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Liability-Aware Investing for Life Assurers

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Agenda

- Investment Environment for Insurers
- Absolute Return Funds
- Illiquid Credit
  - Commercial Real Estate Debt
  - Infrastructure Debt

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SII and Capital-Efficient Yield Enhancement

- Current economic environment and the adoption of SII are together driving European insurers to consider a wider universe of asset classes and investment strategies
  - Long-term bond yields at historic lows
  - SII compromises will unwind over time (UFR, LLP, VA, transitionals…)
  - SII's Prudent Person Principle replacing S1 asset admissibility rules
  - SII risk-based framework can recognise significant diversification benefits

Driving change in insurance asset strategy

- Most European insurers are pursuing at least one of the following three routes to improving expected investment returns:

a) Increasing investment risk appetite

b) Reducing asset liquidity

c) Seeking diversified risk return through investment in new asset classes

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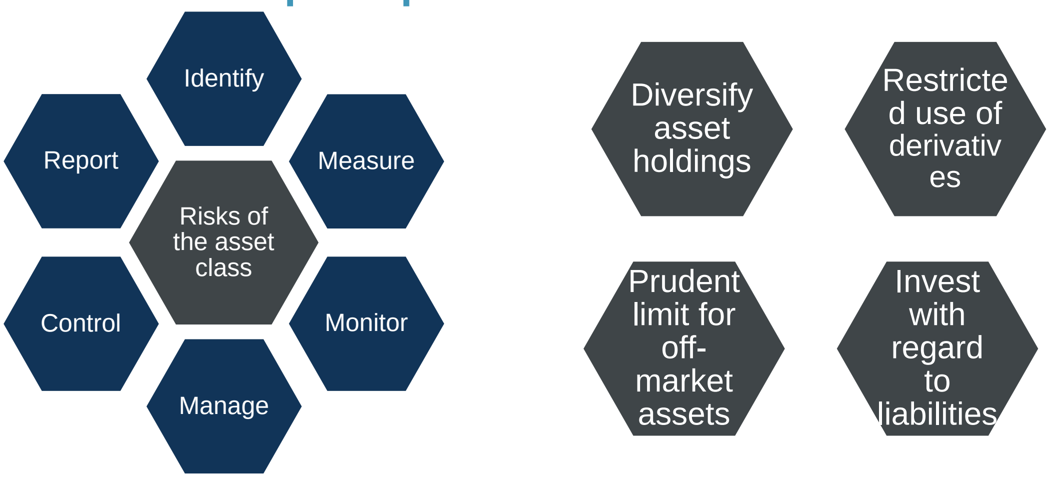
SII and Absolute Return Fund Investing

"Prudent Person" principle



"Prudent Person" principle – Absolute Return Funds

Absolute Return Funds: SII analysis

- Standard Life Investments implemented a leading portfolio risk software's Standard Formula module for a range of its funds
  - Full line-by-line look-through treatment
- Actuarial consulting firm reviewed the implementation
- Following analysis is based on end-March 2015 portfolio data and market prices

Absolute return fund examples

	Absolute Bonds	Multi-Asset Macro
Return target	Cash + 3%	Cash + 5%
Risk expectation	1.5% - 3%	4% - 8%
Ideas universe	• Bonds & FX • Macro	• Multi-Asset • Macro

- Broad investment freedom enables return to be generated irrespective of the environment
- Risk-based portfolio construction to ensure a robust portfolio
- Longer investment time horizon exploits established inefficiencies

* After institutional fee rebate

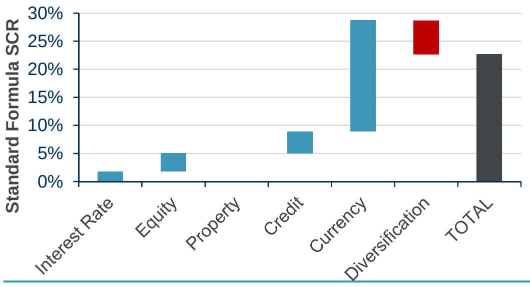
Return expectations gross of fees annualised over rolling 3 year periods

Risk measure is annualised volatility

Multi-Asset Macro Fund: SII Treatment

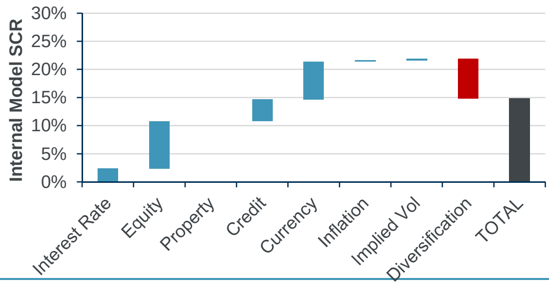
Standard Formula

- SII SF SCR estimated at 23%
  – Compares to 39%+ for equities
- Assumes:
  – Perfect correlation between FX exposures…
  – …and between long-short equity exposures



Internal Model

- Internal Model SII SCR estimated at 15%
- Allows for:
  - Diversification in currency exposures
  - Equity long-short de-correlation
  - Inflation and implied volatility exposures



Source: Standard Life Investments, 31 March 2015

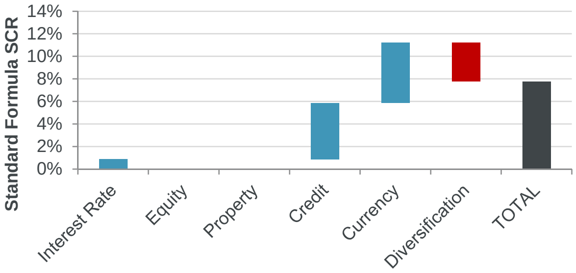
Absolute Return Bonds: SII Treatment

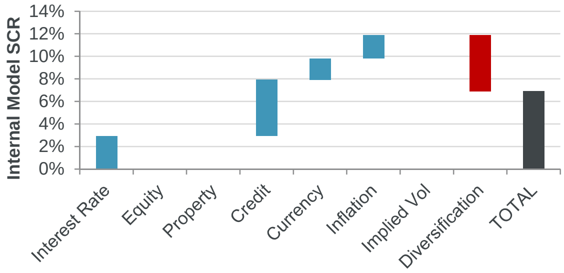
Standard Formula

- SCR estimated at 8%
  - Attractive relative to HY
- Combination of yield curve, credit and currency exposures

Internal Model

- SCR estimated at 7%
- Allows for diversification in currency exposures
- Allows for inflation exposure





Source: Standard Life Investments, 31 March 2015

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Absolute Return Funds as Alternative to Equities in With-Profits

- The risk diversification generated by Absolute Return funds can reduce with-profit capital requirements in two ways:
  - Reduce guarantee costs (if included in assets backing asset share)
  - Reduce SCR (reduced liability sensitivities and stresses)
- We will develop some illustrative examples based on the assumptions that:
- With-profit guarantee costs assessed using market-consistent ESG modelling:
  - Multi-asset macro fund volatility of 10% and a correlation with equities of +0.7
  - Absolute return bond fund volatility of 6% and a correlation with multi-asset macro fund of +0.37
  - 10-year FTSE100 implied volatility of 22% at end-March 2015

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Absolute Return Funds as Equities alternative in With-Profits

- Case Study : UK With-profit-style guarantees and asset allocations

- EBR = 60%
- 40% invested in A-rated bonds with matching maturity
- 10-year money-back maturity guarantee
- 2% lapse rate

- What are guarantee cost and SCR impacts of switching into Absolute Return funds?

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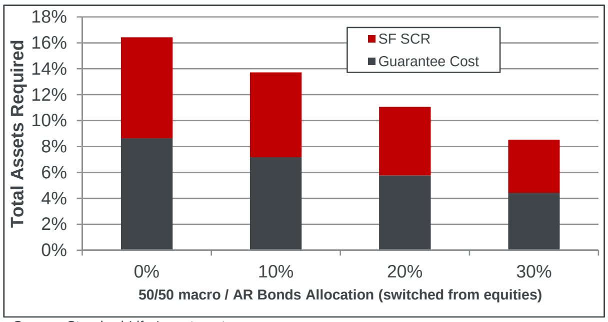
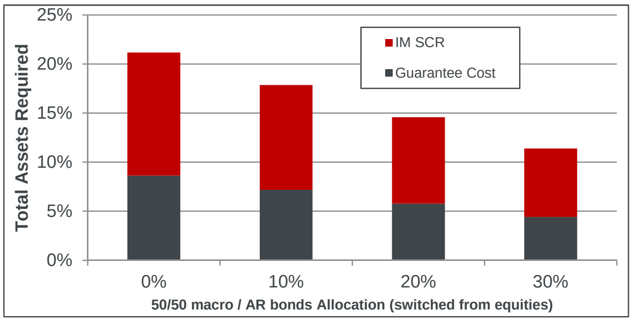
With-Profit Case Study Results





Source: Standard Life Investments

- With 60% / 40% equities / bonds allocation, guarantee cost is 8.6% of asset share, SF SCR is 7.8% and IM SCR is 12.5%
  - IM SCR higher than SF SCR due to equity implied volatility capital requirement for WP guarantee
- Guarantee cost reductions driven by decreases in asset share volatility
  - Guarantee costs halved by moving to 30% equities / 15% multi-asset macro / 15% AR bonds / 40% bonds
- SCR reductions driven by decreases in equity charge and increases in diversification benefit

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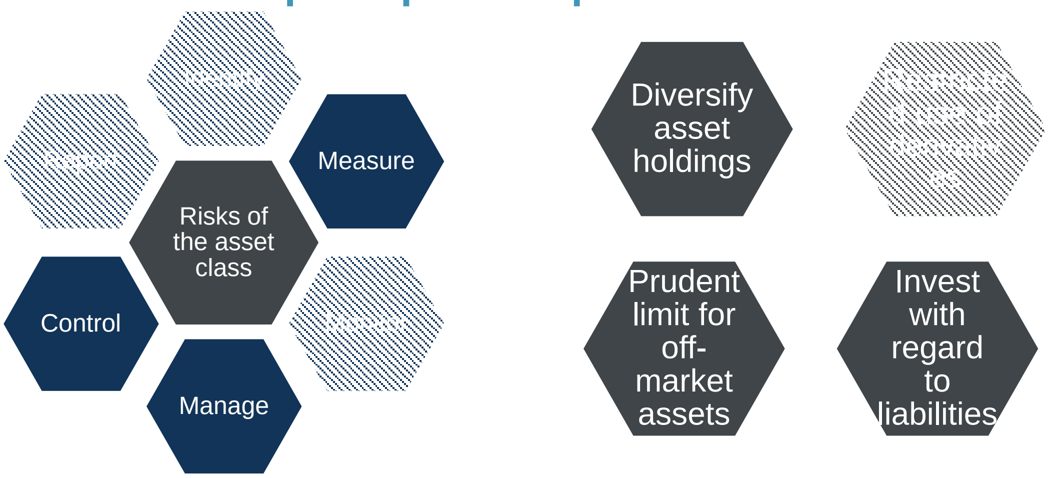
SII and Illiquid Credit Assets

Thought leadership Progress Community Sessional Meetings Education Working parties Volunteering Research Shaping the future Networking Professional support Enterprise and risk Learned society Opportunity International profile Journals

"Prudent Person" principle – Illiquid Credit



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Key considerations for Matching Adjustment

- Provision of Make-Whole clauses
- Internal credit ratings

“the PRA expects firms that currently hold, or who intend to hold, unrated assets within MA portfolios to have in place suitable policies, processes, practices and documentation to demonstrate the appropriateness of their internal ratings”[1]

- Mapping to EIOPA fundamental spreads
- Allowing for the change in MA under credit spread stresses

[1] http://www.bankofengland.co.uk/pra/Documents/about/praletter280315.pdf

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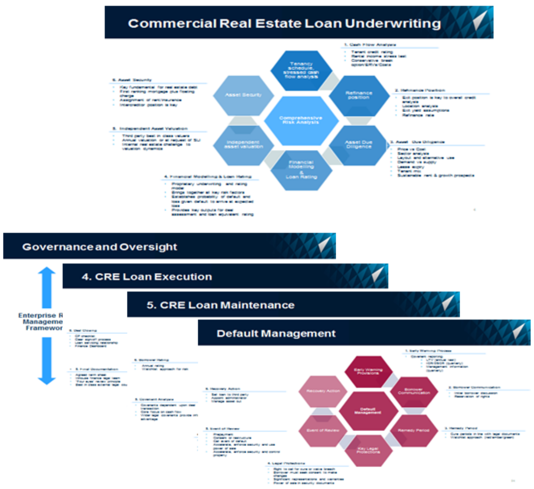
Internal ratings

- Methodology
  - Frequency of Review
  - Triggers for Review
  - Calibration
  - Back-testing
- Governance Process
  - Independent Challenge
  - Management Information
- Process for managing defaults



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Commercial Real Estate Debt

Commercial Real Estate Debt

Secured	Security over real assets. Control over assets following event of default
Low probability of default	Rigorous stock selection, extensive underwriting and robust risk management
Compelling yield	Illiquidity premium
Low correlation to other asset classes	Low correlation with equities and similar correlation with that of fixed income
Transparent	Full transparency on cash flow position, physical asset management and valuation. Borrower must provider specific reports

Commercial Real Estate Debt in the UK

Market Size (UK)	£165.2bn
Lender Breakdown (UK)	UK Banks and Building Societies – 50% International Banks – 31% Insurance Lenders – 13% Non Bank Lenders – 6%
Market Trend	Lender pool is diversifying with an increase in Insurance and Non Bank Lenders
Market Conditions	Competitive market but credit terms and conditions remain sensible (leverage, covenants etc)

Source: De Montfort University UK Commercial Property Lending Market, 2014

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Loan Example – Manchester office

Security of assets and low probability of default	• Security over real assets (including cash) • Control over assets following event of default. All equity/subordinated debt is junior. Provides for minimal loss given default • Sensible underwriting is key to low annualised loss rate
Transparent	• Full transparency on cash flow position, physical asset management and valuation • Borrowers required to provide specific regular reporting • Internal covenant analysis and management processes

Secured, transparent yield

Asset Characteristics

Value	GBP 30m
Loan to Value	50%
Type	HQ Office
Income	Circa GBP 2m
Interest coverage	329% (income : interest)
Tenant	Robust
Weighted average lease	18.5 years
Number of tenants	Single tenant
Principal Amount	GBP 15m
Term structure	10 years
Interest	2.60% over 10 year Gilt
Covenants	Loan to value Interest coverage Cash sweep Tenant downgrade

Overall Loan Rating – AA

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Infrastructure Debt

Infrastructure assets




Social

(Availability based, or limited demand risk)

- Schools
- Hospitals
- Government offices
- Civic buildings
- Prisons
- Social housing
- Elderly care
- Student housing
- University academic buildings

Transport

(Demand risk, barriers to entry)

- Road projects
- Street lighting
- Toll road networks
- Rail networks
- Rolling stock
- Bridges & tunnels
- Ports
- Airports

Regulated assets

(Proven regimes, stable returns)

- Power transmission
- Electricity/gas distribution
- Water distribution
- Waste treatment
- Pipelines

Energy

(Generation risk, offtake contracts / subsidy)

- Power stations
- Wind farms
- Solar energy
- Other renewables
- Energy from waste (proven technology only)
- Smart meters
- Energy efficiency

Infrastructure Debt

Asset Essentiality	• Long dated real assets providing essential services • Typically high barriers to entry or monopolistic features • Capital intensive
Financing Structures	• Project financing – cash flows from long-term concessions and/or offtake agreements • Corporate financing – cash flows covered by economic regulation, or by barriers to entry
Long Tenors	• Maturities from 5 - 40 years • Amortising structures – for discrete life projects • Bullet structures – for ‘perpetual’ or regulated assets, or where refinancing risk is low
Covenants	• Financial and other covenants provide protections to investors • Asset security to the extent possible
Interest Rates	• Generally fixed rate or index-linked – provides cash flow certainty to match investor liabilities • Can be floating rate if desired

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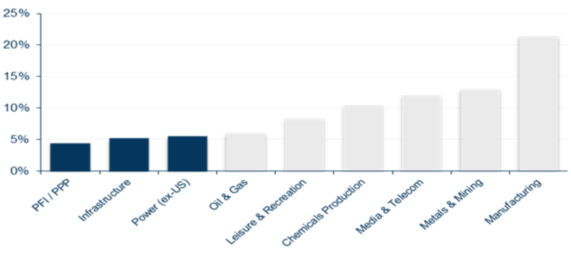
Low loss history, high recoveries

Robust credit history for secured infrastructure loans

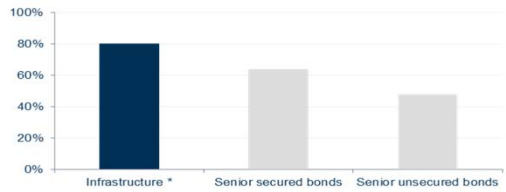
Default

- Infrastructure[1] has lower default rates than other industries:

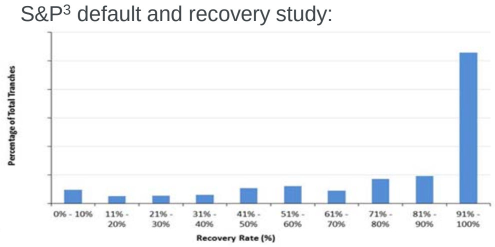


Recovery

- Moody’s[2] recovery rates across all industries:



- S&P[3] default and recovery study:



[1] Moody’s, Exhibits 17 & 17.1

[2] Moody’s, Exhibit D1

[3] S&P, Project Finance Default & Recovery Study 2013, Oct 2013

* Unrated project finance loan data provided by study participants

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Capital treatment of infrastructure assets

- In September, EIOPA noted[1] that infrastructure project debt has:
  - High recovery rates
  - Low correlation between the economic cycle at default and recovery rates
- European Commission (EC) has proposed[2] changes for "Qualifying Infrastructure Investments":
  - Significant reduction in Standard Formula capital charges
  - Individual assets must meet qualitative and quantitative requirements
  - Explicit risk management requirements for insurers
- EC has requested[3] further advice from EIOPA on Infrastructure Corporates

[1] https://eiopa.europa.eu/Publications/Consultations/EIOPA-BoS-15-223%20Final%20Report%20Advice%20infrastructure.pdf
[3] http://ec.europa.eu/finance/insurance/docs/solvency/solvency2/amendment/20150930-amendment-to-the-delegated-act_en.pdf
[2] http://ec.europa.eu/finance/insurance/docs/eiopa/20151014-call-for-advice_en.pdf

Summary

1. Current economic environment and the adoption of SII are together driving European insurers to consider a wider universe of asset classes and investment strategies
2. Two types of strategy that are more capital-efficient than simply increasing risk appetite
   - Accessing illiquidity premium through illiquid credit
   - Diversifying risky return through low-correlation return-seeking assets
3. But this capital efficiency requires the close support of the asset manager
   - Asset data reporting, look-through, internal ratings methodologies, etc.

Questions Comments

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