Communicating Uncertainty in Pension Benefits from DC Pension Plans

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Paris , 22 October 2010

Introduction

- Defined contribution (DC) pension plans play a key role in providing retirement income in many countries and their importance as a source of future retirement income is growing rapidly.
- Pension benefits from DC pension plans are inherently uncertain.
- The information provided in the annual pension statement and, especially, pension projections, can help members plan more effectively for their future retirement.

Usefulness vs. Reliability of Projections

- There is a growing consensus across countries that pension projections can be useful for members as a tool to help them plan for retirement.

- Do the benefits of including pension projections in the pension statement outweigh the potential confusion or misunderstanding such projections may cause for members?

- How can literacy on pensions and financial matters can be brought to a level so that pension projections become a truly useful tool for members?

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Purpose of the paper

- The purpose of this project is to assess how to best communicate projections of future pension benefits to DC plan members, and in particular, how to convey the uncertainty underlying these projections.

- The level of financial education is given. We know is low, but we need to make an effort in communication

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Structure of the paper

1. Discussion of the different types of pension information to convey to members

2. Examines how regulators and pension funds currently provide information on projected pension benefits from DC and how the uncertainty of those projections is communicated.

3. Introduces several designs for pension benefit statements that aim to communicate the uncertainty of pension projections in a quantifiable manner

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The Typical Structure of Pension Information

The type of information that is usually included in pension statements can be divided into two categories

- Basic accounting information
  - Generally required to meet regulatory disclosure guidelines.
  - Accounting information is a statement of facts and generally includes items such as account balance, investment performance, contributions and current asset allocation. Keeps a pension system accountable and transparent.
  - Helps to educate members about their pension and can help increase employee appreciation of their benefits.
- Forward-looking information
  - Choice variables
  - Information on uncertainty (risk)

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What are Countries Doing in Practice?

Common themes across countries

- Common practice in most countries is to disclose basic accounting information in the annual pension statement.
- A number of countries require projections. They appear to always be made on a deterministic basis.
- Communication of uncertainty of projections is done in one of two ways:
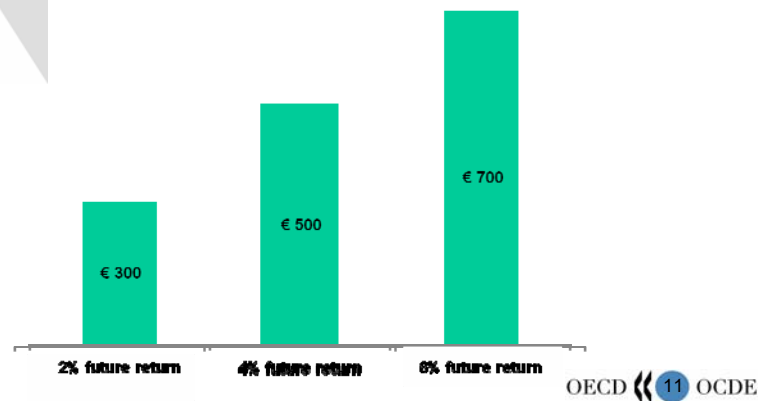
Communication of uncertainty: One scenario with a written caveat

- If the future investment return of your DC pension is 4%, then at age 65, you are projected to receive **€500 per month**.
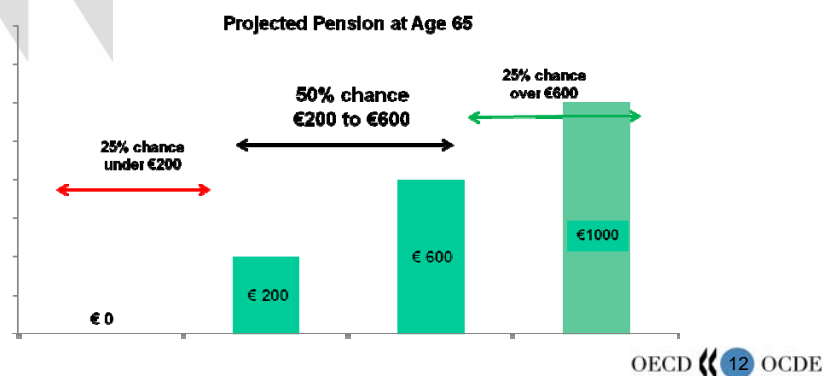
NOT GUARANTEED!

Communication of uncertainty: Projections are shown using two or more deterministic scenarios

Projected Pension at Age 65

		€ 700
	€ 500	
€ 300		
2% future return	4% future return	6% future return

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No examples found of using probabilities to communicate the uncertainty of projections.

- Stochastic: uses a probability distribution
  - At age 65, there is a 50% chance that you will receive a pension between **€200 - €600 per month**.

Projected Pension at Age 65

25% chance under €200

50% chance €200 to €600

25% chance over €600

€ 0   € 200   € 600   €1000

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On-line calculators are a popular tool

- On-line pension projection tools are popular. They typically provide projections under deterministic scenarios.
- The require a certain level of knowledge from the member. For example, often calculators require or allow the user to input their own assumptions.
- On-line tools have the advantage that the individuals who choose to use them are more likely to understand the results.
- The wide range of on-line calculators available in the marketplace could mean that the same individual could get widely different projection results depending on which tool he or she used.

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Results of studies on communicating projections

- Government-sponsored studies on communicating benefits and projections using focus groups / interviews have been made in the UK and Denmark
- Results common to both studies:
  - Use simple language. The statement must be easy to read and the projections must be comprehensible.
  - Projections are helpful to members.
  - Study participants in both countries found the concept of "today's values" difficult to understand.

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United Kingdom: Further results of study

- **Low levels of understanding:** The information presented in the pension statement cannot make up for low levels of financial literacy when it comes to pensions.
- **Point estimates preferred over ranges: "**Respondents were shown a range of options for presenting the forecast amounts – a specific sum, a rounded figure, or a range. Most were clear that they preferred a specific number rather than a range, because this seemed more 'real' and personal. Precise figures did not mislead them into thinking the amount was firm and not variable."
- **The effect of age:** "Age appeared to be the one of the most powerful factors affecting responses to forecasts... Current forecast documents do not seem to have broken through the sense of indifference of young people, and new approaches to communication may be needed."
- **Active not passive response:** "People need to be helped to see the forecast as a management tool and not as routine and essentially passive reports."

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Denmark: Further results of study

- **When to retire:** The most central information was what the individual would receive if he or she should retire at age 62, 65 or 67.

- **Use of the word "projection"** was considered confusing. The phrase "expectations as to pension payments" was preferred

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Message

- Current practice is for projections of future pension benefits included in pension statements to be deterministic without any quantification of uncertainty.

- Alternatively, pension statements could be designed to include projections of future pension benefits and the uncertainty inherent in those projections.

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Simplicity vs. measuring uncertainty

- Deterministic projections
  - Advantages: clarity and simplicity
  - Disadvantages: fail to provide a measure of uncertainty. Difficult to assess recommendations on how to respond to uncertainty.

- Deterministic projections lack probability distributions. Stochastic projections do

- But stochastic projections may be cumbersome and difficult to communicate

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Final section: Communicating Uncertainty

- Should regulators, plan sponsors and providers decide to include pension benefit projections and communicate the uncertainty about those projections

- The final section of the paper introduces several designs for pension benefit statements that aim at achieving this goal, using the stochastic results discussed in the previous paper.

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Questions

- Do you believe it is worthwhile to design pension statements to convey and communicate uncertainty using probability distributions?

- Or, do you believe this is too complicated?

- Is it better to design pension benefit statements providing a single deterministic projection without attached probabilities, where uncertainty can always be conveyed using text caveats or by providing results using 2 or 3 different assumption scenarios, as is the current common practice?

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Questions

- Finally, and more basically, should pension projections be provided to all members in pension statements or should they be provided via on-line calculators to those members that are interested?

- Alternatively, do members think that pension statements could combine the design form of determinist projections and back the qualifier (e.g. large, substantial) on uncertainty by a stochastic model?

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Questions

- Should members believe it is worthwhile to design pension statements to convey and communicate uncertainty using probability distributions, the type of questions then to address are:

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Q1. Absolute vs. relative numbers

Pension Benefit Statement for Mr. X

- your monthly income at retirement would be *at least 36% of your final salary* in 5 out of 10 times

- your monthly income at retirement would be *at least 1,200 EUR* in 5 out of 10 times

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Q2. Absolute numbers: rounded, inflation

- Rounded numbers? Impression of accuracy?

Pension Benefit Statement for Mr. X

- your monthly income at retirement would be *at least 1,200 EUR* in 5 out of 10 times

- your monthly income at retirement would be *at least 1,232.54 EUR* in 5 out of 10 times

- Inflation: use real value of pensions benefits at the time of the statement or at the time of retirement

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Q3. Probabilities vs. "5 out of 10 times"

Pension Benefit Statement for Mr. X

- your monthly income at retirement would be *at least 36% of your final salary in **5 out of 10 times***

- your monthly income at retirement would be at least 36% of your final salary **with a 50% probability**

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Q4. Include recommendations?
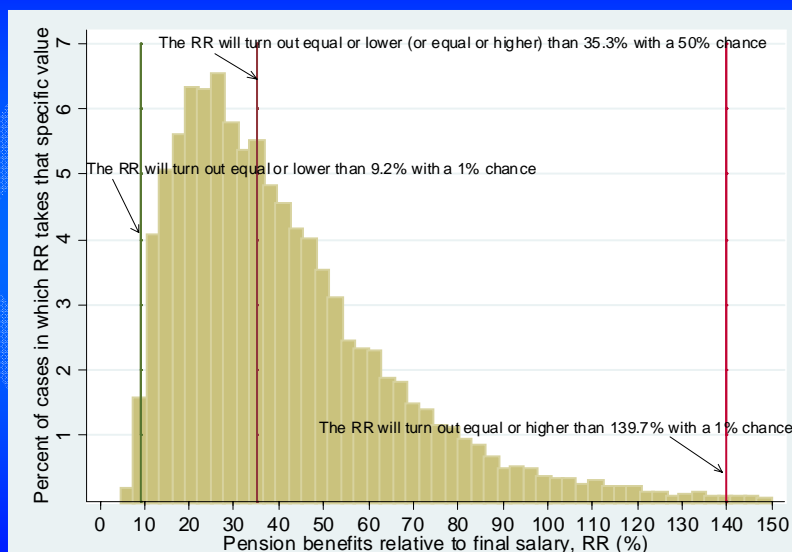
Pension Benefit Statement for Mr. X

- your monthly income at retirement would be ***at least 36% of your final salary*** in 5 out of 10 times

- However, it is possible that 1 out of 10 times your monthly retirement income would be 16% or less.

- You would need to double your contributions from 5% to 10% to ensure a minimum monthly retirement income of ***at least 36% of your final salary*** in 9 out of 10 times

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Q5. Using visual help: tables

Pension Benefit Statement for Mr. X

- your monthly income at retirement would be *at least 36% of your final salary* in 5 out of 10 times

- However, it is possible that 1 out of 10 times your monthly retirement income would be 16% or less.

- You would need to double your contributions from 5% to 10% to ensure a minimum monthly retirement income of *at least 36% of your final salary* in 9 out of 10 times

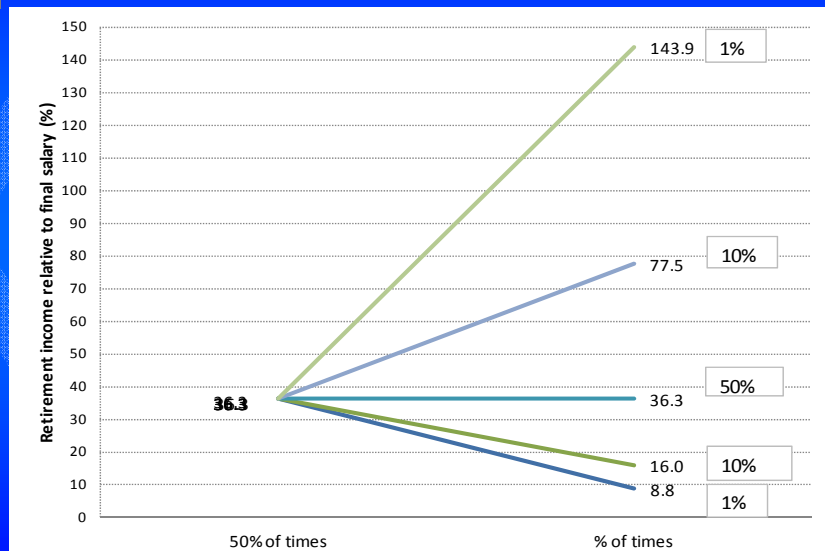| Number of times out of 10 that retirement income relative to final salary may be below a given level					
Retirement income relative to final salary	16	24	36	55	78
Number of times out of 10	1	2.5	5	7.5	9

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Q5. Using visual help: histograms

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Q5. Using visual help: Fan charts
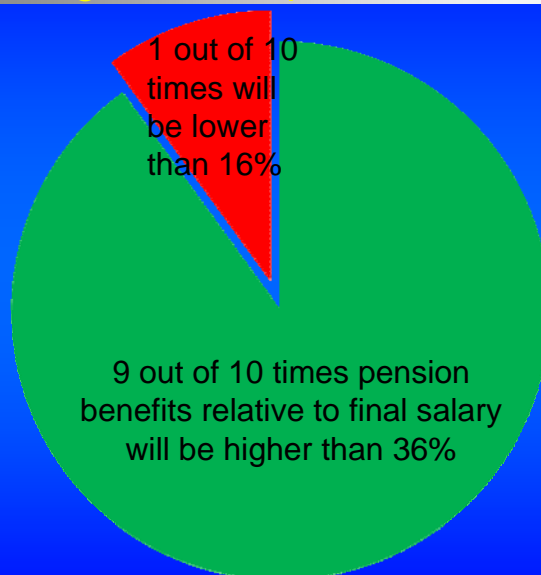

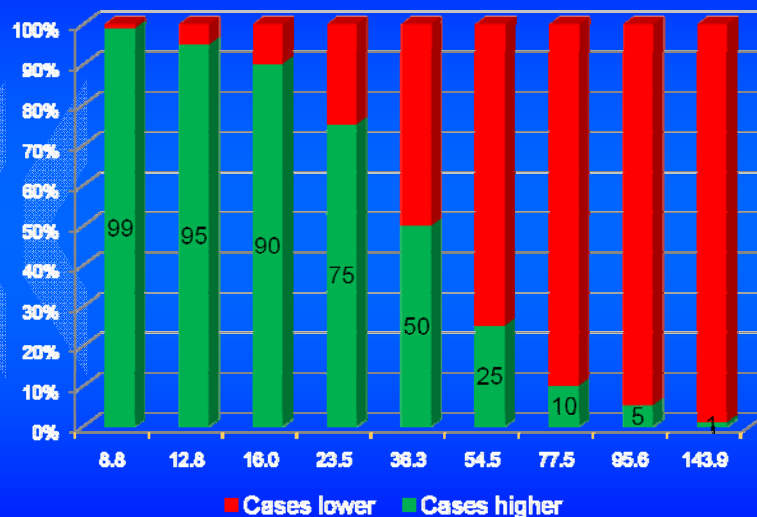Q5. Using visual help: coloured bar charts

5 out of 10 times pension benefits relative to final salary will be higher than 36%

5 out of 10 times will be lower than 36%

Q5. Using visual help: coloured bar charts

1 out of 10 times will be lower than 16%

5 out of 10 times pension benefits relative to final salary will be higher than 36%

4 out of 10 times will be btw 16 and 36%

Q5. Using visual help: coloured bar charts

1 out of 10 times will be lower than 16%

9 out of 10 times pension benefits relative to final salary will be higher than 36%

Q5. Using visual help: coloured bar charts

Q5. Using visual help: animated icons

Pension Benefit Statement for Mr. X

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Questions

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