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Discussion points on Robo-Advice

Frank Ashe

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Introduction

This paper raises a number of points that I believe need to be considered in the discussion of robo-advice. I'm not giving any recommendations or conclusions, not because I don't have any opinions, but because the evolution of the area has not progressed enough to warrant such things.

I start off with the definition(s) and then move onto the discussion points.

What is robo-advice?

As I was writing this, a firm of consultants was kind enough to put up a discussion paper[1] with their own definition:

> *Robo-advice, commonly referred to as digital advice and automated advice, is built on a foundation of rules and algorithms using client data to drive automated advice recommendations. In broad terms, a calculation engine or platform will power a robo-advice tool. These engines and platforms house the rules and algorithms which consider variables such as scenario (singles/couples), age, gender, assets (superannuation and personal investments), income, debt, financial objectives and tolerance to investment risk.*

That will do for me at the moment, but we need to recognise that there is a penumbra of tools and processes around this area. Some of these tools should not be called robo-advice but come close. For example, what do we call a tool that enables a financial planner (FP), in its most broadest definition, to provide better service to a client by giving them more information at their fingertips.

How is robo-advice likely to evolve?

What is the robo-advice doing? Is it providing personal advice or general advice?

Who owns the robo-adviser? Is the provider recommending their own products or third party products?

Does a general advice model make any sense?

Personal and general robo-advice can have different levels:

➢ Fully-automated advice with no human interaction;

➢ Hybrid services that start with fully-automated advice, with various levels of sophistication, supplemented with the option of consulting a "human" adviser;

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[1]   Rice Warner *Does Robo-advice Compute* 2016

➢ Full-service traditional advisory services that leverage guided advice technology solutions.

How will evolution of the advice lead to the larger SMSFs becoming more bespoke, with much less reliance on the large mutual funds available in various forms? Will we see a much greater preponderance of individual share portfolios?

The calculators

The Actuaries Institute (Australia) has a working party on what should be in a calculator, summarised by Hennington and Langton[2]:

> THE 10 *GOOD PRACTICE PRINCIPLES FOR RETIREMENT PHASE PROJECTIONS*
>
> *Principle 1: Models should provide information and outcomes that relate to the household's financial goals: their lifetime consumption needs and wants*
>
> *Principle 2: Models should be able to demonstrate the variability of future outcomes to facilitate informed trade-offs*
>
> *Principle 3: Models should allow for the fact that some expenditure needs are more important than others, and should be able to confirm that a household's essential lifestyle needs are secure for life*
>
> *Principle 4: Models should be able to project all significant assets, liabilities and incomes at the household level (including the Age Pension)*
>
> *Principle 5: Models should ensure that they take into account all issues that will have a material impact on future outcomes so that informed decisions can be made*
>
> *Principle 6: Models should provide year-by-year projections of expenditure and assets and be able to allow for changes in personal circumstances and expenditure levels in any future year to allow for dynamic behaviours*
>
> *Principle 7: Models should use best estimates for all required assumptions. These can be time varying and should take into account current market conditions to the extent possible*
>
> *Principle 8: Models should be able to demonstrate the range of uncertainty for the household's lifespan. Mortality rates should be appropriate for clients of the model and include mortality improvements*
>
> *Principle 9: Models should be able to facilitate annual reviews to take into account the household's actual experience*
>
> *Principle 10: Models should be able to be updated as required to take into account changes to assumptions and legislation*

Are these principles enough? Or are they too much?

These principles are aimed at the retirement phase, though they obviously should apply to the accumulation phase as well. The authors agreed when questioned on this matter.

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[2]   Hennington and Langton *10 Good Practice Principles for Retirement Phase Modelling in Australia* 2016

Does the number of principles embodied in a calculator depend on the level of advice?

> ➤ When do we need to worry about the mortality projections?

> ➤ How are we going to figure out what are a household's "essential lifestyle needs"?

What is risk?

Risk has usually been described in terms of a person's aversion to capital losses (that is, market volatility). Some models have moved to stochastic models e.g. a probability of achieving a targeted objective, such as the level of income in retirement.

We know from human psychology that a person's perception of risk can vary greatly depending upon the way the uncertainty is presented to them, or from completely irrelevant factors in their environment (framing).

Do the providers of the calculators know the risks themselves? For example, there is a large uncertainty in the expected return for equities[3] that is often at the heart of the calculators – Bernstein gives a standard error of the expected real return of over 1%. Changing the expected return in a calculator by 1% often makes a large change to the advice. How do we communicate this uncertainty to the ultimate end user of the advice?

What are large super funds and wealth managers likely to do with robo-advice?

Is robo-advice a disruptive force?

Will industry funds and the bank-owned wealth managers operate a different model for their forays into robo-advice?

Super funds look as if they're using robo-advice as a means to improve and expand their existing advisory services, increasing member engagement, and collect data for some uncertain end. Wealth managers are doing something similar, though it looks like from a more defensive stance. Not that the industry funds aren't worried about losing their members.

Robo-advice can be used to get lots of data on clients. Is this a force for good? ASIC? ACCC?

What about more complex issues?

One of the major failings of the government in this area is that the superannuation and taxation law is so complex that almost all individuals – including many in this audience – aren't able to figure out what is the "best" approach to accumulation and decumulation of their assets. This is a massive waste of economic resources[4].

Robo-advice should eventually make it feasible for an individual to negotiate this maze, though it may be a long time coming.

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[3]   Bernstein *What Rate of Return Can You Reasonably Expect . . . or What Can the Long Run Tell Us about the Short Run?* 2015

[4]   Your typical financial planner may not think so.

Does anybody know enough to provide personal robo advice?

To properly provide comprehensive personal advice we need to know a person's income, total super and non-super assets, marital status, partner's assets and superannuation, liabilities, insurances, and (maybe) their financial goals.

People needing advice on even simple topics need to provide most of this information. How do we gather this information as painlessly as possible?

The introduction of robo-advice will provide an opportunity for FPs to get to know and segment their clients much better. This may or may not be a good thing.

Must robo-advisers be licensed?

ASIC emphasises that "standards that apply to robo-advice and advice delivered by a human are identical"[5].

Note that ASIC does not consider that simple calculators and risk profile tools are the provision of advice. Where does "simple" stop being simple?

Education and financial literacy

People go to experts because saving for retirement is hard to think about and they don't want to be educated about it, just like they don't want a degree in aeronautical engineering in order to fly to Melbourne. They want to rely on experts. Are we relying too much on hoping that people can be made financially literate?

A US perspective on the retirement question
FAJ Special Issue Jan/Feb 2015

After 70 Years of Fruitful Research, Why Is There Still a Retirement Crisis?

This was a retrospective issue looking at what the CFA Institute's chosen editor considered to be the most significant recent articles. Most articles were only tangentially interesting for robo-advice. More interesting and fruitful ones have their abstracts below.

Thoughts on the Future: Life-Cycle Investing in Theory and Practice p43

Zvi Bodie

> *Advances in financial science have made possible an improved menu of life-cycle investment products.*

This was reprinted from Financial Analysts Journal, vol. 59, no. 1 (January/February 2003): 24–29. The following sort of comment has not stood the test of time, as many of the GICs provided by companies caused major problems during the GFC.

> *Finally, transaction costs, agency costs, and cognitive limitations provide important theoretical justifications for financial intermediaries to supply user-friendly, guaranteed retail investment products that have only a small number of well-understood options. A guarantee of a minimum rate of return is a good substitute for a course in statistics.*

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[5] Commission *ASIC and financial innovation* 2015

How much of the received wisdom we're working with is good?

What Rate of Return Can You Reasonably Expect? … or What Can the Long Run Tell Us about the Short Run? p35

Peter L. Bernstein

> *Conventional studies of long-run returns on capital market assets, because of changes in valuation between the starting date and the ending date, obscure the basic return each asset earns. Consequently, both absolute returns and measured risk premiums are distorted. The basic return can be extracted by selecting widely separated dates with identical valuation levels. Over nearly 200 years, the analysis for equities produced 63 episodes averaging 35 years with a mean nominal basic return of 9.6 percent and standard deviation of 1.6 percent; 63 bond episodes averaging 43 years produced a mean nominal basic return of 4.9 percent and standard deviation of 2.3 percent. Equities revealed a tendency to regress to the mean over time, but no such tendency was apparent in the bond data. Thus, long-run equity returns were more predictable than long-run bond returns. This conclusion applies with even greater force to real returns.*

We don't really know the basic parameter of most calculators – what is the expected future return on equities. How do we pass this information on to clients?

Making Retirement Income Last a Lifetime p79

Stephen C. Sexauer, Michael W. Peskin, and Daniel Cassidy, CFA

> *To enable investors to spend down the assets in their defined contribution accounts more easily, the authors propose a decumulation benchmark comprising a laddered portfolio of TIPS for the first 20 years (consuming 88 percent of available capital) and a deferred life annuity purchased with the remaining 12 percent. This portfolio can be used directly by the investor (akin to indexing) or as a benchmark for evaluating the performance of a more aggressive strategy.*

The Only Spending Rule Article You Will Ever Need p91

M. Barton Waring and Laurence B. Siegel

> *After examining an array of approaches to determining a spending rule for retirees, the authors propose the annually recalculated virtual annuity. Each year, one should spend (at most) the amount that a freshly purchased annuity— with a purchase price equal to the then-current portfolio value and priced at current interest rates and number of years of required cash flows remaining— would pay out in that year. Investors who behave in this way will experience consumption that fluctuates with asset values, but they can never run out of money.*

There are a variety of rules we can use for estimating retirement spending. All of them have a different effect of how long the money will last. Do we need to educate retirees on the difference?

Bibliography

Bernstein, P. L. (2015). "What Rate of Return Can You Reasonably Expect . . . or What Can the Long Run Tell Us about the Short Run?" Financial Analysts Journal **61**(1): 35-42.
Conventional studies of long-run returns on capital market assets, because of changes in valuation between the starting date and the ending date, obscure the basic return each asset earns. Consequently, both absolute returns and measured risk premiums are distorted. The basic return can be extracted by selecting widely separated dates with identical valuation levels. Over nearly 200 years, the analysis for equities produced 63 episodes averaging 35 years with a mean nominal basic return of 9.6 percent and standard deviation of 1.6 percent; 63 bond episodes averaging 43 years produced a mean nominal basic return of 4.9 percent and standard deviation of 2.3 percent. Equities revealed a tendency to regress to the mean over time, but no such tendency was apparent in the bond data. Thus, long-run equity returns were more predictable than long-run bond returns. This conclusion applies with even greater force to real returns.

Commission, A. S. I. (2015). ASIC and financial innovation
http://download.asic.gov.au/media/3355015/speech-fintech-15-sep-2015.pdf

Hennington, J. and G. Langton (2016). 10 Good Practice Principles for Retirement Phase Modelling in Australia. Actuaries Institute Financial Services Forum. Melbourne
Purpose of Paper: To propose a set of good practice principles for those organisations that develop projection tools to help with financial planning in the retirement phase.
An objective of the Actuaries Institute is to demonstrate that professional certification of retirement projection models is desirable and that Actuaries are well placed to provide this certification. As part of this process the Superannuation Projections and Disclosure Sub-Committee ("SPD") intends (after receiving feedback on the Principles set out in this Paper) to develop a set of Principles that would be endorsed by the Institute. The Paper has had input from the SPD but represents the views of the authors.

Rice Warner (2016). "Does Robo-advice Compute." Retrieved 7 July 2016, 2016, from http://ricewarner.com/does-robo-advice-compute/.
The increasing attention in Australia to technology-driven financial advice, dubbed robo-advice, raises numerous questions for investors, super funds, fund managers and financial advisers.