British Actuarial Journal, Vol. 17, part 2, pp. 413–434.
doi:10.1017/S1357321712000256
First published online 6 July 2012

Entity-wide risk management for pension funds

Abstract of the London discussion

[Institute and Faculty of Actuaries 28 February 2011]

Contact
Malcolm Kemp, F.I.A., E-mail: malcolm.kemp@nematrian.com

This abstract relates to the following paper: Kemp, M.H.D. and Patel, C.C. Entity-wide risk management for pension funds. *British Actuarial Journal*, doi: 10.1017/S1357321712000086

The Chair (Mr D. C. E. Wilson, F.I.A.): I am going to ask each of the authors to introduce certain topics from the paper. Firstly, Mr Kemp is going to give you the introduction and positioning for the paper and then Mr Patel is going to discuss how one might adapt ERM governance disciplines for pension funds.

For those of you who do not know Mr Kemp, he is a leading expert in risk and quantitative finance, with over 25 years' experience in the financial services industry. Between 1996 and 2009 he was an Executive Director and Head of Quantitative Research at Threadneedle Asset Management. Before that he was a partner at Bacon & Woodrow in their investment consulting practice. He has a first-class honours degree in mathematics from Cambridge University. He is a Fellow of the Institute and Faculty of Actuaries and an Adjunct Professor at Imperial College Business School. He was elected to the Institute of Actuaries' Council in 2009.

Mr M. H. D. Kemp, F.I.A. (introducing the paper): I am going to spend some time looking at the background to the paper, its positioning and its conclusions. I will then suggest some topics for debate. Then I am going to hand over to Mr Patel who will go through how we might adapt governance disciplines used in other parts of the financial sector (and more widely) to pension funds.

Let me start with the paper's background and main conclusions. Before setting the scene in terms of the entities to which the paper relates, i.e. the pension funds, I want to highlight why we wrote the paper.

Actuaries, it seems to us, are ideally placed to help with the topic of enterprise risk management for pension funds. However, actuaries in the pension fund field do not seem to have embraced ERM as widely as some other branches of the Profession.

I chair the UK profession's ERM Practice Executive Committee and have done so for the last year or so. One of the things I noted when I first joined and took over that role was that ERM is given quite a strong focus within the insurance world. Indeed, the primary area with which the ERM Practice Executive Committee becomes involved is insurance.

However, it seemed to us that we were missing a trick. A lot of actuaries work in pension funds. Enterprise risk management ought to be something in which they too should be interested. The paper thus aims to look at the way in which we might apply lessons about ERM from outside the pension fund industry into the pension fund industry. My hope is that it will help to enhance the reputation of actuaries in this field and strengthen the claim that we ought to have a leading influence. It is entirely consistent with the Actuarial Profession's more general thrust to encourage and boost the reputation of actuaries in risk management. This thrust is endeavouring to build on the strongholds that actuaries have and to expand out the skill set coverage to include greater penetration into the risk management field.

Why is enterprise risk management, or "entity-wide risk management", particularly relevant now to pension funds? Pension funds are experiencing unprecedented change. Normally, with change comes risk. Simultaneously, there is another trend within the wider financial world which is towards improved risk management disciplines. ERM, in our opinion, provides the right way to tackle both simultaneously. At the heart of our paper is the question of how to help pension funds in their journey through change and how to apply risk management disciplines more commonly applied elsewhere in this space.

First, what do we mean by ERM? The term ERM is typically shorthand for "enterprise risk management". I will explain why we prefer to use it to refer to "entity-wide risk management" shortly. ERM in its generic form involves a framework in which we use risk as a core building block, and we frame all our key business decisions by reference to risk. It sounds very obvious and straightforward, but when we try and work out what that means in practice, there are a number of key differentiators that come through in ERM as opposed to risk management more generally. The differentiators are: it is holistic, it looks at *all* the different risks, it looks at the entire business, and it embeds risk in the entire decision-making processes.

What are our main conclusions? The first is that ERM is valuable to virtually any type of entity. It is valuable because the idea of looking at things holistically is very important for any type of entity which is exposed to multiple types of risk. Pension funds are definitely exposed to lots of different sorts of risk.

Where we differ, perhaps, from more traditional approaches to ERM is in the way in which we interpret the word "enterprise". It does seem to us that some of the profit-orientated business-focussed aspects of traditional versions of ERM do not necessarily fit perfectly with pension funds. In particular, they are not always completely compatible with the precise perspective that you need to adopt when focusing on certain types of risks to which a pension fund is exposed.

Here we think it is important to look differently depending on whether you are looking at (i.e. advising) the pension fund in isolation, or the sponsor, or the two combined. All three of those perspectives are quite valid but they are not identical.

A simple example of this is that if my client is the sponsor and the sole aim of the sponsor is to minimise pension costs, then I should be advising it to close down the scheme. This is not necessarily what the trustees and the beneficiaries will want.

The key thing that differentiates pension funds is the specific purpose that they have. They are there to provide retirement benefits and other similar kinds of benefits. It is this specific purpose that complicates and refines the way in which you need to apply ERM in practice.

The second conclusion that we draw comes from the need to manage things holistically. We have just said that ERM is all about holistic risk management and, as a result, you need to manage the funding, the investment policy and the sponsor covenant risk together, at least when you are looking at the position from the perspective of beneficiaries. You need to manage all of those things in tandem, and you need to do it in a well-crafted governance framework.

Our final conclusion is that there are lessons from outside the pensions field which ought to be useful to apply within the pensions field. This conclusion relates not just to the schemes and the sponsors themselves, but also to you and me as actuaries if we want to expand the application of our skill sets beyond traditional pension fund actuarial domains.

What I now want to do is to highlight a few topics for debate that I have grouped into four different sections.

The first set of topics is around the question of whether ERM is relevant to anything. Mr Patel's and my view is that ERM is a coherent set of disciplines that does take the debate forward, but maybe you disagree. You might also disagree with the idea that pension funds have an unusual mix of characteristics. Finally, within this overall topic, you might disagree or wish to comment on the big risks that pension funds face. If risk management is really all about investment risk then maybe ERM would not be so relevant.

Another set of topics that we might want to debate revolves around the merits, or otherwise, of transparency of travel, i.e. articulating to others where is it that we are trying to take the pension scheme, or the combination of the pension scheme and sponsor. We introduce, in the paper, an analogy which you may not like in this respect. This is the analogy with collateralised debt obligations (CDO's). You may not like this analogy because these instruments obtained a very bad reputation for being hugely non–transparent during the credit crisis and losing lots of people lots of money. But there are some similarities in terms of the balance sheet structure and the way in which you have different priority structures in the event of default/wind-up. We think that there are some lessons that apply, if we want to avoid the same kind of problems affecting pension funds.

There is also the issue of what should be shared with beneficiaries and others. We describe this as a "journey plan". Perhaps the nearest equivalents to a pension scheme within an insurance context are with-profits funds. They are now required to prepare and publish their Principles and Practices of Financial Management. They will also soon have to carry out an Own Risk and Solvency Assessment (ORSA) under Solvency II. These are publicly available documents, or at least publicly summarised in the case of the ORSA. Maybe there should be equivalent types of documents and material made available by pension schemes to their beneficiaries.

Another topical area within the transparency side of things is the idea of a living will. There has been a push within the banking sector to encourage banks to create living wills that would help others to know what to do if they ever needed to be unravelled. Maybe pension schemes should have a similar kind of requirement, or at least to be forced to think about those types of issues.

If we believe in ERM then maybe also the investment committees you see within most (large) pension schemes should have their mandates widened to be made more like risk committees. This would encourage funding, investment, sponsor risk management, etc to be more joined up than perhaps happens at present.

Another set of points for debate might be the relevance, or otherwise, of what is happening outside the pension field. The Walker Review reviewed risk management in banks and other financial institutions at the behest of Her Majesty's Treasury. It specifically encouraged the introduction of a

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

risk function and, by implication, a chief risk officer. It also encouraged boards to apply much greater focus and become more involved in the risk side of things. Its recommendations are being implemented for banks, insurers and the like by the Financial Services Authority.

We also have changes coming through from Solvency II for insurance companies. Those of you who have read the paper in detail will note that we have tried to make our paper not too UK-centric. Outside the UK, a lot of pension vehicles are in fact insurance companies in any case and therefore would be specifically subject to this type of regulatory framework. But even when this is not the case, we think that lessons that can be learnt from the way in which insurance company regulation is being refined. This could include a read-over of the requirement for an Own Risk and Solvency assessment or some of the other risk disciplines that Solvency II is promoting.

Mr Patel will run through some of the challenges that arise because schemes are not necessarily particularly well-resourced. But, unfortunately, not focusing resources on a particular risk does not mean that the risk is somehow magically less likely to occur. How we deal with this conundrum could also form part of our debate.

The final area that I should like to suggest for debate relates to the models we might use in this space. The paper is specifically focused more on governance aspects than on modelling aspects of ERM due to time constraints. There was no practical opportunity to incorporate a detailed discussion on models, although there is a section in the paper that looks, in broad terms, at this topic.

I have a few figures that may give you additional pointers about how we might refine models that we might use in this field. The aim, we suggest, should be to take existing types of models which are perhaps very investment-focused and make them more ERM-focused. This is not primarily about reducing the amount of investment focus they contain. Rather, it involves increasing the range of risks that the models cover, e.g. in the UK including more about sponsor covenant risk, etc.

The model example that I describe here involves a final salary scheme closed to new accruals. There are no discretionary benefit increases, and the scheme operates on a target funding level of 100%.

Model Example (1)

- DB Final Salary Scheme, closed to new accrual, no discretionary benefit increases, target funding level of 100%, deficits/surpluses versus target amortised 20% each year
- Funding 'valuation' includes discount rate 1.2% pa higher than wind up valuation (equity risk premium –asset strategy 60% equities)
- Only illustrative (e.g. model assumes 100% mortality at age 80!)

	Priority on wind up	Benefit value on wind up basis, assuming 100% recovery			
		Market implied spread on sponsor obligations			
		1% pa	2% pa	3% pa	4% pa
Active	2 (to deferred on wind up)	6619	6365	6163	6001
Deferred	2	18013			
Pensioner / spouse	1	34259			

Source: Nematrian Limited 12

Figure 1. Values of members' benefits if pension promise honoured in full (i.e. 100% recovery) in the event of sponsor default

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

Deficits and surpluses are amortised over some kind of reasonable schedule. Contributions are set via a 'funding' valuation in which 'technical provisions' are calculated using a discount rate higher than that implicit in the wind-up valuation. I am sure the precise numbers themselves are not typical. But the type of scheme we think is, broadly speaking, typical of many UK pension funds.

Its 'funding' valuation includes a 1.2% per annum higher discount rate than is used in the wind-up valuation. You might think of this as a 2% equity risk premium, assuming that the assets are invested 60% in equities, perhaps a little high in modern circumstances.

In this model, we quantify the value of the benefits on the wind-up basis. We first focus on the position where we get 100% recovery if the sponsor defaults (see Figure 1).

For pensioners and the spouses in our example, the rate at which the sponsor defaults should not make any difference. They will be paid in full. For the actives the position is slightly more subtle. In our model, we have built in an assumption that actives' benefits rise through salary escalation until they become deferreds on wind-up. The greater the average rate of sponsor default, the less time on average they can expect to receive this uplift, hence the modest fall as sponsor default rate rises.

We can try to measure the likelihood of sponsor default by looking at some kind of market implied spread on the debt or other obligations that the sponsor might have issued. For example, we might view the column showing a 1% per annum spread as equivalent to a 2% per annum risk of default but with the fund/bondholder getting (on average) only 50% of its outstanding obligations honoured if the sponsor does default.

We can work out what would happen if, instead of getting 100% of the sponsor's obligations honoured in the event of the sponsor defaulting, we get only, say, 50% paid. Figure 2 shows the ratios between the values to beneficiaries given a 50% recovery versus what they would have received with a 100% recovery. They are shown numerically in Figure 2 and graphically in Figure 3. We see that with a relatively high risk of default, the actives can receive materially less than they might have otherwise have expected, particularly if a more volatile investment strategy is being adopted.

Model Example (2)

	Equity volatility (%pa)	Revised benefit value (and equivalent annualised spread) on wind up basis, now assuming only 50% recovery			
		Market implied spread on sponsor obligations			
		1% pa	2% pa	3% pa	4% pa
Active	0	96.2% (0.14%)	93.5% (0.24%)	91.5% (0.31%)	90.1% (0.37%)
Deferred	0	98.2% (0.11%)	96.7% (0.21%)	95.5% (0.29%)	94.5% (0.35%)
Pensioner / spouse	0	100.0% (0.00%)	100.0% (0.00%)	100.0% (0.00%)	100.0% (0.00%)
Active	20	93.8% (0.22%)	89.8% (0.38%)	87.2% (0.48%)	85.6% (0.55%)
Deferred	20	97.5% (0.16%)	95.5% (0.28%)	94.1% (0.38%)	92.9% (0.46%)
Pensioner / spouse	20	100.0% (0.00%)	100.0% (0.00%)	100.0% (0.00%)	100.0% (0.00%)

Source: Nematrian Limited, 1000 simulations for 20% equity volatility 13

Figure 2. Values of members' benefits if pension promise honoured only in part (i.e. 50% recovery) in the event of sponsor default

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

Model Example (3)

- **Question**: What proportion of asset returns accrue to beneficiaries?
  - Initial funding level increased by 1% but otherwise example unchanged (e.g. trustees ' target funding level remains 100%)
- **Answer**: Depends on riskiness of sponsor covenant, but often not much
  - Consistent with position if pension fund assets merely 'collateral' for a bond (issued by sponsor to beneficiaries)
- N.B. Assumptions on recovery rate, correlation and discretionary benefits

	Change in benefit value if initial funding level is 101%			
	Market implied spread on sponsor obligations			
	1% pa	2% pa	3% pa	4% pa
Active	0.09%	0.19%	0.28%	0.36%
Deferred	0.07%	0.13%	0.19%	0.25%
Pensioner / spouse	0.00%	0.00%	0.00%	0.00%

Source: Nematrian Limited 15

Figure 3. Change in values of members' benefits if tangible asset base rises by 1%

Another interesting feature involves pensioners and spouses. They have the highest priority on wind-up in this example. Indeed, they get paid in full in essentially all circumstances. It is the deferreds and the actives who are more exposed to sponsor covenant risk.

We can also ask questions like what proportion of the asset returns flow to different beneficiary classes and/or the sponsor? One way of tackling this would be to increase the initial funding by 1%, so it is as if asset returns have just given you an extra 1%. What is the consequential change in value that accrues to each of the different beneficiary types in that circumstance? We see this in Figure 3. If the risk of default is very low, then the answer is that very little of the investment returns flow through to the beneficiaries. Indeed it is almost nothing at all for pensioners and spouses because their benefits were going to be paid virtually in full anyway. If the risk of default is quite high, then pensioners and spouses still do not benefit materially from investment returns, but there is greater flow through to actives, although still substantially less than the 1% return being apportioned. Most of the asset returns in this example flow through to the sponsor. This type of model thus highlights and potentially quantifies the discrepancy of views between the different beneficiaries and also between the beneficiaries in aggregate and the sponsor.

Mr C. Patel, F.I.A. (also introducing the paper): I am going to run through some of the essential features of what might be regarded as good ERM and how they are embedded into the ERM frameworks in those companies that practise ERM. Then I want to address the question: how can pension schemes or pension entities be accommodated within those ERM frameworks, and what adaptations might be necessary?

Successful ERM really requires buy-in right at the top. If you do not have that, then there is no point in trying because it will not work. It is essential for the board or the governing body of the entity to take the responsibility for setting the vision and the strategy, and that should also include setting the vision and the strategy on the types of risks that the organisation can afford, the risk appetite, and so on.

Another essential feature of ERM is that the risk should be owned by the business. There is no point in having a parallel risk management function which just checks what is happening in the business.

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

That is not going to work either. The intention is that risk should be owned by the business managers who are taking business decisions. Recognising that they themselves might not be specialist risk managers gives rise to a requirement for some form of risk management function, which is really an enabling function – one which might provide technical expertise and help the business managers to understand the risk in sufficient detail.

This needs to be brought together in some sort of governance framework. The first thing to recognise here is that the framework should be appropriate to the nature, scale, and complexity of the business. Governance is really all about the culture, the people, the operational constraints, the organisational structure, and so on. How do they all get pulled together in some consistent way, such that people charged with taking decisions do so in the interests of achieving the firm's objectives?

The idea is that the risk decisions should be integrated with decisions concerning the business operations, so that every time a business manager is going out to grab an opportunity, he or she should also be intrinsically thinking about the associated risks and its impact on any personal or firm-wide targets on risk affordability, etc.

The framework should, of course, promote the desired culture and behaviour. We are dealing with people issues, and whenever people are involved, things never work according to the book.

Ideally enterprise risk management, as Mr Kemp said, should deal with all the risks across the organisation in a holistic way. In practice, this is not always possible in which case ERM might be confined to the material risks.

What should ERM frameworks look like? In a large financial firm, in keeping with the Walker recommendations, the risk governance framework might include a specialist risk committee at board level, separate from the audit committee, in charge of centralised oversight of the risk. They would set the risk policy, take risk management responsibility, and would also be responsible for engaging with the executive management and the board. In financial firms there would be a chief risk officer reporting to the risk committee,, another of the Walker recommendations. This individual would have complete independence from the business units and would act as the organisation's risk champion, exercising an enterprise-wide brief over risk across the whole organisation, providing guidance, to the extent that it is needed, to the risk owners, the managers, and generally challenging business decisions in the key risk areas. All this would be supported by a specialist risk management function providing the necessary technical expertise.

In non-financial firms the ERM framework might be different because the organisational structure may be less formal and more fragmented. Quite often risk management might be confined to the key risks or specific projects. There is certainly no requirement for a chief risk officer (although some firms do have individuals who tend to qualify for that title), nor is there a requirement to separate risk and audit committees.

Quite often responsibility for risk is carved out along functional lines and the CFO, treasury, audit committees, etc, may take on a bigger risk role. If functional responsibilities dictate the ERM structure then the latter may be less formalised and there may be some governance gaps.

What sort of risk management function might we find? There is no universally acknowledged best approach but a large spectrum characterised, at one end, by risk management functions that provide an independent challenge to the business decisions involving risk and, at the other end, where the risk management function itself gets involved in taking risk. Often choice might be driven by other issues such as the organisational structure preferred for the business, the governance arrangements, the operational constraints, and so on.

We give examples of two models in section 7.9. One is where the front-line managers own the risk and the risk management function provides all the technical support – the identification, quantification, mitigation, education, and so on .There is a clear division here therefore between the front-line business activities and the risk management function. In the second model the risk management function decides what type of risk the organisation carries. Here the dividing line between the front-line business activities and what the risk management function is doing is less clear. Both of these models are prevalent.

Is there such a thing as good and bad ERM structures? While it is possible to identify certain features which are good or bad, again there is no universally agreed best approach. ERM structures are constantly evolving and maturing and, because of the human interfaces involved, certain features are best allowed to grow over time. The more complex the organisation, the more complex the actual framework might be.

The hallmarks of successful ERM are how deep risk management has been embedded into the culture of the business. Are managers thinking about risk as they go about doing their day-to-day business? How comprehensive is the risk management framework, and has it been developed sufficiently to be applied consistently across the whole enterprise?

Pension funds have similarities to other financial institutions, for example in managing discretions and conflicts between stakeholders. But they also have many differences and some might argue that these make ERM irrelevant. We do not share that view. Yes, pension funds are different: they have a singular purpose, do not have a profit motive, and there may be a social element. They have very limited – in most cases no – capital-raising ability. They have a unique trustee and sponsor legal interface which affects the balance of decision-making. They operate in a more flexible regulatory regime and pension obligations are not considered to be in the same vein legally as, say, insurance contracts. Pension funds also have a different perspective on investment risk and are quite comfortable with taking risk on equities which insurance companies do not tend to do. Pension funds also have different stakeholder dynamics.

But none of these differences provide sufficient reason to make ERM inappropriate for pensions. Underneath all these differences, there is a purpose and there are objectives which can be derailed in numerous ways. The focus of ERM is to keep them on track – it should not matter whether the objective is profit related or social, as long as it is well defined.

How might existing ERM frameworks in insurance companies, banks, and other large companies be adapted to accommodate pensions? Historically the focus in pension risk management has been on investment efficiency but, as Mr Kemp said earlier, modern-day decision-making requires the simultaneous reconciliation of many other issues. When you consider investment and funding risk in a holistic way then, of course, the governance challenge increases considerably. Among other things, you now need a much clearer mission and an alignment of the key management policies. Personally I would add a third component to the risk policy and accept that the governance burden increases even further, with the oversight function now broadened to a much more comprehensive risk-type

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

committee rather than just an investment committee, raising questions about the availability of the additional skilled resources. Insurance companies and banks tend to have the necessary risk resources internally but pension funds do not and have to purchase them externally, which creates challenges of a different kind.

Mr Kemp has dealt with quite a few of the specific challenges already, so I will just mention them in passing. These range from the need to produce value propositions which are practical and acceptable to members and sponsors, recognising the inherent conflicts; managing agency problems and governance gaps from the wider use of external expertise (current norm being to use separate consultants for funding, investment, covenant assessment and risk transfer advice); and communicating the potential impact to different stakeholders of what are usually global 'across the board' policies on funding, investment and risk, which are not necessarily modelled to recognise their different interests and priorities in the pension fund or the sponsoring entity.

When the definition of "entity" is widened to cover the sponsor, the challenges become that much bigger because you are now addressing a bigger spectrum of risks, a larger stakeholder base, many more management interfaces and some additional legal interfaces, and various new decision-making constraints. But at end of this bigger governance challenge is a potentially bigger prize.

Where does one start with applying ERM techniques to pensions? We think a pragmatic starting point might be to look at what happens in firms that are already practising ERM – banks, insurance companies, and maybe some of the larger non-financial companies. They should already have a workable ERM process. The actual structure and associated governance will vary for the reasons given earlier. Indeed the risk statements set out in the report and accounts of the major banks and insurance companies give a good idea of the distinctly different approaches in practice for embedding risk into the business.

How do such firms deal with their pension business? There are various possibilities, from treating the pension scheme as an additional line of business to a financial subsidiary, depending on how the firm has structured its risk governance to align it with its business and operational structures. While the processes for integrating the key financial risks from pensions are probably in place, there may be gaps relating to how best to deal with those pension risks that are not present in the core business, or on methods to join up the silo-based outputs of the external experts.

In non-financial firms, where ERM may be less holistic, perhaps with a more consolidated board and risk oversight structure, there is bound to be some type of framework in place for managing their key business risks from interest rate exposures, credit and currency exposures, raw material costs, etc. Many of these are, of course, common to the pension scheme.

There are also firms which practise ERM on a project basis for significant projects. In such firms, if a pension scheme is large enough to be a significant business risk, then a natural starting point is to treat the pension scheme as yet another project competing for business resources to provide an HR pay-off.

Mr D. B. Duval, F.I.A. (opening the discussion): This is quite a brave paper because it advocates applying ERM to pension funds. It goes on to assert that it is a doable proposition, when I think most pensions actuaries would start off believing it is not, and then suggests how to do it as well.

Very importantly, it recognises that if you are going to look at entity-wide risk management, the link between the fund and its sponsor is absolutely key. Fundamentally, you can look at it either way up. The fund is a financial entity where a key element of its financing is the guarantee it holds from the sponsor. The sponsor has a substantial financial subsidiary in the pension scheme. I think, in normal circumstances, it is a wholly-owned subsidiary. It is just a wholly-owned subsidiary with some rather unusual regulatory rules.

The paper is not split between those two perspectives. I discovered that it does not need to be, but you quite often need to read most of the sections twice. Firstly, I read from the perspective of the sponsor trying to manage the financial risks that the pension scheme represents to me and then read it again as a trustee trying to manage the pension fund, trying to look at the risks of the pension fund, including the fortunes and behaviour of the sponsor as one of the key risks.

The paper starts off with an advocacy of ERM, essentially, and its application to pension funds, which is relatively straightforward.

ERM in the pension fund context was best explained to me once some years ago by an old lady in remote western Australia. She was describing what had happened when electricity came to the township. She said, "The first thing I did when I got electricity was that I scrubbed the kitchen floor. I had never realised how dirty it was." ERM is fundamentally about throwing light on the workings of the entity in areas which may not be looked at otherwise. The management makes the decision whether to scrub the kitchen floor or not.

The social purpose of pensions is mentioned several times in the paper. But in the analysis of risks the pension fund is treated largely, in section 3, as a conventional financial entity. In other words, the test of risk is: what does it do to the financial position of the entity?

We had very high inflation in the 1970s. Discussions in this hall and elsewhere at that time did not use the same language but essentially what they said was: "A substantial risk has crystallised, the risk that these pension funds will not deliver decent pensions for people to live on." No risk had in fact crystallised for the finances of the entity. Then, as now, high inflation was not particularly damaging – indeed, it was probably financially beneficial to the finances of the entity. But at that point in time, the social purpose was treated as the more important thing to manage risk against. Now what most people would say is that an environment of very high inflation which diminished the real value of promises, and therefore made them easier to bear, was not a risk crystallisation. The fact that pensioners might end up in poverty is not the problem of the financial entity itself.

What is interesting about that to me is had we had an ERM framework in place throughout, we might have noticed that change in attitude. As it is, I do not think anybody noticed it. It just happened.

Another example given in the paper and mentioned in the opening is today's sponsors commonly say they want the lowest possible scheme contribution. Well, why did you set the scheme up if you do not want to pay for it? The answer is their attitude has changed at some point but nobody has noticed when.

Part of this is a more general thing that there used to be quite a lot of entities set up with social purposes in-built in them. Think of Joseph Rowntree or the Philips company in the Netherlands. If you look at the purposes those organisations as companies had, they had a direct social purpose

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

embedded within them. We have largely moved away from that. We now tend to think the more appropriate method is that of the Andrew Carnegie model: "Be a ruthless capitalist, make your money and do your charity somewhere else."

One other thing mentioned in the advocacy is the FSA view that firms with risk management systems survived the crash better than firms without them, particularly firms with ERM systems. This to my mind just shows the FSA not understanding. If you have a voluntary system like that, then the people who choose to set up risk management systems will obviously be the more prudently managed companies, and therefore when something goes wrong they are obviously the ones that will survive better. It tells you nothing at all about whether mandating risk management is going to improve the position in future or not. It probably tells you the change in the regulator's thinking process would, but that is a different point.

In the introduction, and in the paper, there are references to the two different views of risk management, very broadly speaking: one, where the risk management is about downside risk only; and the other where it is about exploitation of risk and the upside.

With pension funds that is quite illuminating because as soon as you look at that, it drives you straight into realisation that trustees are interested only in downside risk; sponsor, particularly treasury department, is very commonly interested in upside. The different perspectives on risk arise because both sides are asymmetric, the downside going to the beneficiaries and a geared up share of the upside going to the company. So, in fact, if you start looking at how would you put ERM into a pension fund environment which you are looking at, which model you would use starts to drop out of that, I think.

One key idea of the paper is this holistic enterprise risk management, which has been described by the authors. I will come back to some of the issues in putting that into place. Certainly, it has some fairly obvious merits. Two more specific ideas about how to do this were outlined.

One is effectively bringing over the Own Risk Solvency Assessment from insurance companies into pension funds, and looking at assessing the risks in that framework. From a corporate point of view, it is not quite clear how that would give you value because, from a corporate point of view, one of the benefits you have from this financial subsidiary is that it is lightly regulated and therefore you can do things with it you could not do with a life insurance subsidiary. So, to turn, if it into something that you run as though it were a life insurance company then that is taking a flexibility away from you and possibly destroying value.

From the pension fund point of view, there are a number of problems. Firstly, own risk solvency assessment, by definition, implies looking at the financial risks holistically. There is still a government project, started from the Myners' Review, to say that this is a bad idea, that actuarial and investment should be kept as separate as possible by the trustees. Most trustees do not have themselves the acumen to bring the two together in the holistic assessment, and the strong encouragement from Myners to run the two with completely separate mandates, makes own risk solvency assessment difficult. It may be that that will change, or, of course, you can just ignore it because there is nothing mandatory about it.

The other point is the problem for a lot of trustees is that you would not start from here. What an own risk solvency assessment would tell you in many cases with a pension fund is something that you already know, which is that you have a financial entity where your biggest risks are investment

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

risk and sponsor covenant. There is a limited number of things that you can do with those risks. There is a trade-off between them or you can effectively impose substantially greater demands on the sponsor than other people are in your industry. That risk management framework is probably not going to help you, though it might help you identify the size of the problem.

The other idea in the paper, which is rather more radical, particularly in describing pension funds as collateralised debt obligations, is something I found extremely interesting and potentially valuable. Theo Kocken, in his 2006 book "Curious Contracts", applied essentially the same techniques to the Netherlands, which is to look at these financial claims that people have on the entity, and try to value them as such using an option approach.

There is one significant limitation. Because all these options are pretty obscure, it is not uncommon for people to exercise them against their own financial interests, and therefore valuing them does not necessarily work the way you expect. The most obvious one is trustees' rights to demand money from employers. Trustees regularly do not exercise those anywhere near as strongly as they could, and would, probably, from a pure financial relationship. But equally employers, in their relation to the pension fund, quite often are constrained in a whole variety of ways from the way they exercise their powers against the pension fund, which is, broadly speaking, that they have a paternalistic view of it to some extent and in some respects.

So taking a pure financial valuation, although interesting, does not necessarily give you the right answers, and obviously contains a potential danger that you might push people into taking a purely financial view when, if you hold it obscure, you might not.

There is also a suggestion in the paper that by valuing things this way people will better understand the sensitivity of their position and therefore, if they wish, they can reverse the position out through their own assets, etc. For individuals, I think that is extraordinarily impractical because, firstly, you need to understand it, and, secondly, you need to find the financial instruments to do it. Even for companies having tried to do it, it is remarkably difficult for a company to reverse out the position of a pension fund and to put in place the one that they want to have, partly because the collateralisation rules of the instruments that you want to use are completely different from the collateralisation rules of pension schemes. In effect, with a pension scheme, a company is often running an equity bond option with no obligation of putting up daily collateral, and you cannot do that outside – the derivative markets want daily collateral. The gap between those two is big. It is interesting thinking but I think it is difficult to apply in practice.

Having said all that, I think the paper has converted me. I started from the point of view that the application of ERM to pension funds would be extremely difficult. I remain of that view for governance reasons which I will go into in a moment.

Fundamentally, pension funds nationally are in a manage out position. There are a lot of fudges going on to get pension funds to a position where the relationship between the assets and the liabilities is one that is not extraordinarily volatile, one which is not potentially destructive to companies, company stability and, in some cases, the actual survival of the company, and to members' reliance on benefits. It is not always helpful in such a position to have great clarity on what is going on. However, I think on balance it is probably more helpful now for people to understand the nature of the obligations, the nature of the relationships. As we, it is hoped, slowly emerge from the recession, the value of the pension funds, everyone knows, has gone down. How that fall in value has been divided

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

between the sponsor and the beneficiaries is something that hardly anybody has analysed. In fact, there is a significant danger, I suspect, that that fall in value has been much greater for beneficiaries than for their sponsoring employers to a greater extent than they realise, and if that information were available, it might change the behaviour of trustees.

That brings me to why I think application of ERM is very difficult. From a corporate point of view, most of the risks in a pension fund are in a different timeframe from the risks the corporate itself is trying to manage, because the risks do not crystallise in any real way for a corporate until several years out. It has been quite illuminating to see how Solvency II and Basel II have worked, looking at risk management of the pension fund as an obligation of the company. A lot of the management centres around the question, 'How can I use the light regulatory regime of the pension fund to make my life easier when managing risk within the corporate?' Things like swapping assets between the pension fund and the main entity are now quite common. It is not concerned about the risk to the pension fund or even the risks that those might come back in due course, because they are far enough out to worry about them.

For an ordinary trading company, particularly in the current environment, that is far more the case. If you have bank debt refinancing, which is one of your key goals from your treasury department, that is bound to be within five years while most of the pension fund risks you can stuff off over that period with a reasonable degree of negotiation.

From the pension fund size itself, I think that the lists of the key enablers of ERM show the fundamental difficulties. You require buy-in at the top; you require risk to be owned by the business; you require an appropriate culture. Pension funds have no top – they have a non-executive board. There is no one in charge of a pension fund in almost all cases. They have a non-executive board which purchases services, etc, and advice from a variety of people and then makes decisions. There is no one accountable for the results of those decisions. Therefore, they do not have a business and they do not have a culture. Defining the culture of a pension fund is extremely difficult. If you walk into any ordinary commercial business and spend a bit of time in it, the culture becomes clear. The culture of a pension fund is driven by the culture of the individuals who are running it and the people who are advising it. There is no possibility, in the current structures, of embedding something in that culture because it does not exist.

So I think that is quite difficult. I think what you can do, however, is the modelling part which becomes interesting and, as Mr Kemp said, they have started on but have not got very far. I think what you can do is say, 'We cannot embed this in the culture, but what we can do is produce the information.' That information might lead people to change the way it operates.

One of the fundamental difficulties of the ERM is, essentially, your biggest problem is agency risk. It is difficult to get it in, because the people whom you want to commission it are the agents themselves. It is difficult to obtain the right outcome from it. The whole of the defined benefit pensions problem is agency risk because what companies did was set up subsidiaries which they then bought employee benefits from at substantially below market value. They then encouraged those subsidiaries to take investment risks to balance the finances of those subsidiaries. So, we have had a system where companies have been trading with their own subsidiary at a price way off market. Almost every pensions professional and trustee is, in some way, complicit in that agency risk and therefore it is quite difficult for them to embrace ERM in the way that we would like them to do.

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

Mr C. Keating (visitor, Finance Development Centre): A number of questions occur immediately with this. Risk is an unobservable so the very first question is: is it a sound idea to base a management system on an unobservable?

The next point is management is an adaptive process. That makes the process path dependent. We know that path-dependent processes are inevitably sub-optimal. Is it a sound idea to base a management system, or to base a whole structure, on something which is at best second best?

The next problem is occupational pensions are part of the labour market contract. Why are we framing this in terms of financial markets?

My final question surrounds risk which comes basically in two flavours, exogenous and endogenous. With exogenous, all you can do is mitigate; with endogenous, you can manage. Why do we have a unified system for looking at two different flavours of risk when that which is available to us, and that which is practical, varies dramatically between the two?

Mr J. G. Spain, F.I.A.: Mr Duval correctly mentioned the authors are brave. What happens if we take out the word "holistic" and look for a different word which has hardly figured at all which is "reward"? What we should really be looking for is something like, "ERRM", which is "Entity-Wide Risk and Reward Management". That is what we want to get to.

There seems to be an idea among parts of the Actuarial Profession that actuaries are uniquely competent to be chief risk officers. I do not think by the nature of the way most people come into the Profession, or have done in the past, that they are really well set up to do that. I think actuaries are really in danger of going beyond themselves.

A final point: I liked Mr Kemp's modelling. I hope he will make available his spreadsheets so we might understand exactly what he is saying. The point is really that we are going to have to produce much better reporting to sponsors and to trustees, otherwise they will not have a clue what could bite them tomorrow or next year.

Mr P. M. Greenwood, F.I.A.: I think I would argue that current legislation for UK pension funds, in practice, defines "a living will" in legislation, that is, what happens if everything shuts down.

One point of Mr Duval's I would comment on is: I think we are seeing the realisation by employee representatives who have lost out in various actions taken in the recent crisis with the reactions from various unions to the CPI versus RPI implementation debate.

Professor R. Macve, Hon F.I.A.: It does seem to me, as an accountant, that one of the aspects of risk in the relationship with the sponsor is the way that the accounting standards define the sponsor's reporting on the pension fund. I am a member of the USS pension fund for universities and I read with interest the latest report on what has happened to it over the last three years. I think there are three different solvency ratios that they give you: the actuary's own view, the regulator's view and the IAS19 view.

The sponsor companies, which have to include their pension liability in their own accounts, presumably are particularly concerned about that last one. I wonder whether you feel that IAS19 has improved the understanding of the risk in a fund and of the risk/reward ratio or made it even

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

harder to explain why a chosen investment policy might be a good thing, despite the IAS19 effect on the sponsor's accounts.

Mr Kemp (responding): Mr Spain has come up with several comments. The idea of including, within ERM, a greater focus on reward is also well made. This is something that has been raised at an international level among the Actuarial Profession and the ERM community. The conclusion seems to be that, while it would be great to have included it, we now face an example of Mr Duval's comments that we are where we are, rather than where we would like to be. We appear to be stuck with the terminology that we have.

I am glad you like the modelling example that I introduced. Do please refer to the references in the paper which indicate where you can find material you might find helpful.

Mr Greenwood commented about current legislation driving what we should do. We do make the observation in the paper that the assumption that the world will remain the same is itself potentially a risk that may work against you. I personally think that there is at least a moderate chance that the pensions industry will have Solvency II imposed on it. That may not be what people would like to hear. But it is a risk and one that people might want to think about.

Mr Keating commented that risk is unobservable. In my view, risks fall along a spectrum. At one end, some "risks" can be modelled fully, a bit like a poker game where you can work out the odds exactly. Other "risks" are intrinsically unknowable. All practical business risks fall somewhere within this spectrum. For risks that are completely unknowable, I would agree entirely it is difficult to figure out an effective way of incorporating them within any robust risk management framework. But not all risks fit fully into this box. The hope is that there are some risks which are more amenable to analysis. For example, you may be able to trade these risks or to hedge them.

Mr Patel: If I could just pick up Mr Duval's point about the whole process not being that practical to implement, because pension funds have no top management. I do not agree with that.

There is a board of trustees. They have certain legal responsibilities. They have objectives that they have to live up to. Therefore the concept of a business plan is quite relevant. It has not got a profit motive, but it certainly has got a motive, which is delivery of the benefits to those members on whose behalf they have been entrusted with the management of those funds. Since this can be derailed by all manner of risks, the ERM framework then kicks in to keep delivery on track.

Let me pick up the same point from another angle, because there may also be some confusion about what ERM is supposed to deliver. ERM is not a model that coherently links pricing, reserving, capital adequacy, investment, accounting, and all that. These can all be decided disparately on their own merits and to suit individual purposes. What ERM does is to link them together to shed some light on the complexities of the decision-making. As a result, if your decisions are better, then you derive some value. ERM is not about giving an end solution but providing a language and an environment within which solutions can be developed and tested.

Mr C. D. O'Brien, F.I.A.: I was interested in the disclosures about risk in the sponsor's accounts. To what extent did FTSE 100 firms disclose in their accounts the risks arising from their pension scheme?

The first question was: how much do they disclose? We used as a benchmark (during research conducted last year) the suggested best practice guidelines of the Accounting Standards Board which suggested firms should disclose the sensitivities of the value of the liabilities to variations in assumed salary growth, price inflation, discount rate and expectation of life.

So, in terms of the extent to which firms follow those best practice guidelines, the answer was only to a fairly modest extent. Of the 88 firms in the FTSE 100 with a defined benefit pension scheme, only 10 disclosed all four of those sensitivities, and 35 disclosed none of them. So we were somewhat disappointed by that.

The other question we wanted to ask was: were there any factors that indicated some firms seem to be more inclined to disclose than others? The answer was firms that have relatively large pension schemes tend to disclose more than firms with small pension schemes. Firms that are banks tend to disclose more than others. We also found that firms where the pension scheme was poorly funded tended to disclose rather less.

So those were the results to the two questions that we investigated. But then we thought: was that the right type of risk disclosure? So our third question was: what might be a better way to describe the risks in terms of the risks to the enterprise of having a pension scheme?

It seems to me that the ASB guidelines are about something rather different. They are about what we call ‘point-in-time estimation risk’. For example, you use a discount rate of 5%. But a discount rate is not really a risk to the firm. A discount rate is just an actuarial or an accounting construct to enable you to calculate a present value of future cash flows. The real risk is the interest rate risk – that interest rates might turn out to be rather different. So if interest rates turn out to be rather higher, then, yes, you would have a higher discount rate and the liabilities would be affected, but also the assets would be affected. What seems to me important in terms of the risks to the enterprise is what happens to each of the assets and the liabilities in the event that there are changes in the key risk factors.

As another example: what happens if you have a longevity derivative? Then you would disclose not only that an increase in expectation of life would lead to an increase in liabilities, but also disclose that there would be an increase in the value of assets held. So it is more important, I think, to concentrate on the risks to the enterprise in terms of the effect of the risks to the entity’s assets as well as its liabilities. That was the third point that cropped up.

That then led to a fourth point. In discussion with a number of actuaries following publication of our research, I said, “Is this not the kind of information that it would be useful for the trustees to know and that presumably should be contained in the report that the consulting actuaries prepare for the trustees, indicating the effect of risk factors on each of the assets and liabilities?” The people that I was talking to said, “Of course, that is the kind of thing that will be in the actuarial report.”

I am afraid I only had a very small sample to go on, but it seemed to me when I looked at those actuarial reports that it was not at all clear that this kind of reporting of risk effects on both assets and liabilities came across.

I have one particular concern which is where a pensions actuary uses asset-based discount rates. If the actuary is saying, “What is the effect on the funding of the pension scheme if equity values fall by 20%?” then clearly the assets fall, depending upon the proportion of assets that are in equities.

But if you use a discount rate that depends upon the value of the assets, then you may well say, "Ah! In this new scenario when equities have gone down, the liabilities have gone down because we have changed the discount rate." I find that somewhat worrying because from my perspective the value of the liabilities does not go down when the assets change.

I think it does raise the question about discount rates as to how do we illustrate the risks in pension schemes and the discount rate we apply. There are some dangers that the risks of equity investment may be understated if we start changing the discount rate.

It ties in with what the authors have been saying about the way that we communicate and report risks. We did not start off trying to answer those questions about enterprise risks and the consulting actuary's reports, but these were issues that came up as part of our enquiries.

Mr A. M. Rubenstein, F.F.A.: I was really interested in the way the authors thought about how the principles of ERM could be applied to pension funds. As the authors note themselves, the concepts of ERM have been around for some time now, even if they have not, as yet, necessarily been applied as widely as one might hope in the area of pension funds. We have had some debate about the reasons that that may be. Personally, I hope that this paper can act as a catalyst, and lead pension funds to ask themselves whether they do spend sufficient time thinking about the risks that they face, and how they might respond to those risks.

I thought it might therefore be helpful, although I do not come from a pension fund as such, to say a few words about how we think about the question of risk in my own organisation.

As the authors note in section 3, it is very easy to talk about tackling risks holistically at the enterprise level. In practice, we need to break those down into some sort of recognisable classification to make things manageable.

In the Pension Protection Fund we recognise seven broad categories of risk, which are: strategic and environmental risks, which I suppose you would say correspond in our sense to the political risks that the authors identify; legal risks; operational risks; reputational risks; organisational design and culture risks; funding and investment strategy risks, which we bracket together given our position; and, finally, investment operations, which we single out because our risk appetite there is in fact lower than our appetite anywhere else, and we do not have a large risk appetite to start with, given where we sit in society.

So, although those are fewer in number than the list that the authors come up with in section 3.2, they certainly correspond pretty closely to those subcategories once you make allowances.

Crucially, however, we need to recognise, and we try to recognise, the interactions between those various categories. For example, any problems in our investment operations or accounting might well lead to the kind of reputational damage which might, in turn, impact on our ability to raise levies from levy-payers, and so that in turn might reduce our probability of meeting our funding aims, and so on.

I wanted to pick up on two particular risks which came out in the paper which are close to our hearts. First, (I am indebted to my colleague Mr Clarke for pointing this out) as the guys who have to pick up the pieces when sponsors fail, we have quite a lot of experience of schemes with inadequate records and incomplete legal frameworks. So, while acknowledging that financial and sponsor risks are certainly going to be dominant, I would have liked to have seen greater recognition in the paper of the importance of operational risks, and particularly on the quality of record keeping within the schemes.

Secondly, I am indebted to the authors for section 3.2 on sponsor risk, and in particular for pointing out, in what I think is the only formula in the whole paper, that credit exposure equals probability of default multiplied by loss given default. That equation lies at the heart of the new levy formula which we are currently in the process of introducing. So I am very grateful to the authors for their implied endorsement.

Mr J. P. Ryan, F.I.A.: I am probably the only person who is both a Fellow of the Institute of Risk Management as well as being a Fellow of the Institute of Actuaries. Risk management, as defined from that, is rather different than enterprise risk management.

Enterprise risk management means basically quantifying the risks facing the enterprise as a whole, and it is important to look at it as a whole because some risks balance out, because some are independent so you get a spread of risk, and that affects it right the way through. So if ERM is going to be anything, it has to be holistic because otherwise you are going to get wrong answers.

Risk management, as essentially defined by the Institute of Risk Management, is dealing with risk identification, risk control, risk financing, and risk administration. That is therefore treating risk at an individualistic, atomistic, basis, not at the holistic basis. An example of this being it is quite important that we have fire extinguishers in the building, and probably the savings arising out of the reduction of risk in doing that would be a multiple many times of the risk manager's salary.

Risk management is dealing with the identification, control and financing, and administration, whereas building it and pulling it all together is very important in the ERM approach. That means holistic is important.

Also in the ERM approach you have to deal with the risk metric, which is dealing with the extent of the loss of any one particular risk and the consequences arising of that. In order to do that, you need to identify who is suffering the loss. Therefore, if you are looking at a pension fund from the point of view of the beneficiaries – the active employees and the retired employees – then they cannot diversify their risk (which is the normal way of managing) or readily transfer that risk. Therefore the risk on the trustees is a very, very different one, and the risk metric that you need to use is a very different one than if you are looking at the same issue for the plan sponsor. From the corporation's point of view, you clearly need to integrate the pension right the way across the board. It is just one of the risks that needs to be considered, and if it falls short you can always pass it on to our previous speaker from the Pension Protection Fund. If it is a big loss, that is his problem! So the risk metric is also a very important component of ERM.

There are a lot of very interesting ideas in the paper: there are a lot of things I think pension funds can learn from it. But they do need to identify, if they are using the framework, who are the beneficiaries. You need to do that more than once: you look at it from the company's point of view and from the trustees' point of view.

The Chair: Perhaps I could follow up on something that has just been said and some of the earlier comments. A lot of interesting information is obtained with this type of analysis. The question was

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

asked earlier: what options do you have at the end of the day if you have that information? I suppose I am interested more widely in what do people think around the idea of the authors of applying the principles and practices of financial management to a pension fund? Would that provide information that would either change decision-making or change people's behaviours? Are there any views on that?

Mr Spain: Oddly, I think the point I wanted to make is exactly on that. Both Mr Kemp and Mr Duval earlier referred to the sponsor who wanted the lowest possible cost. I started thinking, "What on earth would that be, the lowest possible cost for this year, the lowest possible cost for the next triennium until the next actuarial valuation has been done, the next 10 years, 20 years, 30 years?"

I was thinking what really matters there is the timeframe and volatility. The sponsor has to be aware if he pays in too little this year it is going to come back and bite him, perhaps, and maybe is going to be a false economy.

That leads me to suggest that one-year measurement, which is impelled by regulators, and the way we are, mark-to-market, is just doing a disservice for long-term entities if they really do have a long term ahead of them. The timeframe would be part of setting the sponsor covenant; you ask the sponsor, "How long are you going to give us?"

I think dwelling within a mark-to-market world constrains very much what the sponsor can be allowed to do and the trustees from thinking about what they can do over this long 15–20 year period, if they have it.

Mr Greenwood: I think we have seen out there in the real world, within the existing legal structure of pension funds, some examples where the trustees and companies have done deals on schedules of contributions. These set the level of contributions dependent on contingent assets or on trustees making a commitment to the employer about the particular investment policies to follow. So some actual enterprise risk management is happening as far as the governance structure of UK pension funds permits.

In response to Mr O'Brien, I would say it may be false to assume, if it is not publicly disclosed, that the actual trustees or corporate body these days does not hold a lot of extra information as part of the valuation process. That extra information does not get through to the final valuation report under the old statutory rules. What BAS is now currently doing may lead to more of it emerging in the future. I hope so.

What also has happened is the growth in the number of advisers involved these days in a particular case. As Mr Duval was saying, you can have five or six people from different firms operating on the same case. It probably means it is more difficult for one particular person to act as an overall risk manager, which I would claim probably went on more often several years' ago.

The Chair: What about the question about the change in attitude of the different stakeholders over the years? I was struck by a point in the paper, which I think Mr Kemp brought out, about how the flexibility on the part of the sponsor in how they could respond to events was valuable to them.

What about looking at the other side of the equation? What is flexibility to them is effectively uncertainty to the beneficiaries, as they might end up with less than they are expecting. There is a balance there. So one person's flexibility is somebody else's uncertainty.

https://doi.org/10.1017/S1357321712000256 Published online by Cambridge University Press

Do we think that there is something around the social role of pension funds which we are missing now with the approach to risk management in schemes?

Mr M. Iqbal, F.I.A.: I was taken by much of what Mr Duval said, in particular, the point about pension funds not having an organisation to embed culture into.

If you go back 30 years or so, you find defined benefit schemes were an adjunct of HR departments. Then in the late 80s, when we had contribution holidays, the finance director became the driving person. Then we had the Pensions Act and the Pensions Regulator, and the trustees came into the position of power.

I think that the fundamental problem is the pension fund is trying to serve both the sponsor and the members. So long as the problem is there, I think it will be very difficult to have an overarching culture across the organisation.

My recent experience on pensions is in funded public sector schemes. There we also have an additional rogue interest, which is political pressure to do socially responsible investments, which is something the trustees have to fight with their sponsors if such an approach were to be in breach of their responsibilities.

Mr M. G. White, F.I.A.: If I were running a company wanting to support a defined benefit scheme in the future, I would only be interested in doing it if it were tax efficient indirectly for the shareholders to invest through this fund and I was allowed to over-fund it without penalty. Otherwise you have a one-way risk. I think not being able to over-fund has led us partly to where we are.

I was working in pensions up until the late 1980's and at that point we began, as a profession, to believe that market values meant more than they did. While we may have put a certain value on the liabilities by making estimates about future investment returns, I do think we were making crazy assumptions about those prospective returns on the assets given the market values that were available then and subsequently as the market rose. I have not heard any discussion today about the likely prospective returns given where market values are today. I believe there is powerful evidence that future investment returns are dependent on how expensive assets are today. To ignore this would be a triumph of economic theory over history and common sense.

Mr Kemp: When we were writing this paper, we had several different attempts at drafting sections dealing with whether the degree of resources that a pension scheme has available to it ought to influence the extent to which it should do ERM.

Clearly, there is practicality here. If you have very few resources then this will constrain what you might do. But I would caution that risks do not cease to exist merely because you do not look at them or do not invest resources in managing them. Maybe we should be considering the possibility that we might not be putting enough resources into looking after the pension scheme.

The Chair: If there are no further comments, then I would like to invite Mr Speed to close the discussion.

Mr C. A. Speed, F.F.A. (closing the discussion): When I first read this, coming from working in insurance, I naturally reached for my Solvency II and ICA documents because I thought that is what insurance companies do; they go through and look at all the risks and they try to add them up in some way.

Of course, it was pointless doing that because the authors have already taken that route. I think that has been reflected in the discussion. It is not so much the identification of the risks, it is what comes before that and what comes after that that are the key points for discussion: namely, what is the strategy and is ERM desirable for pension schemes?

On the one hand, we could say that there are risks. If they are risks which we have responsibility for, be it as the chair of trustees, as a financial adviser, or as CFO, we ought to be aware of those risks. And, once we have identified them, we can think about ways of mitigating them.

However, if we do go down the ERM path, are we making a lightly regulated financial entity – with all the benefits that flexibility provides – more like the insurance entities we see with the regulatory burden that entails?

I think we can only really answer those questions if we know what is going to be the outcome after going through the process. If we go through this process, we then ask: 'What levers are we left with?'

That brings us back to the idea that defined benefit pension schemes have very many agency issues with different competing interests. So whereas the idea of entity-wide risk management is attractive from an abstract point of view, I think it is extremely difficult to apply it because we are going to have quite different views from the corporate sponsor and the beneficiaries. I think going through the ERM process will probably highlight those differing views.

Having said that, the exercise may be very much worthwhile. I think there are some very good things within the paper. Initially, we may have taken comfort from the idea that even when we had what may seem very high risk entities, with a 4% spread, that we are looking at more than 90% of benefits being delivered. Of course, the problem is that a company going bust is a binary event. That 90% is hiding, or has underlying it, adverse scenarios.

So it may be rather than looking at this aggregate level, we need to dig a little bit further and have a look at what happens in particular scenarios. Of course, that starts to show the asymmetries between the different benefit categories which exist.

That brings me on to another point which was raised by a number of speakers that, while we have these asymmetries, there are also upsides: there are potential rewards. Risks are going to be taken by the sponsor if they can see some cash flow benefit, but maybe also by the trustees if they think that is going to encourage the scheme to be open and funded for longer, which again comes back to what are the trustees' objectives. Are trustees looking at current beneficiaries or do they have some objective which relates to keeping the scheme open and further accrual? It is the strategy questions which I think are at the heart of a lot of the discussion.

A few other points I would like to pick up which I thought were very interesting from the discussion. One is the issue of whether actuaries are well-placed to be CROs. I think the important distinction made between risk management and enterprise risk management, the idea of aggregate or, dare I use the word, "holistic" risk, and looking at individual risks, is very important. Whereas actuaries should not assume they can become dominant, or key players, in this area, I think it is also true, as was pointed out, that many actuaries have been acting as a close approximation to CROs in their advisory capacity.

Something else is the risk around Solvency II and pension schemes. The risk may be comparatively low but, to use the credit risk example, the potential impact is really large. I still think that insufficient focus has been given to the potential impact of Solvency II upon pension schemes. A lot has been written about the social aspect of pensions. I really think that by social aspect we talk more about regulatory change. I can also make a very strong argument for the social impact of insurance.

Currently, the differentiators between pensions and insurance have not been sufficiently clearly enunciated, I think, and will not convince those who are potentially looking at implementing different regulations Europe-wide.

So, in summary, I think that this paper focuses and gives a good overview of ERM. There are some very hard questions around strategy, whether ERM is desirable for pension schemes, and there are some very interesting challenges around the implementation.

I think one of the key areas we need to have is quantification, which is an important part of risk management. I would have liked the paper to have gone a step further and at least attempted some initial quantification of the 15 risks in section 3, because having operated within the insurance environment, where risk management has to be embedded, there is always a danger that when risk management becomes business as usual, it becomes too 'check boxy', simply going through a list. There is a real governance risk that time is allocated to each risk rather than focusing upon what is really material. It is a point the paper makes. Personally, I would like to see that given more emphasis.

Thank you for an excellent paper. I think there is a lot more to discuss on this topic.

The Chair: I think that there is encouragement to continue the good work. It remains for me to express my thanks to everybody here, to the authors, the opener and the closer, and those who participated in the evening's discussion.