

NBER Household Finance Research Proposal

Title: "Sticking to Long-term Saving Plans", Sule Alan

In many countries policy makers are concerned that households reach retirement without sufficient savings (see Bernheim et al (2000), (2001), Scholz et al (2006), Skinner (2007), Lusardi (2008), Rooij and Lusardi, (2011)). A number of interventions have been proposed or introduced to raise household savings and encourage households' pursuits of long-term saving goals. These interventions include financial rewards (tax incentives or matching), provision of information, education, advertising and manipulation of default options (Madrian and Shea 2001). A small literature has assessed the effectiveness of such interventions (See, for example Attanasio (2002), Duflo et al (2006), for reviews, also see Crossley et al, (2012)). Limitations of this literature include (i) interventions studied are often a package of several treatments and hence it has been hard to establish empirically which parts of the package are effective, (ii) outcomes are often measured over a short horizon.

The objective of the proposed study is to provide new experimental evidence on the efficacy of different treatments in maintaining commitment to a personal pension plan. Key aspects of our study will be independent variation in the different components of the intervention and outcomes measured over two years. The study will take place all across Turkey in collaboration with AvivaSA Emeklilik ve Hayat AS, which is currently one of Turkey's largest private retirement account providers. Most banks and insurance companies in Turkey now offer individual retirement accounts, though the take up is still well below the government's target. A second problem has been that individuals sign up for these accounts but then fail to maintain their planned schedule of contributions.

Our key research question is: how can individuals who sign up for a personal retirement account be encouraged to maintain a regular contribution schedule? Our research design will randomize multiple treatments in a target population who have missed a scheduled contribution. Treatments include financial incentives and information provision. One set of treatments encourages an immediate contribution. Another set encourages conversion to an automatic payment plan. Main outcomes are contributions measured over a two-year period in administrative data from our financial services provider. In addition, interviews will collect information on barriers to saving and sources of contributions.

The proposed study will make several contributions to the saving literature:

- We will study both financial incentives and information provision; and critically, will have independent variation in treatments, allowing for the identification of main and interaction effects. As noted above, failure to do this has been a limitation of the literature to date.
- We will vary the duration of treatment, allowing an assessment of the efficacy of treatments of different duration.
- We will study the effects of the framing of information, and in particular, whether framing the consequences of missed contributions as a loss encourages consistent contributions. See Tversky and Kahneman (1981), Rothman et al(2006), DellaVigna (2009), Kuhberger and Carmen (2010), Brooks et al (2012).
- We will collect information on the sources of contributions in order to distinguish whether treatments induce net new saving or portfolio reshuffling. Few papers in the literature have been able to do this (Attanasio and Deleire (2002) is a notable exception)
- We will follow the accounts of the subjects for two years. This will allow us to study the long run saving impact of treatments and whether they were effective in inducing a contribution "habit". Again, much of the literature measures outcomes over shorter periods.

- We will compare two broad approaches to behavioral change. In one set of treatments financial incentives and information will be used to encourage contributions. In a second set of parallel treatments, financial incentives and information will be used to encourage account holders to sign up for an automatic payment plan. The latter is an example of seeking long-term change through a single decision. Such strategies have been used for reducing energy consumption, but not in the savings context, to our knowledge.

Our target population is current AvivaSA retirement account holders who are (i) predicted on the basis of past behavior to have a high probability of repeatedly missing contributions, and (ii) missed their contribution in baseline month of the experiment (March 2013). Clients who never miss their contribution payments and clients who have set up automatic payments through their credit cards are not part of our target population.

We propose a number of different treatments which are motivated by different theories of change. They are as follows:

1. Financial Incentives

- Matched saving incentive for payment next month.
- Current consumption incentive for payment next month. The company will offer a health care kit.
- Matched saving incentive for converting to regular payment plan (credit card).
- Current consumption incentive for converting to regular payment plan (credit card).

2. Information Framing:

The information on the benefits of contribution will be reframed as costs of missed contributions (that is, as losses).

The information incentive will be connected to two different behaviors: either

- making the missed contribution by the end of the month, or
- signing up to an automatic payment plan.

The financial incentive treatments are motivated by a rational model of saving behavior: they raise the return to saving. The long run effect of the financial incentive hinges on habit formation in contributions. Offering a current consumption incentive rather than a cash match is motivated by the idea that responses to immediate rewards may be different from responses to future benefits. The reframing of information as losses is motivated by the wide-ranging evidence that individuals are loss-averse and subject to endowment effects (see, for example, Della Vigna (2009)). The idea is to induce the account holder to perceive the future value of contributions as an endowment. Targeting treatments on signing up to an automatic payment plan rather than on contributions per se is motivated by the idea that it is easier to induce long-term change through a single decision (rather than altering repeated choices). This is sometimes referred to as "changing contexts" rather than "changing minds" to change behavior (see, for example, Dolan et al (2012) and Institute for Government (2010)).

Treatments that this study show to be effective in inducing account holders to stick to regular contributions will certainly be adopted by financial service providers. The structure of these products are such that they are profitable for providers only if account holders contribute regularly for a long period. This is mainly due to large fixed management costs of the invested funds. Thus the interests of financial services providers are well aligned with the public policy objective.

If account holders can be induced to stick to regular contributions, then private individual retirement accounts can be an important pillar in the retirement income systems of Turkey and similar middle income countries.

References

- Attanasio, O. P. and Deleire, T. (2002), 'The effect of Individual Retirement Accounts on household consumption and national saving', *Economic Journal*, 112, 504–538.
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- Brooks, R. A. Stremitzer, S. Tontrup, (2012), "Framing Contracts: Why Loss Framing Increases Effort"
- Crossley T. F., C. Emmerson and A. Leicester (2012), "How Can Policy Makers Raise Household Saving?", Institute for Fiscal Studies, London, UK.
- DellaVigna, S. (2009), 'Psychology and economics: evidence from the field', *Journal of Economic Literature*, 47 (2), 315–372.
- Dolan, P., M. Hallsworth, D. Halpern, D. King, R. Metcalfe, I. Vlaev (2012), "Influencing behaviour: The mindspace way", *Journal of Economic Psychology* 33, 264–277.
- Duflo E., W. Gale, J. Liebman, P. Orszag, and E. Saez (2006), "Saving Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block," *Quarterly Journal of Economics*, 121(4):1311-1346.
- Institute for Government (2010), *MINDSPACE: Influencing Behaviour Through Public Policy* (London: Institute for Government). Available from: <http://www.instituteforgovernment.org.uk/images/files/MINDSPACE-full.pdf>
- Kühberger, Anton; Tanner, Carmen (2010). "Risky choice framing: Task versions and a comparison of prospect theory and fuzzy-trace theory". *Journal of Behavioral Decision Making* **23** (3): 314–329.
- Lusardi, A. (2008), *Household Saving Behavior: the Role of Financial Literacy, Information and Financial Education Programs*, NBER Working Paper 13824.
- Madrian B., D. F. Shea (2001), "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." 2001. *Quarterly Journal of Economics*, 116(4): 1149-1187 (with Dennis F. Shea).
- Rothman, A. J., R. Bartels, J. Wlaschin, P. Salovey (2006), "The Strategic Use of Gain- and Loss-Framed Messages to Promote Healthy Behavior: How Theory Can Inform Practice", *Journal of Communication* 56 (2006) S202–S220.
- Scholz, J. K., Seshadri, A. and Khitatrakun, S. (2006), 'Are Americans saving 'optimally' for retirement?' *Journal of Political Economy*, 114, 4, 607-643.
- Skinner, J. (2007), 'Are You Sure You're Saving Enough for Retirement?' *Journal of Economic Perspectives*, 21(3), 59–80
- Tversky, Amos; Kahneman, Daniel (1981). "The Framing of decisions and the psychology of choice". *Science* 211 (4481): 453–458.
- van Rooij, M. C. J., Lusardi, A. and Alessie, R. J. M. (2011), 'Financial literacy and retirement planning in the Netherlands', *Journal of Economic Psychology*, 32(4), 593–608

Itemized Budget and Justification

The implementation of the design will be funded by the partner organization, AvivaSA. This includes financial incentives, call center costs (hiring new staff) and in-house data management.

The funding request we make is intended to cover the costs of generating scientific articles. This involves the salary of an RA who work for the project and dissemination activities.

Personnel Cost:

1 Research Assistant (full-time): 6 months, **\$6,000**. This is standard stipend for an MA student at Koc University.

Dissemination Activities:

6 international conferences and workshops, **\$12,000**

Local travel (visits to the headquarters of AvivaSA): **\$2,000**

Total funding requested: \$20,000

CURRICULUM VITAE

SULE ALAN

CONTACT

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Koc University
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EDUCATION

CFA Chartered Financial Analyst designation, 2012.

PhD Economics, McMaster University, Canada, 2001.

MA Economics, York University, Canada, 1998.

BSc Economics, Middle East Technical University, Turkey, 1992.

EMPLOYMENT

- Assistant Professor, Department of Economics, Koç University, Istanbul, January 2011-present (untenured).
- Lecturer (Assistant Professor) in Economics, Faculty of Economics, University of Cambridge, October 2007-September 2012.
- Research Associate, Center for Financial Analysis and Policy (CFAP), June 2007-2011.
- Fellow, Director of Studies, Newnham College, University of Cambridge, July 2006-Sep 2009.
- Research Associate, Institute for Fiscal Studies (IFS), September 2006-2007.
- Assistant Professor of Economics, York University, July 2001-July 2007.
- Visiting Lecturer in Economics, University College London, September 2004-July 2005.
- Assistant Research Professor, University of Copenhagen, July 2001-July 2002.

FIELDS OF SPECILIZATION

Household finance, empirical financial economics, microeconometrics.

TEACHING EXPERIENCE

Graduate: Financial Economics, Asset Pricing, Computational Finance, Applied Econometrics.

Undergraduate: Financial Economics, Corporate Finance, Mathematics, Statistics, Macroeconomics, Econometrics.

EXECUTIVE EDUCATION

Masters in Finance: Financial Econometrics and Statistics for managers.

Strategic Finance: Executive training for Koç Holding managers.

RESEARCH GRANTS

Principal Investigator:

- ING Bank Financial Literacy Childhood Intervention Study, 2013-2014 (co-investigator Seda

Ertac).

- Risk and Time Preference Experiments in the English Longitudinal Study of
- Aging, Cambridge Endowment for Research in Finance, 2009-10 (co-investigators: J. Banks, T. Crossley and A. Rusticini.)
- Social Sciences and Humanities Council of Canada Research Grant, 2003-2006.

Co-Investigator:

- European Investment Bank Institute, Financial Literacy Grant, 2013-2015 (principal investigators Rob Alessie and Anna-Maria Lusardi.)
- Household Saving Behavior and Macroeconomic Crises, TUBITAK Research Grant, (principal investigator, Thomas Crossley).
- Social and Economic Dimensions of an Aging Population (SEDAP) II, Social Sciences and Humanities Council of Canada- Major Collaborative Research Initiative. 2005-2009 (principal investigator, Byron Spencer).

REFEREED PUBLICATIONS

1. “Estimation of Panel Data Models with Two-Sided Censoring” with B. E. Honore, L. Hu and S. Leth-Petersen, forthcoming *Journal of Econometric Methods*.
2. “Do Disaster Expectations Explain Household Portfolios?” *Quantitative Economics* (2012), 3(1), 1-28.
3. “New Evidence on Taxes and Portfolio Choice”, with K. Atalay, T. F. Crossley, and Sung-Hee Jeon, *Journal of Public Economics* (2010), 94: 813-823.
4. “Estimating Intertemporal Allocation Parameters Using Synthetic Residual Estimation”, with M. Browning, *Review of Economic Studies* (2010), 77(4):1231-1261.
5. “Estimating Euler Equations with Noisy Data: Two exact GMM Estimators,” with O. Attanasio and M. Browning. *Journal of Applied Econometrics* (2009), 24:309-324.
6. “The Adequacy of Retirement Savings: Subjective Survey Reports by Retired Canadians”, with K. Atalay and T. F. Crossley. *Canadian Public Policy* (2008), 34(S1):95-118.
7. “Precautionary Wealth Accumulation: Evidence from Canadian Microdata”, *Canadian Journal of Economics* (2006), 39(4): 1105-1124.
8. “Entry Costs and Stock Market Participation Over the Life Cycle”, *Review of Economic Dynamics* (2006), 9(4), 588-611.
9. “Distributional Effects of 'General Population' Prescription Drug Programs in Canada”, joint with T. F. Crossley, P. Grootendorst and M. Veall, *Canadian Journal of Economics*, (2005), 38(1):128-148.
10. “The Effects of Drug Subsidies on Out-of-Pocket Prescription Drug Expenditures by Seniors: Regional Evidence from Canada”, with T. F. Crossley, P. Grootendorst and M. Veall, *Journal of Health Economics* (2002), 21(5):87-108.

COMPLETED PAPERS

- "Saving on a Rainy Day, Borrowing for a Rainy Day" , with T.F. Crossley and H. Low. (Revise and Resubmit at the *Review of Economic Studies*)
- "Euler Equation Estimation on Micro Data", with K. Atalay and T.F Crossley.
- "Subprime Consumer Credit Demand: Evidence from a Lender's Pricing Experiment", with G. Loranth.
- "Do the Rich Save More in Canada?" with K. Atalay and T.F. Crossley
- "Tax Incentives and Household Portfolios: a Panel Data Analysis" (2006), joint with Søren Leth-Petersen

WORK IN PROGRESS

- "Consumption with Heterogenous Preferences and Heterogenous Income Processes", with M. Browning and M. Ejrnæs.
- "Who Defaults in Subprime Credit Markets?" with T. Crossley.
- "Incentivizing the Use of High Cost Credit for Habit Formation: Lessons from a Randomized Evaluation of Messaging", with D. Karlan and J. Zinman.
- "The Emergence of Risk Preferences in Children" with T. Boneva, T.F. Crossley and S. Ertac.

OTHER SCHOLARLY ACTIVITIES

Organizer: Household Debt Housing and Expectations Conference, CFAP, Cambridge, 2009.

Organizer: Consumer Credit and Bankruptcy Conference, CFAP, Cambridge, 2011.

Organizer: Financial Literacy and Long-Term Savings, TUSIAD, Istanbul, November 13 2012.

REFEREEING

Quarterly Journal of Economics, American Economic Review, Review of Economics and Statistics, International Economic Review, Canadian Journal of Economics, Journal of Applied Econometrics, Canadian Public Policy, Quantitative Finance, European Economic Review, Journal of Banking and Finance, Economic Journal.