

01. [Dr Mirko Cardinale: Revisiting diversification](#)
Although the power of diversification has been tested to the full, exploiting the predictability of long-term investment returns remains the best way to capture diversification opportunities.

07. [Julie Griffiths: Investment, trading and speculation: The impact of performance measurement on manager behaviour](#)
Institutional investors can encourage responsible long term investment and discourage sub-optimal behaviour by fund managers resulting from relative return benchmarking.

11. [Dawid Konotey-Ahulu \(Redington Partners LLP\) and Patricia O'Loughlin: Liability driven investment: An exercise in risk management](#)
In facing the most turbulent and extreme set of market events, it has never been more vital for pension funds to have a carefully planned approach to risk management.

15. [Philip Pearson: Hedge funds: A case study in natural selection](#)
Despite a period of dramatic evolution that has shaken the hedge fund industry, not all hedge funds are doomed to extinction. Indeed, some species of fund will flourish.

21. [Todd Youngberg: The Power of the Coupon: Providing a distinctive advantage to the Global High Yield Bond Market](#)
Unprecedented valuations in the global high yield bond market represent a significant opportunity for the long-term investor.

25. [Anita Skipper: Corporate governance and the economic crisis: What can shareholders do differently?](#)
The catastrophic failure of governance within the major banks has led the world into a global recession but why were shareholders not more effective in holding management to account?



Welcome to

The Investors Journal

The third edition of The Investors Journal is published at a time of continued market unrest and uncertainty. This edition looks at the ramifications of the resulting market dislocations that have been witnessed through deleveraging and derisking, and the investment opportunities that lie therein.

In this edition, The Investors Journal presents articles on diversification, the impact of performance measurement on manager behaviour, the outlook for hedge funds, the opportunities in the global high yield bond market and how to improve the corporate governance accountability chain. In this third edition we welcome Dawid Konotey-Ahulu, of Redington Partners LLP, as the guest contributor, who has co-authored an article with Aviva Investors Patricia O'Loughlin on pension scheme derisking.

As always, your views and opinions are important to us as they help in deciding upon the content of The Investors Journal, so please do not hesitate to contact us at theinvestorsjournal@avivainvestors.com.

On behalf of Aviva Investors and each of our contributors, I hope you enjoy this edition of The Investors Journal.

With best wishes.

CHRIS WAGSTAFF

Editor, The Investors Journal
Head of Investment Training and Development
Aviva Investors

Liability driven investment: An exercise in risk management

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DAWID KONOTEY-AHULU.
Partner and co founder of Redington Partners LLP.

EXPERIENCE & QUALIFICATIONS

Dawid qualified as a barrister of Lincoln's Inn in 1987, before moving to work for NatWest Capital Markets in 1990. He joined Merrill Lynch in 2000 where, in his last role, he was Managing Director responsible for Merrill Lynch's Pensions and Insurance Group, Europe. In 2003, he implemented the market's first full derivatives LDI hedge for a defined benefit pension scheme. As Partner and co founder of Redington Partners LLP Dawid provides Asset/Liability solutions to Pension and Insurance clients.



PATRICIA O'LOUGHLIN
Head of Pension Funds
Joined Investment Industry 1981

MAIN RESPONSIBILITIES

Patricia is responsible for business development and relationship management of Aviva Investors pension fund clients.

EXPERIENCE & QUALIFICATIONS

Patricia joined Aviva Investors in 2005. She was previously the Head of Public Sector and Insurance Services at INVESCO Asset Management and before that, Managing Director, Insurance and Treasury Asset Management at Mellon Global Investments. Prior to this Patricia has held a number of senior fixed income roles and has also lectured in Economics at the University of London and City University.

Patricia holds an MSc in Economics from the University of London and a BSc in Economics from the University of Southampton.

This is without doubt the most turbulent, volatile and extreme set of market events ever faced by pension funds. Pension fund trustees, asset managers and investment consultants face very serious difficulties in deciding what steps to take next. Every course of action will subsequently, in the fullness of time and with the benefit of perfect hindsight, be judged to have been prudent, prescient, inspired or, alternatively, reckless, naïve and ill thought out. There is unlikely to be a halfway house.

To add to the pressure, industry-wide decisions thus far have not inspired confidence. Most pension funds have witnessed asset deterioration across many traditional asset classes on an unprecedented scale, as Chart 1 overleaf illustrates.

The long established theory of "diversification benefit" has all but been suspended and it is unclear when normal service will be resumed. Each month is worse than the last with all signs pointing to even further attrition in 2009.

The speed with which this Category 5 hurricane has developed has taken pension funds almost universally by surprise. It began innocently enough with a relatively unremarkable problem in June 2007 in a Bear Stearns credit fund which was forced to take a large loss as it became clear that the value of its credit assets was nowhere near the value attributed to them. However, it soon became apparent that the problem was not confined to a single, particularly arcane, type of asset. Indeed, in the last two years, there has been a global re-pricing of risk across virtually every asset class and pension funds continue to face a hostile economic environment and outlook.

Understanding risk

In 2009, therefore, it is particularly challenging to establish a reliable and robust risk management framework. All pension

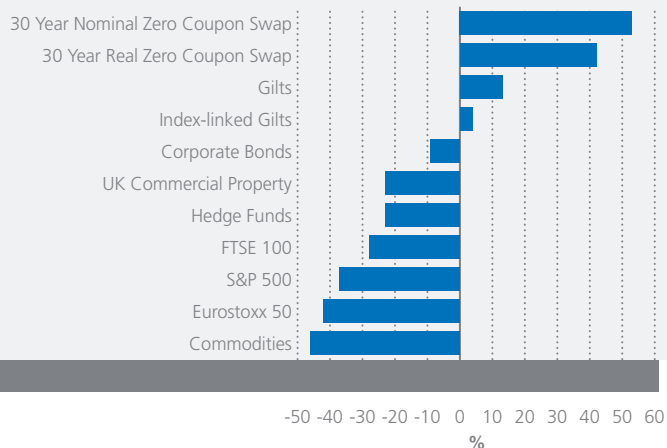
funds sign up to the principle that it is crucial to understand and manage "risk", but beyond that there is plenty of differing opinion. For example, how should a pension fund define risk? In order to achieve badly needed return on assets, one pension fund's trustee board may regard as acceptable an investment that another set of Trustees would consider imprudent. There are so many influencing factors – funding level, strength of sponsor covenant, market conditions, level of governance and Trustee expertise, extent of existing risk management framework, etc – that it is simply impossible to prescribe a finite set of risk limits or acceptable asset classes. And yet, it has never been more vital to have a clear picture of risk and a carefully planned approach to risk management. The alternative – maintaining the status quo – is, for many pension funds, simply not viable.

Our view is that risk – however defined – cannot be discerned in these markets in reliance on any single set of risk parameters. There are several examples of pension funds (and major financial institutions) that have suffered serious losses because they relied solely on a single risk measure that was, on its own, inadequate.

In other words, a pension fund requires a set of multi focal "risk lenses". This is true for both the assets and the liabilities and there are at least three such risk lenses which should be utilised.

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CHART 1 SELECTED ASSET CLASS PERFORMANCES DURING 2008



SOURCE
Redington Partners

Risk lenses

As a first step in a basic risk analysis we advocate using an asset/liability “microscope” to determine the fund’s sensitivity to micro-factors – which should be considered separately, then together. The results usually contain a wealth of important information. This type of 100x magnification of the fund’s sensitivities highlights those exposures that are simply too large and have the potential to cause significant losses.

This first lens shows the impact on the liabilities of small changes in certain “unrewarded” factors on the aggregate liabilities e.g. interest rates, inflation or longevity assumptions. However, the behavioural characteristics of each member class within the plan are very different. It is important to turn the lens on separate component member classes – the pensioners, actives and deferreds. A tiny rise (or fall) in inflation for instance, ripples through the future liability cash flows and changes their present value by a defined amount. A minute adjustment to the interest rate used to discount the cash flows payable to tomorrow’s pensioners can materially alter the present value of the liabilities.

However, this market factor sensitivity analysis does not provide any information

about the *likelihood* or expectation of loss due to market movements. An important complementary second risk measure is Value-at-Risk or “VaR”.

VaR

VaR provides a single minimum amount (the *value*) which the fund might expect to lose (*at risk*) one year, say, from now. So, if the fund’s liabilities are £1 billion, its assets are £800m and its 1-year 95% VaR is £300m, then, simply, VaR ascribes a 5% risk to the deficit increasing from £200 million today to £500 million or *greater* in a year’s time.

Crucially, the VaR calculation relies on estimates of future *volatility* and *correlation* together with an assumed probability distribution. Often these are derived from historical information. Sometimes that historical data inaccurately forecasts the future. VaR also does not provide reliable information on how significant the “*or greater*” loss may ultimately turn out to be and a common error in relation to the use of VaR is to equate the VaR amount with a *maximum* (rather than a *minimum*) likely loss.

There are, consequently, many detractors of VaR, the most vocal of whom is perhaps Nassim Taleb. In his oft quoted book “The Black Swan: The Impact of the Highly

1. The Black Swan: The Impact of the Highly Improbable. Nassim Nicholas Taleb. Penguin Economics (2007)

Improbable”¹¹ Taleb eloquently argues that users of VaR are typically lulled into a false and sometimes fatal sense of security about the future, since, he says, events perceived by a VaR model as impossible or extremely unlikely (Black Swans) are actually the main sources of risk.

Taleb has a point in his criticism of VaR. And yet, there is another perspective. In an article for the New York Times, (January 2, 2009) business columnist Joe Nocera interviewed several risk managers and quotes one:

“One risk-model critic, Richard Bookstaber, a hedge-fund risk manager and author of “A Demon of Our Own Design,” ranted about VaR for a half-hour over dinner one night. Then he finally said, “If you put a gun to my head and asked me what my firm’s risk was, I would use VaR.” VaR may have been a flawed number, but it was the best number anyone had come up with.”

And that’s the point. For all its flaws, VaR provides useful additional information with regard to the risk profile. In addition, VaR itself has several sub-lenses and risk “filters” which help to build a clearer picture of where the fund may find itself in the future. For example, whilst VaR only tells us the *minimum* loss we can expect, “Conditional VaR” goes one step beyond basic VaR and provides an *average* expected loss should the “tail event” actually occur.

But even with these additional add-in VaR lenses, it is a serious mistake to rely solely on

this risk metric, because of the inherent inability of risk models based ultimately on historical experience to predict the sheer magnitude and effect of future market events.

Stress testing

So the Trustees need a third perspective from which to view the fund’s risks – a *kaleidoscope* of large scale moves in markets. This comprehensive collection of simulated bleak and dismal market events is designed to measure just how well equipped (or not) the pension fund is to withstand sudden and severe jolts or sustained market dislocations. Financial regulators have always advocated the importance of stress testing but one of the lessons from the current global crisis is that the tests were insufficiently severe. Trustees can and should simulate their own bespoke kaleidoscope of rising inflation, falling interest rates, plunging equities, falling property and weakening credit – in other words, a brutally tough obstacle course to test the real-time robustness of the fund and its current investment strategy.

Conclusion

In conclusion, in an environment in which most asset classes have steeply declined in value, it is notable that the best performing assets have been gilts and long dated interest rate and inflation swaps (please see Chart 1) – the very instruments used to hedge volatile pension liabilities. With a simple set of guidelines, it is possible for any defined benefit pension fund to analyse its risk and to start the process of re-aligning and improving its risk profile.

KEY POINTS:

- Pension Fund Trustees face challenges of unprecedented proportions.
- In this environment, it is difficult but absolutely essential to devise a risk management framework.
- The safest approach is to base risk management decisions on several different types of risk measurement.
- None of the risk lenses should be relied upon in isolation.
- The Aviva Staff Pension Scheme has comprehensively upgraded its level of governance and, in consultation with the sponsor employer, has implemented a detailed risk management program with clear objectives and a defined timetable (see page 14).

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Case study¹

The following is a brief case study. The three lenses have been utilised effectively by the Aviva Staff Pension Scheme over the last 12 months to analyse its risk profile and enabling it to take action to reduce exposure to some of the significant drivers of risk.

Mike Urmston one of the Aviva Staff Pension Scheme trustees explains:

"The Trustees were aware that the fund was running "unrewarded" risk but the big question was how to measure it and what to do. We asked Redington Partners to analyse the risk using their three lenses and it was quickly apparent that the pension fund's assets were not properly matched to the liabilities in respect of two of the biggest risk exposures, interest rates and inflation. We weighed up three hedging strategies designed to reduce risk to varying degrees and, in early 2008, we decided to implement a meaningful hedging program. We took several steps to get ourselves comfortable with this project and to raise the level of governance. First, the Trustees' Investment Committee underwent extensive education on the use of hedging instruments. This covered counterparty risk, cost of implementation, structure, behaviour, credit mitigation and the role of service and product providers i.e. asset managers and investment banks. Second, we instituted very regular conference calls and meetings between members of the Investment Committee and our advisers. This was a simple but very effective way of managing the implementation process, staying abreast of market movements and enabling us to make informed decisions quickly. On some occasions we were presented with a market opportunity at the start of the week and we were able to respond and move to execution within a couple of days. Third, we mandated Aviva Investors to implement the hedging transactions for us and we included them in our conference calls. They gave us constant market updates and guided us on what was achievable as we considered market timing and transaction size."

Trevor Welsh, Sovereign Fixed Income Fund Manager at Aviva Investors, who handled the actual execution for the pension fund, says it was an ideal blueprint for pension funds and asset managers:

"We were in almost constant dialogue with the Trustees and Redington Partners as we went through the implementation process which meant that the Trustees were able to make real time decisions. We worked with three investment banks on the transactions framework and set up a dealing process that allowed us to execute large sizes in difficult and illiquid conditions. Some of the trades were very long dated and highly sensitive to price changes. In the event, each transaction was executed at tight spreads. Our approach is to monitor markets closely, to exclude all unnecessary market communication during dealing and to establish a clear execution framework with the banks. Every participant knows the rules of engagement and respects them."

Chris Wagstaff, another Aviva Staff Pension Scheme trustee, explains that it was also essential to gain the support of the sponsor employer:

"We were very conscious that any actions we took could impact the sponsor, so we consulted them at every point on our plans. The strategic and tactical decisions were ours but it was important to us that the sponsor was in alignment."

Mark Rebuck, Credit Risk Director at Aviva along with his colleague Gordon Harpin, Aviva's Insurance Risk Director, represents the sponsor in discussions with the Trustees. He says the Trustees' willingness to consult with the sponsor was a powerful factor:

"Basically, the sponsor was in complete agreement that the pension fund needed to de-risk, but it was important to us that the strategy substantially maintained the assets' expected returns and optimised the risk/return profile. We had extensive discussions with the Trustees, Aviva Investors and Redington Partners about how best to achieve this and eventually all stakeholders agreed on strategy and implementation tactics. It was a very successful outcome."

1. This case study includes details of how a UK Pension Scheme utilised the investment services of a UK-based asset management company. The services illustrated within the case study may not be available and may not be appropriate for all pension schemes whether inside or outside of the UK. Please contact your scheme advisor for information or advice.