

Motivated saving: The impact of projections on retirement plan contributions

George Smyrnis (USYD), Hazel Bateman (UNSW), Isabella Dobrescu (UNSW), Ben R. Newell (UNSW), **Susan Thorp** (USYD)



UNSW
SYDNEY

Australia's
Global
University



THE UNIVERSITY OF
SYDNEY

Acknowledgements

This study was supported by Australian Research Council Linkage Project LP150100608 with partners UniSuper Ltd, and by Cbus Superannuation. We are grateful for the advice of Robbie Campo, John Sedawie and David Constable. Corresponding author: Susan Thorp; Address: Room 539 Codrington Building H69, The University of Sydney, NSW 2006, Australia. Tel.: +61 2 90366354

E-mail addresses: gsm3865@uni.sydney.edu.au (Smyrnis); h.bateman@unsw.edu.au (Bateman); dobrescu@unsw.edu.au (Dobrescu); ben.newell@unsw.edu.au (Newell); susan.thorp@sydney.edu.au (Thorp)

Can we boost people's planning by helping them figure out how much they need to save?

- Defined contribution funds report **current balances**
- Difficult for members to make **compounding forecasts from current to retirement balance**
- Adequate accumulations **vary individually**
- Compulsory increases to contributions are hotly **contested**

 Regulators encourage funds to give personalised **projections**



Regulator's method projects retirement lump sum and 25 year income from age 67.

$$\hat{RB}_t = RB_{t-1} \times [1 + (\bar{r} - f_{t-1})] + (I_{t-1} \times SG_{t-1}) + S_{t-1} - F_{t-1}$$

Diagram illustrating the components of the retirement lump sum projection equation:

- Account balance**: Points to RB_{t-1}
- 3% real net interest rate**: Points to \bar{r}
- Income**: Points to I_{t-1}
- 9.5% superannuation guarantee**: Points to SG_{t-1}
- Additional contributions**: Points to S_{t-1}
- Admin fees**: Points to F_{t-1}

- Lump sum projection computed recursively
- Fees and contributions projected from past 12 months' patterns
- Projects lump sum at public pension eligibility age – 67 years
- 25 year income stream amortises retirement balance at 3% p.a. + 50% of couple age pension based on retirement assets



What is the impact of personalised projections over a two-year trial period?

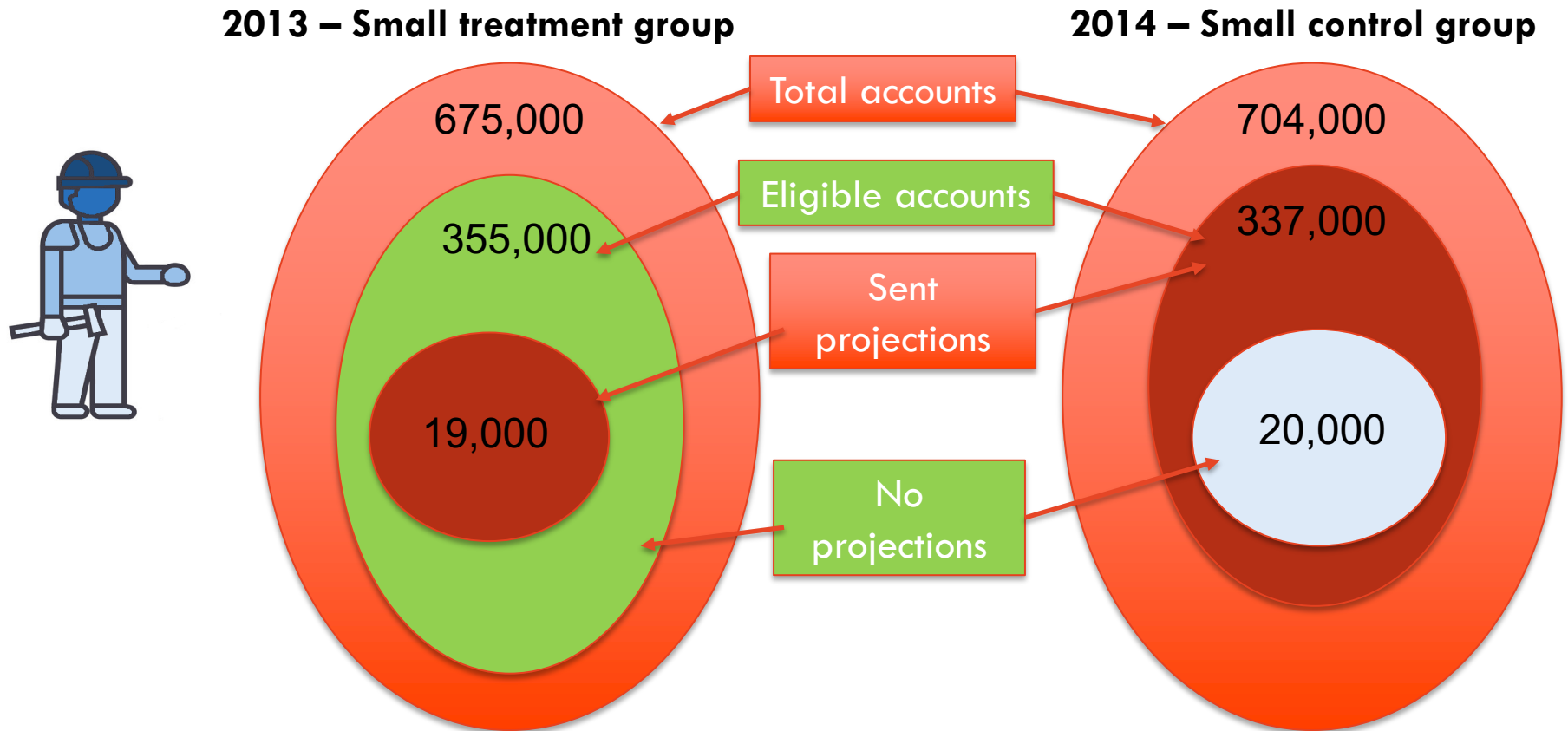
Research questions for projection trial:

- Are members motivated to communicate more with the fund when they see current balance + projections?
- Do members increase contributions?
- Any heterogeneous effects?
- Is the second round of treatment effective?



Cbus trialled projections in 2013 and 2014.

Cbus is profit-for-members fund mainly for the construction sector.



Retirement Income Estimates (RIE) explained.

2013: 19,000 Cbus members get retirement income estimate

2014: 337,305 members get retirement income estimate

More details on how this estimate is calculated

How the estimate is calculated

This estimate has been calculated using these assumptions and figures:

- **\$25,000** in your super fund now
- investment earnings of 3% per year after inflation
- annual fees and costs of **\$78** representing the administration fees during the year ending on 30 June 2013 (note that this amount may change over time)
- your super contributions during the previous year will continue until retirement
- you retire at age 67
- you want your super to last for 25 years after your retirement – that is, until age 92
- annual insurance premiums of **\$600** (note that this amount may change over time), and
- current tax and laws remain unchanged.

These are standard assumptions and have been set with input from the Australian Government Actuary. They may not match your actual circumstances either now or in the future. Also, the figures used may differ from those shown in your member statement. The annual income shown does not include any deductions for income tax you may have to pay.

If you want to know more about the way this estimate has been calculated, or the assumptions, call Cbus on 1300 361 784 or visit www.cbussuper.com.au/future

What you will actually get when you retire

The actual amount of money you get in retirement may vary considerably from the estimate.

Factors that influence what you will get include:

- the investment options you choose (for example Cash Savings, Conservative, Growth (Cbus Choice), High Growth)
- the performance of your investment
- the total fees deducted from your account
- when you retire and get access to your super
- the super contributions you and your employer make
- whether you choose to buy an account-based pension or non-account-based income stream when you retire
- any allowance you make for a pension for your spouse or partner, and
- whether you receive any age pension or other government benefit.

This estimate has been calculated assuming all current rules concerning super and taxing super remain in place.

This estimate only applies to your Cbus super account.

Your Personal Retirement Income Estimate

Prepared 30 June 2013

We've taken some of the hard work out of planning for the future

Your Annual Benefit Statement looks at the history of your Cbus account. So to help you plan for when you stop working, Your Personal Retirement Income Estimate looks at the future.

And we've estimated how much your Cbus account balance may be when you retire

Based on your Cbus account details at 30 June 2013, your transactions during the financial year and various important assumptions, we've estimated how much your account could grow between now and when you retire. Plus it shows the income you could expect to receive each year for 25 years.

Your account balance:
\$25,000
at age 39 in 2013

Your estimated account balance:
?????
if you retire at age 67 in 2041

Member name
«Member Name»

Your membership number
«123456789»

Turn over to see your account balance estimate at age 67 and what annual income this could provide.

Cbus is a leading super fund

Cbus continues to produce strong long-term returns for members with a 16.1% return* this year. This builds on the average 9.1% pa return the Growth (Cbus Choice) default investment option has delivered for its members, since 1984. Cbus now looks after over \$22 billion in members' super, for more than 700,000 members across Australia.

Investing in building Australia

Cbus invests members' money in a diversified range of assets to produce strong long-term returns. What makes Cbus special is that we also develop projects that employ our members through Cbus Property. These projects have created more than 74,000 jobs across Australia and have helped define our cities and economy. Visit www.cbussuper.com.au/AnnualReport to learn more.

Call 1300 361 784
Mon to Fri, 8am to 8pm

Email
advice@cbussuper.com.au

Visit
www.cbussuper.com.au/future

Cbus* Trustee: United Super Pty Ltd ABN 46 006 261 623 AFSL 233792 Cbus ABN 75 493 363 262
* Past performance is not a reliable indicator of future performance.

Getting help

Don't make changes to your retirement savings arrangements based on this estimate. Before you make changes, you should get further information or advice.

Online calculators let you explore your potential retirement income in more detail. They let you personalise the estimate and show you how you can improve your retirement income. These calculators include the Cbus Super Income calculator at www.cbussuper.com.au and ASIC's Money Smart retirement planner at www.moneysmart.gov.au.

Cbus phone advisers are licensed to provide financial advice by our fund administrator, Superpartners Pty Ltd ABN 57 078 907 863. Superpartners is responsible for the advice provided to you under its Australian Financial Services Licence 238761.



Calls to action: engage; save; invest

Calls to action: (i) contact Cbus (3); (ii) increase contributions (4); and choose different investment options (4).

Step 1. What will my Cbus account balance be at retirement?

Your account balance:
\$25,000
at age 39 in 2013

Your estimated account balance:
\$198,000
if you retire at age 67 in 2041

If you don't like the estimate, call the Cbus Advice Team to work out a plan for you.

What this estimate means

The projection is just an estimate, not a guarantee. The actual money you get in your retirement may be very different from this estimate.

How this is worked out

This is the super you may have when you retire, based on your account activity over the past 12 months. Your estimate is based on the contributions and deductions that occurred last financial year that we project (according to assumptions and rules defined by the Government) what you will have at age 67. The result is in today's dollars, which means it includes increases in the cost of living.

Step 2. How much income will this pay me when I finish work?

Yearly income (when retired)

See page 4 for other assumptions used to calculate this estimate.

\$11,200 pa
Cbus account



\$13,600 pa
Your half of the Government age pension



Other potential sources

\$24,800 pa
Your yearly income in retirement

Adding up your income

To work this out, we've brought together two 'incomes' you could get in retirement. These incomes are from your Cbus account and the Government age pension.

About the Government age pension

The Government age pension shown is half of the maximum amount a couple can currently receive. You may not be eligible for some or all of this age pension amount if you (or your partner) have income or assets in addition to this super fund. Pension rates and eligibility rules may change between now and when you retire.

Your other sources income

This estimate doesn't include any other super you may have or income you may get. This could be from shares, interest from savings or investment properties. These investments can support you in retirement.

We can help you get a clearer picture

The Cbus Advice Team can answer your questions about super and planning for retirement. Their tools can produce simple but accurate personal estimates that consider your whole financial situation, not just your Cbus account. And while they're phone based, they're fully qualified to work out a plan for you.

This is calculated to last 25 years. This is in today's dollars.

Step 3. What can I do to improve my estimate?

Contact the Cbus Advice Team

If you have questions, the Cbus Advice Team can give you answers you need to improve your estimate.



Call 1300 361 784
Mon to Fri, 8am to 8pm



Email
advice@cbussuper.com.au



Visit
www.cbussuper.com.au/future

How much income will I need?

Decisions you make now can change outcomes. The Government age pension provides a basic safety net in retirement. It's your super (and any other savings and investments) that helps you achieve a higher standard of living.

There are two simple ways we can help you decide if your estimated income is enough.

- **Replacement rate:** This compares a person's spending power before and after retirement (eg 60 to 70% of your working income), and
- **Budget standard:** This is based on working out income needed, on average, to live at a certain standard in retirement.

Get your own answers

Whatever your situation, the Cbus Advice Team can help you get a view of what's enough for you and your family. They can talk you through your options over the phone and provide you with all the detail you need.

Sources: ABS (2011) 'Retirement and retirement intentions, Australia, Commonwealth of Australia (2008) Pension Review, www.centrelink.gov.au

Longevity

Around one in six men and one in four women who retire at 67 years old will live longer than 25 years after retirement

Average age of retirement

Men 'retire' at 57.9 years old and women at 49.6 years old

Four facts that will change the way you plan for retirement

Pension

77% of Australians over 65 years old received income support

Pension rate

Current full fortnight rate (including supplements) is \$808.40 a for a single and \$1,218.80 for a couple



Some of the strategies Justin discussed

- Combining his super into one account
- Choosing a different investment option
- Adjusting his super contribution levels

Case study:

What Justin thought about

Justin, 38, works as an Account Manager in a construction company. He is married with two kids.

He received his Cbus Personal Retirement Income Estimate and thought he'd have more for his retirement.

Looking through it, it was clear to Justin that the estimate didn't cover his full financial position. For instance, he had another super account.

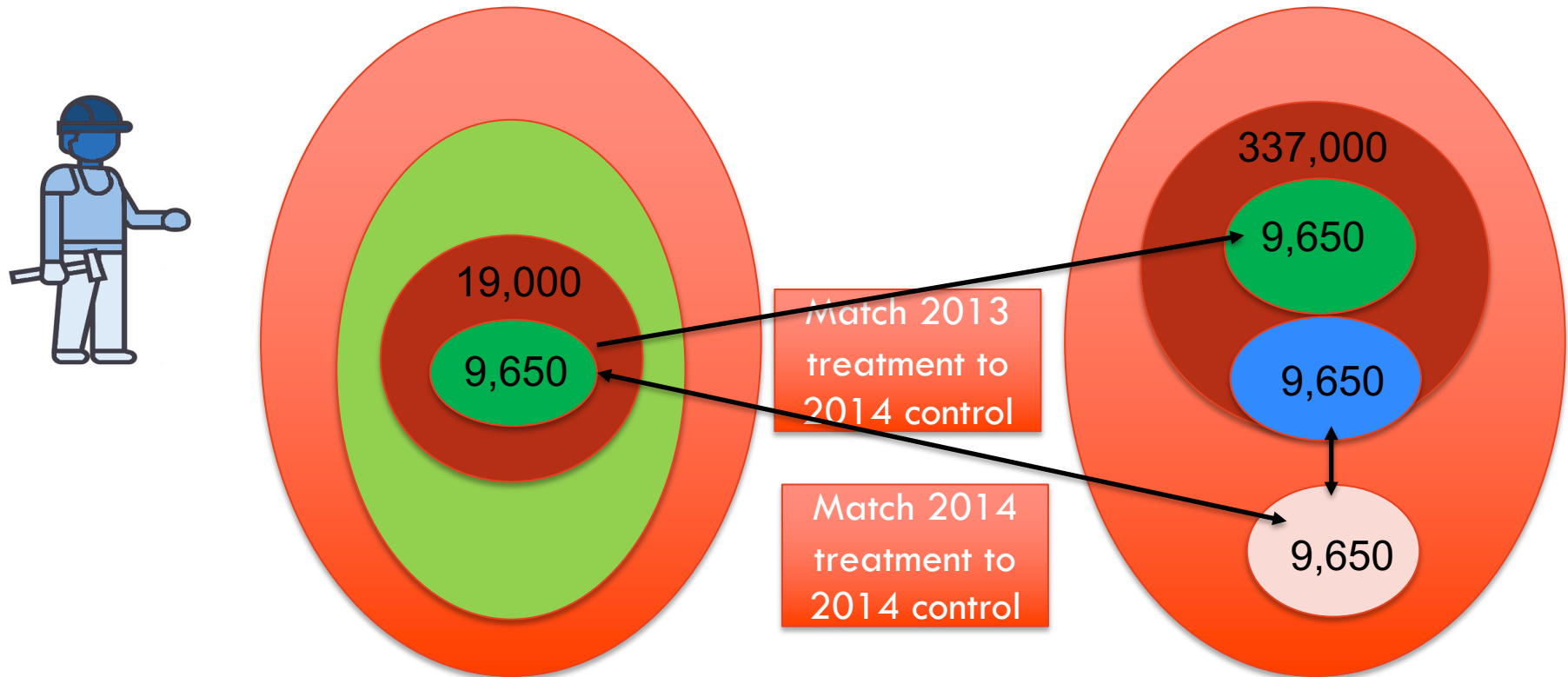
So Justin called the Cbus Advice Team to get answers to his questions. They were able to help him see his financial options clearly and take appropriate action.

Trial allows two treatment groups matched to 2014 control.

We measure the treatment effect for two years on the 2013 group of control.
We measure the treatment effect for one year on the 2014 group of control.

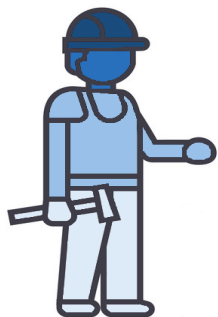
2013 – Small treatment group

2014 – Small control group



Sample characteristics- matched T and C.

	Median	Mean	Std Dev	F-test
Age	37	37.2	9.9	✓
Gender (M)	M	0.91	0.28	✓
Tenure (Yrs)	8.2	9.6	6.6	✓
Balance (\$)	35,081	44,742	36,253	✓
Observations	28,802			✓



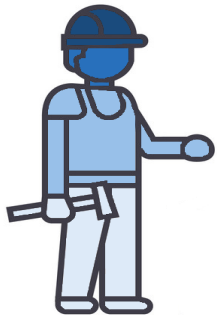
Compared with Australian super fund members 21-55 years, matched Cbus sample has:

- Higher proportion of males
- Equal median and average age
- Higher median and lower average account balance

More treated members contribute via concessional contributions (tax-preferred); + contribute higher amounts

	Control	Δ T- C	Control	Δ T- C	Control	Δ T- C	Control	Δ T- C
	%	%	%	%	\$	\$	\$	\$
	2014	2014	2015	2015	2014	2014	2015	2015
2013 (T11)	4.5	+1.1	5.3	+0.7	144	+83	237	+76
2014 (T01)	-	-	5.3	+0.3		-	235	+54

Notes: Bold values significantly > 0



Concessional contributions:

- More likely at older ages, higher balances, shorter tenure
- Higher at older ages, higher balances, shorter tenure
- *Treatment effect stronger at lower balances, longer tenure*

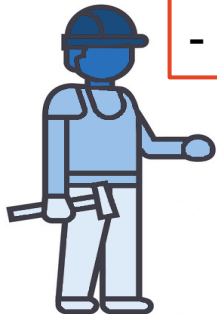
Treated members contribute higher non-concessional amounts (not tax-preferred).

	Control	Δ T- C	Control	Δ T- C	Control	Δ T- C	Control	Δ T- C
	%	%	%	%	\$	\$	\$	\$
	2014	2014	2015	2015	2014	2014	2015	2015
2013 (T11)	7.7	0.4	7.0	0.1	143	48.82	153	57.89
2014 (T01)	-	-	7.0	0.5		-	153	116.12

Notes: Bold values significantly > 0

Non-concessional contributions:

- More likely to be made at older ages, females, lower balance, longer tenure
- Amounts higher at older ages, higher balances, shorter tenure, males
- *Treatment effect stronger at older ages*



Member Interactions

- Email
- Phone
- Mail

Cbus Member Communication Summary

This table reports the most common communication activities by category for FY 2013/14 and 2014/15.

Category	Communication Activity	Frequency	Percentage (%)
1 - Account	General Information	1,428,515	27.60
	Account Details	486,333	9.40
	Member Balance Enquiry	230,000	4.44
	Insurance Enquiry	187,457	3.62
	Account Security	105,172	2.03
	Account Status	102,556	1.98
2 - Advice	Advisor Request	134,726	2.60
	Advisor Contact and Follow-up	94,312	1.83
	General Fund Advice	59,537	1.15
	Contribution Advice	42,170	0.81
	Investment Advice	35,472	0.69
	Access / Withdrawal Advice	34,525	0.67
3 - Employer	Additional Contributions	94,556	1.83
	Information Provision	65,261	1.26
	Contribution Arrears	20,249	0.39
4 - Third Party Authority (TPA)	General Enquiry	131,350	2.54
	Information Provision	44,384	0.86
	Power of Attorney	1873	0.04
5 - Administrative / Procedural	General Member Contact	246,720	4.77
	Benefit Payment	212,758	4.11
	Insurance Claim	200,824	3.88
	Documentation Provision	197,625	3.82
	Withdrawal / Retirement	121,747	2.35
	Fund Consolidation	62,338	1.25
Total (Selected)		4,348,081	84.02
Total		5,174,928	100.00

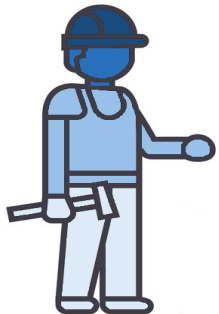
More treated members interact with the fund; interact more often.

	Control	Δ T- C	Control	Δ T- C	Control	Δ T- C	Control	Δ T- C
	%	%	%	%	\$	\$	\$	\$
	2014	2014	2015	2015	2014	2014	2015	2015
2013 (T11)	22.9	+13.0	26.8	+1.1	0.93	+0.73	1.15	+0.06
2014 (T01)	-	-	26.8	+1.6		-	1.15	+0.14

Notes: Bold values significantly > 0

Interactions:

- More likely to be made at older ages, higher balance, shorter tenure
- Number higher at older ages, higher balance, shorter tenure
- Some evidence of increase in advice inquiries
- Some evidence of more directed instead of general inquiries



Funds that show members projections of retirement income and lump sums are likely to encourage higher average saving into their retirement fund.



1. Re-framing account information as projections increases engagement.
2. Cbus members shown projections increased their contributions, on average, and increased their fund interactions.
3. Effects of projections on higher contributions continued for two years for the first treatment group.
4. Effects of projections were also significant for the second treatment group.

Project ... Lump sum? Income stream? Both?

- Mathematical equivalence is not always psychological equivalence
- Retirement plan field study: planning information + income projection ➡ higher saving next period (Goda et al. 2014)
- Savers are more sensitive to *income streams* than to equivalent *lump sums* at low-moderate wealth (Goldstein et al. 2016)



We conducted an online experiment to help understand the mechanism.

Research questions for experiments:



- Are members motivated to save when they see
 1. Current balance only?
 2. Current balance + projected lump sum?
 3. Current balance + projected income stream?
 4. Current balance + projected income stream and lump sum?
- Does motivation change over a sequence of decisions?
- Any heterogeneous effects?

Online
experiment
Design:
What will
you
contribute?

Fund member; not
retired; 25-57

N= 1,615

Age
Group

25-30

31-39

40-48

49-57

N= 4x~400

Treatment
Group

1. Current
balance (CB)

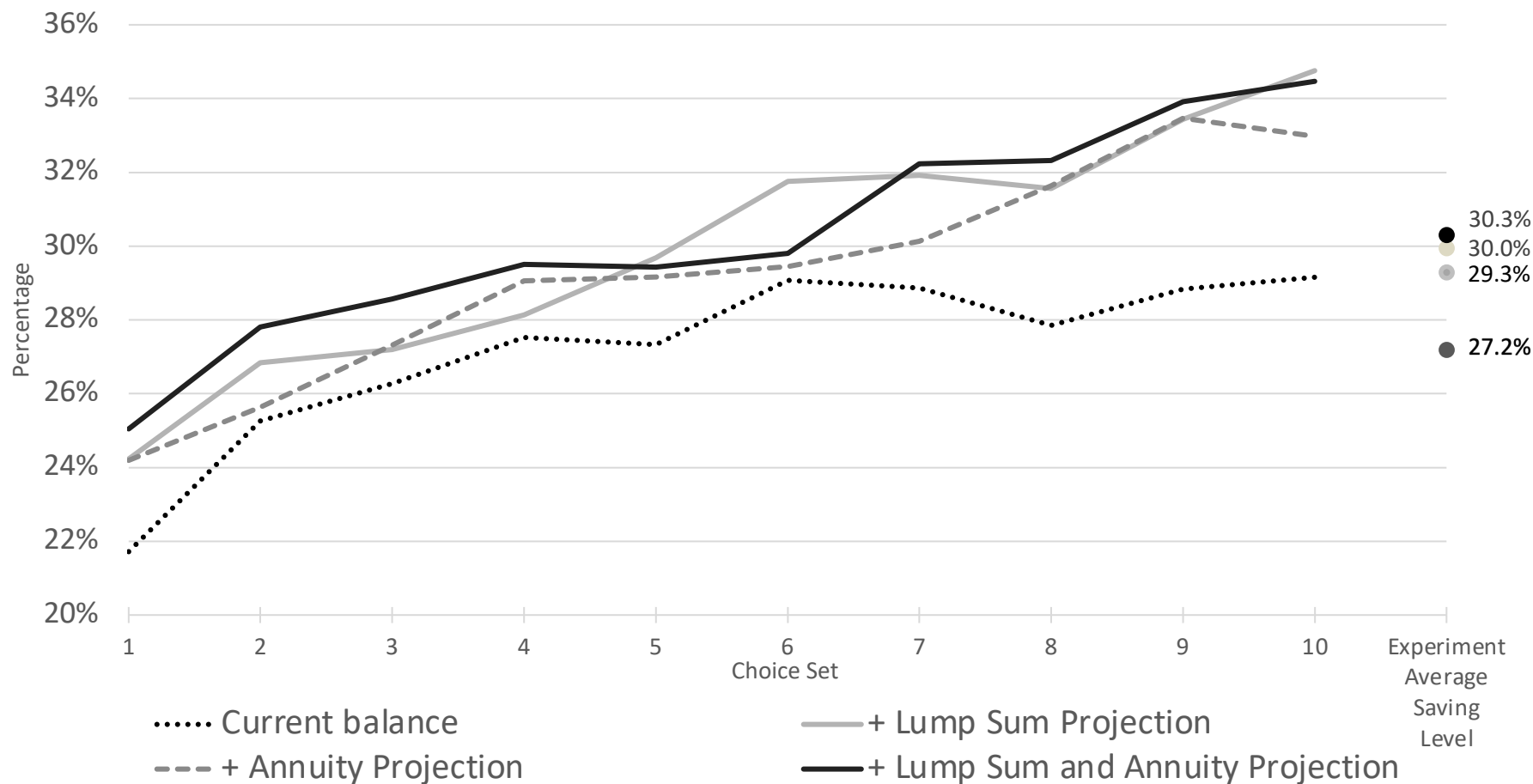
2. Lump sum
projection + CB

3. Income
projection + CB

4. Lump sum
proj'n + income
proj'n + CB

N= 4X~400

Average percentage of discretionary income saved by treatment is higher than control.



Over successive choices, the combination of lump sum and income projections leads to more saving.

...but the effects of income and lump sum projections separately are not statistically significant

Percentage increase in retirement balance after 10 choices.

Marginal effect over current balance condition $p < 0.1$ *; $p < 0.05$ **; $p < 0.01$ ***

Projected lump sum	0.78
Projected 25 yr income	0.59
Projected lump sum and income	0.94*

Higher saving if member has higher education, more knowledge of the retirement saving system, lower risk aversion, higher bequest intention, lower financial literacy.

Funds that show members projections of retirement income and lump sums are likely to encourage higher average saving into their retirement fund.



1. Re-framing account information as projections increases engagement and contributions and this effect continues over two years.
2. We test personalised projections – effects are larger and more persistent than earlier studies of general information.
3. Supplementary online experiments confirm the combination of lumpsum and income projections is most effective.
4. We do not see the entire balance sheet; we cannot measure the full net effect on preparation for retirement.
5. Trials show the value of boosting member engagement.

Contact Information



Prof. Hazel Bateman
h.bateman@unsw.edu.au



Prof. Susan Thorp
susan.thorp@sydney.edu.au



Prof. Ben Newell
ben.newell@unsw.edu.au



Ass Prof. Isabella Dobrescu
dobrescu@unsw.edu.au



George Smyrnis
gsmy3865@uni.sydney.edu.au