independent trustee commented that

> *"The 2014 Budget still hasn't settled down yet, providers still haven't got used to it and how they will deal with drawdown and that sort of stuff… Another factor is that a lot of schemes still have other risks that they need to address more urgently than this one, such as interest rate and inflation hedging. There are a lot of schemes that have done none of this."*

Indeed, insurance usually sits towards the end of the long journey to de-risking a pension scheme. One pension consultant puts it thus:

> *"They are on a journey to get to buy-out and that journey is going to take them a long time and they want to do it in the most cost efficient way. You start by looking at the first step and it may not be any kind of insurance."*

A reinsurer commented that

> *"The first thing they will focus on for a scheme of a reasonable size would be their assets, probably look at LDI strategies."*

It is still true that many schemes, especially those in poor funding positions, are still substantially exposed to investment, interest rate and inflation risks. According to a pension consultant

> *"There are schemes with significant growth assets which generally means that the reason they're in these is because they're not generally in an amazing funding position. For schemes that are better funded, there may be some growth assets backing deferred type business, but for pensioners, they may well have put a reasonable weighting towards gilts, maybe some will have done some LDI corporate bonds and derivatives."*

Beyond that, many trustees will try to use liability management exercises, such as enhanced transfer values (ETVs) or pension increase exchanges (PIEs), to de-risk the pension scheme. However, both of these may have selection effects that will influence the potential to purchase a bulk annuity later on. A traditional insurer said

> *"I would definitely assume the married proportion rates of those left in the scheme are higher than a scheme that hasn't done an ETV. How much evidence has been collated on that? None, because it's not our job yet to do that, it is up to the schemes… But we do factor it in, we do think about it… We worry about the issue of selection on PIE… Certainly when we allowed for PIE within our own contracts,*

we had a mechanism taking into account the fact that those of ill health are more likely to accept it."

In some ways, this makes going down a medically-underwritten route for a bulk annuity more attractive for a pension scheme that has conducted extensive liability management exercises, since the data on health and marital status will be collected anyway

"If you are medically underwriting the remaining population, you remove that problem because you actually find out if it is all the healthy ones who are left behind."

One medical insurer commented that this is only likely to become more important in future due to the impact of the new pension freedoms:

"Previously deferreds had the ability to transfer, but transfers from schemes were virtually zero. Now that the pension freedoms have been introduced, many take cash. Today, that's had no real impact, but in five years' time, it will. So as time goes on, you will have blocks of pensioner business coming to market that are not accurately priceable with traditional means because you don't know what health status people are in. It's not an average health status anymore."

This suggests that traditional insurers may have to assume they have been selected against in future and raise their prices, making medical underwriting even more attractive for schemes which have run liability management exercise and, hence, the health of the remaining members becomes a concern.

However, in many cases, the specific impact of liability management exercises is assumed to be limited

"My view is that there must be some selection, but people tend to transfer for a whole range of different reasons. What insurers worry about is if you run an [ETV or PIE] exercise and get either very low take up rates or very high take up rates then that is when they get most nervous about selection. If you only have a few that transfer out, they are probably the ones without spouses and aren't healthy, but if you get a higher take up rate, you are probably getting the full range of reasons why people transfer out."

The other impact a PIE can have is to simplify and make the liabilities of the pension scheme more hedgeable. Even if this does not reduce the technical provisions of the scheme (and hence the funding requirement), it can reduce the price of insuring the scheme, since the insurer does not need to hold the extra capital for unhedgeable liabilities.

"In that case, they have a mismatch in what they're hedging and what they are actually having to pay out, so they have to reserve for that which brings the price up."

Hence, in most regards, prior liability management exercises should not adversely affect the ability of a scheme to buy-in or buy-out, but may encourage the use of medical underwriting should there be reason to think that health was a major factor in people's decision to take up the offers available.

3.2 Deciding to buy-in or buy-out

3.2.1 Timing the transaction

Once the scheme has got itself into a position where insuring some or all of the benefits is worthwhile, the next question becomes the timing of the transaction. Ultimately, the decision to buy-in is an investment decision and hence a consideration of these issues is the responsibility of the trustees. However, usually, the sponsoring employer has a significant interest in de-risking the pension scheme and will want to be involved, especially if the scheme is bought-out (which usually requires an additional payment by the sponsor to be made). Opinions differ on how involved sponsors tend to be:

> *"A pensioner buy-in is an investment decision and so is made by the trustees and they probably have to consult with the sponsor, and I think most trustees wouldn't do it if the sponsor said no."*

> *"It is a combination of both the sponsor and the trustees driving it forward. The trustees are obviously interested, the sponsor is obviously interested as well. For a scheme to embark on this, it would be a change of investment strategy and so consultation with the sponsor would therefore be required. Trustees generally, even though it is only a requirement to consult, wouldn't want to do anything without the sponsor's consent."*

> *"It is the trustees' decision, but most de-risking exercises are driven by the sponsor and not the trustees. The trustees are a little more cautious I think. If you have a look at the buy-ins and you look at the corporate sponsors… 80% is perhaps driven by corporate finance activity. An executive gets an organisation for four to five years so they want to do something, they want to get rid of an issue, they want to merge something, buy something, and the pension is often a bit of a hindrance. So if they do that, they get rid of the problem."*

However, speed can be of the essence. Because the assets held by insurers differ from those held by pension schemes, pricing opportunities can exist temporarily, which prepared schemes can take advantage of. According to one pension consultant, this can add more value than the decision whether to medically-underwrite or not:

> *"This is a massive challenge for schemes. Whether you do medical or not medical actually isn't the biggest driver about getting a successful outcome for a company, it's actually being able to time the transaction well for them… Being able to transact quickly and time a transaction is by far the biggest driver… So actually just to put yourself in a place where you can transact quickly is a huge value driver of schemes."*

Whether the pricing is good or not strongly depends on the difference between the assets the scheme and the insurance companies are holding, and will vary from insurer to insurer and continuously throughout the year. As another pension consultant said

> *"The people I see at insurers are all salesmen, that's what they do… They are going to come to me and say they've got an opportunity… There are sometimes end of year sales, they are coming to the end of the year and they haven't done very well through the year, some insurers participate in that, other insurers will say that their pricing*

is actually better in January because they don't need to do business. But how much of that is marketing and how much is that they really do have those assets or that they'll cut their profit margins? I think the key thing for trustees is, if you are in the market, you can take advantage of it, if you aren't, you can't. Although I'm a cynic, there will be times when you do get these opportunities, and if you are in the market, you can take advantage."

There may be advantages in performing several buy-in transactions for different tranches of benefit, in order to spread the market timing risk. One pension consultant described it thus:

"On one transaction you might get lucky, but if you spread your transactions over several years, you can take opportunities as they come along."

Another added that

"It's almost a bit of averaging of price over time if you are de-risking over a period. A bit like investing in the stock market almost."

3.2.2 Being prepared

In order to be able to take advantage of these temporary pricing opportunities, pension schemes need to be able to run as efficient a tendering process as possible, be that medically underwritten or not. One of the most important things a scheme can do in advance to speed the process up is an initial data cleansing exercise, to ascertain exactly which individuals and which benefits are to be insured. As part of this, the scheme should obtain legal advice in order to exactly specify the nature of the benefits (in terms of timing, increases, dependants' benefits, etc) that will be covered. A pension lawyer added:

"Another important thing would be on the benefit specification side, to ensure that the benefits that the trustees are insuring are actually a true statement of those payable under the scheme."

Pension increases in most schemes can be very complicated according to one pension consultant:

"One reason that makes bulk annuities quite tricky and interesting is that there are a lot of different increases in different pension schemes… So that adds to the complexity. We had a pension scheme recently that had like 15 different sections because they had been an acquisitive pension scheme over the last 40 years and merged all these pension schemes in… And then you've got guaranteed minimum pension (GMP) which adds a whole lot of other stuff."

However, spousal and dependants' pensions are often some of the trickiest aspects of this process:

"A lot of pension schemes have a young spouse reduction… To help protect them against things like deathbed marriages, [they have clauses] that say there is no pension payable if marriage is within six months of death. Also, some schemes have financial dependency criteria, typically at the trustees' discretion. So within the trust deed and rules, the trustees will have powers to use their discretion… But when you move into the insurance world, discretion doesn't exist. You have to crystallise or codify those discretions and there is obviously a cost implication to that."

These issues will need to be resolved prior to any form of buy-in or buy-out, and can be done well in advance of tendering the scheme to market so as not to delay the process and so have a better chance of taking advantage of temporary pricing opportunities. Furthermore, reliable data should be seen as part of good risk management anyway, since it helps ensure that the correct benefits are paid generally, and so regular data audits should be considered by all schemes regardless of whether they are planning to insure in the near future.

After the trustees have decided to do a buy-in, the first step in the process is usually for the trustees to conduct a feasibility study. A couple of pension consultants described this step

> *"We would generally do a feasibility study first, where we don't collect any medical data, but to say where we think prices are going to come out based on sample rates - not underwritten sample rates but vanilla sample rates."*

> *"What we usually do is a feasibility study at the start, with the benefit specification and some individual member data, but before we get any medical data. With that we say 'give us your initial quote of where your price might be' to give our negotiation competitive tension. That gives us a steer, we get that from however many different insurers and then make a decision on what to do."*

The feasibility study will often include a wide range of insurers, including those who use medical underwriting, and the results will often determine whether or not the buy-in is medically underwritten.

> *"At that point, they need to make a decision about how they are going to run the process: are we going to run it on a vanilla or on an underwritten basis?"*

3.2.3 Deciding to medically underwrite

Whether to go down a medically underwritten route or not is obviously a decision that needs to be taken by the trustees after due consideration. One pension consultant described their approach as

> *"If we are discussing buy-in opportunities, then we would always flag medical underwriting as an option. Whether it's appropriate is for discussion, but it would be in there conceptually as something that's on the table."*

Size of scheme

What factors determine whether medical underwriting is appropriate? Obviously, the size of the buy-out or buy-in is important. For very large transactions with thousands of pensioners being insured, medical underwriting is not practical. One pension consultant described it thus:

> *"For a normal pension scheme, there is definitely a size limit, beyond which medical underwriting doesn't make any sense. Medical underwriting is best when you have a few individuals where you find serious health conditions and those few individuals have enough of a share of the liability so that it gives you a decent impact on premium. If you find two really ill people in a population of 10,000 then it won't make any difference."*

There is also the question that, as the size of the population being insured grows, the law of large numbers becomes more important and assumptions based on averages are more appropriate for the insured population. Another pension consultant put it thus:

"Above [some number of people], extra information doesn't add much value, since the law of large numbers applies. If you survey 1,000 people you will find out they are an average population. If you survey 100 people, they might be skewed in some way."

Furthermore, the costs of performing medical underwriting grow as the number of people being underwritten. A medical data collector said

"The cost of collecting data and the process of collecting data for hundreds of members is pretty onerous. We think this isn't because we are expensive, because the majority of the costs are on the GP reports. But our experience has been these costs can be prohibitive. If you're having an outlay of tens of thousands of pounds to collect GP reports, and you don't transact, that is a big sum of money to have lost."

However, it is not clear exactly what the size of scheme is at which medical underwriting ceases to potentially add value. Our previous report suggested around 400 members:

"The general consensus at the time of writing was that the strategy is suitable for schemes with a maximum of about 400."

Many of the pension consultants interviewed for this report still agreed with this sort of number. A few, mainly medical data collectors or insurers using medical underwriting, suggested it might have increased over the past couple of years.

"I can understand the rationale why people think this will only work for a small number. However, I have yet to see any actuarial calculations to say where that line is drawn… I would actually start the other way and rather than come up with an artificial limit, it really comes down to cost effectiveness. Clearly, if you had a few million people in your pension scheme, you would expect the valuation using traditional methods would be sufficient and it wouldn't be cost effective to go and interview all those people. But we haven't done it yet, we don't know."

"I think you could underwrite 1,000 members if you wanted to… It's entirely down to scheme preference I guess. It will take one scheme to be written up for 400 before someone does 500 or 600 and it will go from there."

In contrast, most traditional insurers and reinsurers suggested that 400 members was, if anything, slightly too high.

"I think 400 is too big. I think if you had a 400-life scheme you would need a couple of the executives to be in poor health in order to medically underwrite."

"I'd say it was a bit lower, say 150-200 lives, that sort of order, and there is lots of noise around the outside of that."

In most cases, this number is a back-of-the-envelope estimate, rather than a scientific calculation, although some work to shed light on the value had been done by one insurer:

"We have tried to model that number [150-200], based on the probability of people being ill or not ill against the factors that we would price into our normal modelling. So you might find that somebody might give you a higher number if they don't have a model which allows for some of the postcode factors we include. But when you factor in for those, it reduces the number."

However, for the majority of interviewees, estimates of the maximum number for which medical underwriting is appropriate were based on intuition rather than detailed modelling. It is likely that 400 members was the most common upper limit mentioned due to the anchoring effect of our previous report and others like it.

In practice, whether medical underwriting adds value for a scheme will depend on various factors such as how diverse the scheme members are in terms of pension amount, lifestyle, etc, the extent to which the insurer can use health and lifestyle data to differentiate between members and the extent to which the pension scheme is unusual (e.g., consists of members in an uncommon profession) which would be difficult to price using traditional factors. Each of these is likely to make medical underwriting more attractive. We therefore believe that it is potentially misleading to talk of a standard size limit for medical underwriting, to avoid discouraging schemes that might benefit from it automatically discounting medical underwriting as unsuitable.

Deferred members

Another factor that will determine whether medical underwriting is appropriate is whether the scheme wants to do a full buy-out which included deferred members or not. As one pension consultant put it

"Partnership doesn't cover deferred members at all, or not normally. Just Retirement will quote if there are some deferreds, but they have to be below a certain number and in a certain age range."

Therefore, schemes looking to do a full buy-out, which includes a significant proportion of deferred members or merely a few relatively young members, have to either use a traditional insurer or go with Aviva or L&G in a medically-underwritten process.

There are likely to be specific reasons for this reluctance to write deferred pensioners, one of the most important of which is the investment strategy adopted by the insurers. One of the medical underwriting specialists told us

"We run our business to closely match liabilities. So, the assets that we've got, mortgages and bonds, must closely match the liabilities that we've got. To the extent that the mortgages we write and so forth allow us to write deferreds, we will do so."

However, since the equity release mortgages they write are to pensioners, they are a relatively poor match for deferred liabilities. Hence an investment strategy that is suitable when insuring pensioners cannot be utilised as effectively when insuring deferred members.

There are also uncertainties around how much value the medical-underwriting process adds for deferred liabilities. Practically, performing medical underwriting is not an issue:

"They are still people, with two arms and two legs, smoking habits and all that stuff. It doesn't bother us from our point of view. In the pension world, they talk about deferreds, but from our point of view they are just people,"

according to one medical data collector. However, the importance of the information discovered through such a process is more uncertain, according to pension consultants

"All their [Partnership's and Just Retirement's] experience data was for annuities, and therefore they don't actually know the impact that medical conditions have. If some 45 year old says, 'I have got high blood pressure', they don't have any data to say how long that 45 year old is going to live. So it is a different business."

An insurer using medical underwriting added:

"There is much lower prevalence of medical conditions that can help differentiate life expectancy for younger individuals. Young people die of accidents, suicides or rare illnesses that rapidly kill them soon after diagnosis. The prevalence of longer-lasting medical conditions is much lower. Therefore, in terms of concentrating efforts to where there is the advantage over the traditional insurers, it makes sense to primarily target pensioners."

In the wider bulk annuity market, however, there are other reasons for the generally lower appetite for insuring deferred members. Part of this is a general lack of long-dated assets which can match the benefits for deferred members. As another insurer described it

"It's just a duration thing. The average age of a pensioner might be 68. So if they live to 90, that's 22 years. The average age of a deferred might be 48, so you've got another 20 years of exposure. It's just much more uncertain. Plus, you've got to find assets that are either that long a duration or you've got reinvestment risk [to deal with]."

As well as the greater investment risks, the same insurer went on to describe the greater longevity risks:

"How long is a 48 year old going to live? Who knows? It's a lot more uncertain. Longevity risk goes up, so the capital required goes up."

Furthermore, deferred members have choices regarding the timing and form of their benefits that pensioner members have already made. This is expensive for insurers to hold capital against, according to an insurer:

"For example, you don't know when they will retire, how much cash they will take at retirement, the data for them might not be as well verified as for people where you are actually paying benefits. There are more uncertainties with deferreds, definitely."

Therefore, insuring deferred members generally requires more capital from an insurer than an otherwise equivalent pensioner. This is the opposite of how most pension schemes are funded, where more optimistic assumptions are used to value deferred benefits, according to one pension consultant

"Insurers are quite cautious and so deferred liabilities are very expensive. Whereas in the world of pensions, deferred liabilities are backed by equities and return-seeking

assets and so there isn't that sort of prudence, in fact it is the opposite. In the pension world, deferred liabilities are cheap. So there is a difference between the two."

As discussed later, this is only likely to increase as a result of Solvency II coming into effect from January 2016, making insuring deferred members generally more expensive and therefore reducing the relative disadvantage faced by the medical underwriters.

Furthermore, in the current market, insurers have a sufficient choice of schemes looking to de-risk to be able to select which schemes best suit their internal risk appetites. One insurer said

"Deferred pensioners are more complex and so if our targets can be satisfied by writing simpler pensioner business, there is less of a need to target deferreds"

Since pension schemes are mostly closed to new members and further accrual of benefits, the proportion of deferred members in schemes will decrease in future, especially as a result of the new pension freedoms introduced in the 2014 Budget. It therefore seems likely that the impact of insurers' general preference for pensioner members over deferred members will decrease in future.

Potential for self-selection

For schemes which are of an appropriate size for medical underwriting, it is still not a clear-cut decision. Medical underwriting will be especially advantageous for pension schemes whose members are in worse health than would be assumed using traditional underwriting. One important question is, therefore, whether it is possible for a shrewd trustee to know this in advance when selecting an insurer? One pension consultant said

"There are lots of anecdotes about so-and-so is a smoker, or so-and-so has not been well recently. But generally, trustees don't typically know. Maybe they would in a small scheme, especially where you have one or two individuals who dominate the liability profile."

A medical data collector added that

"You could also argue that an element of pre-underwriting often goes on because they all know who is suffering from cancer or from a heart attack, so there is an opportunity to get a particularly good rate for that person."

It is probably easiest to try to self-select in a top-slicing transaction, since many of the individuals being insured will be known to the trustees. A pension consultant described it thus:

"In particular, when you're talking about top-slicing, you do talk to clients where they will say that they know those individuals, and know that either they've got health conditions or not, so they're already taking the view that they don't think it's worth it."

Or, more bluntly from an independent trustee:

"Obviously, there are certain risk factors the trustees will know about, related to certain individuals, such as if the former chief executive, who has the largest pension, is a smoker and weighs 18 stone."

However, according to one pension consultant, there are limits to the trustees' abilities to engage in this sort of self-selection:

"Frankly, they can't possibly do it scientifically, because they might know that someone has or had cancer at some point, but that doesn't mean that there is necessarily a premium reduction, and even if it does, it can be anywhere between zero and 30%. So they can't do it particularly scientifically, but they do attempt to around the trustee meeting table."

By collecting the medical data, however, insurers are able to move beyond such anecdotal evidence and reflect the actual health statuses of the pension scheme members.

Other factors

However, balanced against that is the risk that a medically-underwritten buy-in that does not complete will leave the trustees with fewer de-risking options in future, since the traditional insurers will assume they will be selected against. As a pension consultant described it

"I think there is still quite a lot of reticence, because once you have gone to the medical underwritten market and you don't transact, then you have put yourself at a potential disadvantage ever insuring."

Other pension consultants discussed worries trustees have about the practical aspects of a medically-underwritten buy-in:

"They ask whether their members would really respond, some of them will think that it is a bit more costly and they are not sure whether or not they will do this buy-in."

"Do you go through the hassle, cost and time of writing out to your members? Or do you just go with the traditional insurer?"

"I think some trustees think that medical underwriting just all sounds a bit intrusive and they just don't want to ask their members to do it, which will lead them to go non-medically underwritten. Plus medical underwriting itself has a cost which, while it shouldn't really factor into the decision making, it is an upfront cost and you aren't sure whether you are actually going to get a policy at the end of it. So some trustees just want to do the lowest cost quote process possible, even if they will get a more expensive policy at the end of it. Not all trustee decisions make sense."

Another pension consultant mentioned trustee concerns about the insurers that might bid if they went down a medically-underwritten route:

"Others might be worried, especially if you can't get some of the bigger players to quote. They might say, 'I'm not comfortable with starting a process where I've only got relatively new names or smaller companies willing to quote,' so they'll go down the traditional route."

Ultimately, the decision whether or not to use medical underwriting when doing a buy-in or a buy-out for a small scheme will depend on the specific circumstances of the scheme and the potential pricing available with each option. Therefore, it is interesting to note that all of the pension consultants interviewed for this report

said that they would raise it as an option, regardless of their personal views on whether the medical underwriting process itself added value. This is a significant development from our previous report in February 2013, when medical underwriting was still seen as relatively small niche and so was not routinely raised by consultants.

3.2.4 Deciding to top-slice

For a top-sliced buy-in, the decision regarding medical underwriting is less important than for buying-in or buying-out for a small pension scheme. One pension consultant put it thus:

> *"For top-sliced deals, the choice to go medically underwritten is a lot easier just because it is a lot more likely it will give you a lower price than a higher price. The risk/reward balance is a lot more in favour of going medically underwritten. The main questions are: is insurance affordable and is it something we want to do? If the answers are 'yes', then the top-sliced have to be medically underwritten"*

Concentration of risk

The most important question when deciding whether or not to top-slice for a large pension scheme is how it fits into the other de-risking objectives the pension scheme has. As a reinsurer put it

> *"How does top-slicing fit into that [de-risking] strategy? You've mapped out this strategy with the sponsor and the scheme, and then suddenly, someone comes along and says you should do top-slicing."*

However, most pension consultants agree that top-slicing is a sensible step on the de-risking process for large schemes:

> *"The first thing to look at is the concentration of risk, once people find out that actually 25 people dominate [the scheme liabilities], they are quite shocked by those sort of results, and if any of those people live a long time, that's a real problem, so top-slicing makes a lot of sense."*

> *"We show in our analysis to those trustees or to those sponsors the amount of volatility that exists in the scheme. You start by saying, from a longevity point of view, one or two members make up 20% of your liability. Whether those people live or die sooner or later makes a huge difference… We show it as part of our modelling that there's tonnes and tonnes of risk in these schemes and you can materially reduce it by doing top slicing… Taking out those high liability people just cuts down volatility in all sorts of ways, it's not just a mortality play, it really does help with liability matching. Your scheme starts to behave like it ought to do. If you're a 400 member scheme, you'd like your liability to behave like a 400 member scheme, but actually it doesn't because you've got ten individuals who make up 20% or 30% of your liability. If you take them out, it starts to behave like it ought to behave and that makes it a lot easier to do things like liability driven investment and other de-risking measures."*

From a reinsurer's point of view

> *"Top-slicing is great for me because I don't take the top slice, so you are making the rest of the book look more attractive to me. I end up with a more homogenous group.*

The key risk in a lot of pension schemes is you have maybe 5-10% of the members who have 40% of the liabilities. So if you take those people out, that's fantastic."

Perception of favouritism

When top-slicing, there are two further obstacles in terms of perception which need to be overcome. The first is that, by insuring a few of the highest liability members, the trustees are perceived to be unfairly favouring them over the other scheme members. As one pension consultant said

"Trustees often have the perception that those guys have extra security. The wider membership could have that misperception as well."

However, this perception is unfounded, as an insurer said

"It isn't really a problem if you do a buy-in, as long as you don't move to buy-out, since you are still getting the money in for those individual lives if you are under-funded."

An independent trustee was more forthright:

"You haven't [favoured anybody] and so you tell them that. You make that clear and, in fact, that's another part of the process that trustees need to be aware of and document. Because, when you're buying in, the members will still be paid by the scheme. You're just matching streams of outgoing and streams of income, so that the buy-in doesn't actually transfer the members' benefits."

Communication around this area was a point highlighted by another pension consultant:

"I think they need to be very careful about the communications… We are very clear as to what it means for [the insured scheme members] and their benefits, which is nothing: it is an investment decision and an asset of the scheme, so all we are doing is taking the gilts that the trustees hold, we are going to sell them and buy an insurance policy that the trustee holds and that's it, it doesn't change the benefits."

If anything, the perception of favouring those being top-sliced can work in reverse in future if successive buy-in policies are converted to buy-out:

"In a top-slicing transaction, you're typically securing individuals who are often former directors of the business and so still may have a connection back to the company. So, is the company comfortable with securing those individuals with [a relatively small insurer] and then potentially transacting the rest of the population with [a large traditional insurer]? Fundamentally, if they've gone through the due diligence process, they should be satisfied that there shouldn't be any reason why not, but superficially at least it does raise additional challenges."

Such concerns need to be addressed directly by ensuring that the trustees and sponsor are happy with the strength of the covenants of all of the insurers quoting for the buy-in, as discussed later.

Multiple tranches of benefits

In addition, there is the additional complexity of dealing with multiple tranches of benefits, potentially insured with different insurance companies. However, this is widely believed to be manageable:

> *"Doing a series of buy-ins with different insurers adds some complexity, but once contracts are done and data agreed, they are quite easy contracts to manage. The contract pays into the pension scheme each month, then the money goes straight out to pay pensioners. All that is required is correspondence to the insurers to tell them about any deaths and pension increases, but that is quite an easy process."*

A further concern when top-slicing is the worry that the scheme is "gaming" the Pension Protection Fund (PPF) by securing some members' benefits preferentially to avoid them being reduced if the sponsoring employer became insolvent and the pension scheme entered the PPF. However, this should not be an issue if the policy remains as a buy-in, and hence an asset of the scheme. A pension consultant said that

> *"If the sponsoring employer goes into insolvency and there isn't enough money in the pension scheme, the PPF inherits the buy-in policy as an asset. The policy could then be re-written so that rather than paying a stream of money that covers 100% of benefits, it actually covers a wider population. The PPF has sufficient scale that it is able to accept the buy-in policy as an insurance policy."*

Indeed, the PPF confirmed that a significant proportion of its assets were annuity policies inherited this way:

> *"About 1% of PPF assets consist of annuities that we have acquired from pension schemes,"*

although most of these were bought historically by pension scheme trustees on an individual basis rather than via a bulk annuity policy. A pension lawyer added

> *"For as long as a policy is held as an asset of a scheme in the buy-in phase, there are no problems because the proceeds from the policy aren't hypothecated to the members whose benefits are being insured. If there is an insolvency and the scheme as a whole were underfunded on a PPF basis and it were to fall into the PPF, there wouldn't be any preferential treatment to people whose benefits had been part of the top-slicing as opposed to the other members. The proceeds would just be split and spread across the members as they always are."*

However, according to another pension lawyer

> *"It's a slightly more interesting question as to whether at the buy-out phase, if you were to buy-out a tranche of members' benefits, whether there is a legal way of doing that. The answer is potentially there is a legal problem with it, because it's fairly clear from case law that 'You're not allowed to game the PPF' as the judge said in a key case on this. You're not allowed to effectively take risks with the PPF's money by insuring liabilities which aren't covered by the PPF and thereby worsening the coverage of benefits that are covered by PPF, meaning that if there is an employer insolvency and the whole scheme goes into the PPF, there are fewer assets to pay the PPF and the PPF is worse off."*

According to the PPF itself

> *"Generally, we will look askance at situations where the trustees have bought-out benefits in the member's name ahead of the insolvency, especially if we think it was done to give certain people an advantage."*

However, the law in the situation of a top-sliced buy-out designed to game the PPF is untested. The PPF went on to say

> *"We do have powers under the Pensions Act 2004 which allow us to disregard rule changes that were made within a period of three years prior to the sponsoring employer's insolvency and that increase the scheme's protected liabilities … I don't necessarily know whether it will turn out to be a practical issue for us and we will have to wait and see, but there is the existing ITS v Hope judgement and if it turns out that this issue of gaming becomes a recurring problem, we might have to discuss the issue with the Department for Work and Pensions with a view to them enacting stronger legislation. Further, we might consider pursuing the trustees for improper use of trust assets."*

It therefore seems sensible that, if a strategy of buying-in for multiple tranches of the liabilities in a scheme is adopted, these tranches are only converted to buy-out simultaneously and at the point when the whole scheme is to be insured, to avoid any potential for "gaming" the PPF if the sponsor subsequently became insolvent.

4. The Tendering Process

Today, almost all medically-underwritten buy-ins (whether for small schemes or top slices) go through a tendering process in order to get multiple insurers competing for the transaction. One initial concern with medical underwriting was that the different insurers had different approaches to the process, which would potentially stifle the development of the market. A medical data collector described it as follows:

> *"Clearly there were two providers, Partnership and Just Retirement, who set the pace on this, and they had different approaches."*

A pension consultant explained those approaches as

> *"Partnership like to have a short medical form and then get GP reports. Just Retirement wanted to do telephone interviews. So there are different approaches where each insurer has a preference."*

Another put it slightly differently by saying

> *"Just Retirement have got expertise in conditions which are not that serious, whereas Partnership have got more of an expertise in conditions that are kind of more life-threatening."*

One of the major concerns in our previous report was whether these different approaches would limit the growth of the market.

4.1 Collecting medical information

4.1.1 Medical data collectors

According to most pension consultants, a standard approach has emerged, based on a common data collection process over the past couple of years.

> *"There was a move to have standardisation…That has evolved over the last couple of years. We have a compromise position."*

> *"Yes, that all has standardised, or certainly they will accept the same data."*

A large part of that has been due to the involvement of third-party medical data collectors, such as MorganAsh. To date, the majority of processes have involved MorganAsh as the medical data collector. However, more recently other companies entered the market. According to one pension consultant

> *"Age Partnership were considering getting into this space… I am aware that Aon have their in-house offering as well."*

Age Partnership officially confirmed that they were entering the market on 10th September 2015, while Aon use their own internal medical data collectors as part of the Aon Ahead offering to schemes. Most of these companies entered the market by adapting their existing capabilities for broking individual annuities, and so had much of the expertise needed to do it. Broadly speaking, most

independent pension consultants welcomed increased competition in the marketplace.

Because the data is collected centrally and distributed to all insurers in the tendering process, a single process has emerged for the majority of medically-underwritten transactions. In addition, the third party data collectors ensure that data is protected. They describe their processes as follows:

"Clearly, we have policies and IT stuff in place which keeps all the data secure… It is very specific, we can only use the data for this purpose. We will name the administrators and the employee benefit consultant and the four insurance companies who we can share the data with. There is no ambiguity about what is there. We also come under the EU rules that data can't leave the EU. It also covers that the data can be seen by the reinsurance companies, which is an important part of it. We have quite a rigid process about how we store data and who can access it and who can't."

"Everything is encrypted when we are sharing sensitive information with our insurers… The data protection aspects are obviously taken very seriously. We are heavily audited by all the insurers. The big ones tend of have an annual audit of our IT and security."

Data protection is obviously a major issue for medically underwritten transactions with comments from consultants including:

"The Data Protection Act is an area that people are so keen to be compliant with and are very aware of. The lawyers will often get involved with the communications and processes to make sure they are compliant. That's an area which always gets looked at."

"That is one of the points that [the trustees] are very keen to understand, around data protection, procedures and policies."

"On the trustees' side, clearly it's their data, data protection concerns are paramount, we have to take them through how the process is run and what structures [the data collectors] put in place to keep the data safe…"

"I've not yet had any client raise any questions about data protection. I tend to be slightly proactive and say the data is kept in confidence, there are non-disclosure agreements between the different parties. I don't think there is a real concern there to be honest. The only case where there were some concerns, they came from the lawyers and not from the pension scheme itself."

The approaches used to obtain underwriting data for MUBAs have been built up from tried and tested approaches used over many years for retail annuities for hundreds of thousands of retail customers.

4.1.2 The questionnaire

The standard process for collecting the data that has emerged consists of three steps. The first of these is a short form questionnaire consisting of fifteen questions, of the sort which was included in our previous report.

"There is a questionnaire out there… that is about a page and a bit of A4, just tick boxes, and then there is the box to tick for the doctors report and all the various caveats, so maybe it comes to about three sides long."

This is included in the initial letter sent from the trustees to the insured members and represents the primary (and in many cases the only) contact made regarding the MUBA. According to many of the pension consultants we spoke to, it is critical that this is handled well.

"I think the personal touch makes all the difference… Signing the trustee letter, thinking about which trustee knows which members and getting the appropriate trustee to sign each letter."

"I think if they're aware who is writing to them, they know who the trustees are, especially the chairman of trustees, and that is a help. If you explain what you are trying to do is secure their benefits."

"So I think just little things about how you communicated it, I think personal touch just sort of makes people feel a little bit more reassured."

A couple of pension consultants suggested that getting the trustees to undergo the medical underwriting (even if they are not being insured) is also helpful:

"Having the trustees do the underwriting first, so you can mention in the letter that the trustees have done it and it was quick and painless… I think getting the trustees to do the underwriting first is absolutely crucial, because if I got a letter out of the blue from the trustees saying would you do this, I would probably have concerns. If I got a letter asking would I do this and by the way, I have done this and all the other trustees have done it, then I think that makes a lot of difference."

There will then be a chaser letter sent if the member fails to respond to the initial letter and questionnaire:

"After that first letter has been collected, we'll have a discussion with the trustees around what the response rate is overall and whether we need to send a chaser letter. The answer is probably yes to everyone who has not responded."

Since one of the purposes of the initial letter and questionnaire is to obtain permission to obtain further data, it is helpful to obtain a high response rate. One way that the majority of pension consultants have found, especially on top-sliced deals or for small schemes, is individual calls to the insured members in order to maximise the response rate.

"We did an exercise where the sponsor phoned up the top nine or ten of the people with the largest pensions and explained why it was being done, and they all returned it."

"The pension manager can ring them all up… and it wouldn't take months to get the results to filter back. But it's usually not that common."

Most pension consultants and medical data collectors agreed that response rates tended to be very high for the majority of exercises they had conducted:

"But it is generally quite good. I haven't got the stats, but if you look at the percentage in terms of numbers, it is maybe 60-70%, but when you look at who it is who has responded, it is generally the larger liabilities and so if you are looking on the liabilities side, it is more 80-90%."

"On average, we are getting a response rate of about 80%."

"Industry average is about 75% and we are aiming to be higher than that, so 80-85%."

"At the end of the process, we normally get about 80-85% responses."

Obviously, the higher the response rate, the more accurate the medical underwriting can be and the greater the potential implications for the price. However, it is also a question of who responds as well as how many. According to one pension consultant

"One of the practical challenges is, so you might have response rates of 80-90%, but the important thing is not just response rates in the number of people who have responded, but also what proportion of the liability you're covering with the underwriting. So if that 10% of non-respondents for some reason happens to involve the four biggest people in your transaction, then that's not quite as good."

Furthermore, there are issues with what assumptions get made for the non-respondents according to a couple of traditional insurers

"We know that the 30% who don't respond are much more likely to be male: men living on their own are much less likely to respond to data requests. We also know that they are much more likely to be the people who are less traceable, they are likely to be the people who have gone away into homes. But also, there is a super-healthy contingent of people in there, people who have moved or emigrated or in other ways can't be traced. You can do the medical underwriting on the 70%, but actually, for the population as a whole, you are left trying to work out what you are doing with the rest."

and

"Are [people who don't respond] going to be in very bad health and so have other things on their mind? Are they going to be in long-term care? Have they got dementia? So there are a load of things there in terms of the outcome of this and whether you are treating non-respondents as vanilla."

However, such concerns were rebutted by one medical underwriter:

"We always keep the mix of respondents and non-respondents under review to assess whether there is any bias. Our experience is there isn't, but nevertheless we do keep on top of this."

Ultimately, any reasonable steps that can be taken to maximise the number of people responding and the percentage of the scheme liability they represent should be considered in order to obtain the best possible price in the transaction.

4.1.3 Obtaining more detailed information

Most insurers, pension consultants and medical data collectors, however, questioned the actual value of the information on the questionnaire:

"Because you only ask fifteen questions, no matter how well they are designed, there is only so much information you are ever going to get."

Naturally, therefore, the questionnaire focuses on the largest and most important risk factors, such as smoking status, where there is a clear impact on life

expectancy and the pensioner can answer the question easily. A medical insurer explained:

> *"We have underwriting expertise and associated mortality tables, so that we can take into account the responses in the questionnaires in life expectancy and assess on risk on that basis. This is important as underwriting needs to be proportionate. Where pensioners have smaller pensions, you have a stronger proposition if you can assess on risk on the basis of the questionnaires only."*

The purpose of the questionnaire is, therefore, two fold. First, it enables the insurers to adjust the life expectancies for individuals whose pensions are too small to warrant the cost of obtaining further information. This allows the insurer to focus more resources on obtaining data for individuals whose health may materially affect the price. Second, it allows for adjustments to be made in respect of other medical conditions, either which do not require more detailed medical information or, in the interim, before such detailed information is obtained.

Scheme members who respond with one or more medical issues, and who have pensions in payment above a threshold will be asked to provide further information on their conditions, so that the insurer can refine their underwriting. A common approach is the telephone interview:

> *"The whole concept of the telephone interview is you have an interview over the phone with a nurse, you can get a lot more information in an easier way for the consumer… One of the advantages of the telephone interview is that it is scripted and targeted… you focus very much on what information you require. Family history is very good from that source, lifestyle is very good from that source."*

Telephone interviews tend to be around 20 minutes and are either with a nurse or a trained underwriter. One traditional insurer questioned how much value there was in the information from a telephone interview:

> *"How do you extract value from a series of amorphous words where you've got emotional responses? We are quite good at encoding algorithms, but for someone to interpret what a 70 year old has said to a nurse in text form or via a telephone recording, and making an informed, objective judgement, it just seems that that is prone to error."*

However, insurers across the UK have a long history of using telephone interviews for their life business for policies such as life assurance, so it is likely that they have developed the experience needed to interpret them.

For members with the highest pension amounts and major medical conditions, the final stage in the underwriting is a report from their GP.

> *"You can ask for information more generally, you can ask for very specific information in a targeted GP report: please tell me about [your patient's] cancer for example."*

According to a medical data collector, the process for obtaining a GP report is carefully regulated:

> *"General practitioners' reports are controlled by the Access to Medical Records Act (AMRA), which places various restrictions on it, and is also controlled by an agreement between the British Medical Association and the Association of British*

Insurers - although the agreement between the BMA and the ABI was dissolved a few years ago, but everyone mostly stands by it. First, under the AMRA you have to have a signed piece of paper which says that the individual consents to have their doctor provide this information to that insurance company and there is also an option on there to say whether they would like to see that report before it goes to the insurance company and the timescales associated with that. In reality, very few people request to see the report before it goes to the insurance company, but they have that right under an Act of Parliament."

However, the medical data collectors we spoke to went on to say that the information provided can be very valuable, especially regarding detailed information about specific conditions:

"What a GP report will give you is accuracy around medication – so dosage and frequency, also things like cancer staging, where was the tumour and grading… So from that point of view, it serves a purpose because it provides that extra level of detail."

"They can be very good bits of information, clearly at its best, it is a complete record of your health since your birth… but equally, they aren't the be all and end all."

However, they also said that obtaining GP reports can add to the time and costs involved in obtaining medical data:

"Obviously the cost per head of getting [GP reports] is more. I wouldn't say it's material, but it really does differ case by case and a particular GP as to how quickly you get that information."

There appeared to be a wide variation in both the costs of obtaining GP reports according to a medical data collector

"The cost on average – well, some you pay VAT on, some you don't, some you pay upfront, others afterwards – about £100 on average. We had one project last year where the GP said he wanted £200… The problem with doctors is that they think they can charge what they like."

The medical data collectors also said that there was a wide variation in the length of time the reports took to return:

"There is a requirement under the AMRA for them to reply within a certain number of days, although they have never met that, but it is 40 days I think… Another project we did, we were chasing the GP report and the surgery said they would do it as soon as they could, but their backlog is to February 2015 and this was in November 2014."

"GP reports can take anything from four weeks to three months to come back depending on the GP,"

and a wide variation in their quality

"What you get back varies hugely. Some doctors develop their own templates and go through it consciously telling you what they think you need, which may not be right, and others just hit the print button on their system, which gives you 50 pages of information which, in the middle, between all the 'flus and ingrowing toenails, tells you that there may be some horrors. So going through those is a non-trivial job."

It would appear that it is now the process of obtaining information from GPs that needs to be standardised and streamlined, rather than the other aspects of the medical-underwriting process. These issues will be especially important in top-slicing transactions, since more of the people being insured will be asked for GP reports if they have medical conditions because they have larger amounts of pension in payment.

4.1.4 The end of the process

Once the data has been obtained, it is shared with the competing insurers via an online dataroom on a continuous basis, including both recordings and transcripts of any telephone interviews conducted.

> *"This is uploaded to a secure site, each insurer selected for the scheme has its own individual access and password. Their underwriters can go in and access it and pull off any data they need to do the pricing."*

This continuous access as new data is obtained was raised as a potential problem by one insurer.

> *"Our preferred approach is we don't actually do anything until we get all the data. But the pressure is to give prices now. So we look at what is available and we can look at the price. But in the meantime [another insurer] has requested that they ask two members this additional question. It just means that it's massively frustrating and you get to the point where you might have three or four prices out there from different providers. But they're not all on the same data, because they've all been at different stages. It just needs to be 'here's the data we want, we'll go and collect it in this fashion, we'll come to you at this time, and we'll give you a price'."*

But approaches vary:

> *"We [a medical underwriter] are geared up to process the medical data as and when it arrives. We have teams of underwriters who deal with both retail and bulk business which means our systems are updated on a real time basis to reflect new data as it arrives and is processed."*

This variety of approaches to insurers processing the data remains one of the few parts of the process which has yet to be standardised due to different insurer operating models. This may become more important if new insurers start using medical underwriting.

One additional potential concern is the accuracy of the data provided by members. Here, however, most interviewees believed that there was no systematic mis-reporting of medical conditions.

> *"Given it is not for your individual benefit, I'm not sure there is an incentive for people to lie in the same way they would do if they were buying their own annuity. And I think it is very difficult, if you have a trained medical professional on the other end of the phone to say you've had a heart attack and answer the following five questions that anyone who'd ever had a heart attack would know the answers to. I think it is quite difficult to lie to them."*

However, it is necessary to ensure that the communications with scheme members are not worded is a fashion that prompts them to respond in a particular way.

"The clause in contracts is around the trustees taking out a warrant that they haven't coerced or educated the members to give a particular response which is favourable to the scheme to bring the price down."

However, according to a pension lawyer

"Most insurers are not too concerned about the point as long as there's an appropriate clause in the contract to absorb the risk."

The entire process for collecting the data can take a few months. A medical data collector said

"In most cases, the actual time it takes to do the work is two to three months,"

plus extra for GP reports, which seemed to be typical of most processes described by the people we spoke to. Co-ordination is key to minimising this, since an insurer can deal with other bulk annuity pricing work in parallel, so the net impact on transaction timescales is much smaller. As one pension consultant described it

"However, you can start the underwriting before you start getting the quotes… It will be slightly longer, but it shouldn't be a huge difference… Only two to four extra weeks, but I think you need to have that expectation. But I don't see it as being a problem… To add two to three weeks on to it tends not to be the biggest issue."

Furthermore, there are costs associated with collecting the data.

"It varies but I guess a typical range might be £10,000 to £15,000. In the big scheme of things, that's not a lot of money when you're talking about millions and millions [of pounds] in the size of pension schemes, and actually, if collecting that data gets you 1% or 2% off the price, then those fees are lost in the rounding, aren't they?"

A medical underwriter supported this:

"In a top-slice transaction, the cost of medical data collection is usually well under one tenth of one percent of the bulk annuity premium. For whole scheme pensioner buy-ins, the cost will be a small fraction of one percent of the premium. The cost really shouldn't be a decision factor."

A consultant added

"We negotiate with insurers so that the winning insurer reimburses additional fees, so if trustees spend an extra £20,000 obtaining health data, [the winning insurer] will refund that £20,000. Whether they will do this indefinitely, or whether it is because it is a new market, I don't know, but that is how it is at the moment."

4.2 Pricing

Once the data has been received by the insurers, they will need to send it to their pricing teams in order to deliver a quote for the scheme. This process typically takes two weeks and will end with the trustees receiving quotes from the different insurers and having to make a decision between them. When making this decision,

"once you've got the quote, it is mainly price driven,"

as one pension consultant put it.

4.3 The insurer's financial covenant

However, while price is probably the key factor when making a decision between insurers, there are other issues that the trustees of a pension scheme need to bear in mind. One important issue, according to pension consultants, is the financial covenant and ongoing strength of the insurer.

"I think particularly there is a lot of press about medical underwriting and how their share prices were struggling [after the 2014 Budget] which hasn't helped. It is a little bit of a stigma."

"If you transact with Partnership or Just Retirement, you are more likely to see change with those organisations than you would with L&G or Prudential or Aviva. Trustees need to be aware of that fact."

How the trustees and pensioners perceive the insurance companies also make a difference according to different pension consultants.

"[Trustees] might just be a bit more comfortable with the established insurers. I think that reputation is a bit important."

"If you do a buy-out with a well known brand, you will get questions from members, but they won't be 'who are they?', whereas you would get that with a buy-out with one of the specialists"

However, according to another pension consultant, most trustees get happy with this as an issue if pricing is attractive.

"If they come in 2%, 3%, 4% or 5% below, then that starts to make [the trustees] think, 'Hang on a minute, what is this brand difference, what is it worth?'"

One insurer who uses medical underwriting believed that such concerns were mainly used by pension consultants as a negotiating strategy:

"But when you speak to trustees, how prevalent is [brand as an issue]? Because I've always thought that it's probably not as big an issue as perhaps employee benefit consultants make it out to be. I've often seen it as being a bit of leverage in the pursuit of getting as good a deal as they possibly can."

They also added

"It's interesting, actually. A trustee will be very happy as an individual to purchase their annuity with us. However, they may be more reticent, emotionally at least, to do the same as a trustee with their bulk annuity for the pension scheme, because they are responsible for other people's money."

Another insurer added:

"Insurers will focus on their best points. Those with a household brand will stress its value. The specialists, medical underwriters or not, will sell what they do well. They

don't have a household brand to carry them through, so they will need to ensure they visibly excel in other areas like service."

Most pension consultants agreed that the key to getting trustees comfortable with the covenant of the insurer is by discussing the regulatory regime governing insurance in the UK.

"They are all insurance companies that are regulated by the Prudential Regulatory Authority (PRA). That gives us a comfort."

"Our view is that the UK insurance regulator requires an awful lot of protection to be put in place and, because you are buying an insurance policy which is UK regulated, it is very secure in my view. Whether you buy that with Just Retirement, Partnership or L&G, they are all subject to the same stringent requirements. It is all covered by the Financial Services Compensation Scheme (FSCS). Up until 3 July [2015], the FSCS would have paid out up to 90%, but that is now 100%."

However, a pension lawyer pointed out that

"It is also true that it is untested and therefore however good it works on paper, until one of these has actually happened in practice, there will always necessarily be an element of uncertainty or doubt or resonance that for some reason or other it doesn't work as well as it's supposed to… There is a question whether the government would ever in practice let the FSCS go insolvent or whether there might be commercial pressure on the government to contribute into it. But the first thing that would happen if there was ever an insurance company to get into trouble would be that the Prudential Regulatory Authority (PRA) would try and find a different insurer to take on the book of business."

A pension consultant added that

"It depends on your lawyer and how much they say, 'Oh [the FSCS] has never been tested'. I don't know if it's a bad thing, that it has never been needed… It's not something that I think is a huge concern because I can't imagine the government just letting an insurance company go bust. And then I suppose people might think, 'They might let a small one go', but I think that is probably very cheap to fund, so they would probably support it. They couldn't support [a large insurer] because it is massive."

For trustees who are very concerned about the financial strength of the insurer, it is also possible to obtain a covenant review. One pension consultant said

"They can commission a report (a specialist insurer covenant review) from an insurance specialist commenting on how their security stacks up against other insurers. That might cost £15-20k. We find that helps remove a barrier."

Another confirms that such a report can help trustees obtain peace of mind

"I would do everything possible to make sure that I was satisfied with the covenant, so that if things did go wrong in the future, I could say that I had done everything possible. I didn't trust the PRA, I got some independent experts as well to have a look and they said it was fine. As a trustee, I'm sure, you want to make sure your back's covered."

However, they went on to add

"I've never seen a report yet come back and say they shouldn't [transact with a particular insurer]."

4.4 Other practical issues

Beyond price and covenant, there may be other issues the trustees will also need to consider according to various pension consultants and lawyers we interviewed.

"There are lots of elements to it where they can choose certain features, but assuming they can all match the scheme benefits and, if the prices are all pretty close, then you potentially look at brand, administration, member recognition (which is a bit like your brand) and also business as well, how diverse the business is."

"Things like a whole host of commercial terms that get negotiated as part of the deal, such as trustee liability…You look at material change provision – those are the provisions that deal with the circumstances where the insurer has the right to reprice the policy if there's a significant mismatch between the benefits they originally agreed to the price and the benefits that it turns out are the real schemes benefits following a data cleansing exercise… When you're acting for the trustee, you need to make sure that the trustees are aware of that."

However, issues such as ring-fencing the assets transferred and various other forms of security structure tend not to be a feature of the smaller deals associated with medical underwriting.

"Setting up of collateral structures and security structures, which trustees might want to do, especially as part of a larger deal where they've got lots of leverage over an insurance company"

may be a feature of certain larger deals, according to a pension lawyer. However, if more large top-slicing deals are done following on from the Taylor Wimpey transaction, these sort of issues may feature more prominently in future MUBA transactions.

A further issue the trustees might want to consider is whether they want a provision to allow for new retirees to be covered by an existing contract:

"Quite often, the insurers will offer it as an option. But I don't believe that clients would be well-advised to sign up for it, just because you don't know whether in five or ten years' time, the insurer you signed up with will still be the cheapest… If it is a small scheme and you have one retiree per year, you might want to consider an automatic tip-in. But if in five years you will have another 50-100 pensioners, you should do it properly, because if you can save 5-10% by getting the best price, it is worth doing, and saves the admin and consultancy costs."

Once the winning insurer has been selected from those bidding, all that is left is to sign the contracts and transfer the premium to the insurer:

"For most small and medium sized deals, you pass cash, and generally it is not a very long process to do that… For larger transactions, it's obviously more bespoke and assets can be passed across because why would you pay the dealing spreads of

selling and somebody else buying if actually you're holding the exact thing the insurer wants."

There will then follow a more extensive data cleanse and verification exercise which may take several years according to pension consultants.

"You then spend anywhere up to two years data cleaning, because, especially for deferred members, you have terrible data. Then you've got GMP reconciliation, that all takes a lot of time to do."

Finally, when the data cleansing is finished, there will usually be a final true up payment to reflect the differences between the data used in the quote and the final data.

"There is almost always an initial payment and then a true-up payment further down the track following a data cleansing exercise."

It is here that the material change provision may come into play. If the final data is sufficiently different from that used in the initial quote, to the extent that the assumptions used in the initial quote were not appropriate, then the insurer may invoke the right to reprice the policy.

"If, having got the data cleansed, the data is beyond certain thresholds that they originally expected, say the final data resulted in a five or ten percent change in the pricing, then the insurer will have the option under these material change provisions to… reprice that excess amount on their up-to-date pricing for business rather than the guaranteed quote with the pricing basis they originally agreed."

However, speaking to several pension lawyers, it would appear that such an event is highly unusual.

5. The Future of MUBAs?

All the additional time and expense of undergoing a medically-underwritten transaction can currently be justified by the highly competitive prices being offered by some of the medically-underwriting insurance companies. But how long is such keen pricing going to last? And what does the future have in store for the bulk annuity market generally and medical underwriting within it? Looking ahead, there are a number of factors which may impact the development of the buy-in market generally, and medically-underwritten bulk annuities in particular which are worth considering.

5.1 Long-term prospects for the BPA market

5.1.1 Growth of the market

Perhaps unsurprisingly, if there is one thing all of our interviewees agreed upon, it was that there will be sustained, long-term growth in the market for buy-ins and buy-outs. As one insurer put it

> *"There are £2trn of pension liabilities in this sector at the moment, a reasonable expectation of demand is something like £200bn of transactions over the next 10 years."*

Another described it thus:

> *"There is just so much out there. The vast majority of that is made up of the bigger schemes and the bigger schemes are completely untouched… Just nothing's been done yet."*

However, a pension consultant cautioned that

> *"We had 150/160 deals last year [2014] and I think this year we are finding a similar number… It might go up, but if we get a year where there are 200, that is a lot of deals… I don't see a sudden explosion in the number of schemes wanting to do pensioner buy-ins. It will gradually build, but it will be slower. So in two years' time, we may have moved from 160 to 200 in a year."*

In the medium term, the pipeline of deals for the BPA market in the UK will depend on economic conditions which affect how affordable it is for pension schemes. As one insurer put it

> *"Demand depends hugely upon economic conditions. If funding levels in schemes improve dramatically versus pricing because of macro-economic conditions, if the gap between the two narrows, they'll be a deluge of demand."*

Another described it thus:

> *"If gilt yields were to rise a little bit, there would be a tsunami of demand for de-risking."*

However, opinions seemed to differ on exactly what financial conditions would be most likely to lead to increased demand. One pension consultant said

"What matters isn't rates rising, but rates rising more quickly than the market expecting. If rates rise more quickly than the market is expecting, that's good news and will drive more buy-out activity."

Alternatively, another put it down to the spread (difference in yields) between corporate and government bonds:

"What would help a lot of pension schemes is if gilt yields fell or stayed where they are at the moment, but corporate bond spreads blew out because that forms quite a large part of insurer pricing."

A third suggested that the different between gilts and equity release yields was potentially important, especially for the medically-underwriting insurers:

"If gilt yields rise relative to equity release, it's bad news for about 70% of pension schemes who aren't fully hedged."

Perhaps this confusion is to be expected because insurance pricing is a complicated mix of many factors, as one insurer said

"[What matters is] where the gilt yields sit versus insurance company pricing. Now, there's various factors that drive insurance company pricing, for example, if corporate bond spreads widen dramatically without a consequent credit default risk offset… or, if other assets become available, that provide yields that insurers are prepared to offer to the customer."

5.1.2 Potential capacity constraints

However, a sudden improvement in financial conditions could lead to problems in the buy-out market, according to a number of pension consultants:

"A lot of pension schemes now have very similar targets for where pricing needs to be for them to consider doing a bulk annuity transaction. I think it will be very interesting if conditions improve, especially if they improve very quickly, then a lot of those targets will be hit at the same time and who gets to the front of the queue first to get the good pricing?"

This is the "tsunami of demand" referred to by an insurer previously, when insurers could be overwhelmed by the number of pension schemes looking to de-risk. In such a scenario, there are two potential bottlenecks. The first is the financial capital available to insurers to support the additional risks being taken on, as mentioned by one pension consultant:

"It's the capital and the willingness to take on a certain amount of risk every year. [The insurers] are quite clear they've got a certain amount of capacity. Most of the insurers, if they have written a couple of billion pound deals, you see their appetite dip off quite significantly by the end of that financial year."

Limitations on financial capital can be overcome in two ways. The first is if new entrants come into the BPA market and start writing business, as described by a pension consultant:

"Actually we're now seeing new insurers coming into the market with the likes of

Canada Life, LV= and Scottish Widows, so the market is attracting more and more new capital to it."

However, as one insurer commented, it takes time to come into the market and compete actively for deals:

"It's a complicated market. You need a couple of years to get into it. One of the things you need is a belief from advisors and trustees that you're in it for the long haul. So you need to be around talking for a year or two before you write anything significant."

Another way that new capital can be provided for the bulk annuity market is via reinsurance. The majority of the insurers (both traditional and medically-underwriting) we spoke to reinsure the majority of their longevity risk on an ongoing basis as a core part of their risk management. According to one of them, there is currently a lot of competition in the longevity reinsurance market:

"We have transacted with five or six global reinsurers now."

This competition is likely to get more intense as more reinsurers enter the market according to one reinsurer:

"Then there are some rumours about other people coming in, even the Americans coming in for the reinsurance element."

One of the reasons so many reinsurers are interested in longevity risk is that it provides a natural offset to the life assurance business they already reinsure, since increases in longevity will tend to increase the costs of providing insurance for pension schemes but reduce the costs of reinsuring life assurance. However, one reinsurer pointed out that there may be limits to this "natural" hedge:

"There is some sort of finite limit… The UK pension industry is probably bigger than the life insurance industry worldwide, and then you've got the US [pension] industry, you've got the Canadians, you've got the Europeans. So the worldwide life insurance industry will not be able to absorb all of the longevity risk which is sitting in pension schemes."

However, given the scale of the BPA transactions performed to date, it seems likely that this limit is some way off, and sufficient reinsurance capacity is likely to be available to support the growth of the BPA market in the foreseeable future.

Looking ahead, it therefore seems likely that financial capital is unlikely to be the main limiting factor for the growth of the buy-out market in the medium term. Instead, as one pension consultant described it:

"It is not a financial capital constraint in my opinion. The human capital constraint will come before the financial capital constraint. There are not enough people with the experience of writing this business and getting it through. We know that there are insurers who turn everyone down for quotes, and that's not because necessarily they haven't got the capital to write the business, it is because they haven't got the resources to do it. That is the issue."

This view was seconded by an insurer:

> *"My own feeling is that everyone is fishing in the same pool for longevity specialists. People are trying to ramp up their teams."*

But it isn't just longevity specialists according to one pension consultant:

> *"How do we actually process all these cases? So there's the pricing and the teams within the insurance companies and also the implementation teams, doing the data cleansing, trying to get the payroll reconciled and so on, just bringing it on board. If you write a lot of business all at once you've clearly got to try and digest it."*

These issues with human capital extend beyond the insurers and into other scheme advisors, according to one pension lawyer.

> *"The capacity of the professional advisers to have people that understand this sort of work, these sort of deals, I think is still contained in quite small pockets, whether law firms or employee benefit consultants."*

Looking ahead at the medium term, therefore, it seems likely that the growth of the buy-out market will be limited either by unfavourable financial conditions or by a lack of skilled people across insurers and advisory firms.

5.1.3 Solvency II and the BPA market

In the short term, however, the most predictable event that will impact the bulk annuity market is the implementation of Solvency II from 1st January 2016. Solvency II is a new set of insurance regulations, applicable for all insurers based in the EU. Although it has been planned for over a decade now, the potential impact of Solvency II on the buy-out market is still unclear according to one insurer when we interviewed them.

> *"We are in September [2015] and we don't know about fully approved models yet. Fingers crossed, we would have heard if there are any big-ticket items from the PRA but you never know, we could still be hit by something."*

There has been a lot of concern that Solvency II would force insurers to hold more capital, especially in respect of annuity policies, which would force them to raise their prices in 2016. However, the views we got from insurers was that this was likely to be marginal in most cases for insuring pensioners

> *"I think it might be a bit more expensive, but not earth shatteringly different. Others are being much more doomsday about January 1st."*

> *"All things being equal, you might expect something like a 3-4% price impact due to Solvency II. But the reality is that there are a lot of strategies we can take as a group to mitigate that."*

However, there are some aspects of BPAs which might be more affected by Solvency II. One pension consultant said

> *"We could see anything from a 2% to 10% increase in price for deferred liabilities,*

which will be very, very material. Deferreds are already expensive in the sense of how schemes view it, so I think it's another reason why you won't see too many deferred transactions happening next year."

The reason for this is that the liabilities for deferred members are significantly riskier than for pensioners, and so Solvency II requires more capital to be allocated to them to protect against these risks. As a pension consultant put it

"Insuring deferreds is more expensive, because deferreds can take cash at retirement, so the amount of benefit in retirement is less certain. Plus it is a longer duration risk, so there is greater asset risk for the insurance company… Solvency II complicates that further, because one of its principles is around allowing for the most expensive outcome of any option, but if someone takes their benefits as cash, that is a less expensive option, so how do you reserve for that?"

Solvency II's tendency to increase the cost of any form of option may also affect other aspects of buy-in policies, such as deferred premiums, according to one pension lawyer:

"Solvency II is making it more difficult for them to do things like deferred premiums which is the only way some schemes might be able to transact… It has had the effect of stopping some deals that would only otherwise have progressed on a deferred premium basis."

Therefore, there may be a slight drop off in the number of deals being transacted in the early part of 2016, as insurers gain a better understanding of the impact of the new regulations. However, according to one insurer, this will only be temporary:

"There might be a short window where it is subtly different, where all the cunning plans that people are working on still haven't hatched, but it will be a pretty short window I think. But we, sure as heck, want to get to the point where it is back up as quickly as possible. But it might take two or three months."

Indeed, Solvency II may cause a lull in the buy-out market in the early part of 2016 for another reason suggested another insurer:

"Those schemes who have already kicked off their processes now will want to complete before 1st January 2016, so that the insurers get the transitional relief, which means that we are not completely bound by Solvency II for business we transact before 1st January."

These transitional arrangements, which last for 16 years, provided a strong incentive for schemes to aim to transact by the end of 2015 if at all possible, if only to lock into certainty with the prices they receive. Another insurer put it as

"It will mean that some of the stuff in progress, if we don't execute by Christmas, then we won't be able to guarantee the terms come January."

Hence, in the very short term, we anticipate a small, temporary decrease in the volume of BPA deals being completed in the early part of 2016 and, possibly, a small increase in their prices (financial conditions being equal), but do not anticipate this extending much beyond then.

5.2 The future of MUBAs and the impact of the merger between Partnership and Just Retirement

The factors discussed above will affect all bulk annuity providers, rather than being specific to medical underwriters. However, it is impossible to separate the short and long-term future of the MUBA market, since a lot will depend on the impact of the proposed merger between Partnership and Just Retirement, which was announced on 11 August 2015 during the interview process for this report.

One traditional insurer said

> *"[The medically underwritten market] could easily go one of three ways. If the pricing is fundamentally not sustainable, then you could see the death of the product. So that is one avenue. Equally it could trundle on as it is and they [the merged Partnership and Just Retirement entity] could write roughly the same number of schemes every year. Alternatively, the third route is that it takes off in some way, and we can't preclude that."*

The view that the pricing was the key to whether the medically-underwritten market continues to grow was echoed by a number of pension consultants:

> *"I think that, to a certain extent, growth will rely quite heavily on continued good pricing by the Just Retirements and Partnerships of this world… In the absence of a clear gap in pricing over non-medically underwritten pricing, it could just die."*

> *"How much [the medically-underwritten market] grows is clearly dependent upon whether they go for aggressive pricing post-merger. If so, then it clearly will help its growth. If they rein back [the pricing] significantly, it will inhibit the market's growth."*

The second pension consultant quoted above went on to say that

> *"They have a vested interest in keeping it growing. They've got a certain momentum there. You wouldn't think that they would want to change that position and certainly it's a rationale of the merger,"*

and also

> *"I think if you read their merger document, the focus on the bulk annuity market is so significant within their business model going forward, they're not going to be hanging around. The merger's not going to interfere with their proposition, I think it's just where they decide to position their pricing."*

This sentiment was supported by one of the merging insurers:

> *"The merger statements clearly state that bulk annuities will be important to the merged insurer and the synergies gained from combining medical underwriting datasets are part of the merger's rationale. The surest way of maintaining the pace of growth of medically-underwritten bulk annuities is to continue to ensure that there is clear blue water between medically underwritten pricing and what traditional insurers quote."*

However some pension consultants felt that the post-merger entity would be less competitive on pricing:

"Logic would say that part of the pricing today is being driven by the two specialists. So the logic would say, the merged entity would reassess that position and decide how competitive it actually genuinely needs to be. Clearly it needs to be more competitive than the traditional insurers, but there is an argument that says they don't need to be quite as competitive as they have been."

"There will be reduced competition, since the main competition in medically underwritten annuities has come from Just Retirement and Partnership. Both have been keen to build a bulk annuity business. I expect the combined business will still be keen to build the bulk annuity business, but the pricing may well be less aggressive as the merger provides some of the solution to the individual annuity sales drop off issue."

"I think the lack of competitive pressure doesn't help pricing from a pension scheme point of view. Partnership and Just Retirement between them have won every auction they've participated in. So it doesn't take a genius to realise that other insurers might be closer on price than they were before."

One pension consultant suggested that a lot will depend on the actions of pension consultants themselves:

"Thus far employee benefit consultants have been happy to suggest that their clients go down the medically underwritten route because they knew that the competitive tension between Just Retirement and Partnership would lead to their clients getting a good price irrespective of the outcome of the underwriting. If, as a result of the merger, prices start to increase, you could well see consultants being less likely to recommend their clients go down this route, since it becomes less certain that a good outcome will be achieved."

Ultimately, only time will tell what the merged entity's pricing strategy will be in future and how the competition in the sector responds to it. The December 2015 announcement that a £230m top-slice deal was won by Legal and General suggests that competitors are gearing up to be more active in MUBAs.

5.3 Current players and new entrants

Most pension consultants also mentioned the response of L&G and Aviva, as well as the potential for new entrants into the medically-underwritten market as key elements that will determine pricing in future.

"Will other insurers try to use this disruption to grab market share or possibly to try and steer clients away from MUBA to traditional deals? Time will tell."

"I think L&G and Aviva will offer it as they insure smaller schemes who may wish to pursue it."

"This will depend on whether another insurer (or insurers) launches into this market. If not, and it is only the merged Just Retirement and Partnership entity, then unless L&G and Aviva also quote, I believe schemes would be less likely to undertake an underwritten exercise – so we do need competition."

Who could potentially fulfil this role as a new entrant into medically-underwritten bulk annuities? The three insurers mentioned previously as new entrants into the general buy-out market have written impaired annuities in the past, and so, potentially could enter the medically-underwritten section of the market.

According to one pension consultant

> *"You need ten years of data from enhanced annuities [to be able to price medically underwritten bulk annuities], so there are important people who can enter - LV=, Canada Life, Scottish Widows, and there might be others. There are people who could enter in theory but it isn't the easiest thing to enter and there is only a finite pool of people who could come in."*

Of these, it seems most likely that Scottish Widows will choose to enter the traditional buy-out market only, rather than participating in medically-underwritten transactions, according to one pension consultant

> *"I think Canada Life could be but aren't in the bulk space at the moment… Scottish Widows again can, but I don't think initially are going to compete in the medical space. I think that they see that it's extremely aggressive at the moment, I think that they would like to see how that plays out and then maybe they'll play in that space if it settles down. Though I think they'll also find at the larger end it's quite competitive to win business as well."*

Of the three potential new entrants, the one most people thought would enter the medically-underwritten market was LV=. One traditional insurer said

> *"LV= made a lot of noise about entering the medically underwritten market only. But LV= have not actually done anything yet."*

However, for all three potential new entrants, most interviewees were keen to stress that nothing has officially been announced and, until it is, everything is conjecture (albeit since the interviews were held LV= has confirmed it is actively looking at starting to quote for MUBAs). Furthermore, as one pension consultant said

> *"Where people enter into the market and where they may end up moving to are two different things."*

5.4 Developing a capability to use medical data

Other than the completely new entrants into the BPA market, it may also be possible for a traditional insurer to develop their own medical underwriting capability. One pension consultant put it thus:

> *"The other bulk annuity providers like Prudential, Rothesay, PIC, will obviously be thinking about what they should do. But they don't have the back book of medical information to be able to price it. So if they are going to enter the market, they are going to have to acquire it somehow."*

Prior to the announcement of the merger, it was suggested by several pension consultants that one potential route to acquiring this data was to buy either Partnership of Just Retirement.

> *"I did wonder at the time [of the 2014 Budget] whether either of those companies is particularly attractive for someone to come in and take them over, because you have the embedded value and you can buy all this information, which would be useful, not just in this market, but in lots of other markets."*

However, the post-merger entity is likely to be large enough to make this a less

likely possibility. But there is another potential source of medical data that could be used by a traditional insurer to help them develop a medically-underwritten offering – reinsurers. One pension consultant said

> *"I think there are no real barriers for people, because the intellectual property sits with the reinsurer. Yes, from that point of view, I mean Hannover Re have been doing enhanced annuities since the 1980s, so they have been doing it for a long, long time, so they have just got lots and lots of data, people have lived and died over that time and therefore they feel they have got more information to pass on."*

Indeed, another pension consultant suggested that this has happened in practice

> *"We've even seen one traditional provider who is looking to enter the medically underwritten space but doesn't have the expertise internally. But it does have the expertise via the reinsurers."*

One reinsurer went further

> *"We very much believe that our medical assessment goes all the way through to the price [for the pension scheme]… I think the reinsurance quotes drive the prices of pension schemes, so I think it's the reinsurers and that influences the rest of the market. But that might be expected from where I'm sitting… I think the larger the insurer, the more likely they are to have their own mortality view, with smaller ones just using us as a research department."*

However, this view was countered by an insurer using medical underwriting:

> *"If you've got a reinsurer providing you with that information, you can probably be fairly certain they'll be providing other insurers with that information too. So you don't have any kind of unique attributes if you come to the market using someone else's data."*

There is also the potential for traditional insurers to incorporate some of the most important health-related factors into their underwriting, without using the full range of data obtained in the underwriting process. As one traditional insurer put it

> *"There seems to be the perception that it is a choice between completely standard vanilla pricing and completely medically underwritten. I am not sure how true that is. Maybe in the future, we will just add a new factor. Because if you think about jumping straight into medically underwriting and taking all these conditions, there are too many variables to accurately underwrite it… Sure, we might collect all this extra data, but we might only use a few key pieces of information in combination with our other rating factors."*

The extent to which an insurer doing this would be at a disadvantage relative to a competitor using the full range of data collected would depend on how important the other information is, along with other aspects of their pricing strategy, but it would enable them to participate in medically-underwritten processes in the short term at least.

Another possibility is that traditional insurers do not use medical data to derive life expectancy, but instead use it as a means of checking that their traditional pricing remains suitable. For instance, a traditional insurer could use the medical data obtained to check that a scheme had a roughly average proportion of

smokers or people with high blood pressure, compared with their baseline assumptions, and withdraw from tenders where that is not the case. This would allow the traditional insurers to enter medically-underwritten processes alongside the medical underwriting specialists, enhancing competition in such deals.

5.5 Post-deal underwriting

An alternative to new entrants coming into the medically-underwritten market would be for the post-merger entity to compete in traditional processes. If the volume of medically underwritten bulk annuities fell substantially, then the medical underwriting specialists could turn their focus to pricing on a vanilla basis and hence competing directly with the traditional insurers. One medical underwriter has started doing this recently, with the medical underwriting being performed post-deal. One pension consultant described the process thus:

> *"[They] will bid on a vanilla basis and then do post-deal underwriting. They will quote in a whole-of-market exercise where they don't collect medical data. If the scheme goes with [the insurer] because they are cheaper, then they go and collect medical data… Potentially, the price will come down depending on what data comes back. What they said is that for any underwriting savings, we'll get 50% of that and the trustees get the other 50%."*

Another said

> *"At least you know at that point you've got certainty about what my pricing is on a traditional basis and know that it's going to get better by having the [post-deal downwards-only] structure… There's a price you pay for having that optionality and it's a question of do you want to pay that price or do you just want a straight forward vanilla solution"*

A third suggested it as a method of getting competition for schemes which would otherwise not have many insurers competing:

> *"Potentially, it is a route which allows all insurers to compete on a level footing, so insurers without the capability to do medical underwriting can get involved in a process competing against Just Retirement and Partnership, helping to boost competitive tension."*

Going forwards, one pension consultant also raised this as a potential mechanism to ensure sufficient competition in the market post-merger:

> *"I could see an argument for greater prevalence of those kind of structures, post-merger if there was a challenge about the level of competition… You're having to generate competition in a different fashion, you're having to generate the competition on the traditional basis, up front, rather than having the competition directly on an underwritten basis, but having that structure means you probably will have to be sacrificing some of the benefit of the underwriting by doing that. To have that greater transparency and competition and where you ultimately get in terms of pricing."*

One of the medical underwriters said:

> *"There is no other line of insurance where you buy but only supply the data needed to underwrite it later. Imagine buying car insurance and only afterwards telling the insurer your driving history. It's the same with post-deal underwriting."*

They added:

> *"It is not clear yet whether trustees or consultants give much credit to the potential upside from post-deal underwriting. If they don't, then post-deal underwriting is needlessly giving away potential profit margin. We may as well absorb the full impact of obtaining medical data post-deal and benefit from being able to reserve more accurately."*

5.6 Medical underwriting in the longer term

In the short to medium term, therefore, the prospects for the medically-underwritten bulk annuity market will depend very much on the behaviour of the post-merger entity and its competitors in the medical-underwriting space. Most pension consultants seemed confident that it was sufficiently established to survive the post-merger uncertainty in one form or another. One pension consultant said

> *"Medical underwriting is absolutely here to stay. Our view hasn't changed on that. Unless the combined entity decided to radically change the business model, medical underwriting is still here to stay."*

However, what that form will be was a subject of considerable debate. One reinsurer commented that

> *"Whether [medical underwriting] will sit around that 400 lives mark or whether it will go further down or whether it'll retreat to top-slicing only, with the rest of the scheme being socio-economically underwritten, I don't know."*

The longer-term future of medical underwriting, therefore, would appear to depend on these questions. To start with, what are the prospects for top-sliced buy-ins? Most of the pension consultants we interviewed were optimistic about the future of top-slicing:

> *"Why would you not start off with top-slicing? … I think so long as pricing stays where it is at the moment, and your starting point is only doing a subset of the pensioners, why wouldn't you start with the higher liability ones and do a top-slicing exercise?"*

> *"I think top-slicing will really take off, because the big pension schemes don't mind spending money to look at this type of thing. And consultants can also charge clients a lot of money for looking at this, so I think the consultants' interest is in pushing top-slicing and I think the schemes will like it."*

> *"I think top-slicing is attractive at the moment, because you are just taking out the larger liabilities and, certainly, that is where your worst problem is: the higher liabilities, the more concentration of longevity risk."*

Since top-slicing is where most interviewees agreed that medical underwriting makes clear sense, it is likely that, if this sector of the market grows strongly in future, it will be mostly medically-underwritten.

For smaller schemes being bought-out or doing a pensioner buy-in, there was a clear consensus that medical underwriting had become an established part of

the de-risking landscape and would continue to be so in future. Some people interviewed were more bullish and suggested that almost all buy-ins for smaller schemes would go medically-underwritten in future. On medical data collector described it as

> *"I can see the whole way we evaluate pensions may change, so you use medical underwriting as standard… Once you start segmenting a market, it is very difficult for people to stop it."*

This view was also supported by a pension consultant:

> *"I think that in five years' time, all small deals, pretty much, will have to go medically-underwritten provided the market still exists."*

An insurer also agreed with this sentiment, but was a bit more cautious about the timescale:

> *"I think I naively said about a year and a half ago that in two years' time, every deal under £30 million will be medical underwritten. I just couldn't see how it wouldn't be. I still believe at some point it will be."*

One of the medical insurers confirmed that a more balanced view was appropriate:

> *"There will always be some non-price reasons for not underwriting, in situations where speed of execution is critical, for instance."*

A key reason for believing that the majority of deals for small schemes would be medically-underwritten was the fear of adverse selection in this part of the market. The same pension consultant described it thus

> *"For small schemes, we talked earlier about them being self-selecting and trying to figure out if their membership are ill and, if so, going medically underwritten. The flip side of that is that if you're [a traditional insurer] and you are getting a stream of small deals coming to you, then you know that they are selecting against you. Where I'm sure we'll get to is on the pricing for small schemes – if they don't go medically underwritten, the insurers will assume that they know that their members are healthy. So I think the small schemes market will end up where you are likely to end up with a really high price, unless you go medically underwritten. I think it is bound to happen that prices will start increasing, and I suspect it already has to a certain extent."*

In order for this dynamic to play out, medical underwriting must reach a "tipping point", where traditional insurers will assume that the schemes they get to see are healthier than average and so they have been selected against. However, where that tipping point is and how far we are from it is unclear. One insurer said

> *"I think we are quite a way off that. I think we have seen about twenty quotes and the number that have gone down the medically underwritten route is about 10-15 this year, so I think we are quite a way off that."*

A pension consultant agreed with that viewpoint:

> *"I can see the argument that potentially there's a tipping point where medical underwriting becomes the default, but I'm not sure the profiling is that sophisticated*

that it automatically drops out. Whether it flips or not, I wouldn't like to predict that. I think there's a long way to play out, whether or not you actually get to that stage."

To an extent, respondents' views on this matter were shaped by the extent to which they saw the individual annuity market as a direct analogue of the bulk annuity market. Some saw direct parallels, including a medical data collector:

"The individual annuity market started with just standard annuities and now, 10 years later, everything is underwritten."

Another described it as

"Of all annuities that we sell now on an individual basis, over 90% get an enhanced or impaired rate. So you could argue that potentially 90% of pension scheme members would also qualify for an enhanced rate."

However, traditional insurers operating in the bulk annuity market for a number of years disputed the analogy

"If you look at any other kind of market, it is all about selection… But the bulk annuity market is protected against that."

"I think this whole thing about the individual annuity market going this way, so the bulk annuity market should also go this way is false: I think people get overly seduced by that. The drivers are very different in each of those markets."

Their reasoning was that, because a bulk annuity covers, by definition, a large number of individuals who have not been selected based on their health status beforehand, the potential for selection is far less than in the individual annuity market. This, coupled with the fact that the people purchasing bulk annuity policies (the trustees) know less about the health of the insured scheme members than the people buying individual annuity policies do about their own health, limits the selection issues that drove the evolution of the individual annuity market.

A common response was the expectation that the number of medically-underwritten deals would continue to grow in line with the market, but would not necessarily become the norm for smaller transactions. Two pension consultants described their views thus

"I don't think it will be the norm in two years' time. Three to five years, we might be getting a bit more to where medical underwriting is the norm for pricing the smaller schemes, but it will take longer than I first thought… In two years' time, we may have moved to 200 transactions in a year, but I don't see that out of those, half of them will be underwritten."

"I think there probably is a natural level that it would get to… You could easily see 25% to 30% to 40% of those types of [smaller] schemes who come to market looking at medical underwriting… Certainly by number of transactions I expect the number of medically underwritten processes to continue to increase. Whether they take more market share one year to the next depends how many big transactions happen or not."

A pension lawyer put it thus

"Certainly, as I see bulk annuities in general as very much a growth area and I've

no doubt that medical underwriting will feature prominently, I think the number of medical underwriting deals will increase in the medium term, just because of the law of proportions."

However, so much will depend on the short-term outlook for competition in the market that all predictions about the future must be regarded as pure speculation until the fall-out from the merger and the response of the traditional insurers and any new entrants becomes clear.

6. Conclusions

The medically-underwritten bulk annuity market has developed significantly since the time of the previous report in 2013. Around 60 transactions have occurred and £1bn of liabilities have been transferred from pension schemes to insurers using medical underwriting. The process for doing this has, in many ways, become more standardised, streamlined and responsive, in part, due to the accumulation of expertise by the advisors, insurers and professional trustees involved in the process and, partly, due to the involvement of third party medical data collectors.

The main reason for the growth in the MUBA market has been the very competitive prices offered by the insurers using medical underwriting. In this report, we have investigated the justifications for the assertion that medical underwriting should lead to lower prices on average, beginning with our theoretical discussion.

Our previous report mentioned savings of around 10% due to medical underwriting – while some interviewees agreed with this figure, others suggested values in the range 5-10%, based on actual transactions. Either way, this is a material saving in the context of bulk annuity pricing and can mean insurance prices comparable to or even lower than the scheme liabilities on a funding basis. Most interviewees agreed that the medical underwriters offered prices that were lower than traditional insurers. This appears to be due to a combination of factors:

1. The medical underwriting itself, if specific individuals might be in worse health than would be anticipated using traditional underwriting factors and if greater certainty allows medical underwriters to offer lower prices.

2. The business philosophy of the medical underwriters, who have entered the bulk annuity market from competing in the highly competitive market for retail annuities.

3. The need to offer lower prices in order to motivate schemes to embark on a medically-underwritten approach, given the additional data collection costs this entails.

4. The use of equity release policies, to support the bulk annuity policies with high-yielding, high-quality assets.

5. Competition in the marketplace to write new business, especially between Just Retirement and Partnership.

6. The appetite to write business created by the impact of the 2014 Budget and the collapse of the individual annuity market.

However, determining the impact of each of these factors is impossible without detailed access to insurers' pricing models.

Of these factors, the first four are sustainable into the future and so should offer lower prices to the extent that they are significant. The final point is likely to diminish with time, especially given the increase in the number of individual annuities sold recently.

It is the fifth element, competition, which is the most interesting and most subject to uncertainty in the future. On the one hand, the merger will obviously end the competition between Just Retirement and Partnership and so we might expect prices to rise in the short term. However, this may not happen, as it will depend on the merged entity's strategy in the bulk annuity market which is not yet known. On the other hand, new entrants to the medically-underwritten bulk annuity market, be that insurers that are new to the bulk annuity market generally or traditional insurers that develop or buy in the ability to use medical data, might increase competition in the longer term. In the meantime, L&G and Aviva also offer medically-underwritten quotes and may begin to win more tenders and we note that in December 2015 L&G announced they won a £230m top-slice MUBA.

Clearly, there are many uncertainties as to how the bulk annuity market will develop in future. If we have to make a prediction, we forecast that there will be a convergence between the medically-underwritten and traditional annuity markets: the post-merger entity will develop their offering to compete more for traditional bulk annuities, while traditional insurers will develop the ability to use some major health and medically related conditions to augment their existing underwriting processes. In such a market, the medical underwriting specialists would still have the advantage of using the more detailed medical information provided by telephone interviews and GP reports, although this advantage may diminish if a more streamlined data collection process based solely on short questionnaires emerged and be offset by other factors such as investment strategy.

We would also expect that, in increasing numbers of cases, major underwriting factors will be collected post transaction. Depending on the winning insurer, this may be via a very streamlined process, such as a questionnaire even shorter than that used currently, and integrated into the current data cleansing process where marital status and addresses are also obtained and verified. However, this post-transaction data may not necessarily result in post-transaction premium reductions for pension schemes, but instead may result mainly in the insurers being able to gain more certainty when calculating the reserves and capital required to support the policy.

We expect the detailed medical underwriting observed today will continue to be applied to top-sliced transactions for the reasons discussed at the start of this report, in particular, where the high amounts of pension insured per member justify the expenses of the more intensive underwriting approach. We also expect that increasing numbers of small schemes will be priced using medical underwriting, especially in circumstances where industry group and amount of pension in payment are likely to be poor proxies for underlying health status. But it is unlikely that all small schemes will be medically underwritten.

Furthermore, we do not expect the clear distinction between dedicated medical underwriters using detailed medical data and traditional insurers using only proxies for health status to continue indefinitely. As one insurer described it:

"Medical underwriting is not a separate market. It's a method of pricing."

We agree with this sentiment and would go further. Medical underwriting is a process, not the product. The product, the transfer of risk from pension schemes to the insurance sector, has enormous scope to grow in future and additional financial and human capital is essential to support that growth. New entrants to the marketplace will blend existing underwriting processes and develop new

ones, using new risk factors based on new sources of data, in ways that cannot be foreseen at present. What is certain is that the market for bulk annuities, and medical underwriting within that, is certain to change and evolve in future in ways that make this an exciting field to be involved in and to study.

Acknowledgements

We would like to thank the following individuals for their time and assistance in preparing this report:

Adam Carnall	Age Partnership
John Baines	Aon Hewitt / Aon Ahead
Nick Johnson	Aviva
Gavin Markham	Barnett Waddingham
Graham Wardle	BESTrustees
Hugh Gittins	Eversheds
Gordon Blum	Gordon Blum Independent Trustees
James Mullins	Hymans Robertson
Dave Barratt	JLT
Tim Coulson	Just Retirement
Adam Davis	KPMG
Tom Ground	L&G
Philip Brown	LV=
Andrew Gething	MorganAsh
Martin Lockwood	Munich Re
Costas Yiasoumi	Partnership Assurance
Khurram Khan	PIC
Rob Tellwright	Pinsent Masons
Stephen Rice	PPF
Colette Christiansen	Punter Southall
Hamish Galloway	RGA
Sammy Cooper-Smith	Rothesay Life
Will Griffiths	Towers Watson
Paul Darlow	Xafinity

All individuals were interviewed in a personal capacity and their opinions do not necessarily reflect the views of the organisation they work for.

Glossary

Adverse selection Customers using their additional information about the nature of the risk they wish to insure to select an insurer, potentially resulting in the insurer writing policies that are not profitable

Best estimate reserving Holding reserves equal to the expected cost of the policies insured

BPA Bulk purchase annuity, another term for a bulk annuity policy

Bulk annuity An annuity policy written for a large number of individuals, typically the members of a pension scheme, c.f., individual annuity

Buy-in A bulk annuity policy for a pension scheme, held in the name of the trustees rather than the individual scheme members, c.f., buy-out

Buy-out A bulk annuity policy for a pension scheme, held in the names of the individual scheme members rather than the trustees, c.f., buy-in

Equity release policy A loan issued to individuals to provide a lump sum or regular income in retirement, secured against the value in their home and repayable on either death, moving into long term care or selling their property.

ETV exercise Enhanced transfer value exercise - offering deferred members of a pension scheme higher than standard transfer values to encourage them to transfer their benefits out of the scheme

FSCS Financial Services Compensation Scheme - statutory compensation fund in the UK for customers of authorised financial services firms, funded by levies on financial firms

Idiosyncratic mortality risk The financial risk due to the uncertainty in the length of an individual's life

Individual annuity An annuity policy written for a single individual, usually at retirement, c.f., bulk annuity

Law of large numbers A statistical law to the effect that values found from large populations (such as the statistical average) are likely to be more accurate than those found from small populations

Longevity swap A form of reinsurance where the actual benefit payments for the scheme are swapped for the expected benefit payments. Used to transfer risk from a pension scheme to an insurer or from an insurer to a reinsurer

Moral hazard Policyholders changing their behaviour as a result of the protection that insurance provides

MUBA Medically-underwritten bulk annuity

PIE exercise Pension increase exchange exercise - offering members the option to convert tranches of pension linked to inflation for a higher amount of fixed pension (where permitted by legislation)

PRA Prudential Regulation Authority - statutory body in the UK responsible for the regulation and supervision of banks, building societies, credit unions, insurers and major investment firms

Prudent reserving Holding reserves in excess of the expected cost of the policies insured in order to provide a margin against adverse experience

Solvency II New insurance regulations, due to be implemented for all insurers based in the EU from 1st January 2016

Technical provisions The value of pension scheme's accrued liabilities, as calculated for the purposes of funding the scheme

Top-sliced buy-in A buy-in policy only insuring the benefits for a small number of the members of a pension scheme with the highest amount of pension in payment / liability

Winner's curse The phenomenon where an insurer only insures those risks that it has underpriced, leading to reduced profitability

References

Blake, D., Harrison, D., 2013.
A healthier way to de-risk: The introduction of medical underwriting to the defined benefit de-risking market. Tech. rep., Pensions Institute, Cass Business School, City University London.

Continuous Mortality Investigation, 2014.
Working Paper 71 - Graduations of the CMI SAPS 2004-2011 mortality experience based on data collected by 30 June 2012: Final "S2" series of mortality tables. Tech. rep., www.actuaries.org.uk

Haberman, S., Kaishev, V. K., Millossovich, P., Villegas, A. M., Baxter, S. D., Gaches, A. T., Gunnlaugsson, S., Sison, M., 2014.
Longevity basis risk: A methodology for assessing basis risk. Tech. rep., Cass Business School, City University London and Hymans Robertson LLP.

Villegas, A. M., Haberman, S., 2014.
On the modeling and forecasting of socioeconomic mortality differentials: An application to deprivation and mortality in England. North American Actuarial Journal 18 (1), 168–193.

Sponsor Statement by Partnership Assurance

Partnership is delighted to sponsor the Pensions Institute report 'The Good, the Bad and the Healthy: The medical underwriting revolution in the defined benefit de-risking market' having pioneered the development of medically underwritten bulk annuities market in the UK.

Since Partnership entered the bulk annuity market in 2012, momentum has rapidly grown as the UK's leading employee benefit consultants and their clients have seen first-hand the potential for savings of 5% to 10% compared to traditionally priced bulk annuities(1). This has resulted in exponential growth in medically underwritten bulk annuities (MUBAs) and by the first half of 2015 more than 15% of bulk annuities under £100m were medically underwritten(2), compared with 3% in 2013 and over 10% in 2014.

Partnership celebrated its 20th year in 2015, has grown to cover 120,000 policyholders, is an expert in its field and believes that the in-house data set that it has accumulated over the past two decades gives it an unrivalled understanding of the impact of health and lifestyle choices on longevity.

Having successfully used its experience to launch products in the care, equity release and protection markets, it shook up the derisking market when it completed the UK's first ever medically-underwritten bulk annuity in 2012.

Since then the company's offering has gone from strength to strength and in December 2014, it transacted a £206 million transaction with FTSE-100 Firm, Taylor Wimpey. This transaction was a real milestone for MUBAs and it has since led to other large pension schemes to consider similar transactions.

Having co-sponsored the Pensions Institute report 'A Healthier Way to De-risk: The introduction of medical underwriting to the defined benefit de-risking market' in 2013, Partnership is pleased to be working with this highly respected team again to build awareness of bulk annuities and medical underwriting. Partnership is committed to sponsoring activities that support a better informed industry as a means of enabling better results for the end customer.

We welcome the observations laid out in this report and we thank the authors Andrew Hunt and David Blake and the various industry stakeholders who agreed to be interviewed.

(1) Hymans Robertson 'Medically underwritten buy-ins – market insights' (April 2015) and Aon's comments in Partnership's Bulletin 'DB Industry Rallies Behind Medical Underwriting' (April 2015).

(2) Partnership analysis which shows that over 15% of the cumulative premium for transactions with a premium of £100 million or less in the first half of 2015 was medically underwritten.

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