Longevity Indices: Is the time ripe?

4pm BST

6th September 2018

@ClubVita
#longevityindices

Introducing today's panel

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Legal & General

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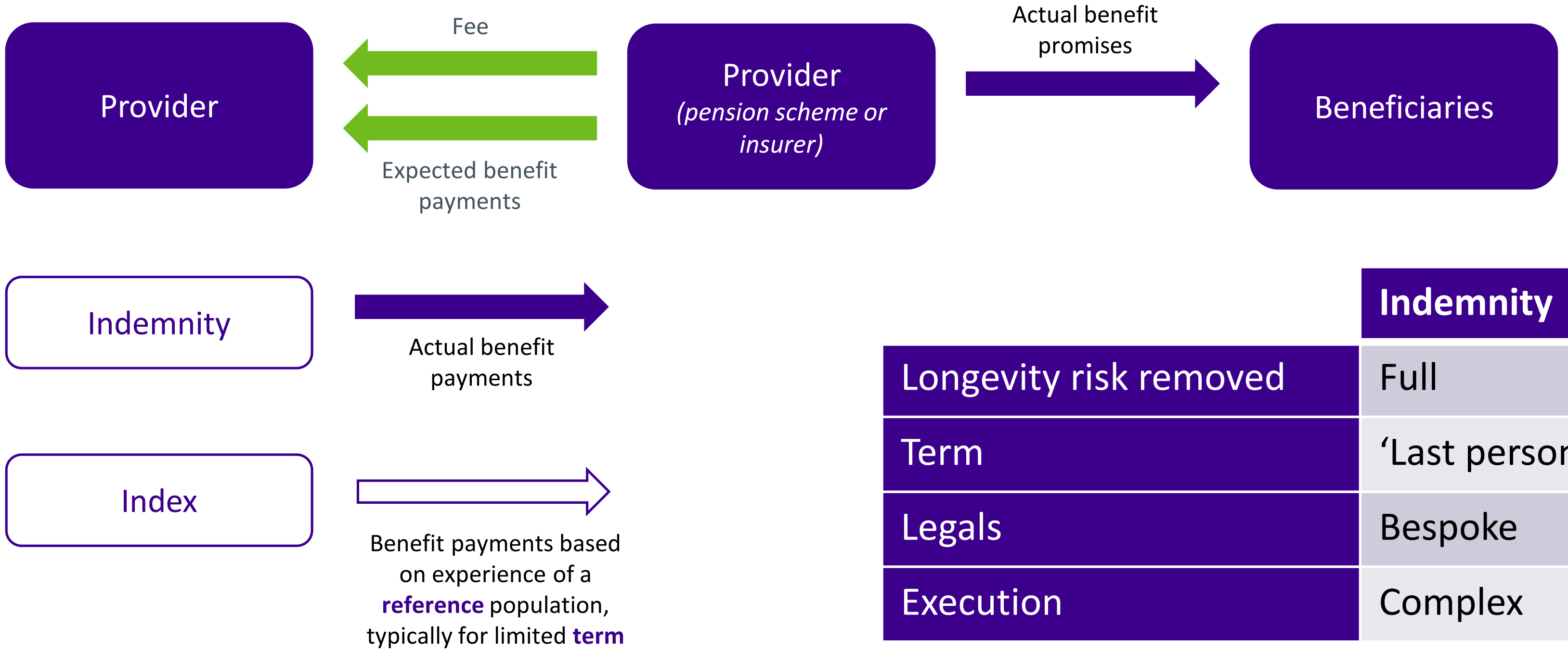
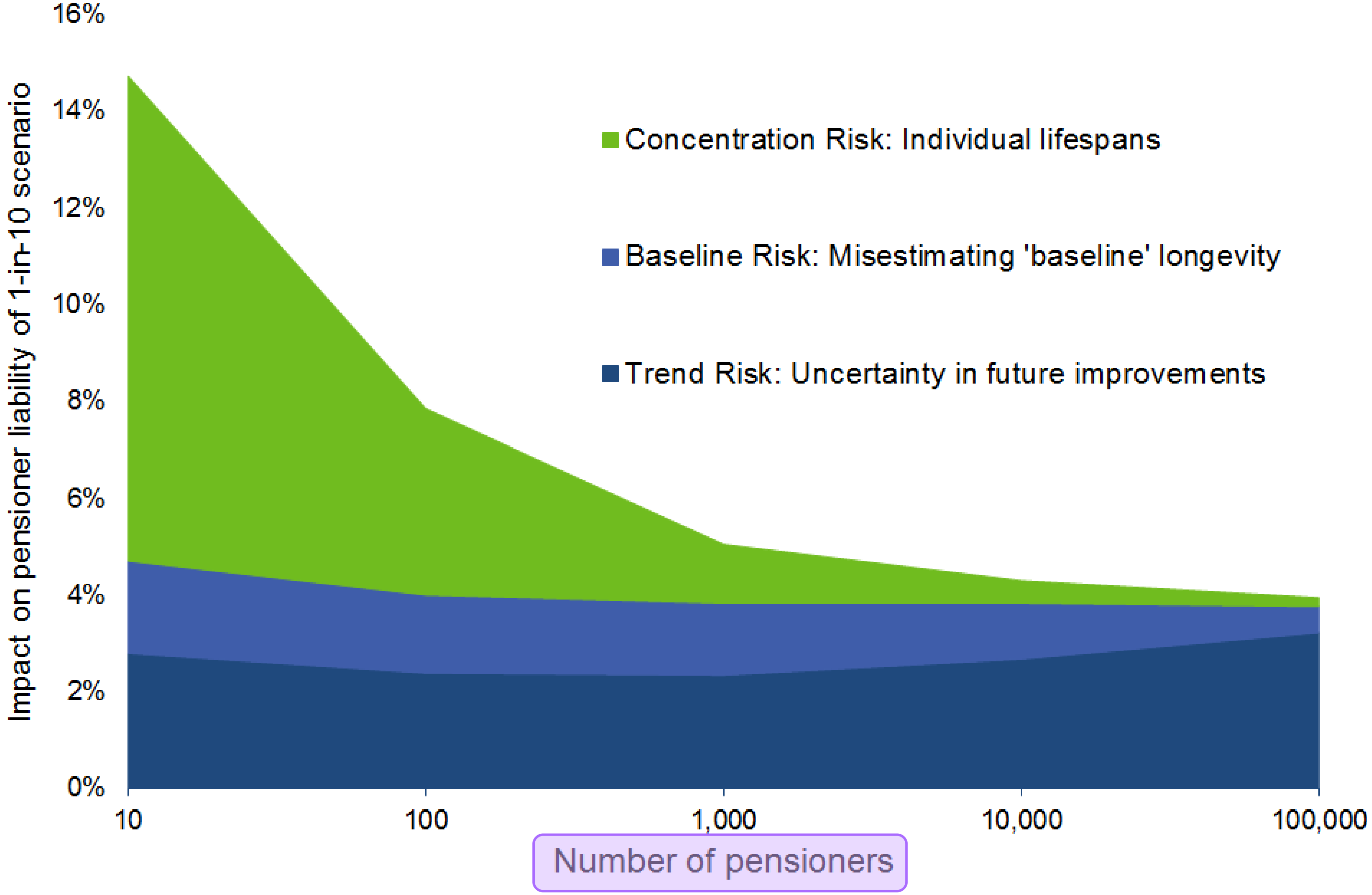
Introducing longevity swaps



	Indemnity	**Index**
Longevity risk removed	Full	Partial
Term	'Last person standing'	Limited
Legals	Bespoke	Standardisable
Execution	Complex	Quick, Simple(?)

What risks are you protected against?



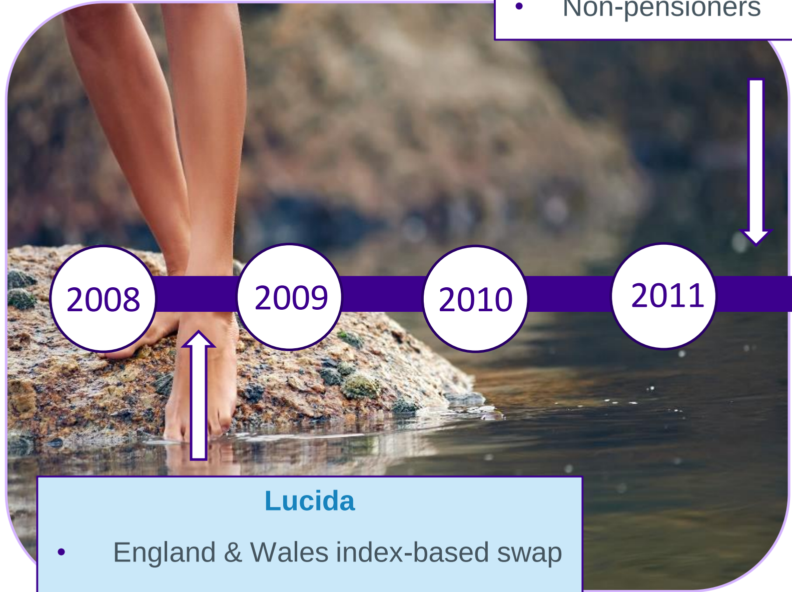
Indemnity	Index
✓	✗
✓	✗
✓	✓

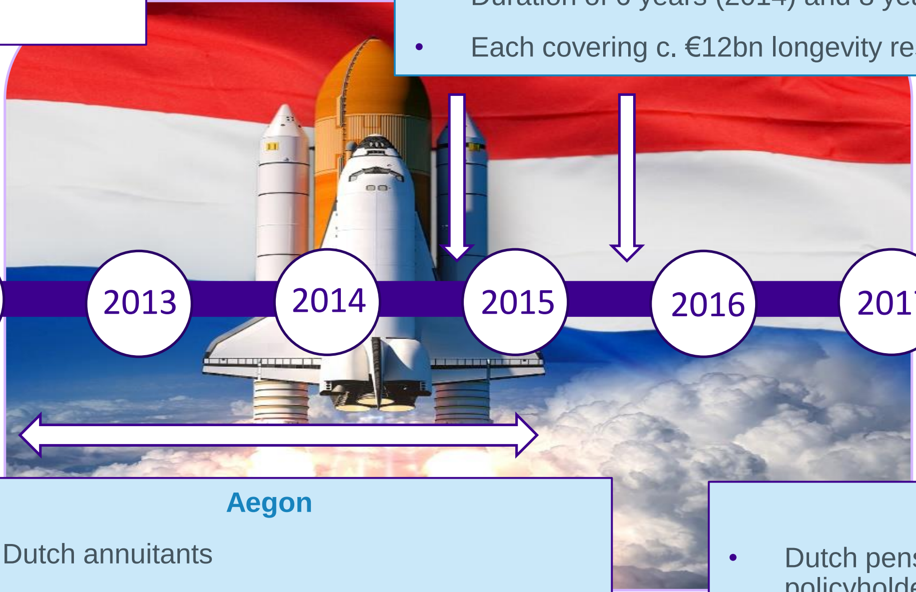
Large schemes/insurers

Deferred pensioners

Tail risk

Transactions to date





2008 – 2009 – 2010 – 2011 – 2012 – 2013 – 2014 – 2015 – 2016 – 2017 – 2018 – ?

Lucida

- England & Wales index-based swap
- First use by insurance company

Pall (UK) Pension Fund

- England & Wales index-based swap
- 10 year duration
- Non-pensioners

Aegon

- Dutch annuitants
- **Three** transactions
- Covering a total of c. €20bn longevity reserves

Delta Lloyd

- Dutch pensions and annuity policyholders
- **Two** transactions
- Duration of 6 years (2014) and 8 years (2015)
- Each covering c. €12bn longevity reserves (c. €350m notional)

NN

- Dutch pension fund and annuitant policyholders
- **Single** transaction
- Covering c. €3bn longevity reserves

Pension schemes

Insurance companies

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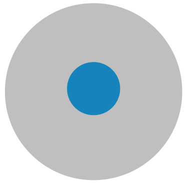
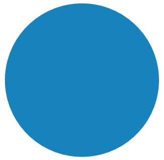
Sources: Websites of Lucida, Professional pensions, Artemis & Hymans Robertson buy-ins, buyouts & longevity swaps updates. Pure longevity swaps only. Ignores Bonds e.g. Swiss Re Kortis Bond (2010) and the unsuccessful EIB/BNP Bond (2004). Also ignores swaps based on underlying experience of a specific book e.g. Aviva-RBS (2009).

Does the market need longevity indices?



Global mortality risk market can ***potentially*** support 'diversification benefit' for *c.* 100% of **UK** longevity risk (currently)



c.£2trn+ of UK private sector pension liabilities exposed to longevity risk

- Indemnity
- Index
- Fee + fixed leg

Why might the time be ripe?

Why has it not happened yet (in the UK)?	What is likely to drive change?
1 **Pricing:** Index-based swaps *should* be cheaper than indemnity	Indemnity and index pricing dynamic set to shift
2 **Value:** Understanding of the level of retained risk	Clearer understanding of level of risk protection provided
3 **Term:** Finite term rather than ‘last person standing’	Proven appetite for 10+ year terms Growing understanding of the impact of finite term
4 **Regulatory ‘enthusiasm’**	First transactions

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Price

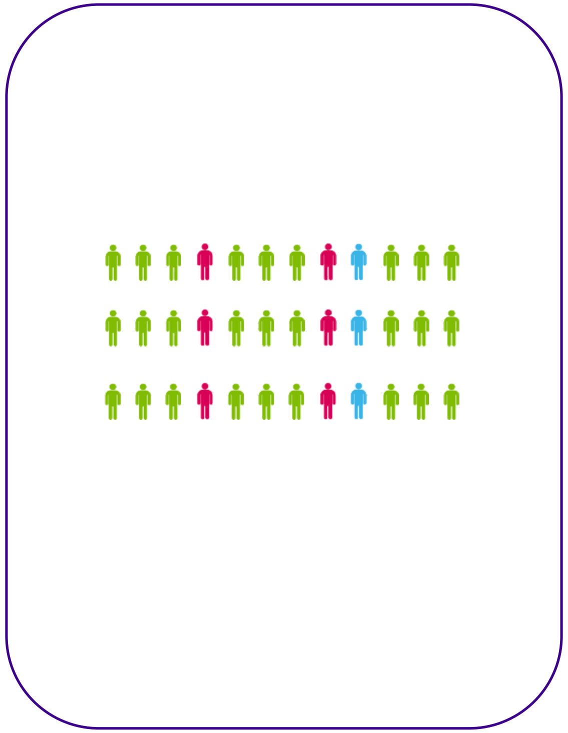
Indemnity

Index

Value for money: Basis risk

Population Index

Portfolio



Basis Risk

- Population indices **equally weight each person**
- Pensions schemes…
  - Smaller
  - Different socio-economic mix to population
  - Unequal mix of ***liability*** exposure
- Pension scheme experience will differ from the index
- **How much less than 100% 'hedge'?**

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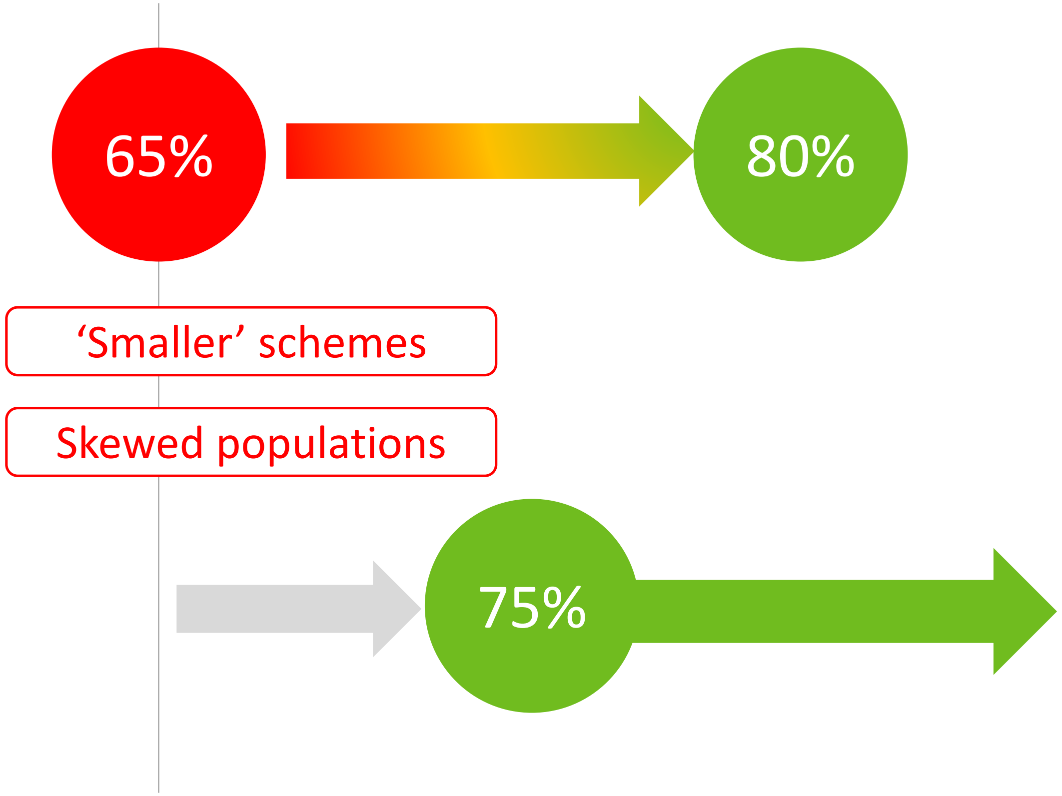
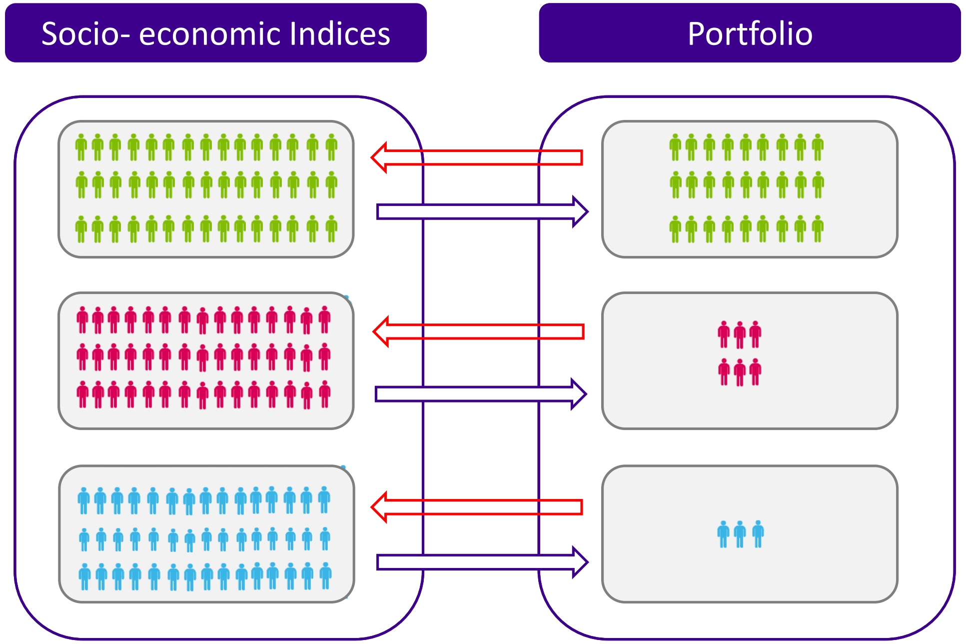
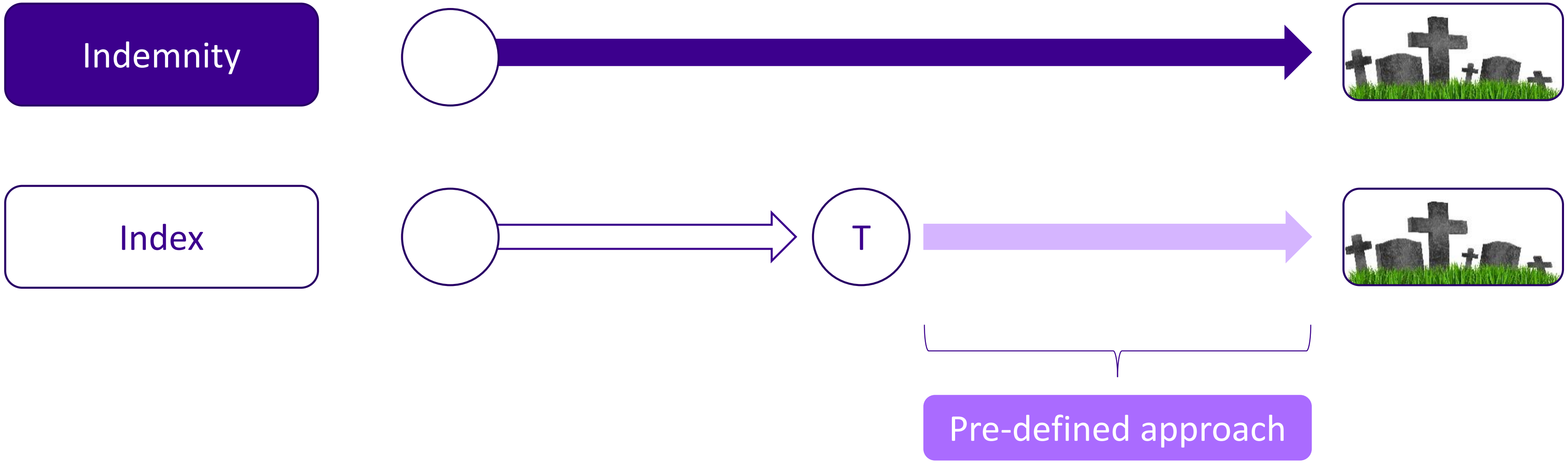
Value for money: Material risk reduction

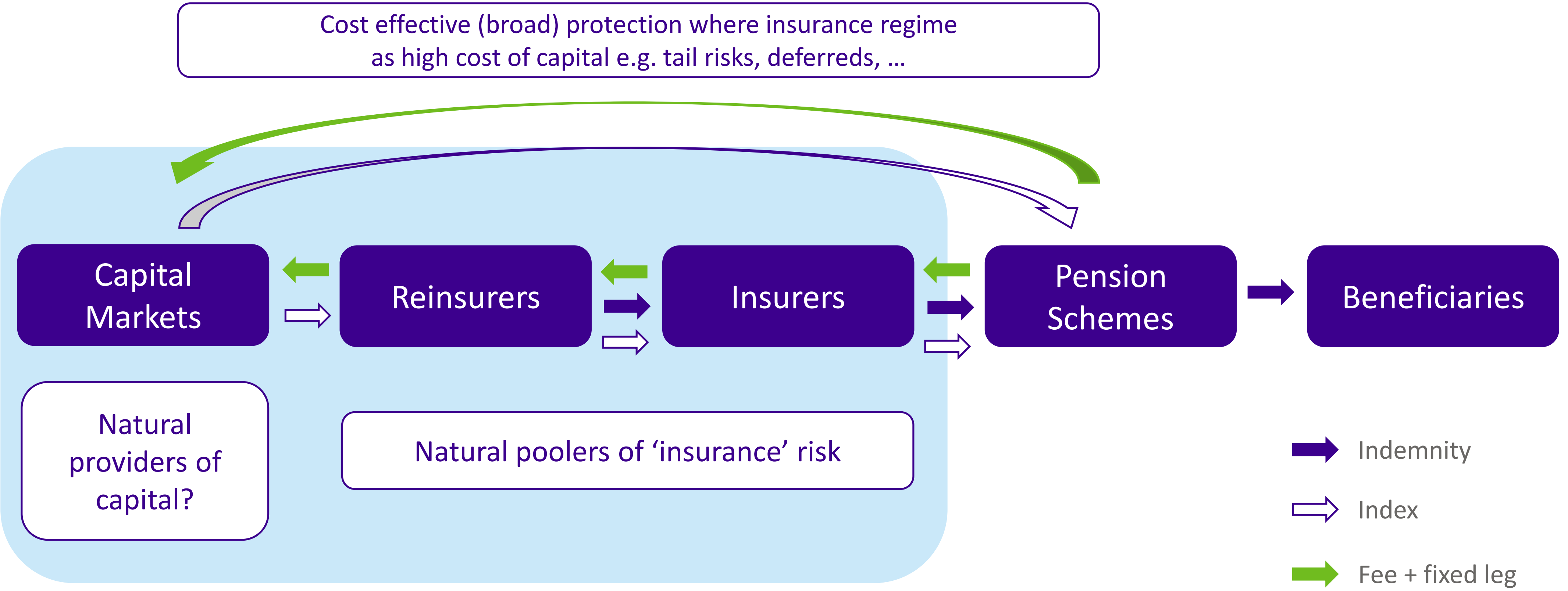




Term matters



The longevity "ecosystem" Future?



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Questions?...

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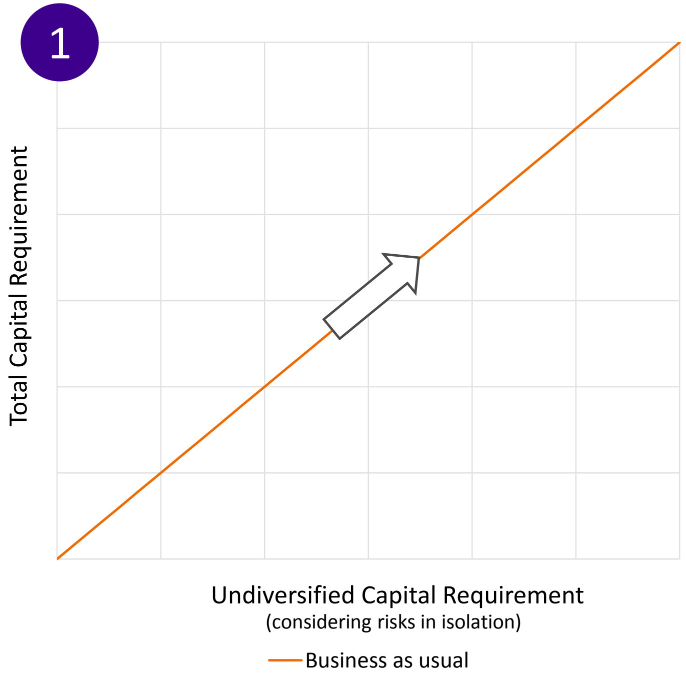
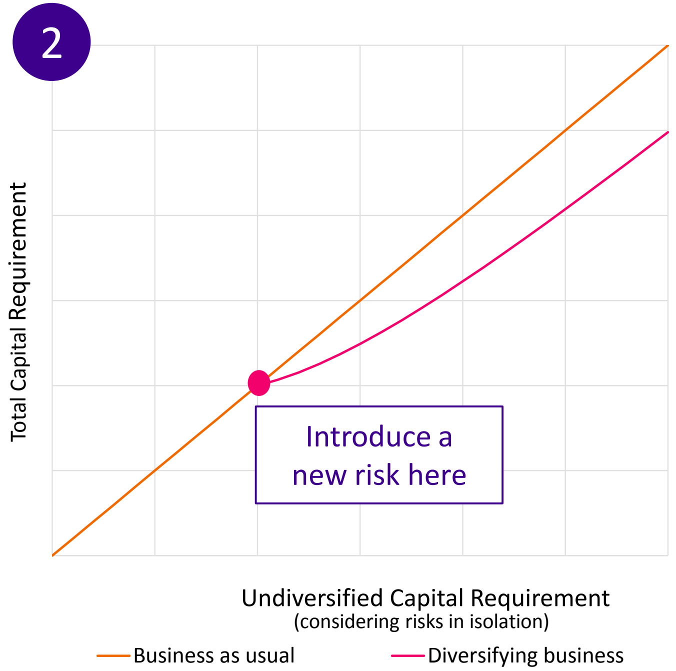
Thank you

Appendix:
What is the mortality-longevity dividend?

Writing longevity for “better than free” (1)





- If an insurer writes one risk only then ever additional unit of business costs the same in overall **(total)** capital (1)
- Adding a new, **different** risk introduces **diversification** and is capital efficient (less capital per unit of extra business) (2)

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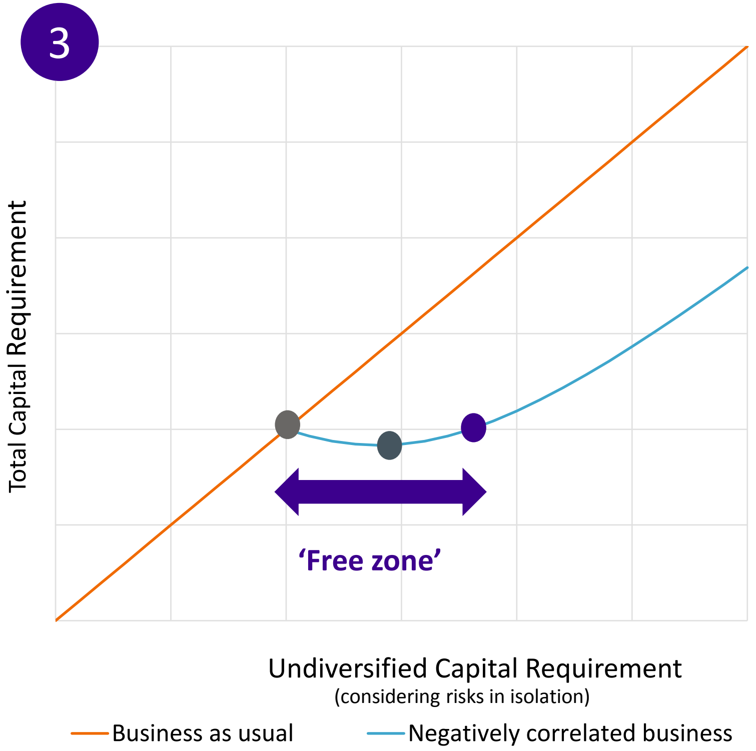
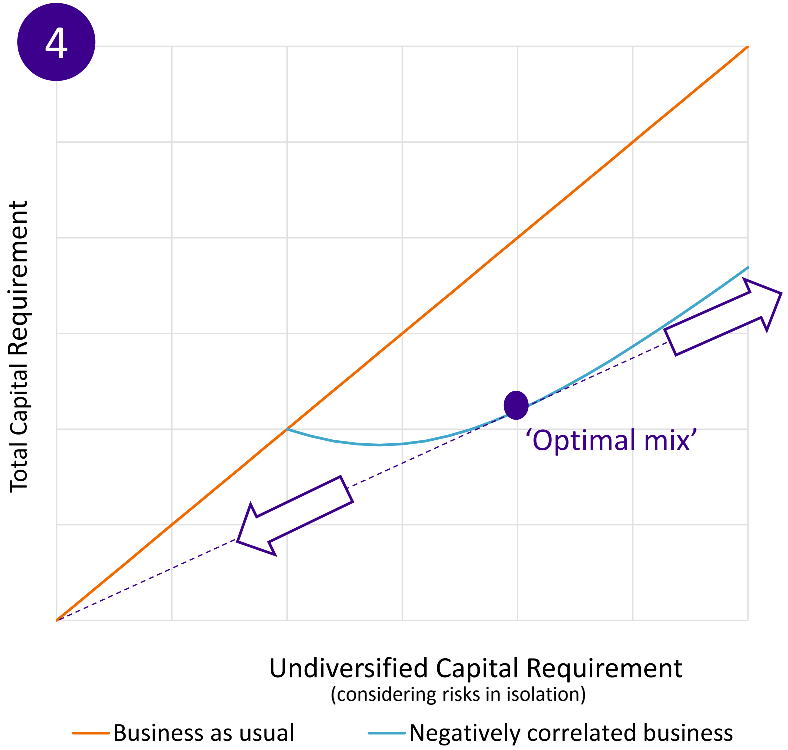
Source: Original graphics produced by presenter for chapter on longevity risk in the Palgrave Handbook of Unconventional Risk Transfer

Writing longevity for “better than free” (2)





- For a **negatively correlated risk** it is possible capital reduces – e.g. reinsurers with lots of mortality risk (life insurance) pricing for longevity (3)
- Will reach an **optimal** mix of business between risks (4)
  - Reinsurer constrained to maintaining this mix
  - New entrants (light on longevity, heavy on mortality) are able to offer better prices (all else being equal)

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