

How do households (learn to) use a new employee savings plan?

Learning-by-doing and social interactions

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1. Research question

How do employees use a new, tax-favored, illiquid savings plan? “Using” a savings plan consists of several decisions: whether to take up and when; setting a savings goal; setting the monthly amount of contributions; choosing how much to save out of permanent and transitory shocks to income; deciding how to adjust other household savings, if any adjustment at all (crowd-in or crowd-out). And these are just a few decisions that arise in the micro-management of household savings. One of the open questions in the study of subsidized, illiquid savings programs—for example 401(k) plans—is the issue of *learning*.

Learning affects all mentioned decisions, from take-up to crowd-out. Broadly speaking there are three channels of learning: learning-by-doing, peer influences, and (financial) education. We will focus on learning-by-doing and peers. Learning-by-doing in a savings program can be documented in several ways. After the universal introduction of a plan, some employees are early in adopting, where others wait for some time. Some employees try the savings plan for a year, and then stop or switch employee savings plans. In choosing the amount of monthly contributions to the plan, the amount set might be too high or too low. And where some households can be characterized by inertia in financial decisions, other households do adjust savings contributions frequently within the year.

Our proposal is to study the role of learning-by-doing and of peer effects and describe the dynamics of saving behavior for all savers in the Netherlands after the introduction of a new tax-favored, illiquid savings plan.

2. A new savings plan

In January 2006, the government of the Netherlands introduced a new employee savings plan. All employees in the Netherlands were eligible to participate in the plan, and firms had to cooperate with those employees that wanted to. The savings plan shared features with retirement savings plans, but was not meant for the retirement phase. In fact, savings could only be used during the working life to take early retirement (early as in before the statutory retirement age, which at the time was 65), extend periods of parental leave, and periods of sabbatical leave. Participating in the plan was an employee right, while taking periods of leave needed the consent of the employer. Most participants in the new savings plan participated with the goal to retire earlier. Overall the unique feature of the new savings plan is that employees can smooth leisure time over the working life. On average there were 270,000 participants in the new savings plan, which amounts to 4-5% of the Dutch labor force.

The savings plan was tax-favored in three ways: (i) contributions were tax-deferred; (ii) for every year of contributions a tax credit was built up, which could be used in the decumulation phase; and (iii) wealth holdings in the account were exempted from other assets in the calculation of the tax on wealth income. Annual contributions were capped at 10% of gross annual wages, and total savings in the account were capped at 210% of annual gross wages (after which wealth holdings in the account could grow due to returns on assets).

3. Data

We have secured access to comprehensive, administrative data, containing the universe of Dutch employees for the years 2006-2012. One unique feature of the data is that we observe monthly savings contributions into the savings plan, since the start of the plan in 2006. This gives us the opportunity to describe in detail the month that an employee starts saving, follow their savings patterns month-by-month, observe movements in and out of the savings program, as well as the decumulation phase. Moreover, we observe the same savings dynamics for all the co-workers of the employee, and for siblings of the employee. We observe employees switching firms and firms that merge—both types of dynamics we will exploit in our analysis of peer effects.

On the household side we observe basic background characteristics of the employee: age, spouse, (arrival of) children, location and education. We also have annual wealth holdings for all employees, containing measures of house value and housing debt, financial assets including stock and bond holdings. This allows us to study crowd-out of the new savings plan. All data originate from registries: the monthly wage data are provided by the Unemployment Insurance agency (UI is universal for all employees in the Netherlands), the wealth data are provided by the tax authority and banks provide information on liquid assets. Since the savings plan is administered through the payroll administration, we have monthly contributions and dissaving for the universe of savers.

4. Previous literature

In general the literature on analyzing new financial products is small, without any analysis (as far as we know) on learning-by-doing. In part this is due to data limitations – in any given survey the number households that hold a new financial product is small. Fuchs-Schuendeln and Haliassos (2015) use survey data from the German Socio-Economic Panel combined with the natural experiment of the German unification to study the take-up of unfamiliar financial products in East-Germany. Beshears et al. (2013) use administrative data from eight firms in the United States to study the adoption of the Roth 401(k), a new retirement savings plan for employees that already saved in 401(k) plans. Neither study can take the bird's eye view of studying the universe of savers in a country, month by month, after the introduction of the plan which we will do.

Peer effects matter for take-up of and savings behavior in 401(k) plans. Duflo and Saez (2002) find that social interactions matter for take-up, but Choi et al. (2015) report in a field experiment that providing information on peers' savings can actually *reduce* contributions of non-participants in a 401(k) plan. We focus on two types of peers: co-workers and family members (siblings). For both co-workers and siblings we can study all decisions surrounding the employee savings plan, from take-up to crowd-out. We will follow Duflo and Saez (2002) and instrument average participation in the firm with the place in the within-firm income distribution of the employee. Other instruments we will use are mergers and take-overs of firms, and the average participation within the firm of the spouse.

Budget

Data access is secured, and we request a grant for continuing data access. Data access is through remote access with Statistics Netherlands, and everyone working at a university can request access to the data, regardless of nationality. We will assist interested researchers with providing information to get access, share code and translated codebooks into English. More information on data access (in English) can be found at: <http://www.cbs.nl/en-GB/menu/informatie/beleid/zelf-onderzoeken/default.htm?Languageswitch=on>

	Item	Costs per item	Number items	Costs
1	Data costs	€ 270 per month	12 months	€ 3,240
2	Remote access connection	€ 165 per month	12 months	€ 1,980
3	User cost researcher	€ 75 per month per researcher	12 months x 2 researchers	€ 1,800
4	Output check	€ 200 per check	3	€ 600
	Total in EUR			€ 7,620
	Exchange rate (2/29/2016)	1 EUR = 1.088 USD		8,290 USD

Literature

- Beshears, J., Choi, J. J., Laibson, D., & Madrian, B.C. (2013). Who uses the Roth 401(k), and how do they use it? NBER working paper 19193.
- Beshears, J., Choi, J. J., Laibson, D., Madrian, B. C., & Milkman, K. L. (2015). The effect of providing peer information on retirement savings decisions. *The Journal of Finance*, 70(3), 1161-1201.
- Duflo, E., & Saez, E. (2002). Participation and investment decisions in a retirement plan: The influence of colleagues' choices. *Journal of public Economics*, 85(1), 121-148.
- Fuchs-Schuendeln, N. & M. Haliassos (2015). Does Product Familiarity Matter for Participation? SAFE Working Paper No. 63.

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CURRENT POSITION

2013–present **Assistant Professor Household Finance (W1)**,
Department of Money and Macroeconomics, Goethe University Frankfurt.

OTHER POSITIONS

2016 spring **Visiting Scholar**, *UC Berkeley*, Center for Equitable Growth [Host: E. Saez].
2015 March **Visiting Scholar**, *San Francisco Fed*, Research department [Host: B. Hobijn].
2013–present **Research Fellow**, *Goethe University Frankfurt*, Center of Excellence SAFE.
2011 spring **Visiting PhD Student**, *UC Berkeley*, Center for Labor Economics [Host: D. Card].
2008–present **Junior Research Fellow**, *Netspar*.

EDUCATION

2013 **PhD Economics**, *Tilburg University*,
Dissertation title: Essays on Household Saving, Religion and Pay Frequency
Chair: Prof. Peter Kooreman.
2005 **LLm Law and Economics**, *Erasmus University Rotterdam, University of Bologna and University of Haifa*, Erasmus Mundus program.
2005 **MSc Economic Policy**, *Erasmus University Rotterdam*.

RESEARCH

Published Research

1. Risk aversion and religion, with Charles Noussair, Stefan Trautmann, and Gijs van de Kuilen (2013). *Journal of Risk and Uncertainty*, vol. 47(2), pp. 165-183.
2. Cooperative patent applications (2014). pp. 229–239 in De Groot, Bas (ed.), *ICT, Knowledge and the Economy 2013*, Statistics Netherlands: Den Haag.

Working Papers

3. Framing effects in an employee savings scheme: A non-parametric analysis, with Peter Kooreman, Bertrand Melenberg and Henriëtte Prast (all Tilburg).
4. Do Social Security recipients smooth consumption between checks? with Giovanni Mastrobuoni (Essex) and Matthew Weinberg (Drexel)
5. Explaining intra-monthly consumption patterns: The timing of income or the timing of consumption commitments?

Work-in-Progress

6. Inflation expectations and household savings: Panel data evidence
7. How do households save out of expected and unexpected wage bonuses? with Yuri Pettinicchi (Goethe University Frankfurt)
8. The marginal propensity to consume and personality traits, with Olga Goldfayn (Goethe University Frankfurt)
9. The returns to higher education in the Netherlands: Estimates based on randomized assignment, with Matthias Parey (Essex) and David Reinstein (Exeter)
10. Understanding the sources of wage rigidity: Evidence from a Dutch firm-worker matched panel-dataset, with Anderson Grajales Olarte and Burak Uras (both Tilburg)

TEACHING GOETHE UNIVERSITY

- 2015 3rd examiner PhD committees Michael Heath and Tobias Waldenmaier
- 2015 Seminar Household Finance [graduate]
- 2014–2016 Applied Econometrics: Limited Dependent Variables [graduate]
- 2014–2016 Labor Economics [undergraduate]
- 2013–2014 Animal Spirits and Behavioral Economics [graduate]

PROFESSIONAL EXPERIENCE

Competitive Funding

- 2015 **SAFE**, *Bonus income and household savings*, PI.
- 2013 **Data Without Boundaries**, *Bonus income and household savings*, PI.

Past Positions

- 2012–2013 **Statistical Researcher**, *Statistics Netherlands*, Den Haag.
- 2006–2007 **Researcher**, *AStri Policy Research and Consulting*, Leiden.

Presentations

- 2016 Ohio State, UC Berkeley, University of Luxembourg (all scheduled)
- 2015 UC Santa Cruz, San Francisco Federal Reserve Bank, Chapman University, University of Southern California, UC Santa Barbara, Copenhagen Business School
- 2014 UC Berkeley (Labor lunch, and Environment and Resource Economics seminar), Cal State East Bay, NIBS Nottingham, Maastricht University
- 2012 Tilburg University, Tiber conference XI
- 2011 UC Berkeley, Tilburg University
- 2010 Tilburg University, Netspar international conference
- 2009 University of Amsterdam, 4th Alhambra Experimental workshop, Iarep/Sabe conference, 4th Nordic conference on behavioral and experimental economics

Refereeing

JEBO, JITE, J of Pension Economics and Finance (2x), J of Socio-Economics (2x), Social Indicators