Investment Strategies under Solvency II

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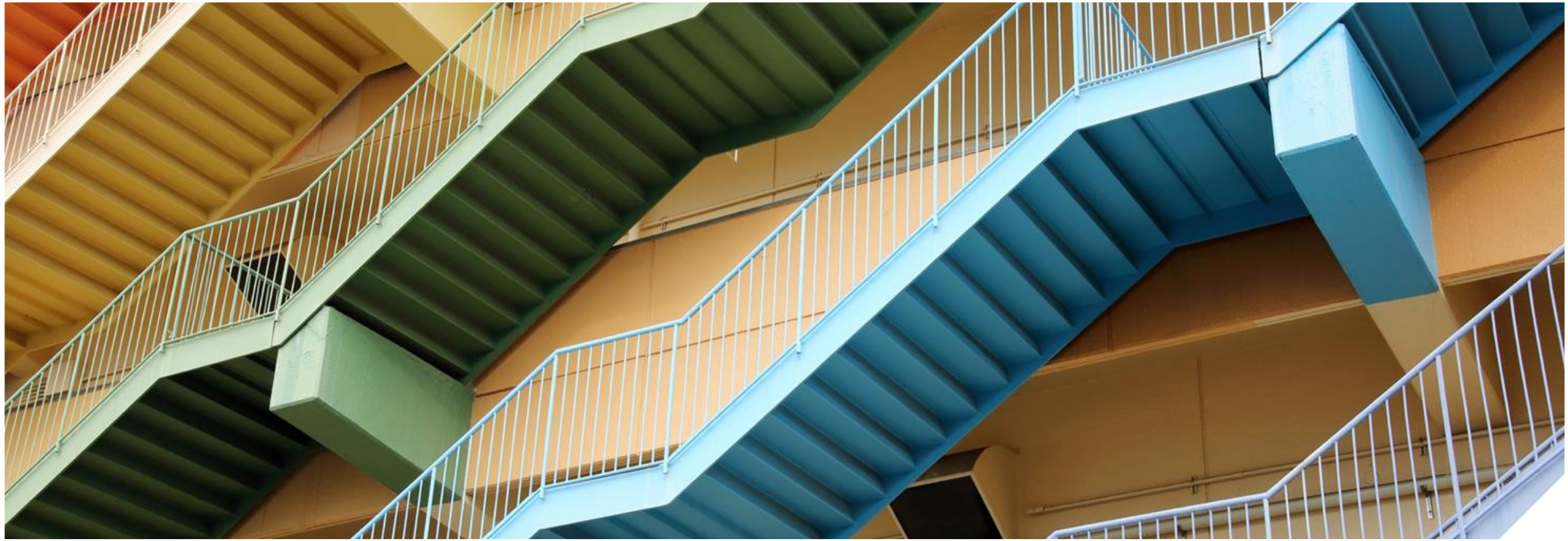

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These slides are not intended to provide investment advice.

Introduction

- Currently conducting research on investment strategies under Solvency II
- Expecting to publish findings in July
- Sneak preview of key issues emerging

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Agenda

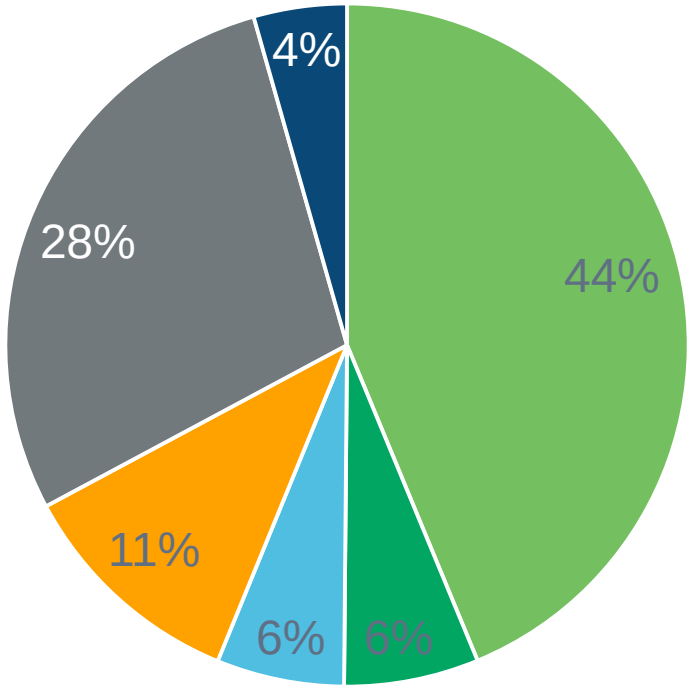
1. Current investment profiles
2. Changes from SI to SII
3. Return v Capital
4. Capital v Risk
5. Alternative investments
6. Cash deposits
7. Matching adjustment

Current investment profiles

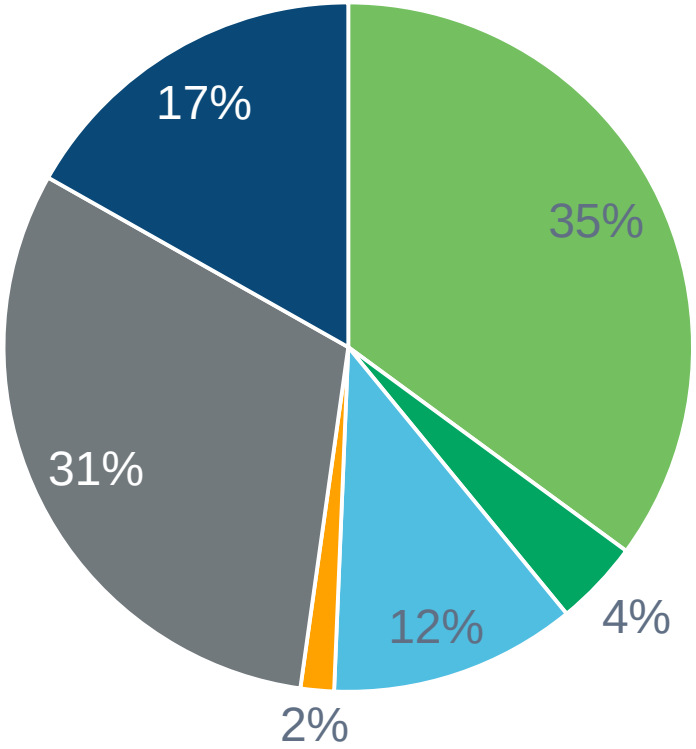
Split of financial investments

Life insurers

Irish life



European life

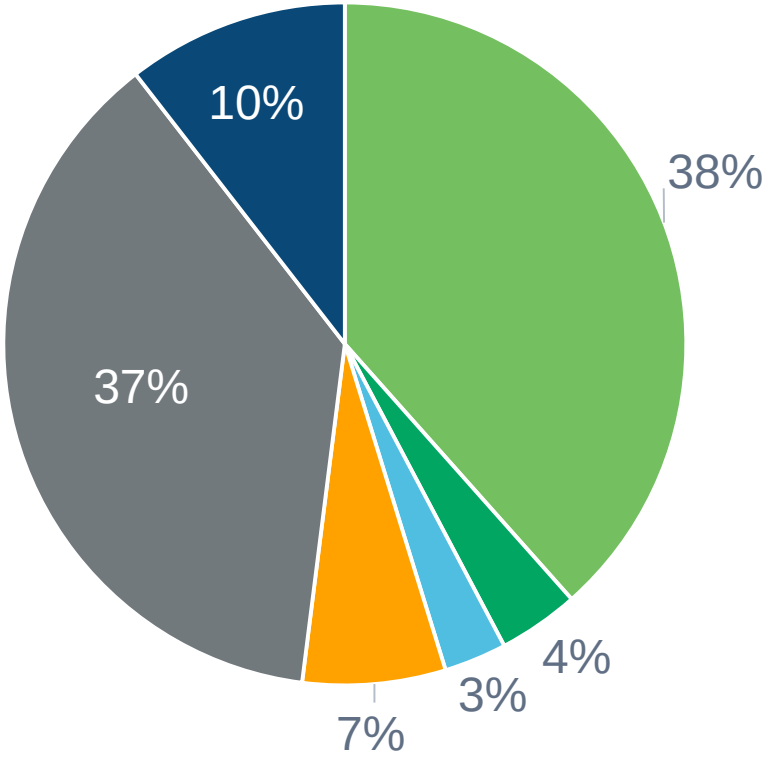


Source: our analysis of end 2016 Solvency II returns (public QRTs)

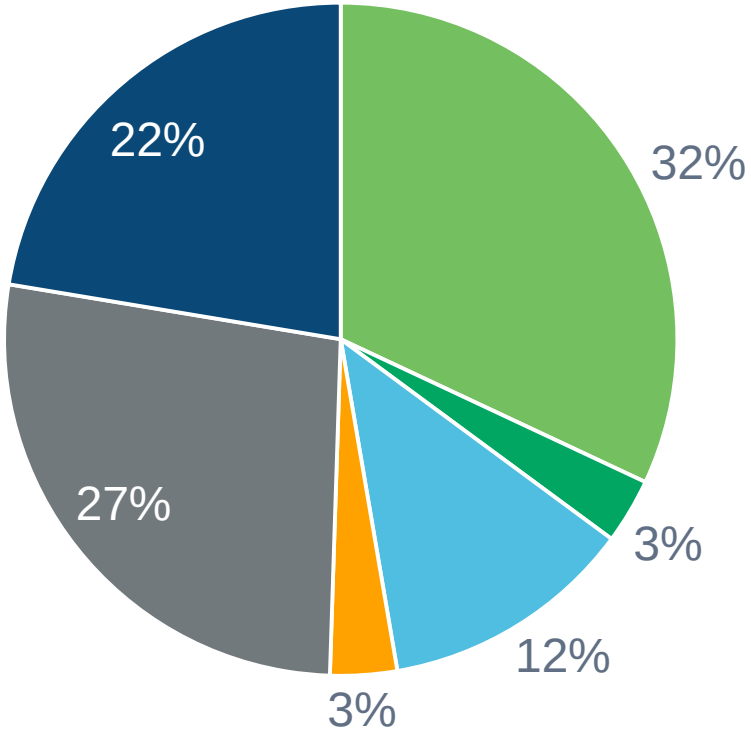
Split of financial investments

Non-life insurers

Irish non-life



European non-life



- Government bonds
- Equities
- Collectives
- Deposits / cash
- Corporates
- Other

Source: our analysis of end 2016 Solvency II returns (public QRTs)

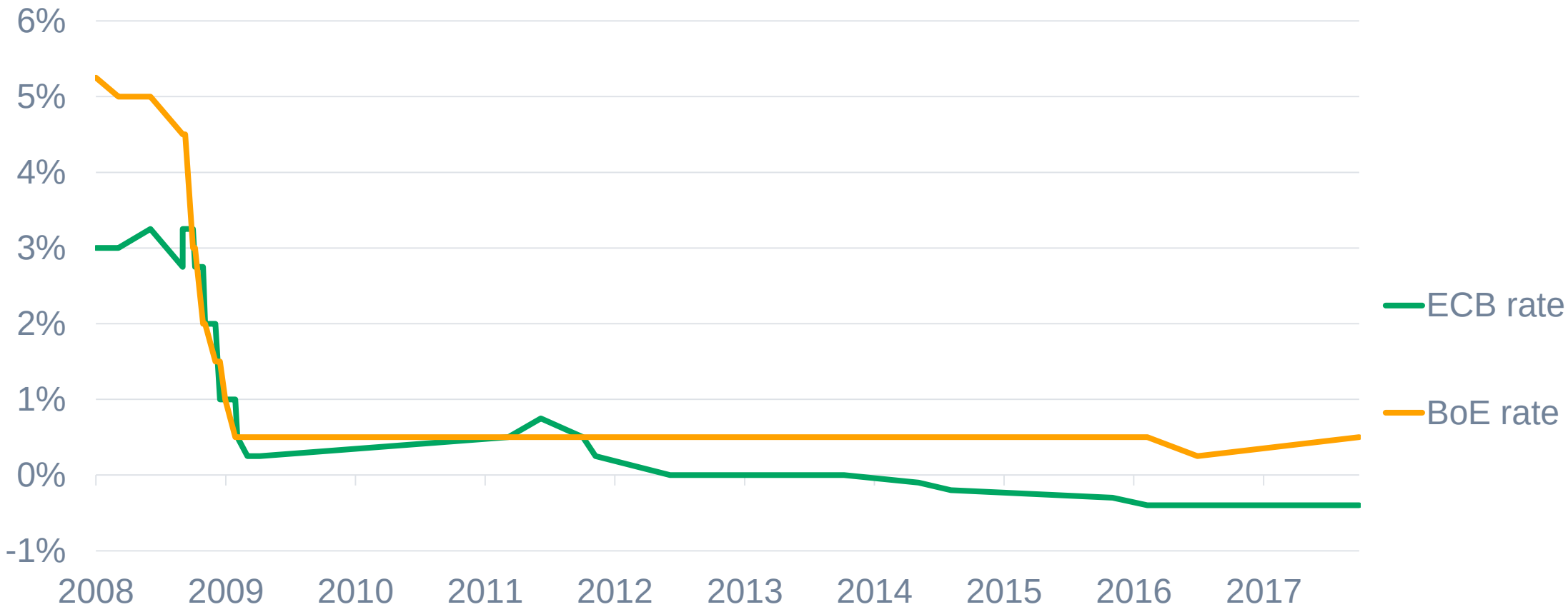
Changes from SI to SII

What drives changes in investment strategies?

Solvency I to Solvency II

- Liabilities
- Asset restrictions
- Capital requirements
- Other factors

Interest rates 2008-2018



Initial hypotheses – impact of Solvency II on investment strategy

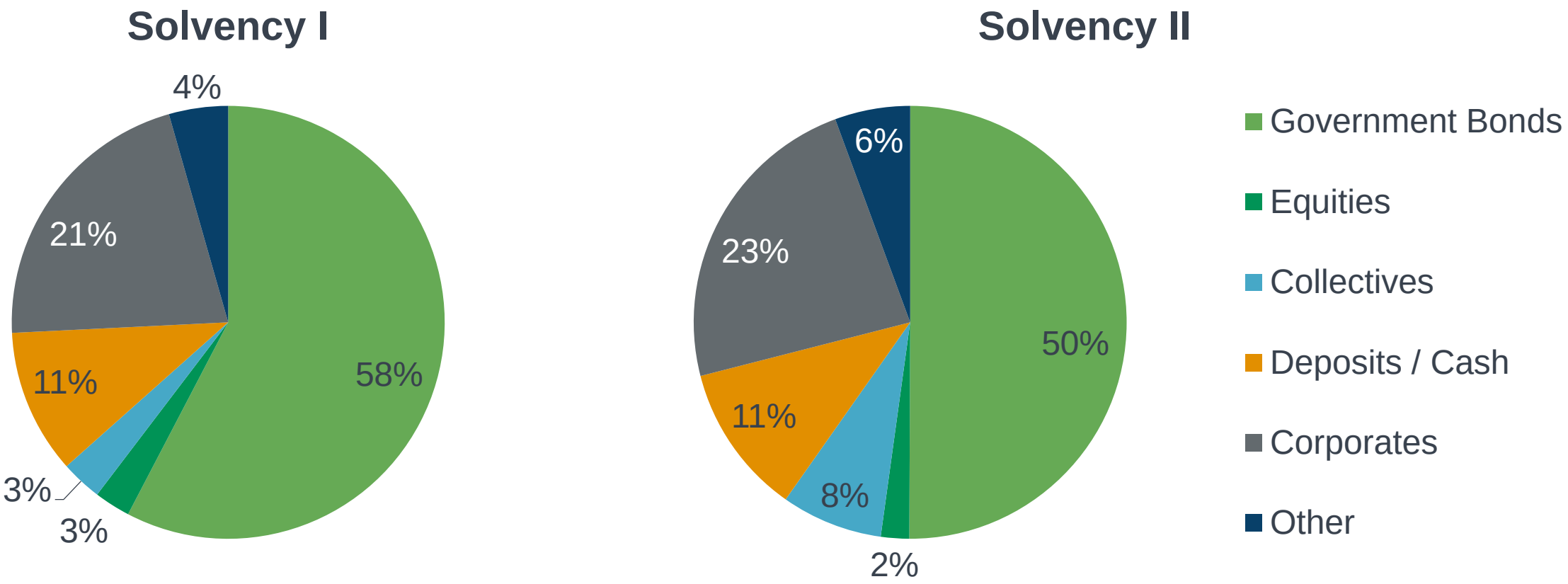
Government Bonds

Equities

Collective investments

Direct Cash / Deposits

Hypotheses shmypotheses?



Source: our analysis of end 2015 Solvency I returns v end 2016 Solvency II returns (public QRTs) for a sample of 21 direct life companies

What happened in reality…

Government Bonds

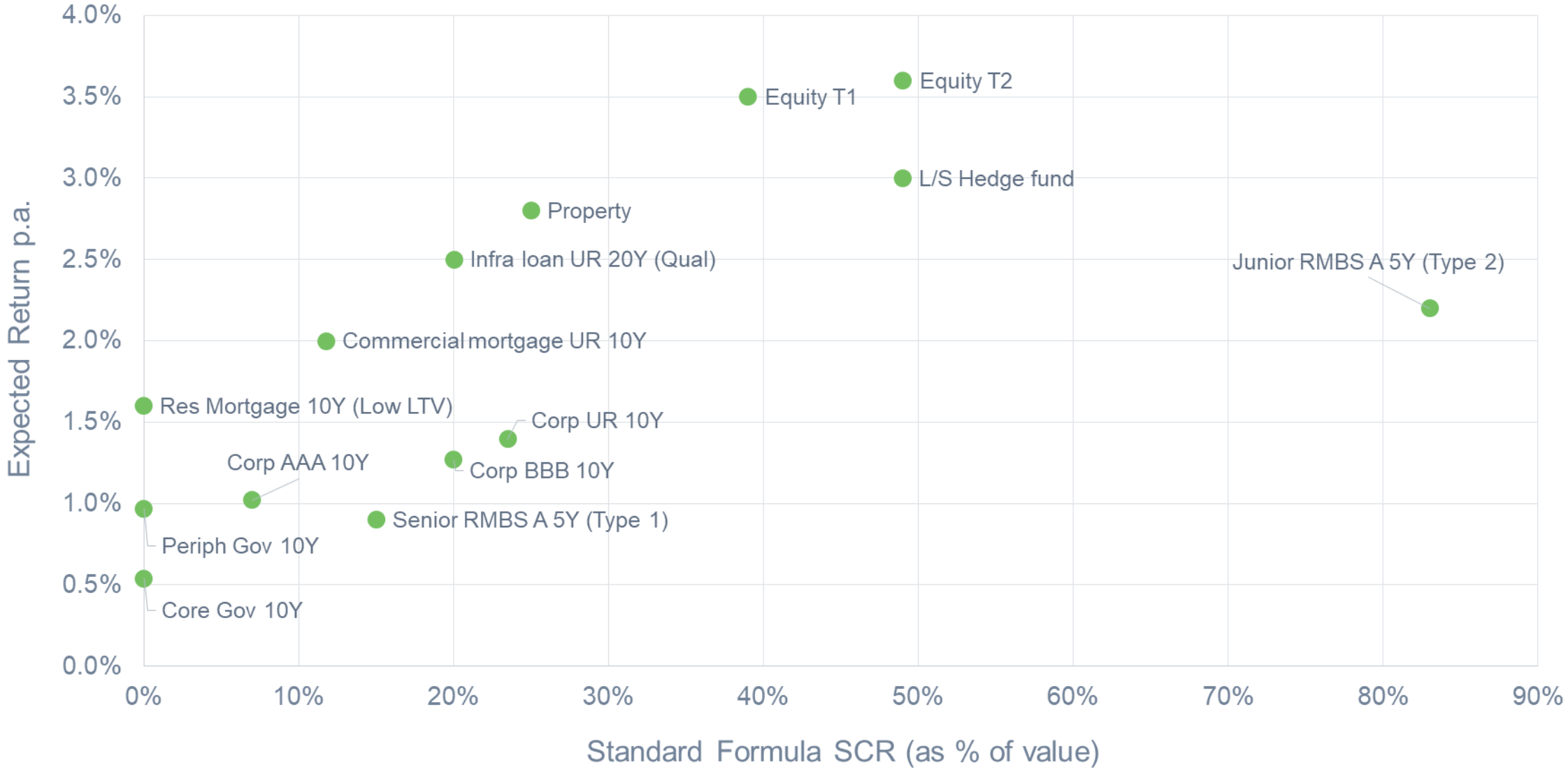
Equities

Collective investments

Direct Cash / Deposits

Return v Capital

Return versus Capital



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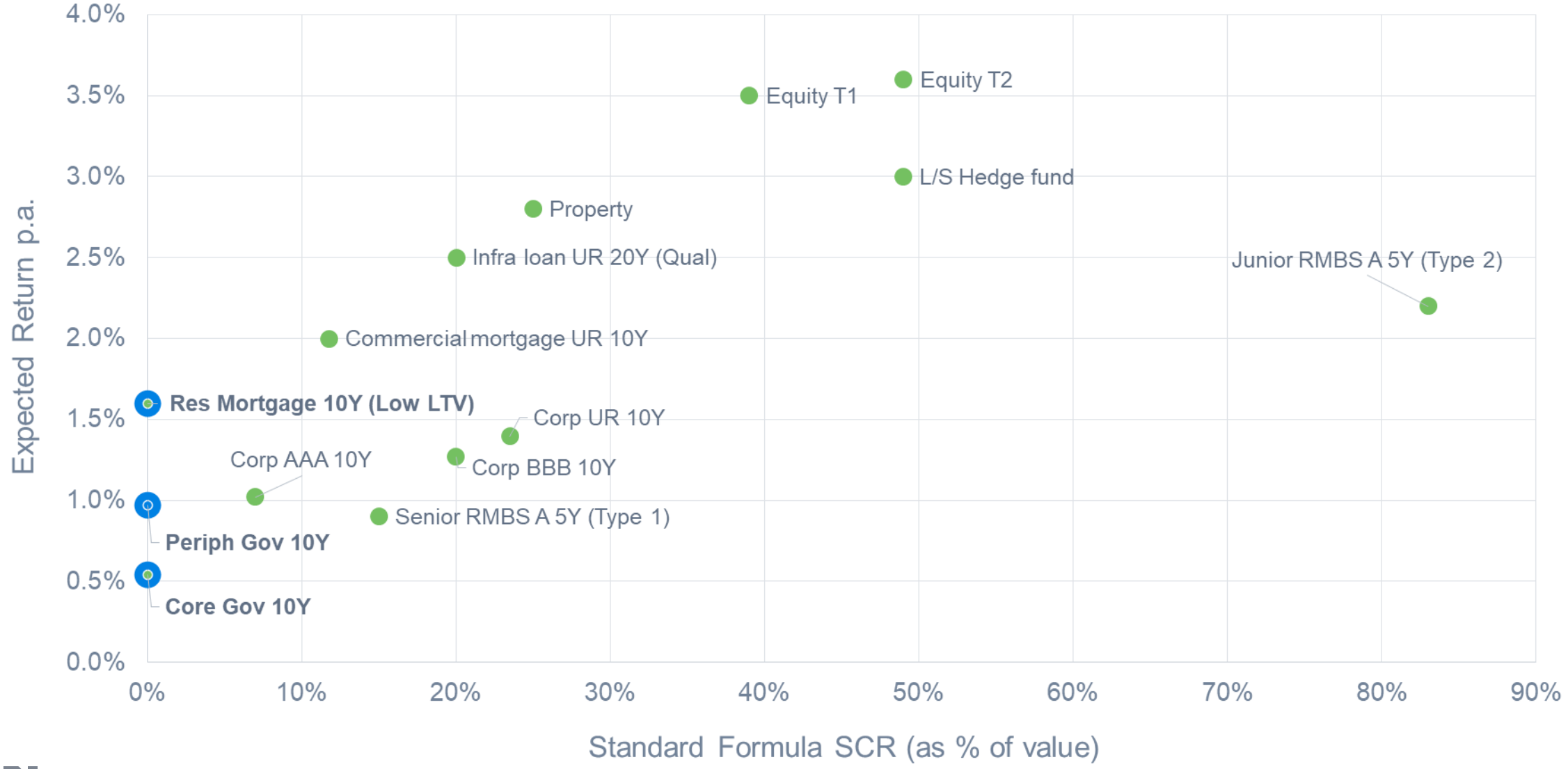
Source: Our analysis of a range of data sources including BlackRock, Bloomberg, Deutsche Bank and others – to be refined as the research draws to a close

Return versus Capital



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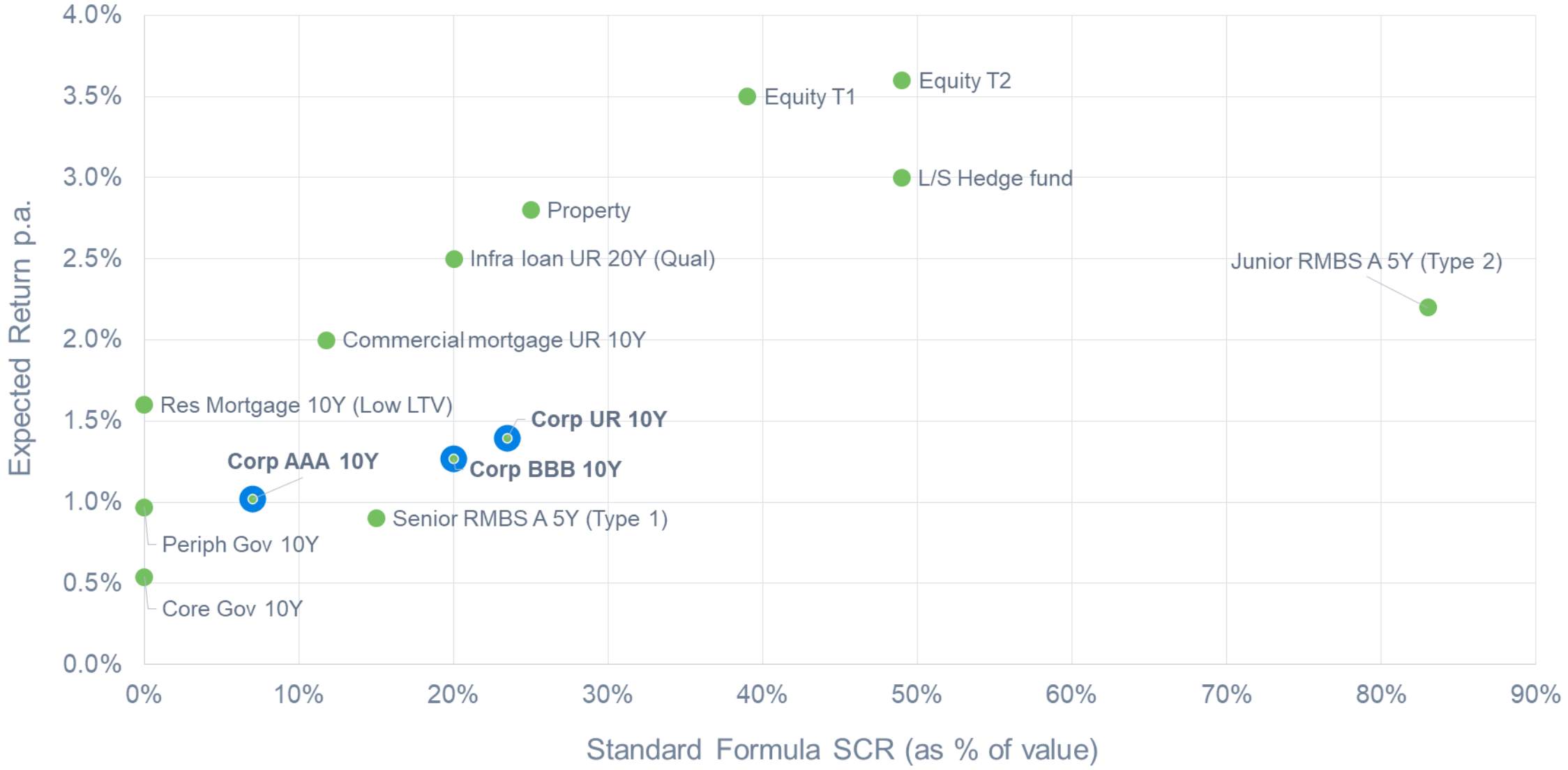

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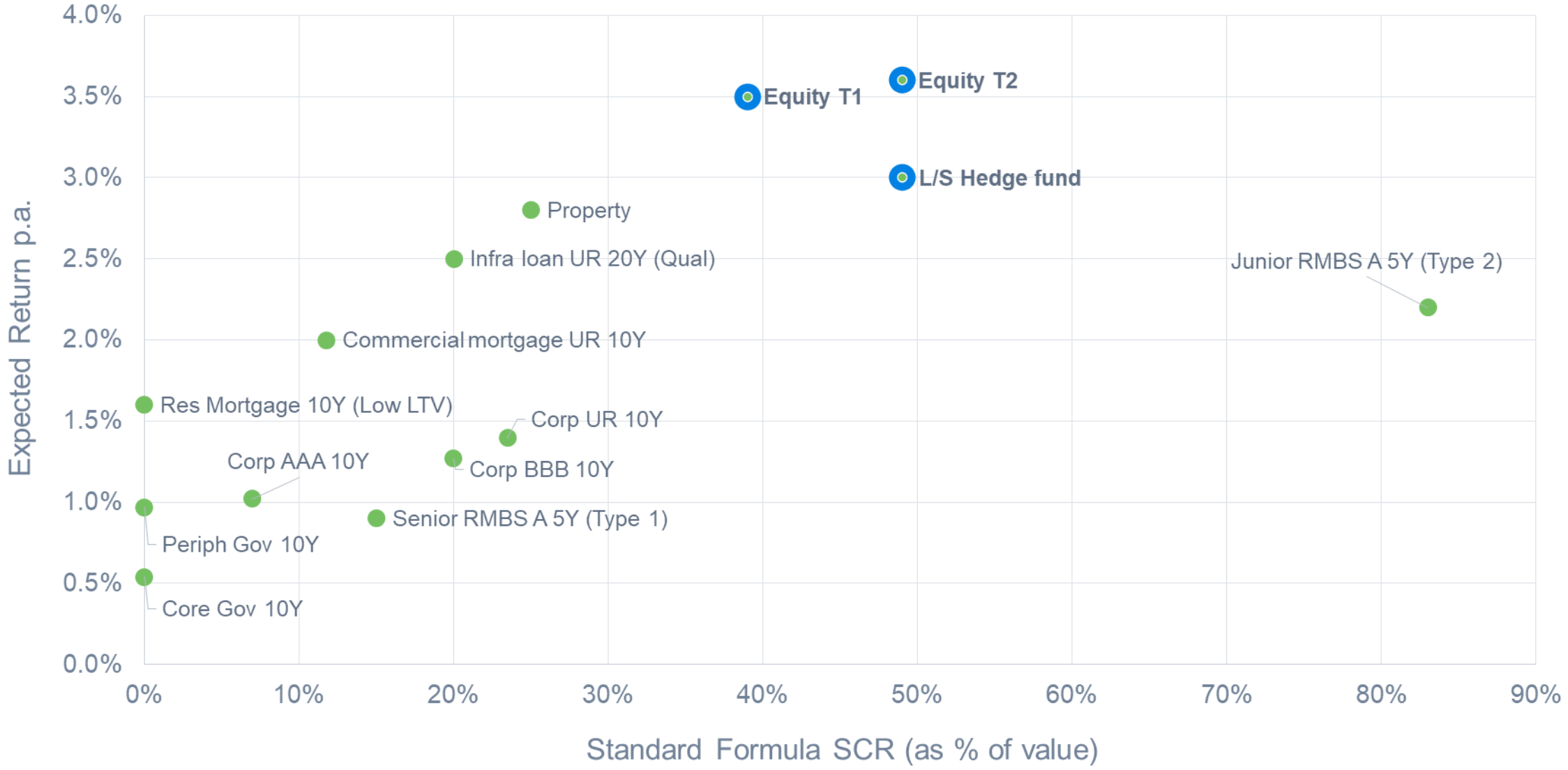

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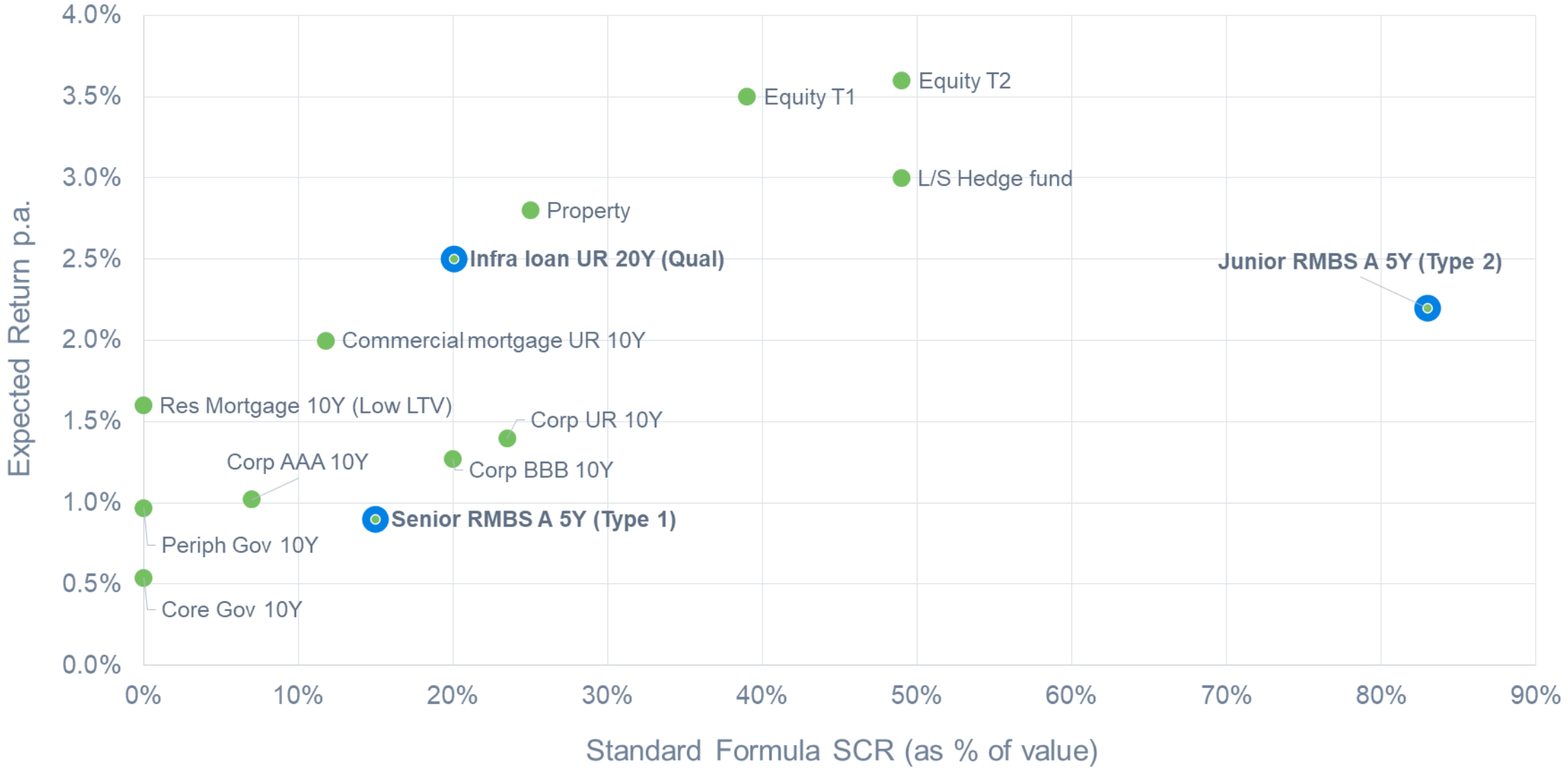
Return versus Capital



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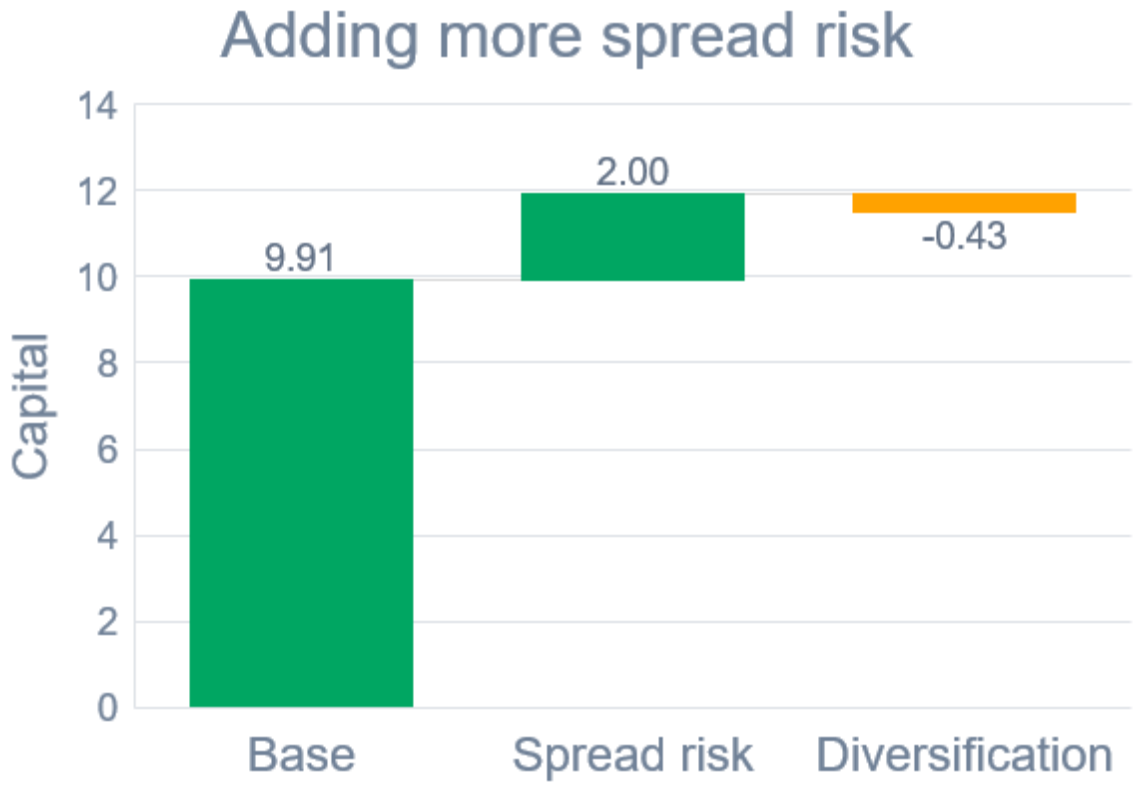
Source: Our analysis of a range of data sources including BlackRock, Bloomberg, Deutsche Bank and others – to be refined as the research draws to a close

Does anything change if we look at incremental capital?

Example insurer with lots of interest rate and spread risk, some default risk



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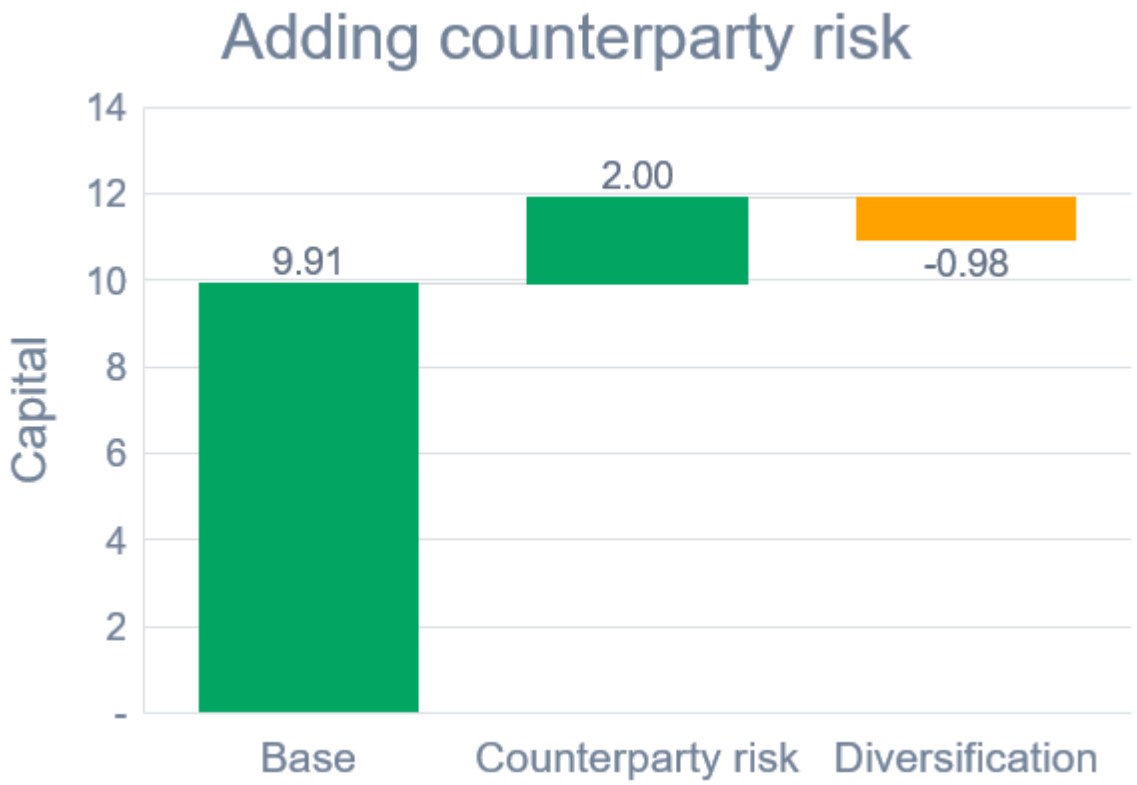
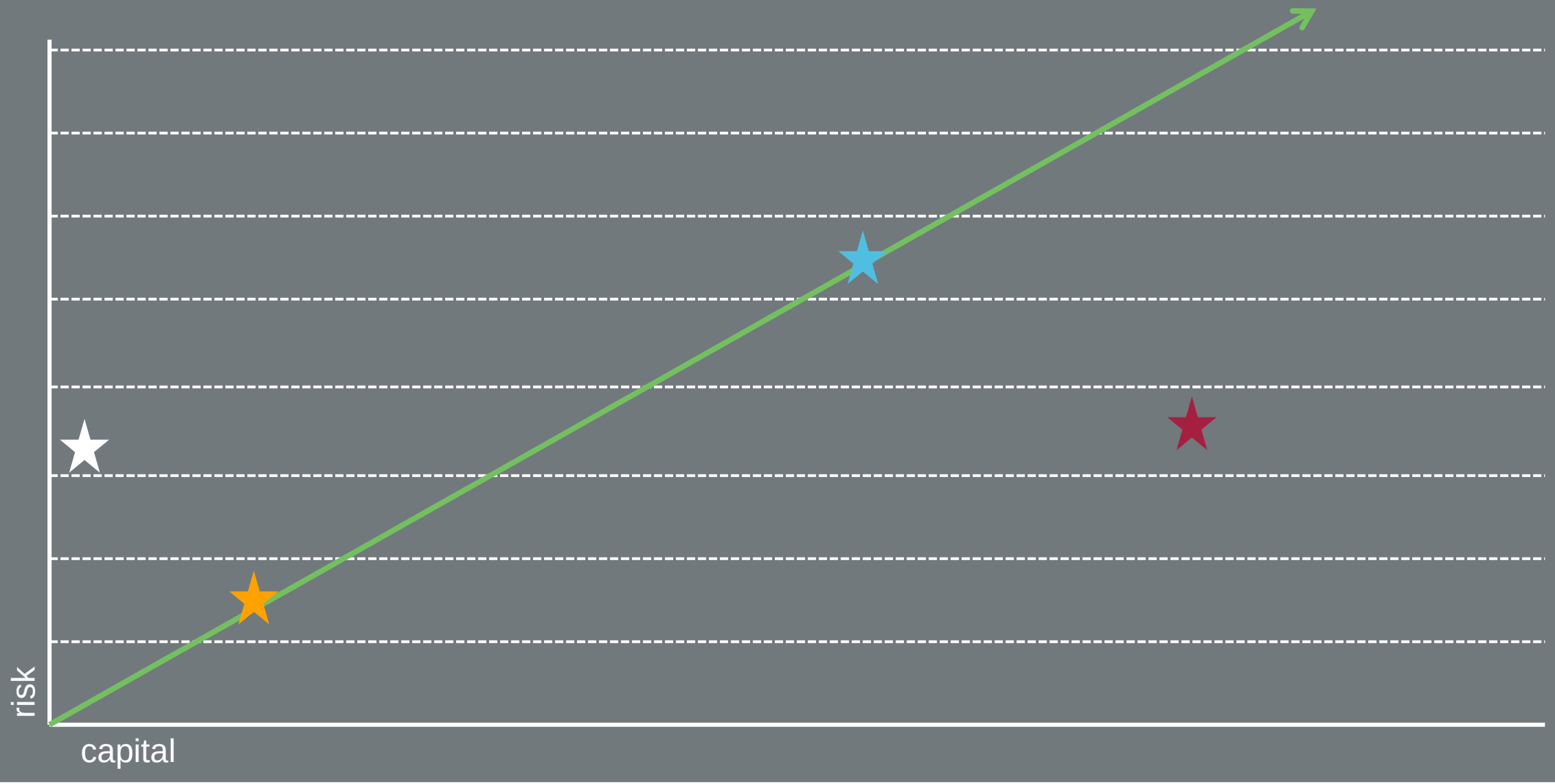


Capital v Risk

Capital versus risk



Issues to think about

- Capital arbitrage?
- ORSA / Pillar II capital requirements
- Standard Formula Appropriateness
- Prudent Person Principle / Risk appetite
- Liquidity

Alternative investments

Alternative Investments

Mortgages

Types: Residential, equity release, commercial

- Potential spread
- Liability match?
- Lower capital requirements for residential
- Importance of LTV

- Equity release / commercial mortgages – higher capital
- Harder asset to source
- Prepayment risk
- Liquidity

Alternative Investments

Infrastructure

- Debt or equity (typically via an SPV)
- Cash flows often influenced by a regulatory regime set by a government

- Stable and predictable long term cash flows
- Good diversifier
- Lower capital charge

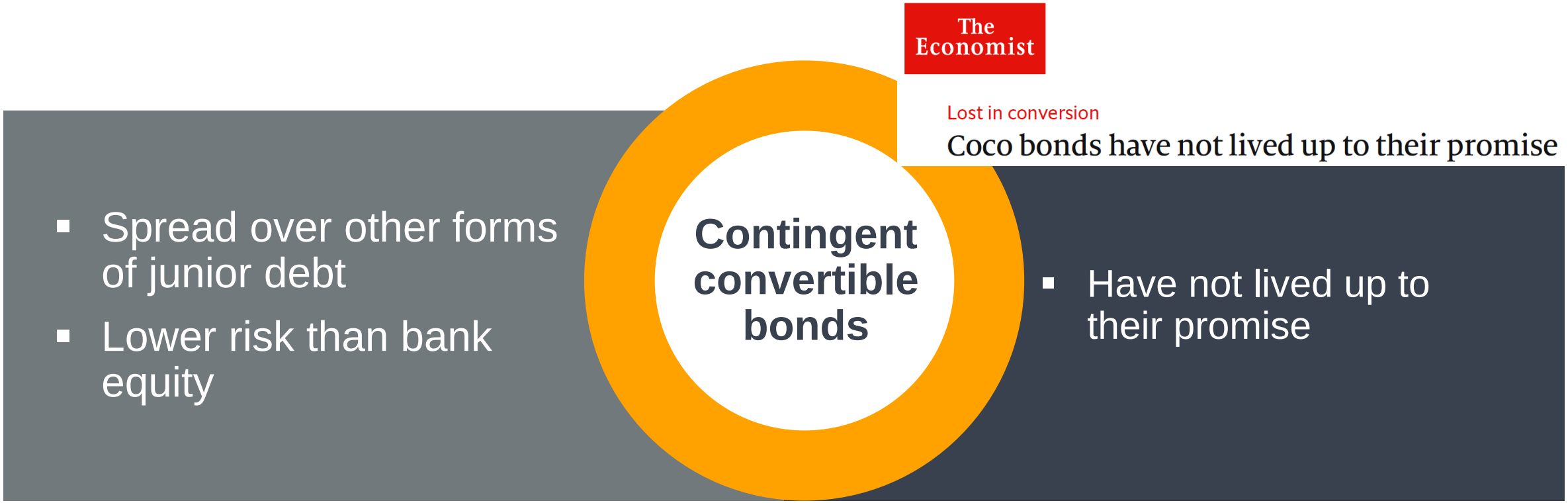
Infrastructure

- Complex to manage?
- Low liquidity
- Can access through infrastructure funds

Alternative Investments

Contingent convertible bonds

- Designed to enhance financial stability in the banking system
- Convert to equity if bank's equity ratio falls below pre-determined level



Alternative Investments

Hedge Funds

Wide range of strategies – Long/short, event-driven, macro

- May be high capital requirement under SF
- High charges
- Previously quite illiquid but changed somewhat in recent years
- Pillar III difficulties - lookthrough

- Low correlation to other assets
- Strong historical performance but difficult to tell if sustainable
- Possible to access strategies with lower risk and capital through particular structures such as call options

Absolute return investing

Different techniques including short-selling and leverage

Less constrained by index-benchmarks

Longer term investment horizon

Multi-asset approach

Wide range of positions

Risk-based portfolio management

Diversification of risk

Seek equity returns for lower level of capital than equivalent equity fund

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Risk mitigation options

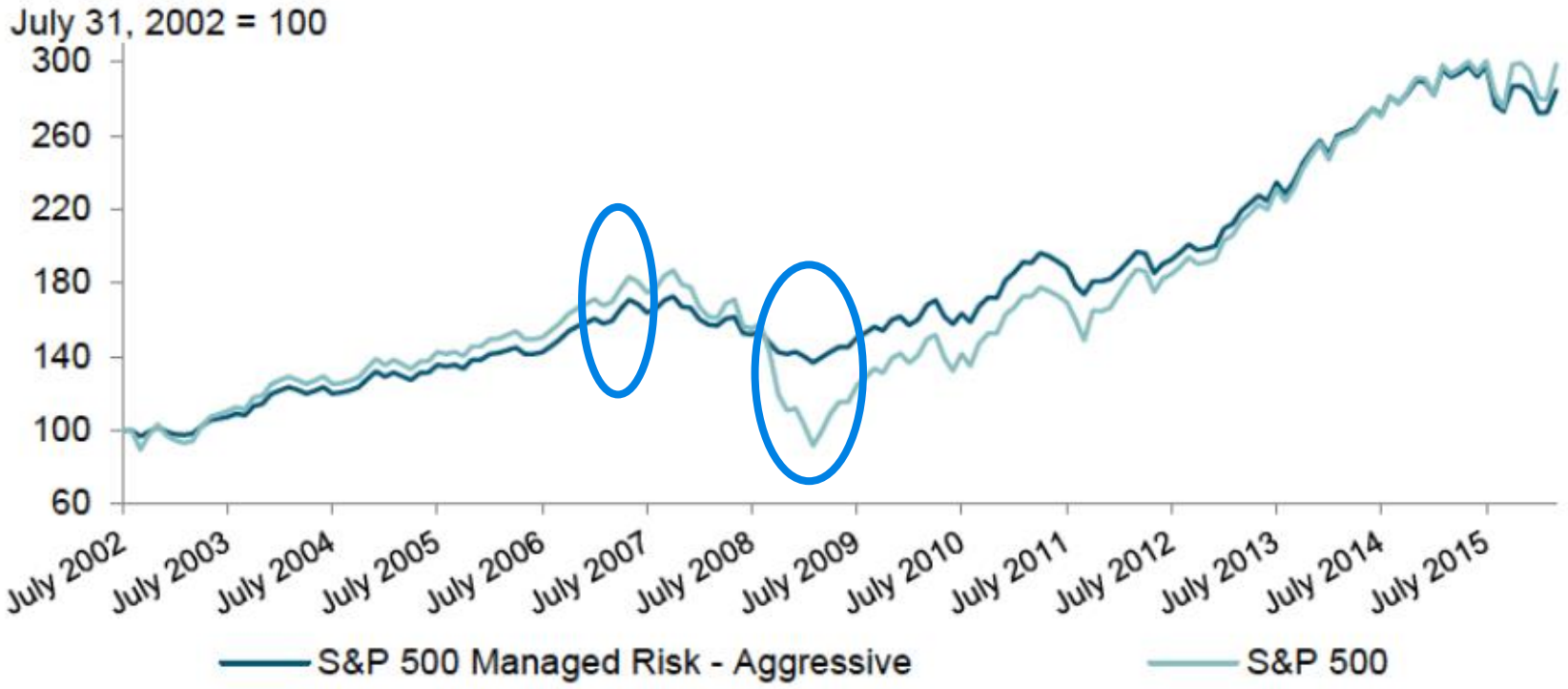
Many options to reduce risk and capital requirements

Must meet onerous Solvency II risk mitigation technique requirements to allow for in capital requirement calculation

- Basis risk must be immaterial
- Ongoing monitoring
- Duration / replacement
- And . . .

Risk mitigation options

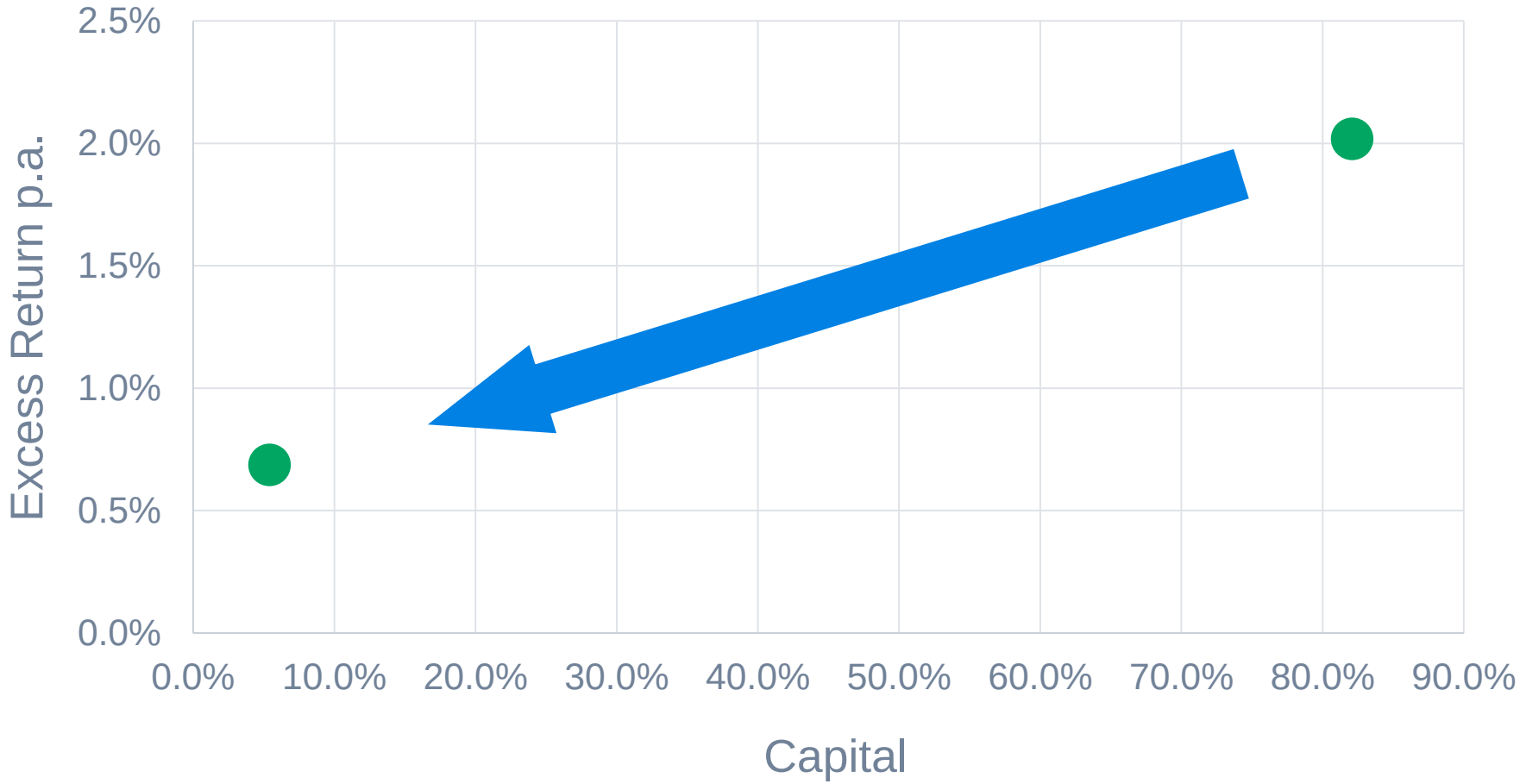
Example 1: Managed volatility funds



Source: S&P Dow Jones Indices LLC. Data as of March 31, 2016. Index performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosures at the end of this document for more information regarding the inherent limitations associated with back-tested performance. The launch date of the S&P Managed Risk Index Series was April 11, 2016. The launch date of the S&P 500 was March 4, 1957. The launch date of the S&P 400 was June 19, 1991. The launch date of the S&P 600 was October 28, 1994. The launch date of the S&P 400 was June 19, 1991.All information presented prior to the index launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Past performance is not a guarantee of future results. Please see the Performance Disclosure at http://www.spindices.com/regulatory-affairs-disclaimers/ for more information regarding the inherent limitations associated with back-tested performance.

Risk mitigation options

Example 2: Financial guarantees / credit derivatives



After

Cash and deposits

What will I do with all my money?

Risk and return trade off

Credit Rating	Capital Requirement	Return	Allow for COC
AAA	1.3%	-0.37%	-0.45%
AA	3.0%	-0.36%	-0.54%
A	6.7%	-0.34%	-0.74%
BBB	14.7%	-0.28%	-1.16%
BB	54.4%	-0.02%	-3.29%
B and under	100%	+0.29%	-5.71%

Returns estimated based on equivalent rated 3 month corporate bonds. May not be reflective of deposit rates in the market, so shop around!

Cost of capital based on Solvency II 6%

Practicalities and other considerations

- Lower cost of capital may change analysis
  - BUT!
- Returns were not risk adjusted
- Impact of diversification:

Number of counterparties	Reduction in capital requirement
2	16%
3	23%
4	26%
5	28%

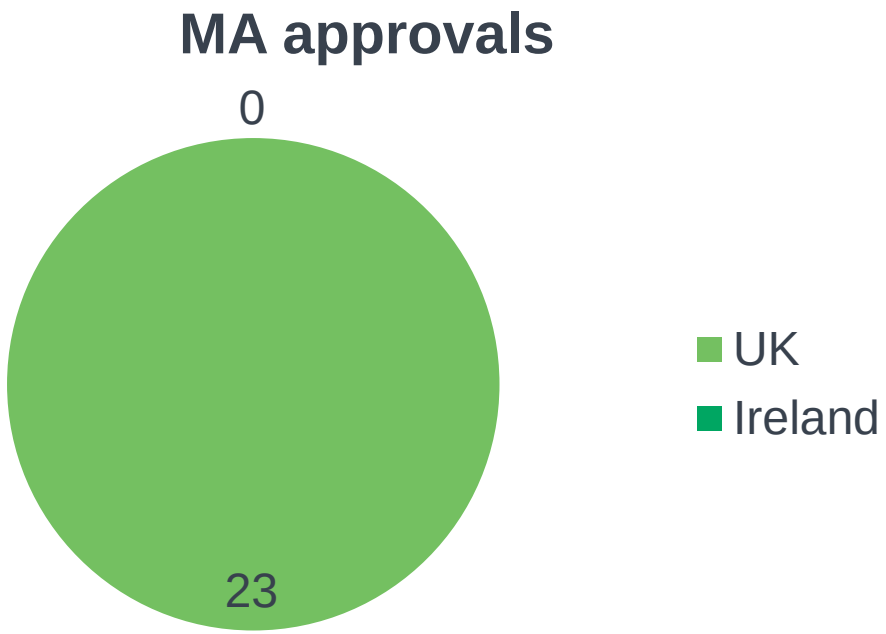
Matching adjustment

Should we think about the matching adjustment?

Warning: this is an over-simplification!

- Choose assets to match liability cashflows
- Maximise yield within risk appetite
- Use yield on assets, adjusted for risk, to discount liabilities
- MA = difference between asset yield and risk-free*

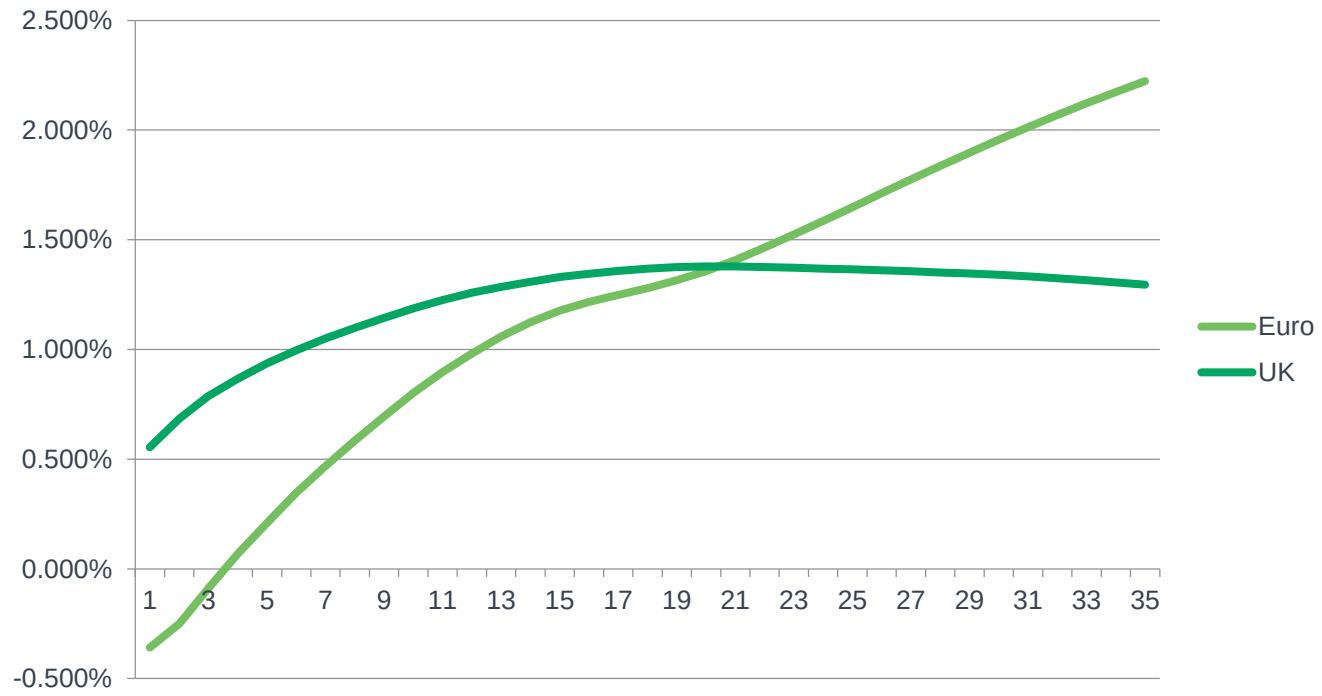
First interesting matching adjustment question



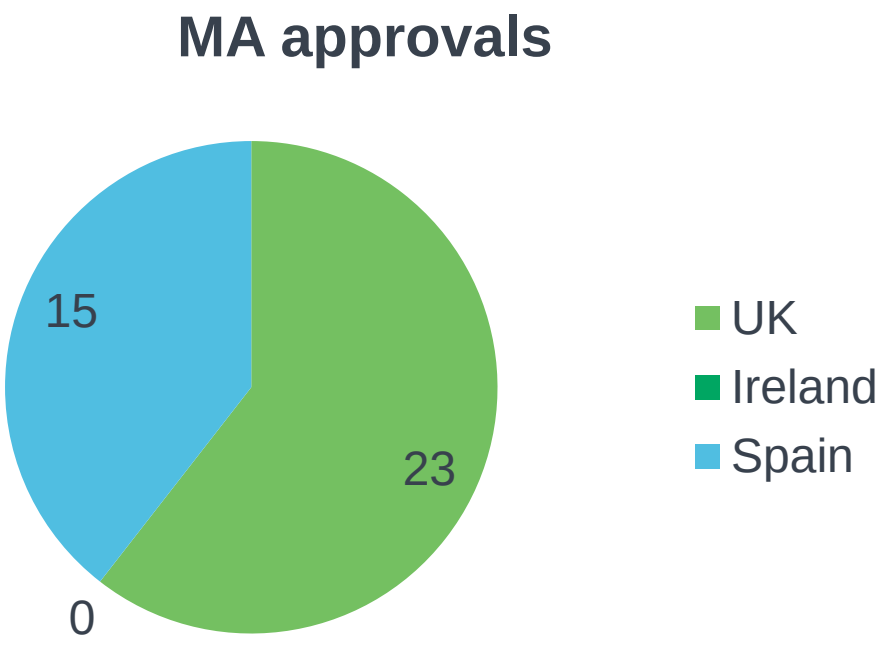
Why is the matching adjustment used in the UK but not in Ireland?

We identified two key reasons for this…

- Higher spreads on UK assets
- Last liquid point



Second interesting matching adjustment question



Ok, but why is the MA used in Spain so?

Wrap up

Wrap up

- In summary…

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