Simplifying retirement

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Overview

- What should people want in retirement?

- Improving communication by product design

- Outlook

Planning for retirement
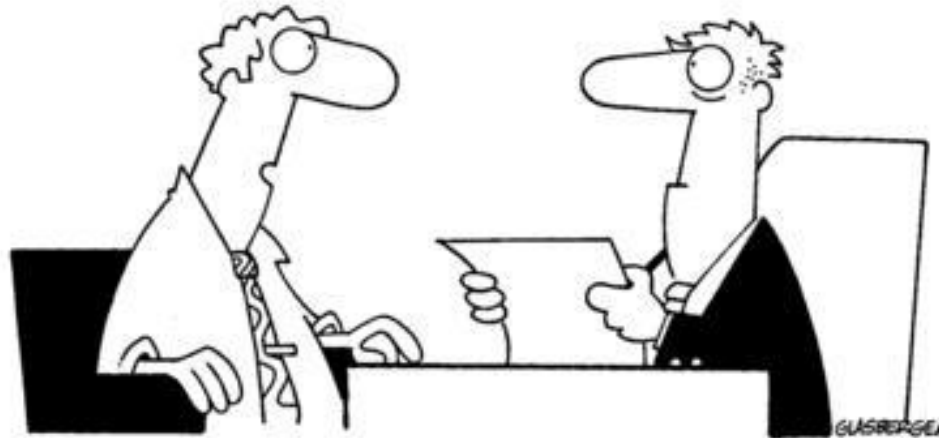
- Plan today…

- …for the future, but which one?

Not enough savings?

Not enough savings?

- Gap = {Amount p.a. people save} – {Amount p.a. they need to save to have a comfortable retirement}.

- Comfortable retirement is
  - 90% salary for low income,
  - 65% salary middle income,
  - 55% salary high income.

- Ignores property, investments, cash deposits.

- From Aviva 2016 report.

Country	Annual pension savings gap (€bn)	As percentage of country's 2016 GDP
France	241	11%
Germany	461	15%
Italy	99	6%
Spain	192	17%
UK	365	13%

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Not enough savings?

Country	Average replacement ratio for 2016 retirees	Projected average replacement ratio for 2037 retirees
France	53%	28%
Germany	42%	42%
Italy	49%	44%
Spain	48%	29%
UK	39%	31%

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Not enough planning?
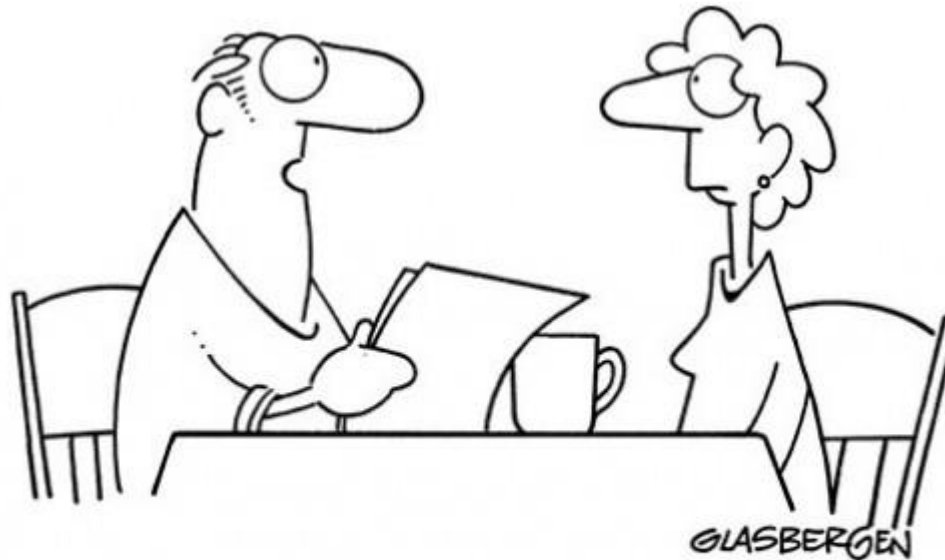
"Here's our retirement plan: at age 65, we'll get divorced then marry other people who planned better."

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Not enough planning?

- Planning for retirement predicts higher retirement wealth (eg Lusardi 1999).

- Planning requires financial literacy; see Lusardi and Mitchell (2011a) and references therein.

Financial literacy

- 33% of adults worldwide are financially literate [150,000 people in 140 countries surveyed].

- About 65% or more of adults are financially literate in Australia, Canada, Denmark, Finland, Germany, Israel, the Netherlands, Norway, Sweden, and the UK.

- Other surveys show similar results, better or worse depending on the questions.

Financial literacy- Lusardi and Mitchell (2011b)

- [Numeracy/Compounding] Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

More than $102; Exactly $102; Less than $102; Do not know; Refuse to answer. [2/3 correct]

- [Inflation] Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?
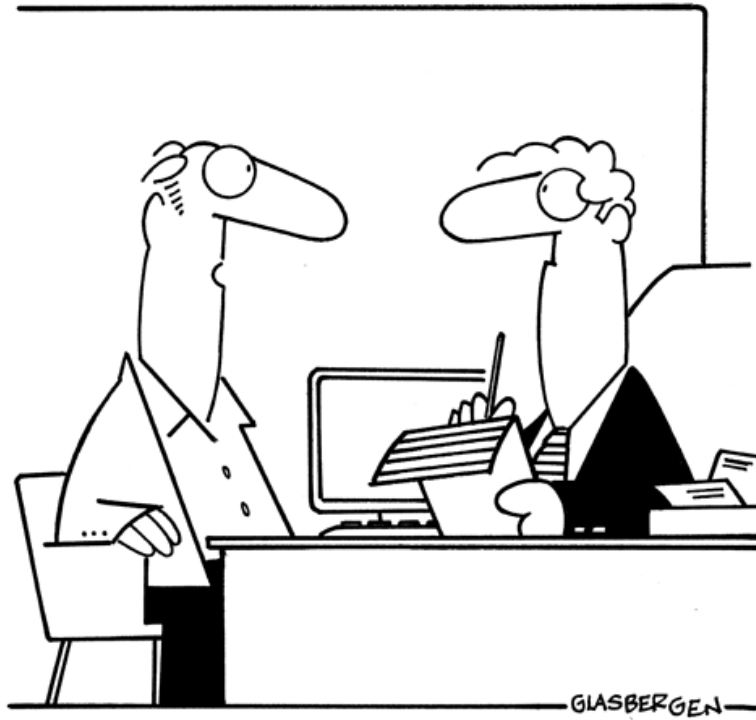
More than today; Exactly the same; Less than today; Do not know; Refuse to answer. [3/4 correct]

- [Risk Diversification] Please tell me whether this statement is true or false. "Buying a single company's stock usually provides a safer return than a stock mutual fund."

True; False; Do not know; Refuse to answer. [1/2 correct]

Financial literacy - Lusardi and Mitchell (2011b)

- In USA for over 50 year olds, find approximately

  - 1/3 answer all three questions correctly,

  - 1/3 answer two questions correctly,

  - 16% answer one question correctly,

  - 10% answer no question correctly.

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The present in the UK – DC on the rise

- DB plans are closing (87% are closed in 2016 in UK).

- Most people are now actively in defined contribution plans, or similar arrangement (97% of new hires in FTSE350).

- Contribution rates are much lower in DC plans

(~21% for DB vs 4% for DC, total, albeit DB includes deficit correcting contributions).

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Size of pension fund assets in 2016
(Willis Towers Watson I)

Country	Value of pension fund assets (USD billion)	As percentage of GDP	Of which DC asset value (USD billion)
USA	22'480	121.1%	13'488
UK	2'868	108.2%	516
Japan	2'808	59.4%	112
Australia	1'583	126.0%	1'377
Canada	1'575	102.8%	79
Netherlands	1'296	168.3%	78

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Mr Bean

- He is in his employer's Defined Contribution (DC) plan.

- Employer pays in money, Mr Bean pays in money.

- Mr Bean decides how to invest the money.

How to invest?

- DC plan offers 12 funds for him to choose from:

Default Lifestyle, Ethical Lifestyle, Cash Fund, Bond Fund,

Cautious Growth, Moderate Growth, Growth,

Domestic Equity, Global Equity, Emerging Markets Equity,

Ethical Equity, Sharia Fund.

Lifestyle/Target date funds (Vanguard 2017)

- 4.4 million Vanguard DC participants in USA.

- Average number of funds offered is 18.

- 92% of plans offer lifestyle funds.

- 72% of Vanguard DC participants are in lifestyle funds.

- 46% of Vanguard DC participants are wholly invested in lifestyle funds.

What people want

An inflation-indexed retirement income that lasts for their lifetime.

Robert C. Merton (2014) The Crisis in Retirement Planning. HBR.

- Goal= inflation-increasing income for life.

- Risk = failure to meet goal.

- Align investment strategy with goal.

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Improving communication by product design

- How much income in retirement?

- Target: The income you'd like to live on.

- Minimum: The minimum income that you are happy to live on.
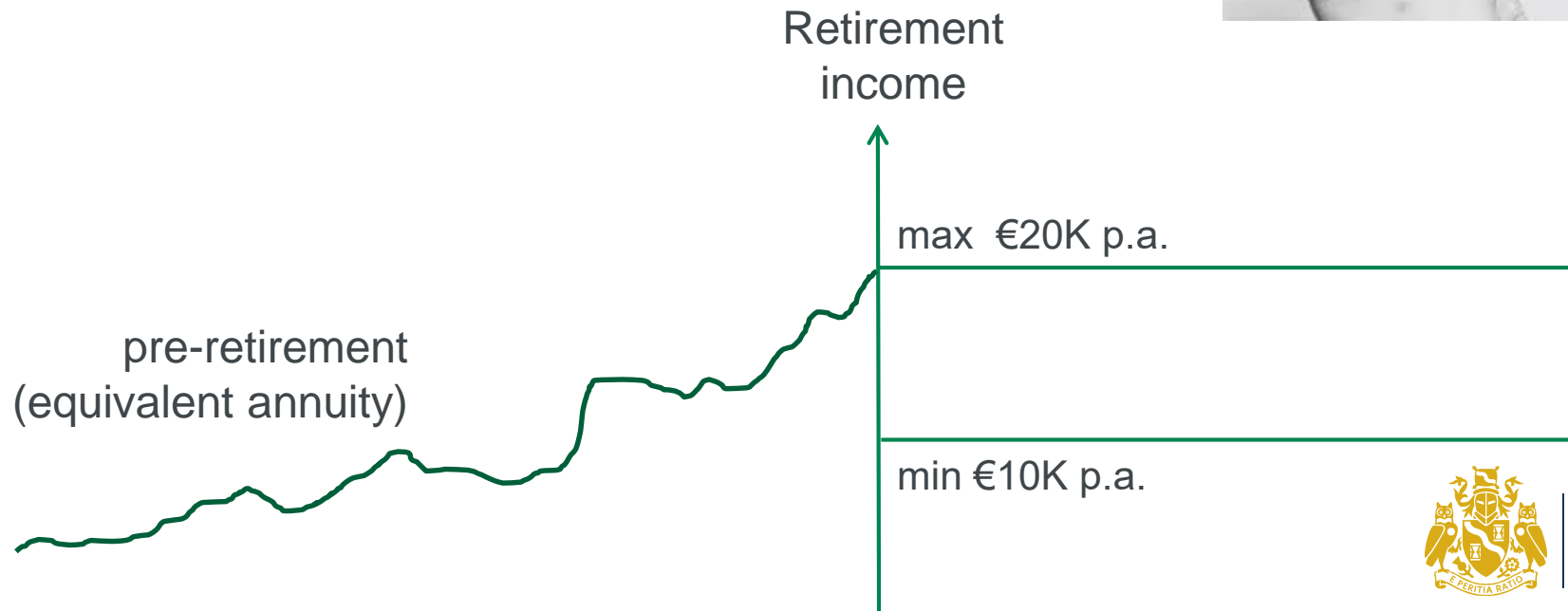
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Improving communication by product design

- Target income €20.000,

- Minimum income €10.000,

- Expressed in today's money.

Retirement income

max €20K p.a.

pre-retirement
(equivalent annuity)

min €10K p.a.

Customer communication

- Current contribution rate 12% of salary.

- Target income €20K p.a.

- Minimum income €10K p.a.

0% chance of <€10K		72% chance of €10K-€20K		28% chance of €20K		0% chance of >€20K

Customer communication

- Current **contribution rate 12%** of salary.

- Target income €20K p.a.

- Minimum income €10K p.a.

0% chance of <€10K		72% chance of €10K-€20K		**28%** chance of €20K		0% chance of >€20K
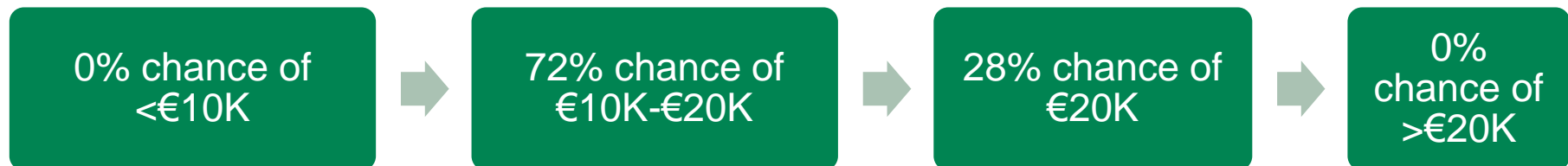
Customer communication

- Current **contribution rate 17%** of salary.

- Target income €20K p.a.

- Minimum income €10K p.a.

0% chance of <€10K	→	22% chance of €10K-€20K	→	**78%** chance of €20K	→	0% chance of >€20K

Securing a life-long income

- In first run-through, buy index-linked life annuities at retirement.

    – €20K p.a. = €600K lump sum at age 70,

    – €10K p.a. = €300K lump sum at age 70.

- Investment strategy

    – baseline strategy,

    – + long synthetic put to have wealth ≥ €300K,

    – + short synthetic call to have wealth ≤ €600K.

Securing a life-long income

Contribution rate	Chance of getting at least €20K p.a.		
	No Target, No Minimum		Target €20K p.a, Minimum €10K p.a (customer feedback)
12%	55%		**28%**
15%	68%		**65%**
17%	74%		**78%**

Securing a life-long income

Contribution rate	Chance of getting at least €20K p.a.		
	No Target, No Minimum	Target €20K p.a, but no Minimum	**Target €20K p.a, Minimum €10K p.a (customer feedback)**
12%	55%	59%	**28%**
15%	68%	74%	**65%**
17%	74%	83%	**78%**

- A hard income target:
  - Increases the chance to hit the target,

Securing a life-long income

Contribution rate	Chance of getting at least €20K p.a.		
	No Target, No Minimum		Target €20K p.a, Minimum €10K p.a (customer feedback)
12%	55%		28%
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- A hard income target:
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Securing a life-long income

Contribution rate	Chance of getting at least €20K p.a.		
	No Target, No Minimum	No Target, Minimum €10K p.a.	**Target €20K p.a, Minimum €10K p.a (customer feedback)**
12%	55%	26%	**28%**
15%	68%	58%	**65%**
17%	74%	69%	**78%**

- A hard income target:
  - Increases the chance to hit the target,
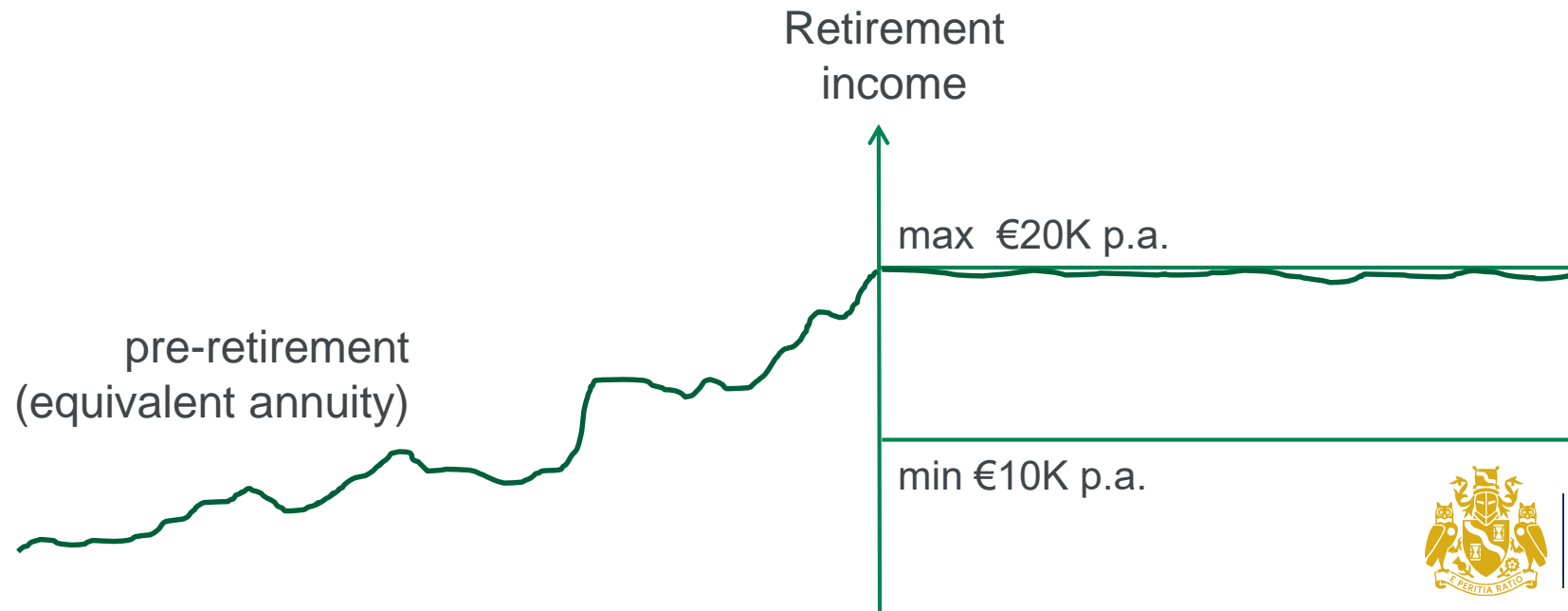 - Can offset the cost of the minimum income.

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Future directions

- Decumulation
  - Remain invested post-retirement,
  - Pool mortality risk for life-long income.

Retirement income

max €20K p.a.

pre-retirement (equivalent annuity)

min €10K p.a.

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Future directions

- Investment risk-sharing and/or return smoothing

- Aim for transparency as far as possible.

- Avoid guarantees until they are needed.

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The ARC seeks to deliver cutting-edge research programmes that address some of the significant, global challenges in actuarial science, through a partnership of the actuarial profession, the academic community and practitioners.

The '**Minimising Longevity and Investment Risk while Optimising Future Pension Plans**' research programme is being funded by the ARC.

www.actuaries.org.uk/arc

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The views expressed in this presentation are those of the presenter.

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