Reminders to the rescue: Email reminders of tax benefits increase pension savings in a nationwide RCT

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BACKGROUND

- Individuals increasingly bear responsibility for retirement savings, yet many struggle to save effectively due in part to psychological barriers (present bias, self-control).

- Tax benefits aim to incentivize retirement savings but require awareness and regular action.

- Email reminders can boost policy effectiveness, but there is limited evidence on which messaging strategies work best.

RESEARCH QUESTIONS

1. **Can timely reminders increase retirement savings?**
2. **Which messaging strategies are most effective?**
3. **Do reminder effects vary across demographic groups?**

THE FIELD EXPERIMENT

- Nationwide randomized controlled trial in Estonia (N = 127,974)

- Population:
  All eligible 3rd pillar pension account holders (ages 22-53)

- Design:
  Control group (N = 23,238) vs.
  9 treatment groups (N = 104,736)

- Intervention:
  Email reminders sent one week before the tax deadline (December, 2023)

- Messages co-created with behavioral scientists and local pension experts
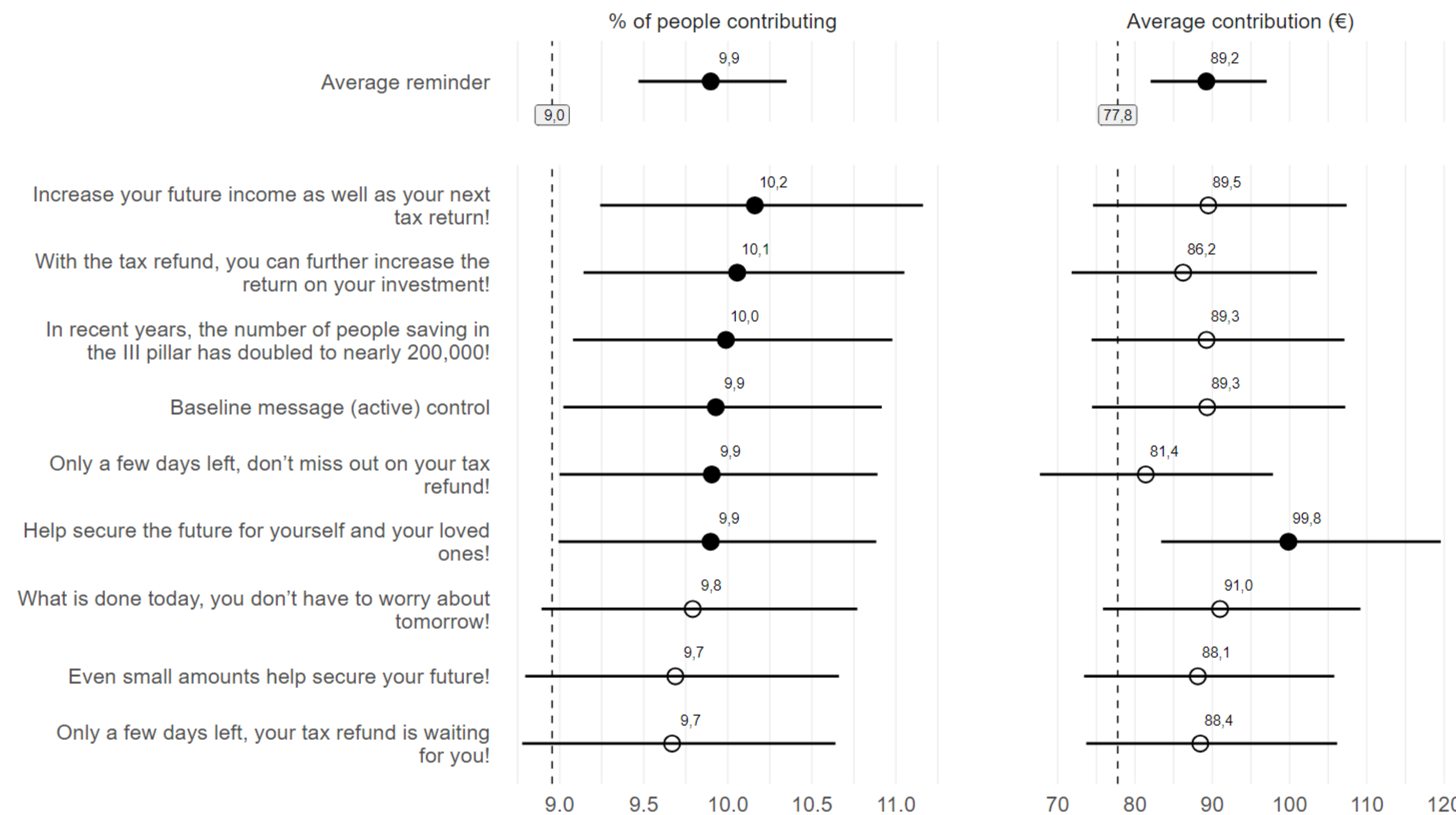
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Figure 1: Likelihood of contributing (left pane) and average contribution in euros (right pane) December 21-27, 2023
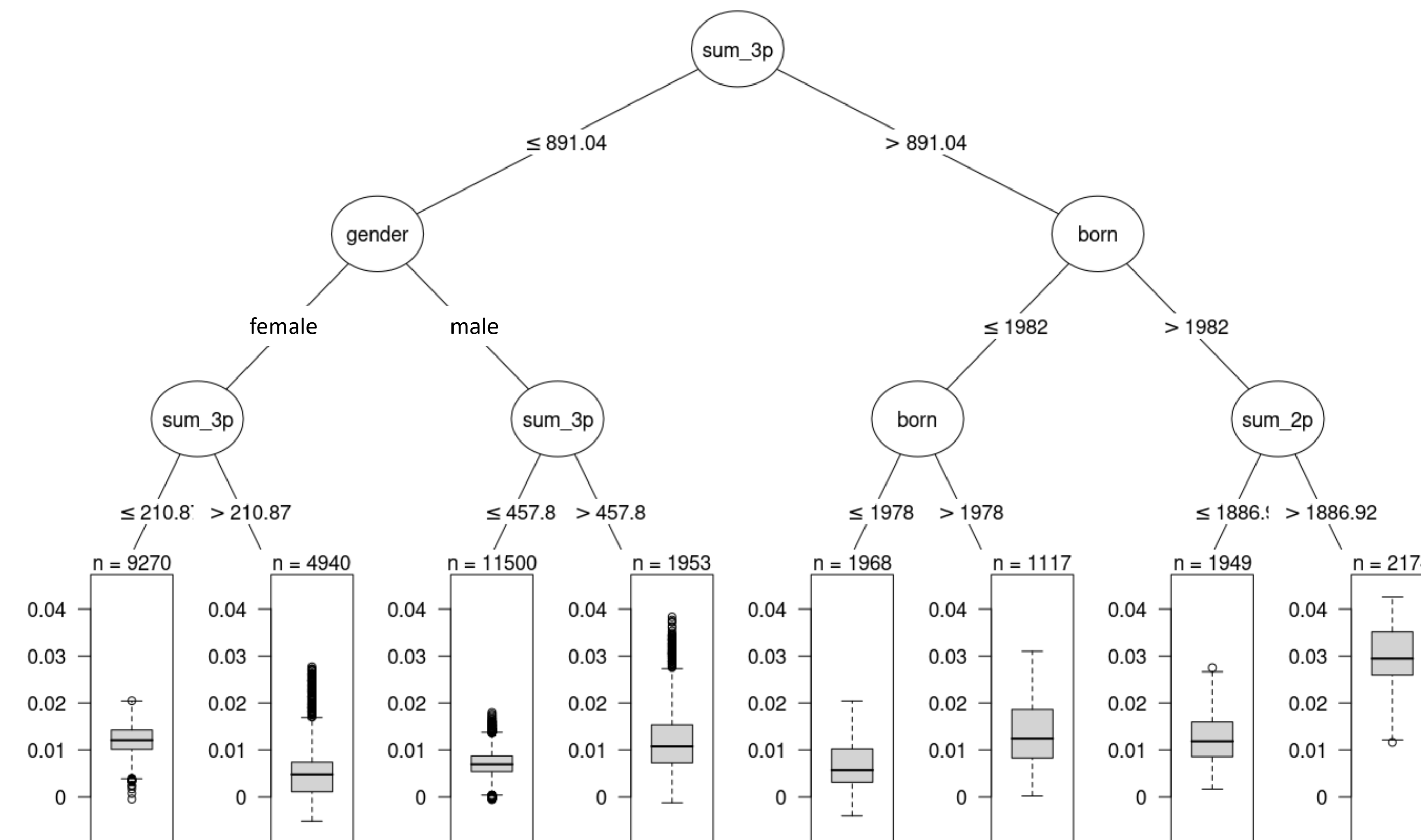Dotted vertical line represents the control group (no reminder).

Figure 2: Surrogate decision tree illustrating heterogeneous treatment effects across participant subgroups. Tree nodes split the sample based on 3rd pillar contributions (sum_3p), gender, birth year (born), and 2nd pillar contributions (sum_2p). Box plots at terminal nodes show the distribution of treatment effects for each subgroup, with sample sizes (n) indicated. Monetary values are in euros. Analysis for contribution likelihood (baseline message vs control group).

RESULTS

- The field experiment generated additional €1.2M in 3rd pillar pension contributions

- Overall reminder effect 10.49% increase in contribution likelihood (from 8.96% to 9.90%)

- Most effective message (Family security) boosted the average contribution by 15% from 77.8 € to 89.2 € (or 868 € to 1,009 € when looking at only those who contributed)

- Our pre-registered analysis did not show significant heterogeneity. Additional Interpretable Machine Learning (IML) analysis revealed that previous saving behavior (2nd and 3rd pillar) has highest variable importance for the treatment effect.

- IML also found interaction effects between age and previous saving. Treatment effect is strongest for younger people who already save (see Figure 2, right node).

DISCUSSION

- Email reminders can be a low-cost scalable intervention to enhance policy effectiveness and boost voluntary pension contributions.

- Family-focused messaging particularly impactful – could be (Shah et al, 2022)

- Effect sizes likely underestimated due to holiday timing (Christmas), contribution process, and industry communication noise.

- In order to reach segments that haven't previously saved, additional interventions need to be developed and tested.

WHY ESTONIA?

- Ideal testing ground with low pension replacement rate (34% vs OECD average 61%)

- Clear policy tool in 3rd pillar voluntary pension scheme with tax benefits: 20% tax return on contributions up to 15% of income (max €6,000/year)

- Centralized pension registry enables large-scale nationwide RCT through single administrator.

Further info: https://osf.io/29cxs, Heidi.Reinson@ut.ee