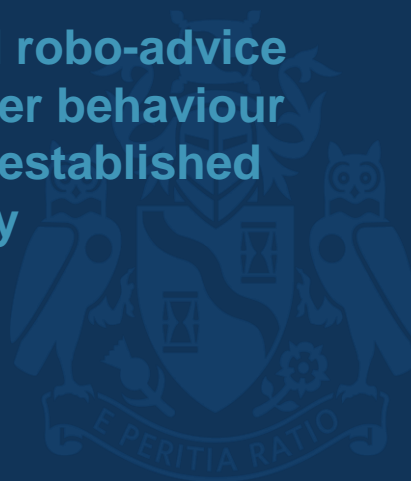




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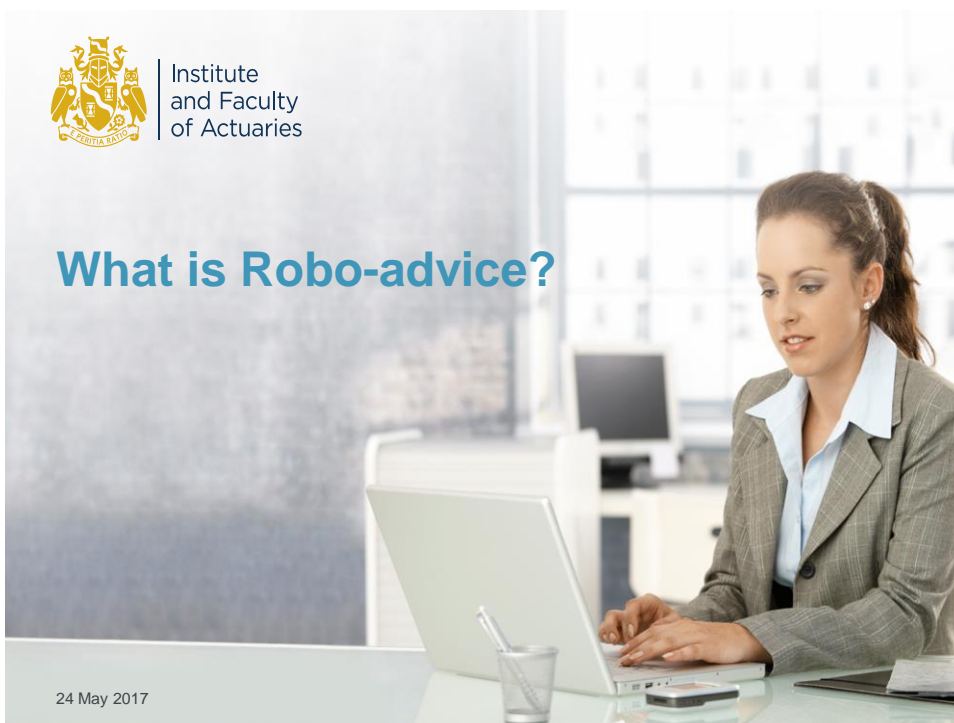
How technology and robo-advice is changing consumer behaviour and disrupting long-established models: a case study

John Taylor



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What is Robo-advice?



24 May 2017

A broad church

What is a 'Robo-Advisor (Robo-Adviser)'?

A robo-advisor (robo-adviser) is an online wealth management service that provides automated, algorithm-based portfolio management advice without the use of human financial planners. Robo-advisors (or robo-advisers) use the same software as traditional advisors, but usually only offer portfolio management and do not get involved in more personal aspects of wealth management, such as taxes and retirement or estate planning.

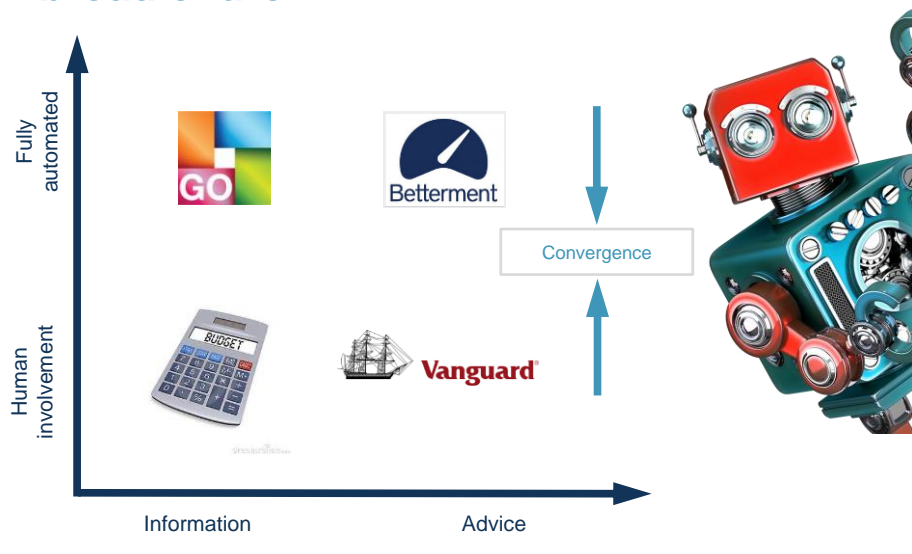
Source: Investopedia



Strategic Context – Market for Advice

| | |
|---|---|
| <p>Demand</p> <ul style="list-style-type: none"> • 30m UK adults • Unwilling/unable to pay for advice • Individual responsibility • Under-saving • Complex challenges | <p>Supply</p> <ul style="list-style-type: none"> • c. 20k UK advisers • Cost of advice • Access/availability |
| <p>Consumer Behaviour</p> <ul style="list-style-type: none"> • More online/mobile • Higher expectations • Increasingly comfortable with finances • Value convenience – 24/7 • Anonymity | <p>Technological Enablement</p> <ul style="list-style-type: none"> • Broadband • Cloud • Scale • Repeatability |

A broad church



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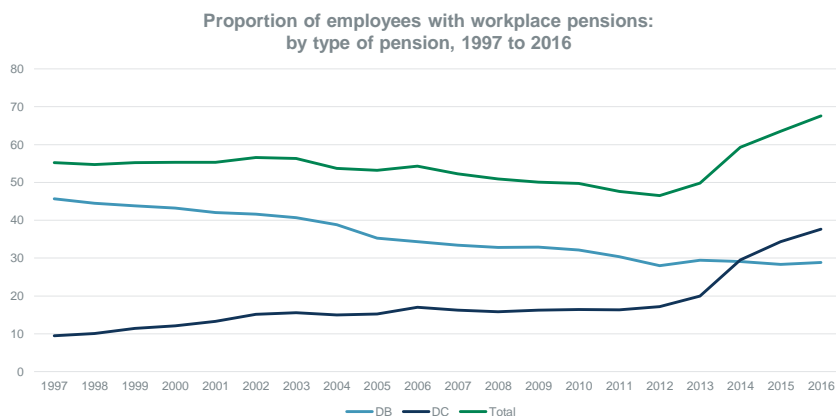
UK Workplace Pensions

A Robo-Advice Case Study



24 May 2017

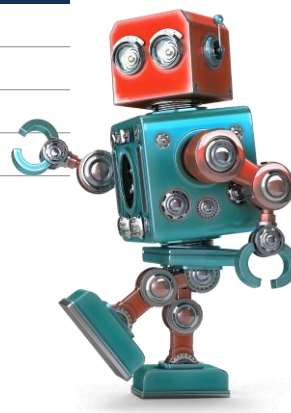
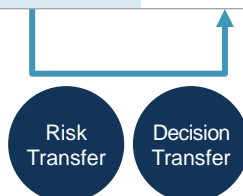
Trends in UK Pension Provision



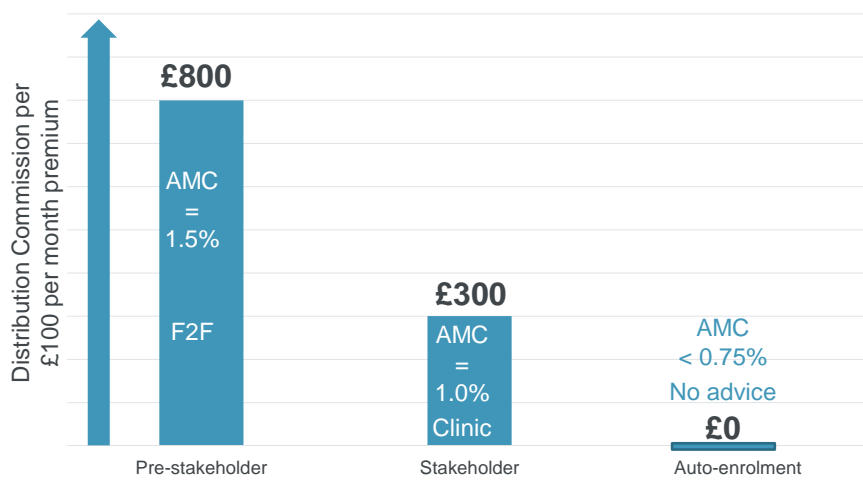
Source: Office for National Statistics

Transfer of Responsibility

| | DB | DC |
|--------------|---------|----------|
| Investment | Sponsor | Member |
| Contribution | Sponsor | Member |
| Term | Sponsor | Member |
| Advice | EBC | IFA/None |






Regulatory Impact on Advice Margin



Meeting the market challenge

- How could we help DC sponsors?
 - By using the DB machinery we'd developed over decades
 - By making it easy for employees to act.
- Hymans Roberston is an independent UK-based actuarial consultancy that helps sponsors with pension plans.

| | | |
|--|---|---|
|  <p>Data and analytics <small>CLUB VITA</small></p> <p>Rich data and modelling insights</p> <p>Examples:</p> <ul style="list-style-type: none"> • Licensed longevity data • Drawdown modelling • Economic scenario generators |  <p>Technology</p> <p>Customer facing tools</p> <p>Examples:</p> <ul style="list-style-type: none"> • Web-based calculators • Pensions websites |  <p>Consulting</p> <p>Strategy and proposition development</p> <p>Examples:</p> <ul style="list-style-type: none"> • Workplace proposition development • D2C launch • Distribution strategy |
|--|---|---|

- Note that we are paid by sponsors. Our “robo” service is paid via an increase to sponsor fees. Our remuneration is not affected by employee usage.

DB Machinery

Consider each DC member as providing their own DB scheme



Assets

Pot value



Investment

Investment choice



Inflows

Employer and employee contributions

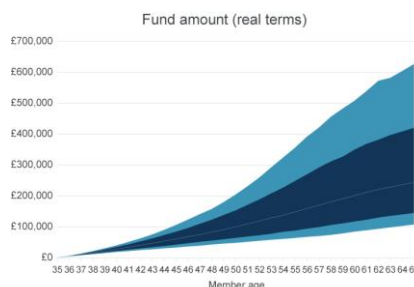


Liability

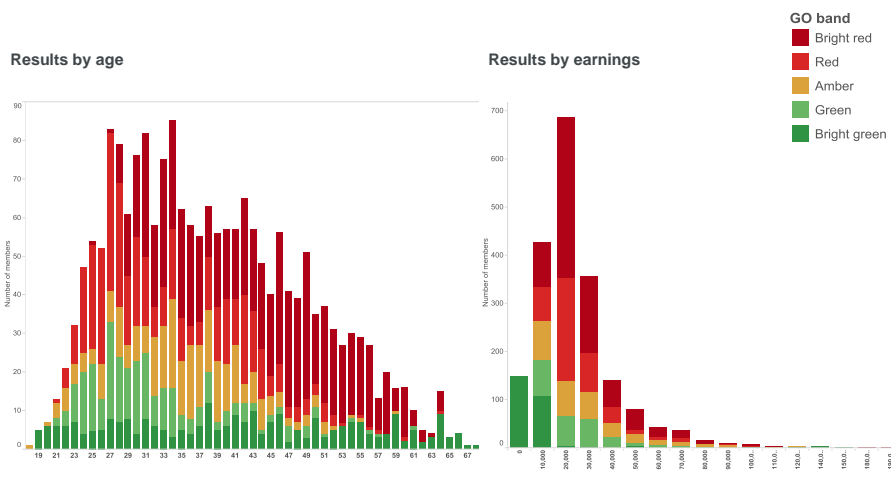
Pensions Commission (Salary-Related) Income (proportioned for current employment)

DB Machinery

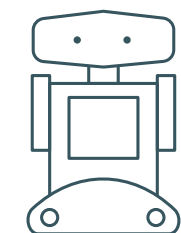
- Stochastic cashflow modelling now available
- Using Economic Scenario Generator
- To assess current trajectory of member based on starting parameters:
 - Age
 - Contributions
 - Investment
- Red/Amber/Green for each employee



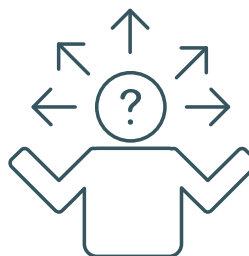
Results by demographic factors



Who's the customer?



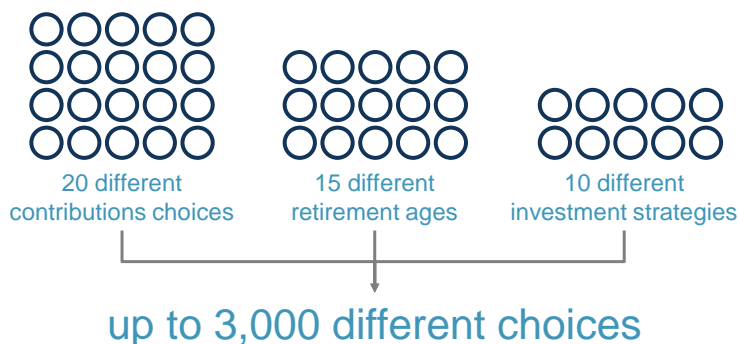
**Homo
Economicus**



Human

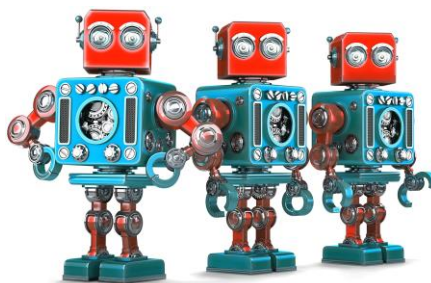
Employee Action

- We have assessed member's current trajectory...
-but we can also assess alternative trajectories:

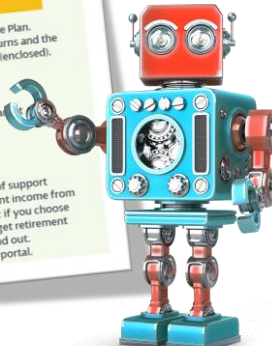


Employee Action

- Use Utility to present a preferred intervention based on:
 - A probability level agreed with sponsor
 - Employment characteristics
- Note that none of our (UK) sponsors want to vary investment choice via robo
- Individuals can reject/override preferred intervention



Statements



This Plan
GO indicates that at 65 years old (your selected retirement age in the Plan):

| | | |
|--|---|--|
| Your potential retirement income from this Plan is £10,100 a year* | The target retirement income you need from this Plan is £12,000 a year* | Likelihood of you meeting your target Moderate |
|--|---|--|

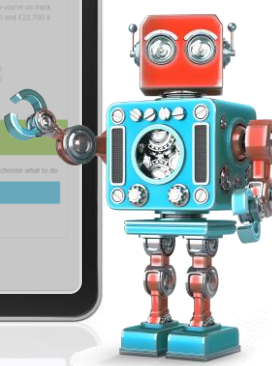
* This is calculated based on a range of between £8,300 and £16,500 that you may receive each year from the Plan. This range depends on a number of different factors such as your future salary increases, investment returns and the cost of an income in retirement. For more information about the assumptions GO uses, read the GO rules (enclosed).

Off target? GO can help
The online GO portal will suggest an approach to get you closer to your target retirement income from this Plan. This may mean:

- Increasing contributions (within certain limits); and / or
- Retiring later (within certain limits).

The portal will be available 24/7 and you'll be able to confirm the level of support (automatic or guided) you want to help get you to your target retirement income from this Plan. You can also select manual if you want to do it yourself. Note: if you choose the manual setting, GO won't notify you if you're off track for your target retirement income from this Plan in the future. You'll need to visit the portal to find out. We'll contact you again soon to give you details of how to log into the portal.

Employee interface



Current Assessment

Development Test Scheme

| | |
|--|---|
| Potential retirement income from your Plan | £12,000 a year Send estimates show you're on track for between £7,810 and £19,700 a year |
| Retirement age | Age 65 (50 years, 2040) |
| Contributions | Employee: £98 a month (1%) Employer: £195 a month (12%) Cost of contribution: £76 a month |
| Likelihood of reaching your target | Moderate |

[Remain with current assessment](#)
[Return to current assessment](#)

GO Approach

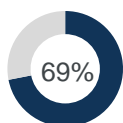
Development Test Scheme

| | |
|--|--|
| Potential retirement income from your Plan | £15,500 a year Send estimates show you're on track for between £10,200 and £24,700 a year |
| Retirement age | Age 66 (54 years, 2050) |
| Contributions | Employee: £286 a month (10%) Employer: £150 a month (10%) Cost of contribution: £469 a month |
| Likelihood of reaching your target | Likely |

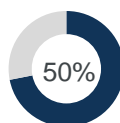
Contribution increases can be limited to 2%, click [Continue](#) to choose what to do

[Continue with GO approach](#)
[Set your own savings approach](#)

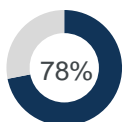
Member Experience: The results



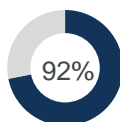
staff have logged in and looked around
(engagement on a typical pensions website can be around 10%)



of staff have returned for repeated visits to the site



of users surveyed felt well or very well informed about their retirement savings following using GO
(compared to 40% before)



of users surveyed said the information GO provided was useful or very useful

1 in 5  employees immediately increased contributions
(average 3.5% increase)

"I received my pack this week and I have to say it is best pension's communication I have ever received. I was really impressed & for first time in my life actually understood what my pension could be and how I could improve it."

"It is a very good tool and very easy and intuitive to use which is what I like best about it."

IT: Compute requirements for one scheme

- Projections:
 - Scheme with 20k employees
 - 30 years of projections
 - 1000 stochastic scenarios
 - 300 trajectories per employee
- 180bn years projected (Universe is 14bn years old).
- Cloud-based computing
- Seamless data integration and fulfilment



Work in progress



Learning with
A/B Testing



Pensions
Dashboard



Decumulation

Questions

Comments

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