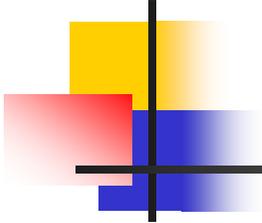


Re-evaluation of Investment Risk

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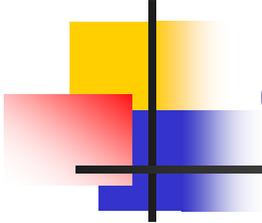
8 November 2008

Dr. Ros Altmann



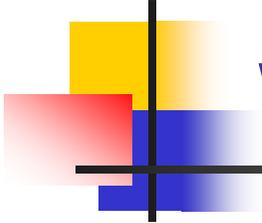
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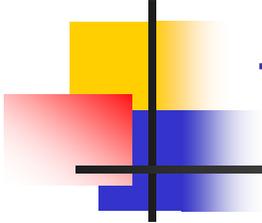
Outline

- What's gone wrong?
- Traditional investment thinking – risk and return
- Re-evaluating investment risk – new thinking
- Need to focus on the liabilities – matching/outperforming
- Example of new thinking in practice



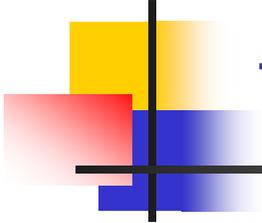
What went wrong?

- Investment returns underperformed rising liabilities
 - Can't rely on equities to generate consistent returns
- Sensitivity to interest rates and inflation not recognised
- Huge mismatch! – Example:
 - 1% fall in interest rates -> 20% rise in liabilities
 - 1% fall in interest rates -> 5% rise in assets
- 'Expected returns' not the same as *achieved* returns!
- Investment risk misunderstood
 - May get rewarded in equities, but may not – not sure
- Not enough 'what if' scenario analysis – no insurance



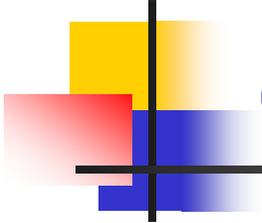
Traditional vs. new thinking

- Traditional attitude to investment was:
 - Manage returns
 - TAKE risk (acceptance of risk – equity risk)
 - Almost *welcome* risk, in expectation of high returns
 - Long-term investors can ignore setbacks!
- New approach would be:
 - Manage returns AND
 - Manage risk (control risk **relative to liabilities**)
 - Insurance against unexpected liability changes/deficit
 - Choose which risks to reduce



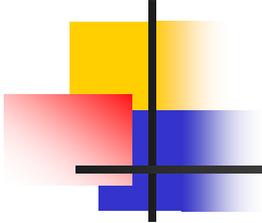
Trustee balance sheet didn't balance!

- Focus far more on assets than liabilities
- Assets
 - Contributions – keep low with good assets
 - Investment returns
 - Look to outperform benchmarks
- Liabilities
 - Paying all pensions must keep up with salary inflation, mortality, duration
 - No explicit focus on actual liability movements
 - Just 'expected' equities to match



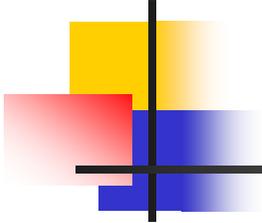
Over-reliance on equities harmful

- Equity investments have two types of risk
 1. volatility associated with equity risk premium – trustees expect to be rewarded for this (but may not be!)
 2. risk of not keeping up with liabilities, as interest rates, inflation and mortality change – this is unrewarded risk
- Pension investors only expect benefit from rewarded risk
- Uncontrolled, unrewarded risk has caused big damage



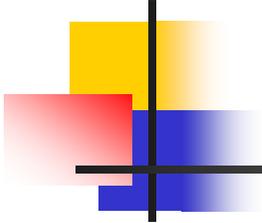
Re-assess management of returns and risks

- Sufficient returns, not maximum returns
- Controlled and conscious risks, not minimum risk
- Hedging of risks and diversification of assets
- Derivatives often more effective than gilts or bonds for protecting downside
 - Would you leave your house uninsured?
- Will underperform strong bull market
 - But returns should be more stable/reliable long-term



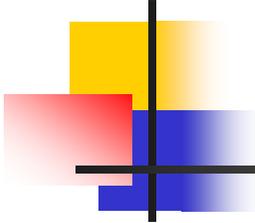
Re-assessment of investment risk

- The big risk to concentrate on is the risk of not being able to pay the pensions in full
 - Not standard deviation of return or outperform index
- Need to understand risk, then manage and control it
 - Counterparty risk also relevant
- Must take some risk to overcome deficit or weak sponsor
- Must also hedge some risk to protect funding position
- Protect against rising liabilities and falling assets



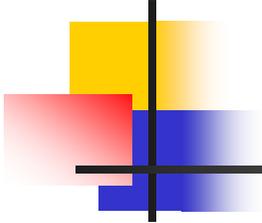
Is switching to bonds the answer?

- Switching to bonds doesn't match liabilities
 - Pension liabilities are 'bond-like' but are not bonds
- Bonds reduce 'risk' as measured by volatility of return
 - But in exchange for much reduced upside potential
- Bond investments still contain 'unrewarded' risk
 - Salary inflation, lpi, longevity, duration, capital loss
- Lower 'volatility', higher risk of not paying full pensions!
 - Retain upside potential while protecting downside
- Reducing deficit requires *outperforming* liabilities
 - Without taking highest risks, sustained positive returns



Diversification

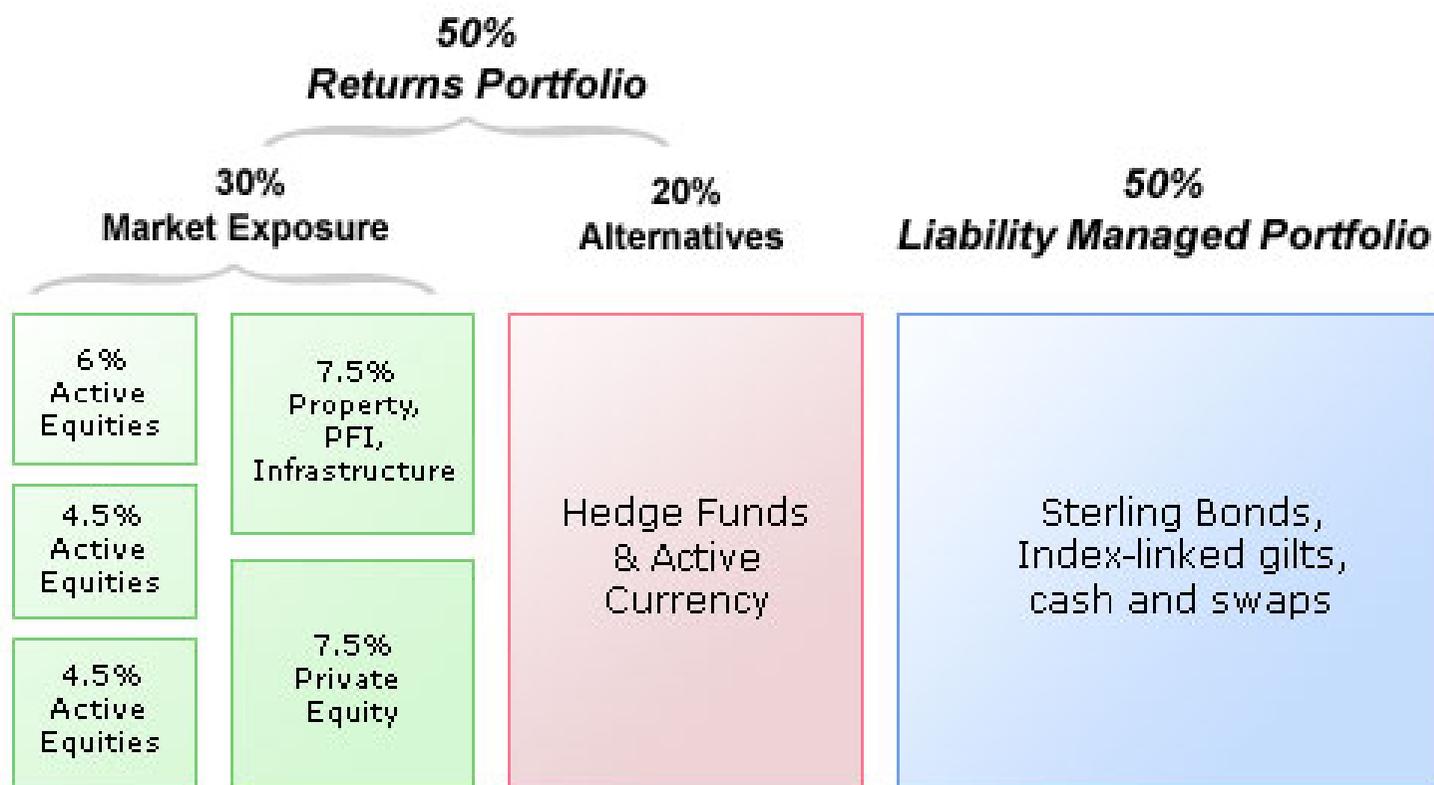
- Improve portfolio efficiency via diversification
- Compare 1980's diversification into international equities
- Alternative assets can improve risk-adjusted returns
 - Diversification into currency, hedge funds, property, infrastructure, emerging markets – low correlations
- Capture beta return from inefficient non-equity markets
- Capture alpha from talented specialist managers
- Many sources of risk premium in inefficient global markets
 - Equities are only one of these sources

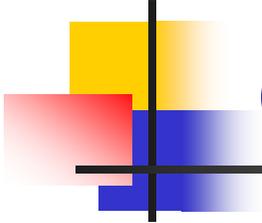


New approach in practice

- Set explicit risk/return objectives relative to liabilities
 - E.g. fixed income based liability measure + 1.5%
- Take risks you expect to be rewarded for
 - Beware of counterparty risk too!
- Part of assets to try to match liabilities – liability hedging
 - Swaps hedge interest/inflation risk better than bonds
- Part of assets to generate returns – return seeking to outperform liabilities
 - Diversification across alternative assets
- Minimise/eliminate liability-related risks not rewarded for

Case study – possible new approach





Conclusion

- Investment risk has been misunderstood – not everyone will be rewarded for taking risk
- Too much focus on assets, too little on liabilities
- Unrecognised and unrewarded risks include interest rates, inflation, counterparty etc.
- New investment approaches to protect downside risk vs. liabilities, keep upside
- Complex: diversification, derivatives
- Reassess investment risk in light of experience