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EPFIF Swiss Seminar

The great struggle - ALM in a high benefit, low interest rate environment

PPCmetrics AG
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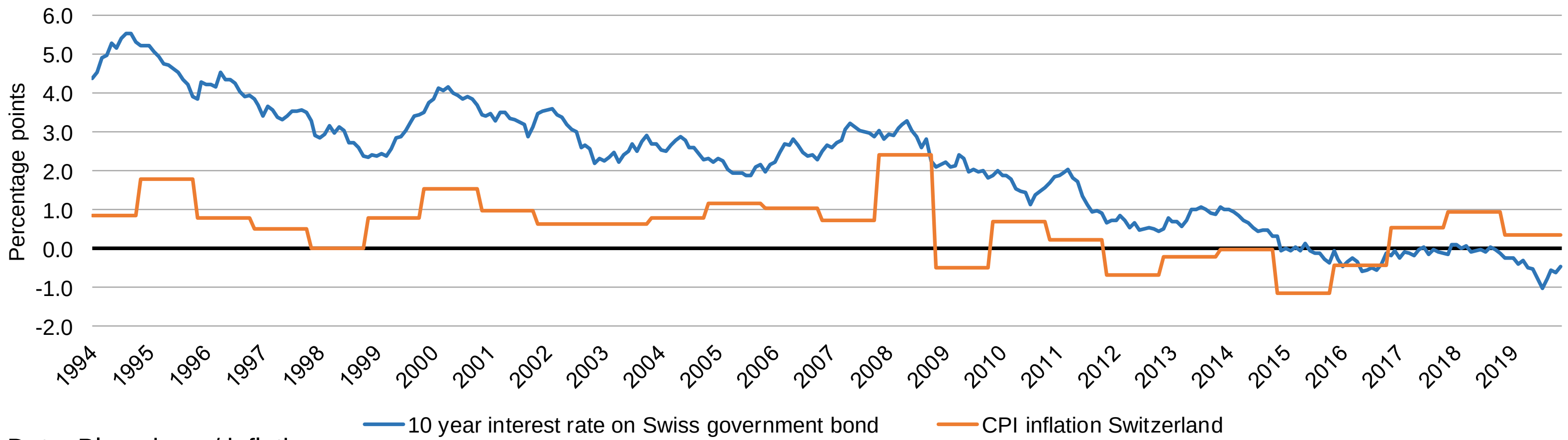
Today’s topic

- Interest rates have fallen for more than two decades, whilst inflation has been relatively stable.



Data: Bloomberg / inflation.eu
Own illustration

- Low credit risk fixed income investments lead to a certain loss in capital.
- Problem for pension funds: These investments are an important part of a liability-driven investment strategy.

▸ **Is liability-driven investment dead in this case?**

Let's start with the fundamental idea of ALM…

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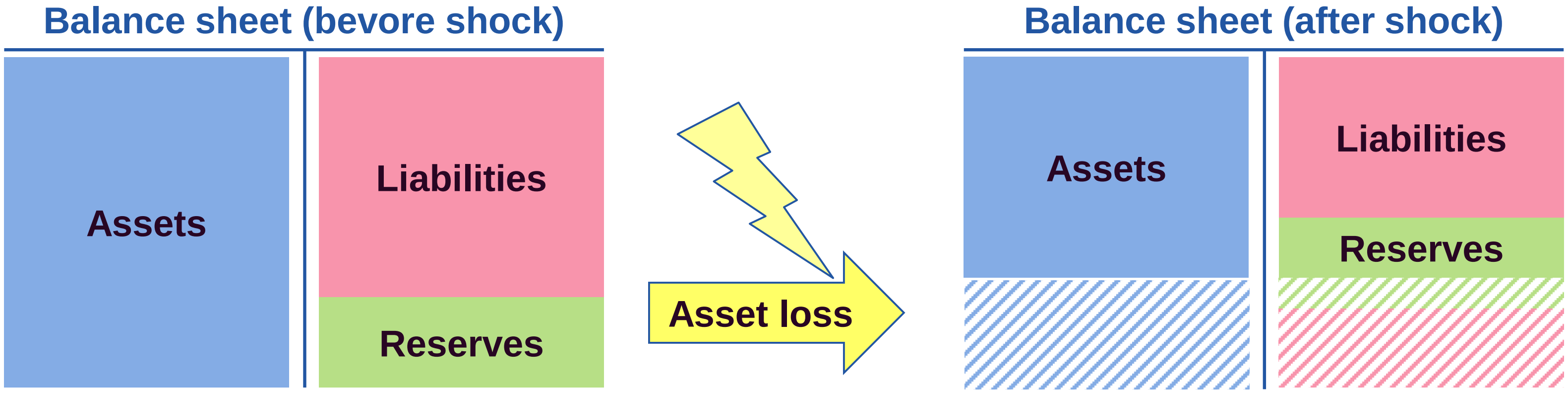
- Asset liability management (ALM) **aligns** the **risk exposure** of **assets** to the **exposures** of **pension liabilities**.
- **Deviations** from a **liability hedging portfolio**
  a) should **increase expected returns** (yield a risk premium),
  b) but the **resulting mismatch risk** should not **exceed** the **risk-bearing capability** of the pension fund and its sponsors.



Own illustration

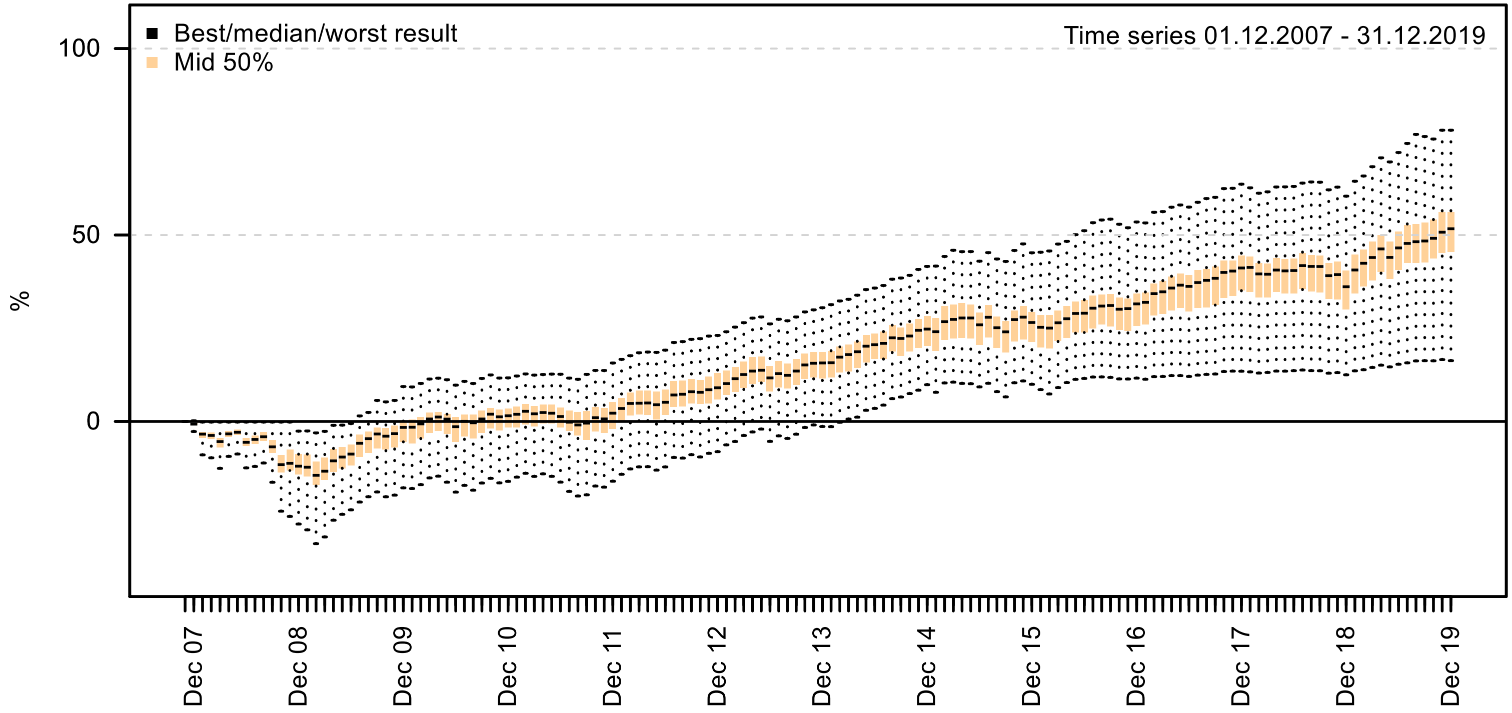
- **Liability-driven investment does not mean investing in the liability hedging portfolio…**
- **… as long as we can bear the additional investment risk.**

And continue with the good news…

Financial market performance was exceptional

PPCmetrics Peer Group Comparison - Absolute Returns over Time

Peer Group: Total Assets (77 mandates)



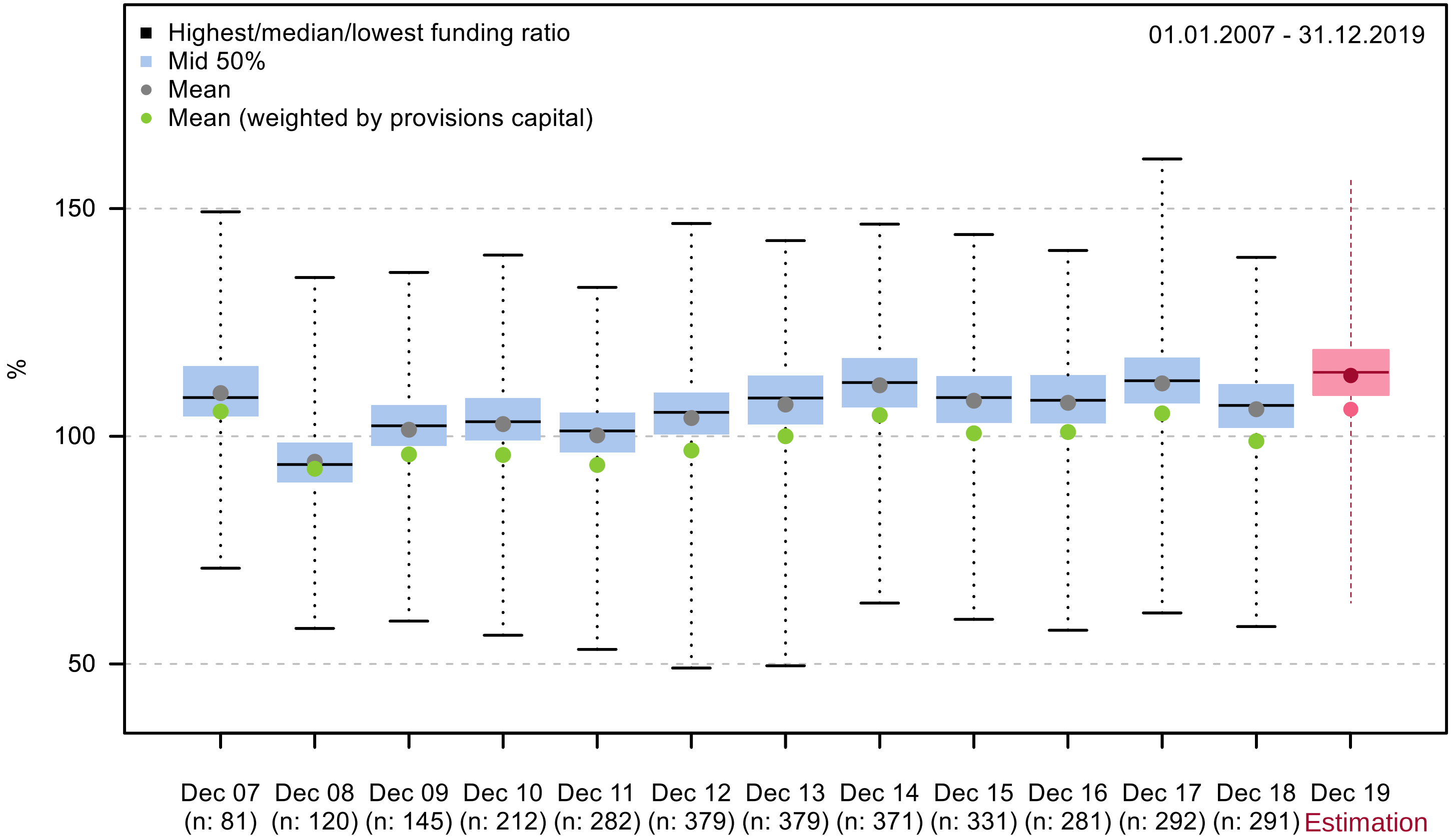
- **Median annual return: 3.4%**

And some mitigating news…

The actuarial funding ratio is approximately the same as it was in 2007

Evolution of the actuarial funding ratio

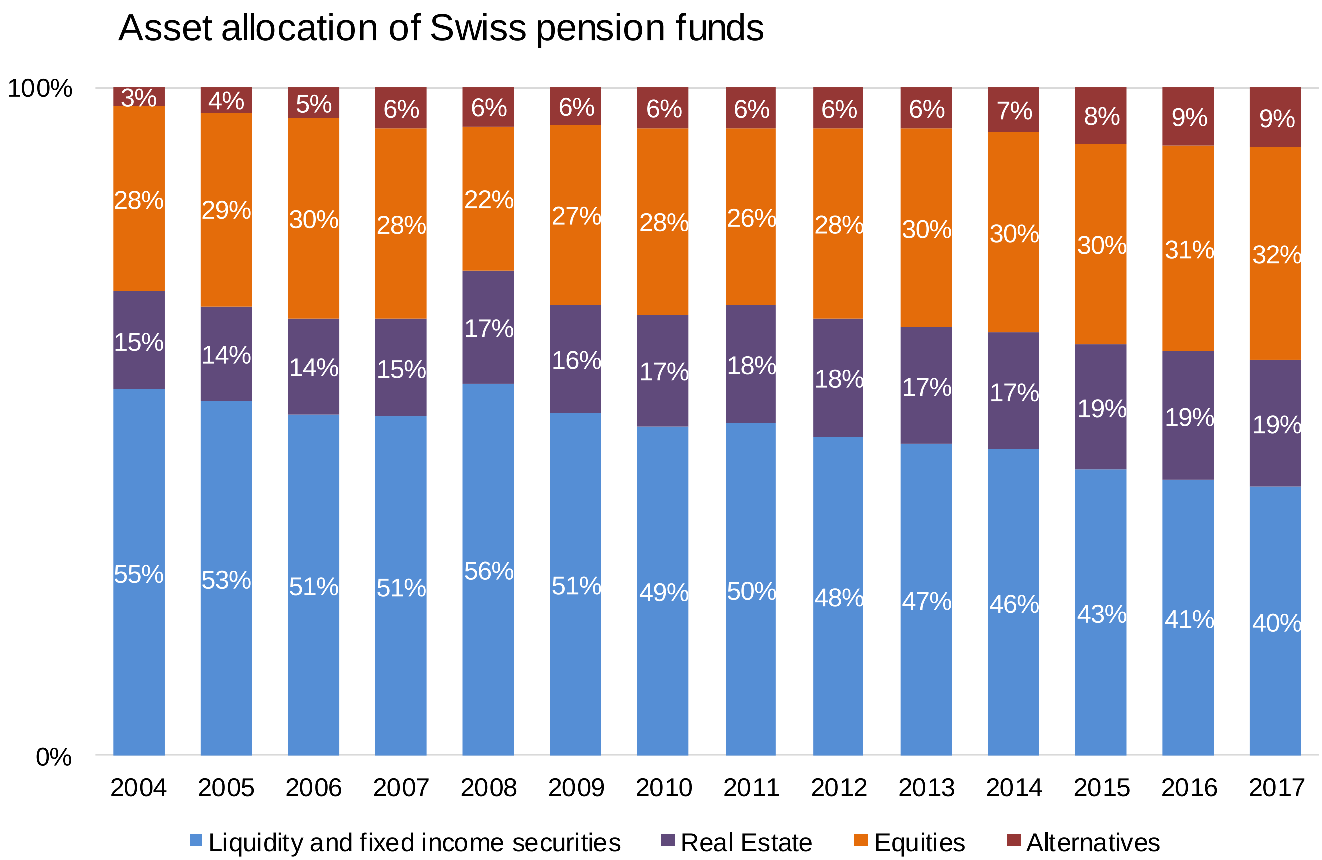
All pension funds



© PPCmetrics AG n: Number of pension funds / Pension fund assets according to art. 44 BVV 2 as at end of period in m of CHF: 4'051

And some more mitigating news…

Asset risk has increased

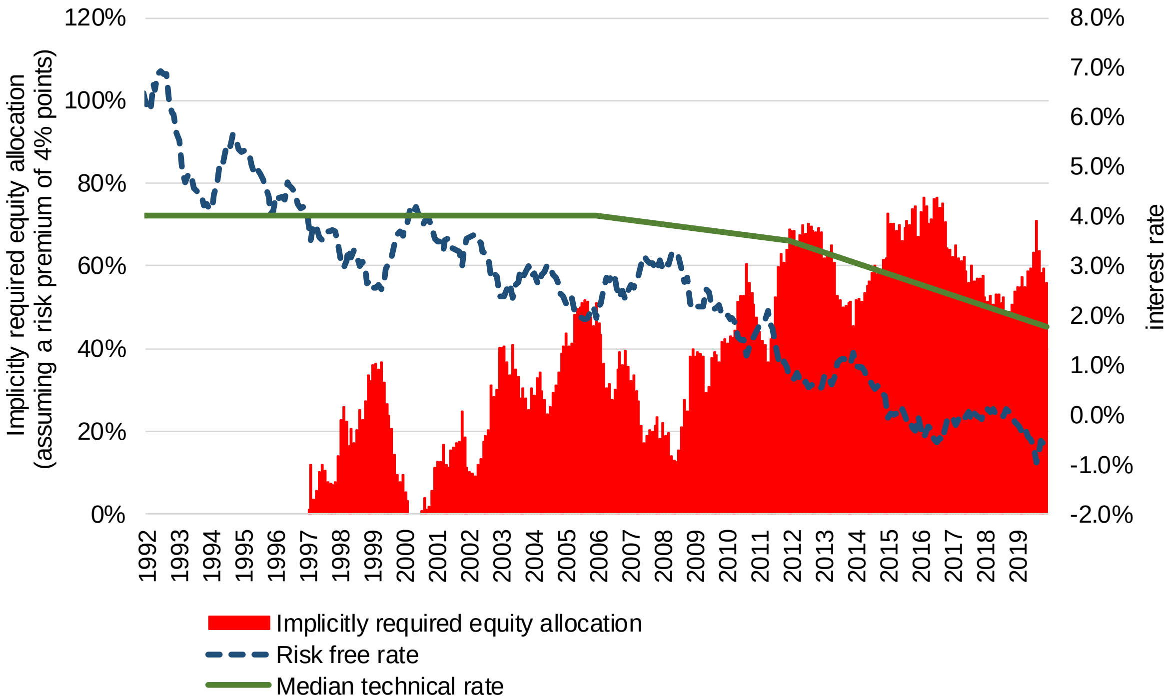


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Alternatives	3%	4%	5%	6%	6%	6%	6%	6%	6%	6%	7%	8%	9%	9%
Equities	28%	29%	30%	28%	22%	27%	28%	26%	28%	30%	30%	30%	31%	32%
Real Estate	15%	14%	14%	15%	17%	16%	17%	18%	18%	17%	17%	19%	19%	19%
Liquidity and fixed income securities	55%	53%	51%	51%	56%	51%	49%	50%	48%	47%	46%	43%	41%	40%

Data: Pensionskassenstatistik, Bundesamt für Statistik
Own illustration

This is where the trouble begins…

Currently used technical rates assume considerable risk transfers

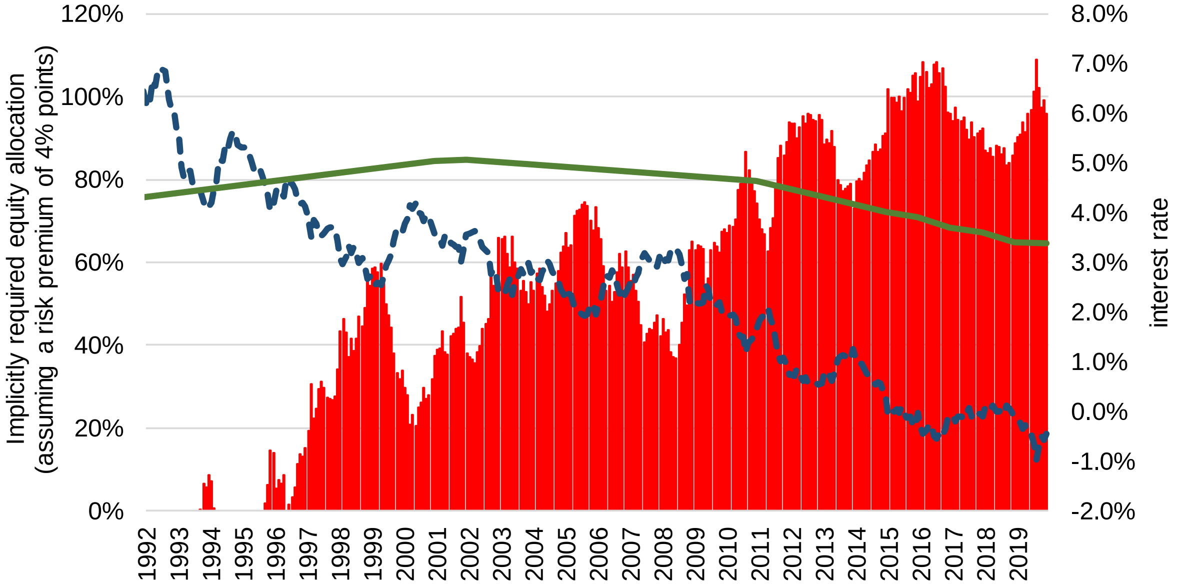


Data: Bloomberg and own data
Own illustration

- The **typically used technical interest rate** implies that pension provisions (of pensioners) are **increasingly invested in equities** to achieve the necessary expected returns.
- Since funding ratios have not improved, the associated **investment risk is passed on to the future funding status** and hence the plan sponsors (active members and employers).

This is where we get into more trouble…

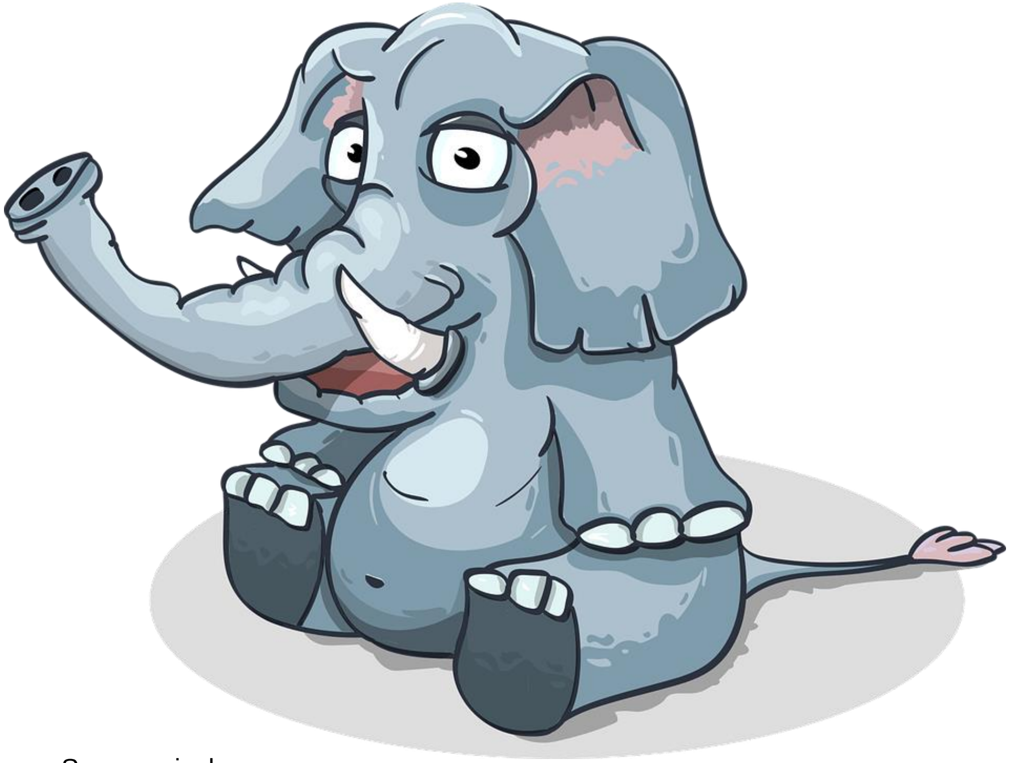
The typically used conversion rate implies an even larger risk transfer



Data: Bloomberg and own data
Own illustration

- The **typically used conversion rate** implies that the resulting new pension liabilities are currently **almost exclusively invested in equities**.
- Yet again, the risk has to be transferred elsewhere.

The elephant in the room



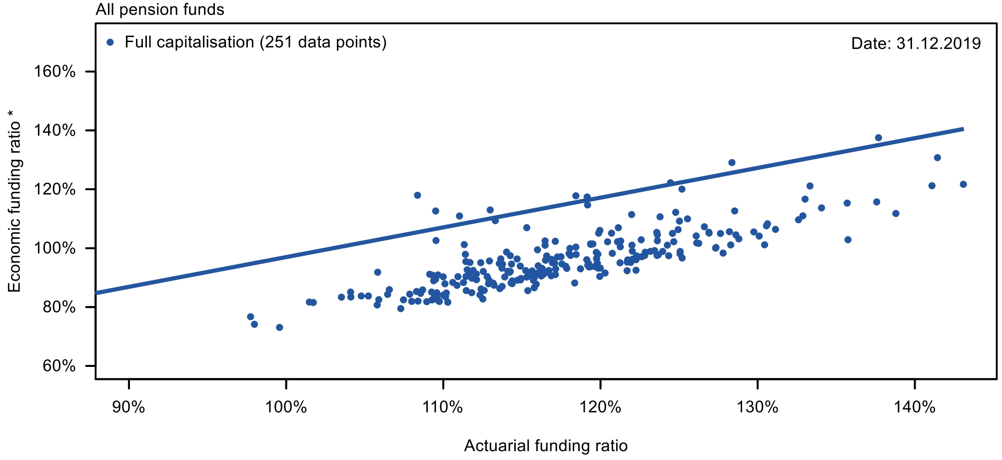
Source: pixabay

- **Are the sponsors (employer and active members) willing and capable to bear the investment risk of the retirees?**

What can we do to cope with this situation?

- **We cannot change the past**
  - However, we should avoid making the same mistakes again.
  - We should be cautious with newly promised pension benefits.
- **Transparent valuation of pension balance sheets (economic funding ratio)**
  - Fair view on financial reserves and the guarantees implied in asset allocations.
  - Necessary tool set for liability-driven investment decisions (make interest rate sensitivity of pension liabilities visible).

Actuarial funding ratio vs. Economic funding ratio
All pension funds



** Including projected plan benefits.*

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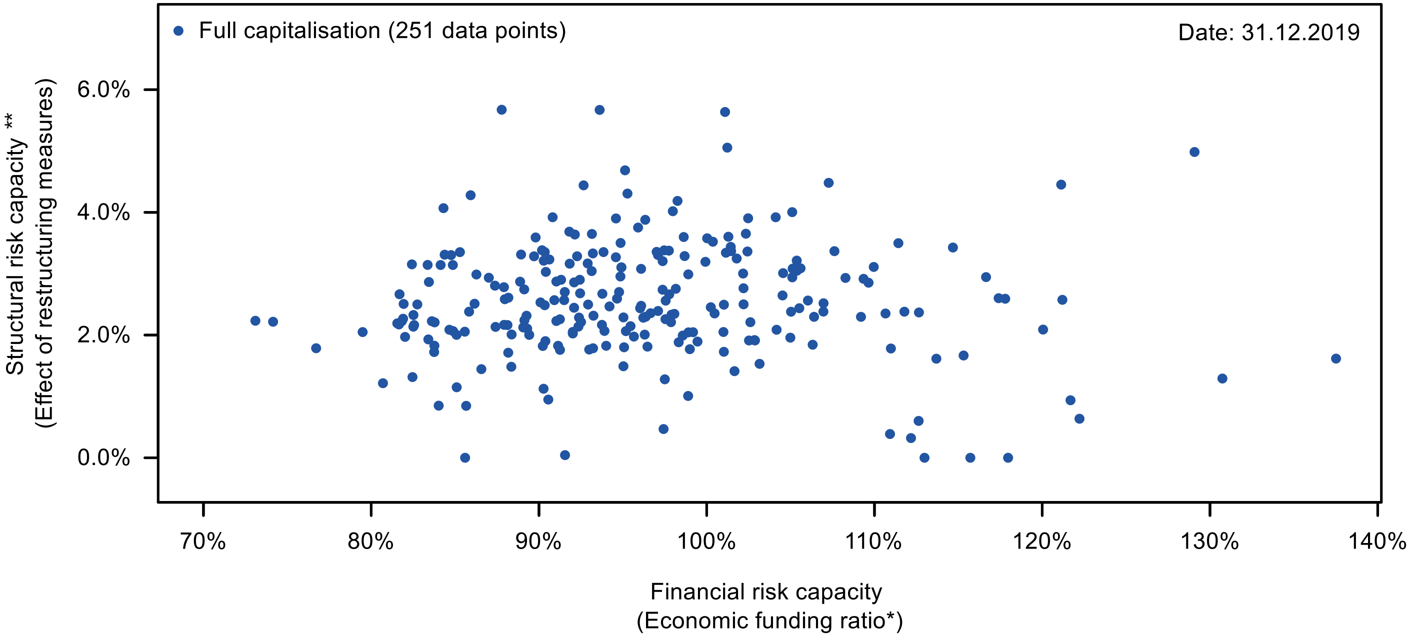
- Estimation (assumption: no change in technical interest rate)

We don't need to be fully funded to take on asset risk…

Risk capacity compared to Peer Group
All pension funds



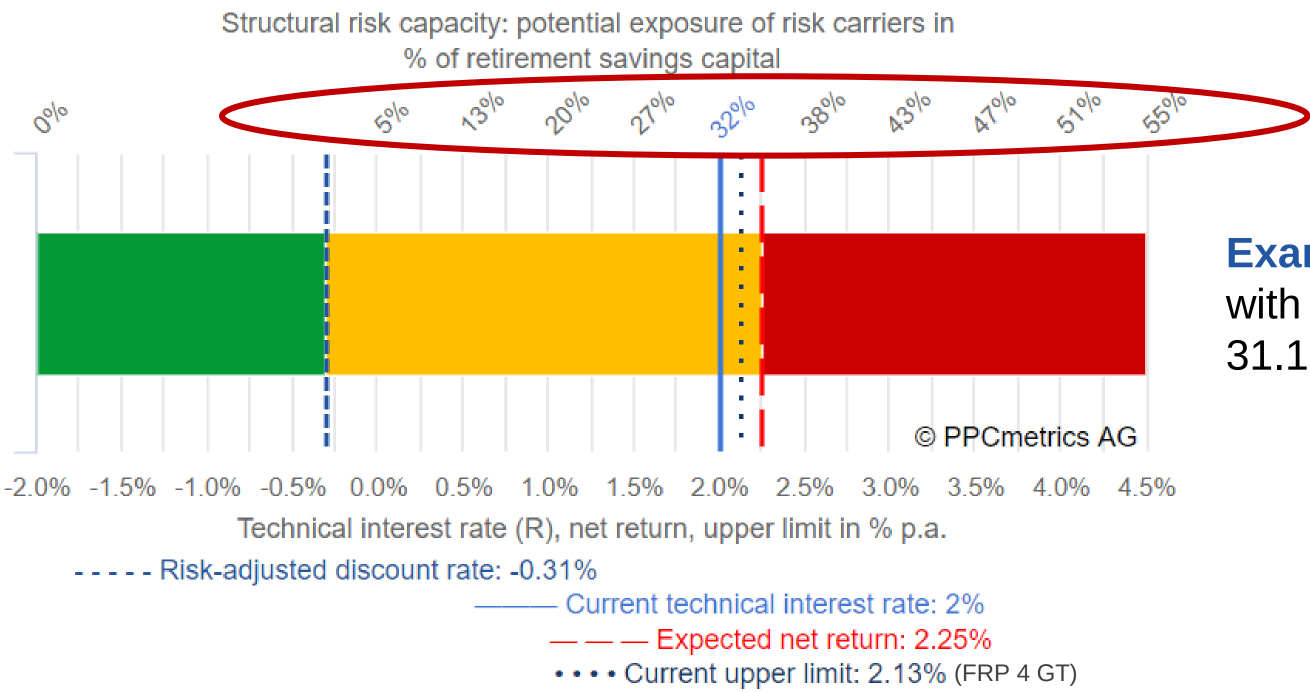
** Including projected plan benefits.*

** We assume 5 years of restructuring contributions at an amount of 3% of the payroll p.a.

… but we need to be comfortable with the potential recapitalisation measures implied in our risk taking strategy.

Value of the implied guarantee by using an technical interest rate > risk free rate

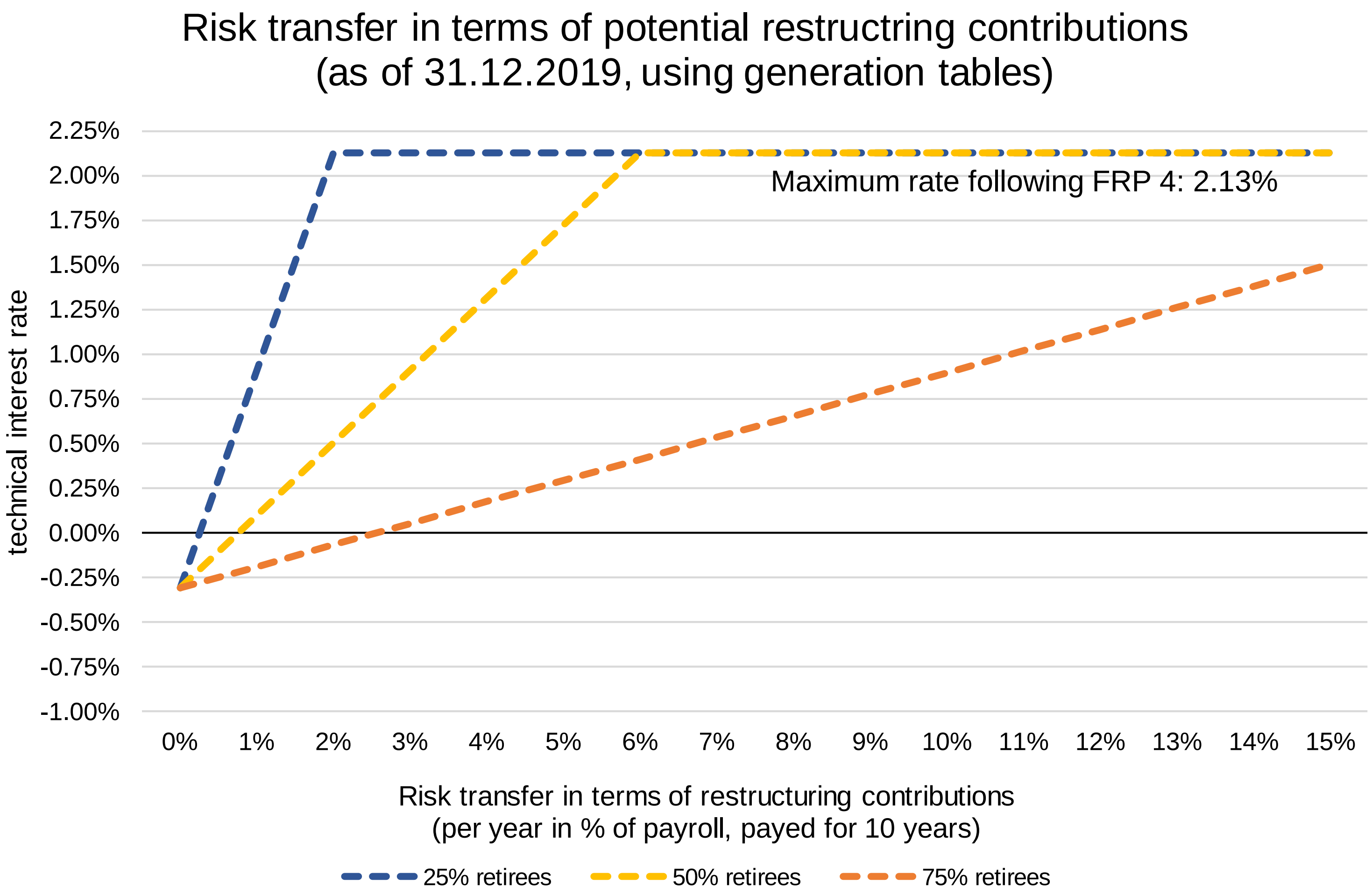
- Valuation of pension liabilities by **actuarial rate that exceeds the risk free rate clouds the implicitly assumed risk transfer to the plan sponsors**.



Example pension fund with 50% retirees as of 31.12.2019

Source: PPCmetrics

Indication for implied risk transfer in technical interest rates



Source: PPCmetrics

ALM in a high benefit, low interest rate environment

The great struggle of many Swiss pension funds:

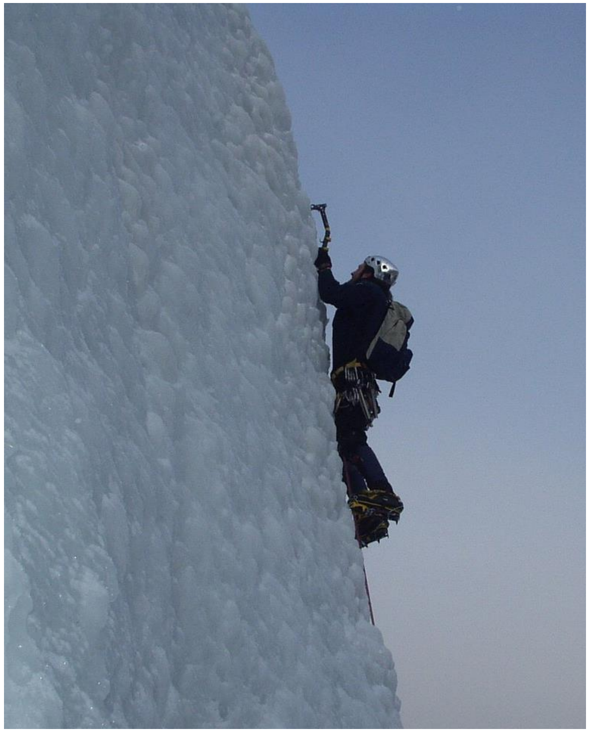
- The expected return of a portfolio with decent investment risk is nowhere close to the required rate to fund current and newly promised benefits.
- **In the past**, we had substantial **transfers** (returns and risk!) **from active members to retirees**.
- An expected return that **matches the required return implies taking on significant investment risk**.
- The (fair value) fluctuation reserves of many pension funds are not sufficient to cover this risk.

- **For many pension funds, a risk transfer to future generations is inevitable.**
- **Let's at least be transparent about it.**
- **This makes ALM as important as ever.**

Thank you very much

- The steeper the path, the more important is good risk management.

Source: pxhere.com



Source: needpix.com

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