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)
Acknowledgements

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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.

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

- 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.

2013 – Small treatment group
- Total accounts: 675,000
- Eligible accounts: 355,000
- Sent projections: 19,000
- No projections: 20,000

2014 – Small control group
- Total accounts: 704,000
- Eligible accounts: 337,000
- No projections: 20,000
2013: 19,000 Cbus members get retirement income estimate

2014: 337,305 members get retirement income estimate
Calls to action: engage; save; invest

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

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

- Your estimated account balance:
  - $198,000 if you retire at age 67 in 2041
  - $25,000 at age 30 in 2013

**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 sum you may receive when you retire, based on your account balance over the past 6 months. Your estimate is based on 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.

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

**Yearly income (when retired)**

- $11,200 pa Cbus account
- $13,600 pa Half of the Government age pension
- Other potential sources

**Adding up your income**

To work this out, we've brought together two 'incomes' you could get in retirement: these are estimates 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 (or your partner) have income or assets in addition to the super fund. Pension rules 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 financial estimates that answer your financial questions about retirement and your Cbus account. And while they're on the phone, they'll guide you through a plan for you.

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**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 361 284 Mon to Fri, 6am to 8pm
- Email advice@cbusanpast.com.au

**How much income will I need?**

Decides you make now can change outcomes. The Government age pension provides a basic safety net in retirement. So 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 through your options over the phone and provide you with all the detail you need.

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**Step 4. Case study:**

**What Justin thought about**

Justin, 35, works as an Actuary 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, he was clear to Justin that the estimate didn't cover his ideal 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.

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**Case study:**

**Your Personal Retirement Income Estimate**

Prepared 30 June 2013

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Looking through it, he was clear to Justin that the estimate didn't cover his ideal 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.
We measure the treatment effect for two years on the 2013 group cf control. We measure the treatment effect for one year on the 2014 group cf control.
## Sample characteristics - matched T and C.

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Mean</th>
<th>Std Dev</th>
<th>F-test</th>
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<tbody>
<tr>
<td>Age</td>
<td>37</td>
<td>37.2</td>
<td>9.9</td>
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<tr>
<td>Gender (M)</td>
<td>M</td>
<td>0.91</td>
<td>0.28</td>
<td>✔️</td>
</tr>
<tr>
<td>Tenure (Yrs)</td>
<td>8.2</td>
<td>9.6</td>
<td>6.6</td>
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<td>Balance ($)</td>
<td>35,081</td>
<td>44,742</td>
<td>36,253</td>
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<td>Observations</td>
<td>28,802</td>
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<td>✔️</td>
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</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Δ T- C</th>
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<th>Control</th>
<th>Δ T- C</th>
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<th>Δ T- C</th>
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<tr>
<td>2013(T11)</td>
<td>4.5</td>
<td>+1.1</td>
<td>5.3</td>
<td>+0.7</td>
<td>144</td>
<td>+83</td>
<td>237</td>
<td>+76</td>
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<tr>
<td>2014(T01)</td>
<td>-</td>
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<td>5.3</td>
<td>+0.3</td>
<td>-</td>
<td>235</td>
<td>+54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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).

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Δ T-C</th>
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<th>Δ T-C</th>
<th>Control</th>
<th>Δ T-C</th>
<th>Control</th>
<th>Δ T-C</th>
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<td>%</td>
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<td>$</td>
<td>$</td>
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<tr>
<td>2013 (T11)</td>
<td>7.7</td>
<td>0.4</td>
<td>7.0</td>
<td>0.1</td>
<td>143</td>
<td>48.82</td>
<td>153</td>
<td>57.89</td>
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<tr>
<td>2014 (T01)</td>
<td>-</td>
<td>-</td>
<td>7.0</td>
<td>0.5</td>
<td>-</td>
<td>153</td>
<td>116.12</td>
<td></td>
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</tbody>
</table>

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*
### Cbus Member Communication Summary

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

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

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<td>26.8</td>
<td>+1.1</td>
<td>0.93</td>
<td>+0.73</td>
<td>1.15</td>
<td>+0.06</td>
</tr>
<tr>
<td>2014 (T01)</td>
<td>-</td>
<td>-</td>
<td>26.8</td>
<td>+1.6</td>
<td>-</td>
<td>1.15</td>
<td>+0.14</td>
<td></td>
</tr>
</tbody>
</table>

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.
- Mathematical equivalence is not always psychological equivalence

- Retirement plan field study: planning information + income projection \(\rightarrow\) 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

Age Group

25-30

31-39

40-48

49-57

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= 1,615

N= 4x~400

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

<table>
<thead>
<tr>
<th>Percentage increase in retirement balance after 10 choices.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal effect over current balance condition p&lt;0.1 *, p&lt;0.05 **, p&lt;0.01 ***</td>
</tr>
<tr>
<td>Projected lump sum</td>
</tr>
<tr>
<td>Projected 25 yr income</td>
</tr>
<tr>
<td>Projected lump sum and income</td>
</tr>
</tbody>
</table>

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

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