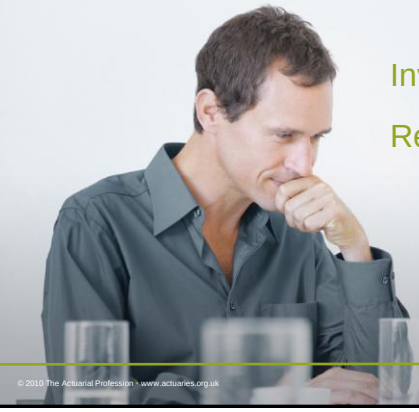
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Is there a place in the UK mass market for a guaranteed pensions product?



Investment Products for

Retirement Savings Working Party

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Agenda

- What do people want? Is this the same as what they need?
- Existing pension systems
- Different ways of providing guarantees
- Comparison of approaches
- Practical Issues
- Conclusions

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What do people want? Is this the same as what they need?

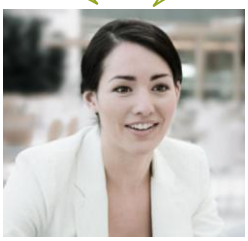
Key Wants and Needs - Individuals

Wants

- Maximise annual pension income
- No unexpected sudden losses in pre-retirement phase
- Low, transparent fees
- Simplicity and transparency
- Minimum involvement

Needs

- Annual pension income that provides a certain lifestyle
- Certainty of fund at retirement
- Good value solution
- Effectiveness
- Portability



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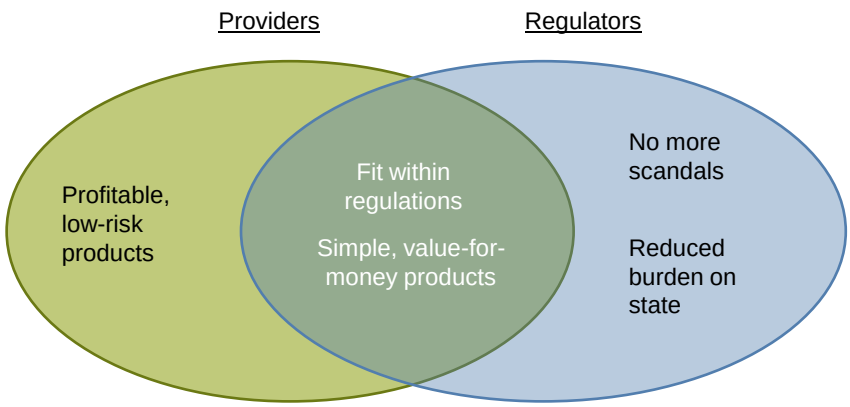
Key Wants and Needs - Employers

- Value for Money
- Flexibility
- Low governance and communication needs
- Attractive to employees
- Fits regulations



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Key Wants and Needs - Providers/ Regulators



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DWP guidance for a DC default option offering

- Department for Work and Pensions published Guidance for offering a default option for DC automatic enrolment pension schemes in May 2011
  - Simple, easy-to-explain, high-level objective of offering
  - Take account of the likely characteristics and needs of employees who will be automatically enrolled
  - Appropriately and competitively priced
  - Investment strategy should reflect the overall objective of the default option and the balance between risk and the potential for growth

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What do others do?

What do others do? – Employee/Employer provision



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What do others do? – Are these influencing factors valid?

- A genuine difference in risk aversion of mass market by country
  - Driven by historic pensions structures
  - More fundamental
- Government's political philosophy
  - Belief in Government intervention/fewer rules
  - Need to close savings gap, reputational worries
- Suppliers' influence
  - Eliminate potential for reputational risk of mistakes
    - Introduces reputational risk of not putting customer first?
    - If they've chosen something they can't blame us
  - Uncomfortable nudging mass market to what they need rather than want
    - Is it our place to opine on what they need?
  - Influenced by own (HNW?) attitudes to risk and return

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Conclusions of this background research

- Ideally, guarantee would refer to a level of real retirement income for life
  - However, this is too expensive and too risky to provide
- Looking around the world, there appears to be two camps
  - No guarantees
  - Retirement pot guarantees (either 0% or linked to bond levels)
  - Based on UK history, the 0% guarantee seems to be the best fit
- A principal-protection guarantee appears to be "wanted" and could encourage saving which may be the biggest driver of change
  - Can such guarantees be provided and by whom?
  - Can modern techniques reduce the risk without the need for a guarantee?

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Methods of providing guarantees

Methods of providing guarantees

- Investment strategies to reduce volatility
  - Low equity proportion
  - Lifestyling
  - CPPI
  - Volatility targeting
  - Investor owns hedge assets

NOTE – THESE STRATEGIES ARE NOT GUARANTEES

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Methods of providing guarantees - lifestyling

- Initial high % in risky assets reduces as retirement approaches
- Rationale
  - Chance to grow, or recover from an early fall
  - Avoid fall in value close to retirement, bonds better match annuity rates
- But..
  - Investment risk still with saver
  - Wide spread of potential returns

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Methods of providing guarantees - CPPI

- % in risky assets depends on:
  - the level the guarantee is in-the-money, and;
  - the assumed maximum daily crash
- Rationale
  - Will hit guarantee, unless daily performance is worse than the assumption
- But..
  - Monetisation problem – risky assets crash and the CPPI mechanism invests virtually whole fund in low yielding assets, but with relatively high charges

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Methods of providing guarantees - volatility targets

- % in risky assets depends on;
  - A target level of volatility, and;
  - short term realised volatility of the risky assets, and the non-risky assets
- Rationale
  - Historical evidence implies it's good to be underweight in an asset when it is volatile, and recent volatility is a good indicator of future volatility.
- But..
  - In the future the rationale may not hold true.

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Comparison of approaches

Stochastic Analysis of Various Approaches

- Built a model with stochastic equity price movements and deterministic risk-free rates
  - Risk-free returns = 3%
  - Equity Risk Premium = 3%
  - Equity Volatility = 20%

- Compared the following approaches and charging structures for a single premium, 20y investment:
  - Traditional lifestyling, no guarantee, 20bps AMC
  - CPPI with money-back guarantee, 50bps AMC plus 50bps gtee charge
  - 50/50 equities/risk-free UL, no guarantee, 20bps AMC
  - 12% Vol target approach, no guarantee, 50bps AMC
  - Variable VT approach (7% for 5y, 11% for 5-15y, 4% for 15-20y), no guarantee, 50bps AMC
  - 50/50 UL with money-back guarantee, 20bps AMC plus 100bps gtee charge
  - 12% Vol target approach with money-back guarantee, 50bps AMC plus 100bps gtee charge

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Stochastic Analysis of Various Approaches

Base scenario

Scenario	Lifestyle	CPPI	Unit-linked no guarantee	Vol Target no guarantee	Variable Vol Target with no guarantee	Unit-linked with guarantee	Vol Target with guarantee
Best	14.0%	15.3%	9.9%	10.4%	8.1%	8.9%	9.4%
75th percentile	6.2%	5.7%	5.4%	5.3%	4.2%	4.4%	4.3%
Average	4.9%	4.7%	4.3%	4.2%	3.4%	3.4%	3.3%
Median	3.7%	0.1%	3.9%	3.7%	3.2%	2.9%	2.7%
25th percentile	1.2%	0%	2.2%	1.9%	2.1%	1.2%	0.9%
Worst	-12.0%	0%	-5.7%	-5.9%	-5.0%	0.0%	0%
P(loss)	17.4%	0%	5.8%	8.1%	2.7%	0%	0%
P(beating risk-free)	60%	39%	64%	60%	53%	48%	44%

Highest upside potential

Significant downside tail risk

Median returns lower than risk-free

Source: SG Advisory May 2012. The objective of this table is to present the products' mechanism. Figures and prices in this example have an indicative value, and cannot be considered as a guarantee of future performance and do not constitute in any manner a firm price offer from Société Générale.

Stochastic Analysis of Various Approaches

Unit-linked and Vol Target guarantee charges reduced to 50bps

Scenario	Lifestyle	CPPI	Unit-linked no guarantee	Vol Target no guarantee	Variable Vol Target with no guarantee	Unit-linked with guarantee	Vol Target with guarantee
Best	14.0%	15.3%	9.9%	10.4%	8.1%	9.4%	9.9%
75th percentile	6.2%	5.7%	5.4%	5.3%	4.2%	4.9%	4.8%
Average	4.9%	4.7%	4.3%	4.2%	3.4%	3.9%	3.8%
Median	3.7%	0.1%	3.9%	3.7%	3.2%	3.4%	3.2%
25th percentile	1.2%	0%	2.2%	1.9%	2.1%	1.7%	1.4%
Worst	-12.0%	0%	-5.7%	-5.9%	-5.0%	0.0%	0%
P(loss)	17.4%	0%	5.8%	8.1%	2.7%	0%	0%
P(beating risk-free)	60%	39%	64%	60%	53%	57%	52%

Highest upside potential

Significant downside tail risk

Median returns lower than risk-free

Source: SG Advisory May 2012. The objective of this table is to present the products' mechanism. Figures and prices in this example have an indicative value, and cannot be considered as a guarantee of future performance and do not constitute in any manner a firm price offer from Société Générale.

Stochastic Analysis of Various Approaches

Alternative assuming diversified risky asset portfolio with 15% volatility. UL and CPPI gtee charges reduced

Scenario	Lifestyle	CPPI	Unit-linked no guarantee	Vol Target no guarantee	Variable Vol Target with no guarantee	Unit-linked with guarantee	Vol Target with guarantee
Best	12.0%	13.4%	8.7%	11.2%	9.1%	8.2%	10.2%
75th percentile	6.2%	6.4%	5.2%	5.9%	4.7%	4.7%	4.9%
Average	5.0%	5.1%	4.3%	4.9%	3.8%	3.8%	3.9%
Median	4.3%	3.9%	4.1%	4.3%	3.5%	3.6%	3.3%
25th percentile	2.4%	0%	2.8%	2.4%	2.4%	2.3%	1.4%
Worst	-7.8%	0%	-3.4%	-6.0%	-5.1%	0.0%	0%
P(loss)	7.0%	0%	1.4%	5.5%	2.1%	0%	0%
P(beating risk-free)	69%	57%	72%	68%	61%	63%	53%

Higher upside for VT only

All Median and average returns higher than risk-free

Downside tail risk reduced

Source: SG Advisory May 2012. The objective of this table is to present the products' mechanism. Figures and prices in this example have an indicative value, and cannot be considered as a guarantee of future performance and do not constitute in any manner a firm price offer from Société Générale.

Stochastic Analysis of Various Approaches

- We have also analysed a regular premium 40y product where premiums are paid annually for the first 30 years
- Apart from CPPI, we have not looked at any guaranteed strategies due to the uncertainty in the level of charges for guarantees offered in the future
- The strategies compared were:
  - Traditional lifestyling, no guarantee, 20bps AMC
  - CPPI with money-back guarantee, 50bps AMC plus 50bps gtee charge
  - 50/50 equities/risk-free UL, no guarantee, 20bps AMC
  - 12% Vol target approach, no guarantee, 50bps AMC
  - Variable VT approach (7% for 5y, 11% for 5-35y, 4% for 35-40y), no guarantee, 50bps AMC
- We used the same asset return assumptions as in the previous base scenario

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Stochastic Analysis of Various Approaches

Regular premiums

Scenario	Lifestyle	CPPI	Unit-linked no guarantee	Vol Target no guarantee	Variable Vol Target with no guarantee
Best	12.9%	13.5%	9.0%	9.9%	8.0%
75th percentile	6.1%	5.8%	5.2%	5.2%	4.5%
Average	5.4%	5.1%	4.4%	4.3%	3.8%
Median	4.0%	2.7%	3.9%	3.7%	3.3%
25th percentile	2.0%	0%	2.7%	2.4%	2.4%
Worst	-10.7%	0%	-4.8%	-4.7%	-3.8%
P(loss)	8.1%	0%	2.6%	3.6%	2.0%
P(beating risk-free)	65%	49%	73%	68%	66%

Downside tail risk now more acceptable?

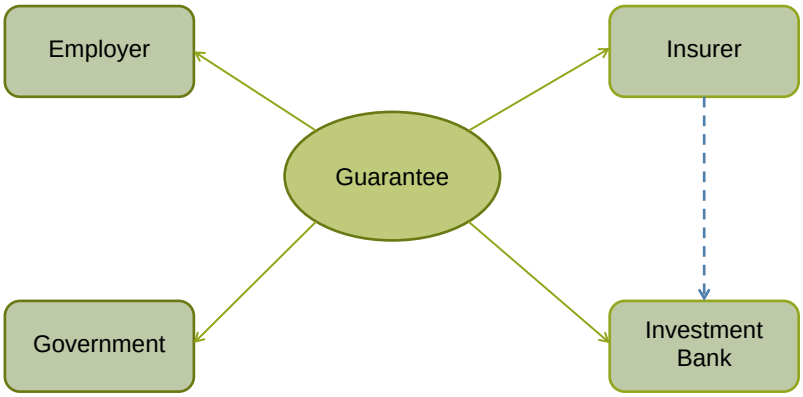
Median returns still lower than risk-free

Source: SG Advisory May 2012. The objective of this table is to present the products' mechanism. Figures and prices in this example have an indicative value, and cannot be considered as a guarantee of future performance and do not constitute in any manner a firm price offer from Société Générale.

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Practical issues

Who should provide the guarantee?



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Methods of providing guarantees – charges

- For manufacturers of guarantees there are two big issues:
  - Do total charges cancel out expected return?
  - Can volumes make manufacture worth while?
- High charges on retail guarantee contracts cause drag on the fund
  - Sold through IFAs (why?)
  - Charge for advice, most of which is for finding customers
  - Wide choice of active funds with high charges, not hedgeable
- A default guarantee fund can avoid these by providing
  - Volume without such high advice charges
  - Hedge friendly passive investment strategy with low amc

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Practical Analysis of Various Approaches

- Product needs to work for regular / flexible premiums
  - Issues with future guarantee cost uncertainty
  - Hedging restrictions
  - Possible admin complexities
- Portability?
  - Delta-hedging vs derivative outside fund vs derivative within fund
  - Government guarantee?
- Communications
  - Agree with work of Transforming Consumer Information WP
  - Advice needs to be provided supplemented by engaging information
  - Need to communicate risk/reward by reference to chances of achieving consumer's goals
  - On-going discussions throughout duration of investments

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Conclusions

Conclusions to date

- We would tentatively conclude that
  - A large number of needs of individuals, employers, providers and regulators can be met with use of investment products with guarantees
  - There is a widespread use of such guaranteed products in DC offerings around the world although these vary significantly between countries
  - A well-priced guaranteed maturity product could provide a strong default fund for DC schemes looking to meet the needs of mass-market participants
  - A number of challenges exist to develop such a product but the potential for providers should encourage such effort

We now welcome challenge, thoughts and comments

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