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# A Fistful of Dollars

## Financial Incentives Improve Retirement Information Search

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# 1 – What is the Problem?

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- Financial literacy and pension awareness is low (e.g. Lusardi & Mitchell, 2014; Prast & van Soest, 2015)
- Low levels of literacy and awareness are related with low retirement preparedness and savings rates (van Rooij, Lusardi & Alessie, 2012)
  - 50% of US inhabitants at risk of failing to maintain their living standard at age 65 in 2016 (Munnell, Hou, & Sanzenbacher, 2018)
  - AUS: mean super balance in 2016: \$214,000 vs ASFA (2018) recommended balance of \$545,000 (Chomik et al., 2018)
  - 30% of Dutch do not meet desired retirement consumption levels (de Bresser & Knoef, 2015)
- People underestimate their savings gap
  - 71% of Bpfd participants did not know that the fund aims to replace 70% of the average wage in retirement

# 1 – What is the Problem? - II

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- Ineffective communication
  - Welcome letter hardly read (GfK Pensionsmonitor, 2014)
  - Annual pension benefit statement hardly read
- How to Increase Financial Literacy?
  - Financial education explains “only 0.1% of the variance in financial behaviors studied, with weaker effects in low-income samples” (Fernandes, Lynch & Netemeyer, 2014)
  - Effect of financial education decays over time (idem)  
⇒ “just-in-time” financial education

# 1 – Research Questions

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## Question 1

Are financial incentives effective in triggering participants to become informed about their personal pension situation?  
If yes, which type?

## Question 2

Can pension knowledge and savings behaviour be increased through the interventions?

## Question 3

Do the effects of financial incentives depend on participants' characteristics?

# 1 – Our Contributions to the Literature

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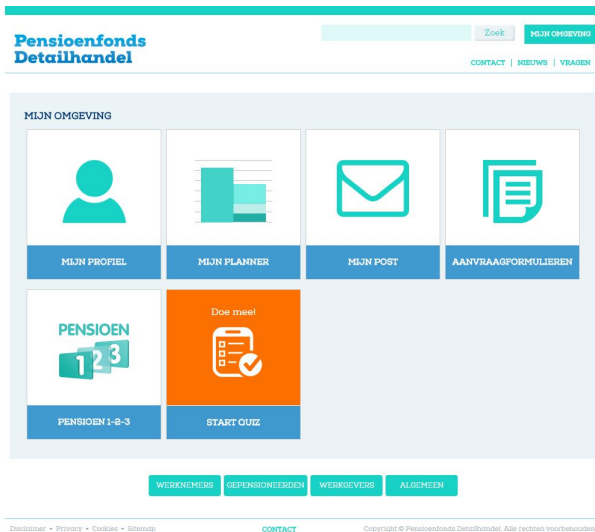
- We test different kinds of financial incentives on the same population, holding the budget between treatments fixed
- As we have highly powered studies, we can measure (null) effects consistently
- Due to our large sample, we can divide the sample into subgroups in order to analyze whether subgroups react differently to certain treatments
- We use the randomization in our experiment to check for causality between looking at pension information and increased pension knowledge and savings behaviour

# 1 – Methodology

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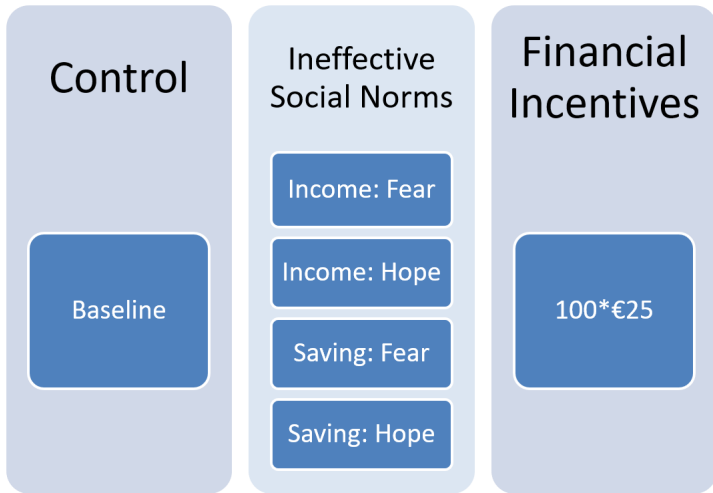
- Industry partner: [Pensioenfonds  
Detailhandel](#)
- Approx. 250,000 active participants got different letters in December 2015 and May 2018
- Goal: people log into their account & look at pension information
- For both studies, we have measurements of
  1. the **characteristics of participants**
  2. the **activities of participants** on the website
- Three weeks after the intervention in 2018, we measured
  1. pension knowledge
  2. self-reported savings behaviour

## 2 – Methodology



## 2 – First Field Experiment

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## 2 – Why these Treatments?

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- No deception
- Only one sentence added early in the letter  
(cf. Bott et al, 2017; Bhargava & Manoli, 2015; Hallsworth et al 2017)
- Financial incentives as extrinsic motivator effective in different contexts as well, e.g.:
  - Survey responses (e.g. Singer & Ye, 2013)
  - Charitable giving (e.g. Lange, List & Price, 2007)
  - Test scores of older students (Levitt et al, 2016)
  - Healthy eating (Loewenstein et al, 2016)
- Pension context: attendance rate of retirement information fair multiplied due to \$20 reward (e.g. Duflo & Saez, 2003)

## 2 – The Baseline Letter

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Dear participant,

Have you ever thought about your income for later? Your pension? The money which you will receive monthly from 67 onwards?

On [www.pensioenfondsdetailhandel.nl](http://www.pensioenfondsdetailhandel.nl) you check- in less than a minute- what you will be able to spend soon.

This is how you do it:

- Go to 'Mijn Omgeving' on [pensioenfondsdetailhandel.nl](http://pensioenfondsdetailhandel.nl);
- Log in with your personal ID number;
- And look at your personal pension accrual and pension scheme.

## 2 – The Baseline Letter (cont.)

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With this new insight you can decide whether you want to set aside additional money or whether you want to build up your pension as you are used to.

Additionally, really handy, on 'Mijn Omgeving' you see what it means for your pension if you change your job, start living together, get married or divorced...

Topics you also find back in the Jij&Wij Magazine, the journal you receive with this letter.

Can we ask you to check your personal situation?

Thanks in advance,

Best wishes,

Henk van der Kolk

President of the Pensioenfonds Detailhandel

## 2 – The Financial Incentive Letter

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Dear participant,

Have you ever thought about your income for later? Your pension? The money which you will receive monthly from 67 onwards?

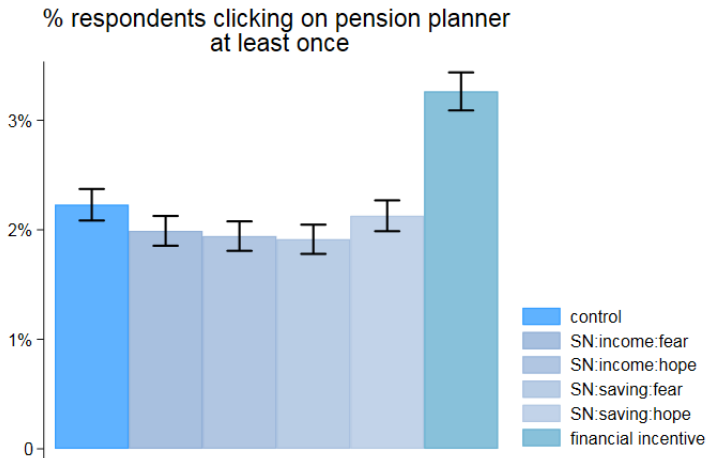
On [www.pensioenfondsdetailhandel.nl](http://www.pensioenfondsdetailhandel.nl) you check- in less than a minute- what you will be able to spend soon.

**Among all the participants who log in, we are raffling 100 VVV gift vouchers worth €25.**

This is how you do it:

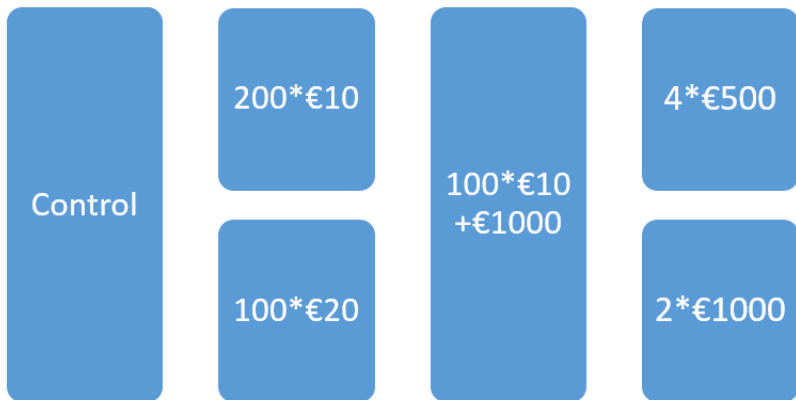
- Go to 'Mijn Omgeving' on [pensioenfondsdetailhandel.nl](http://pensioenfondsdetailhandel.nl);
- Log in with your personal ID number;
- And look at your personal pension accrual and pension scheme.

### 3 – Incentives Increase Information Search by 0.93pp or 47%



### 3 – Second Field Experiment

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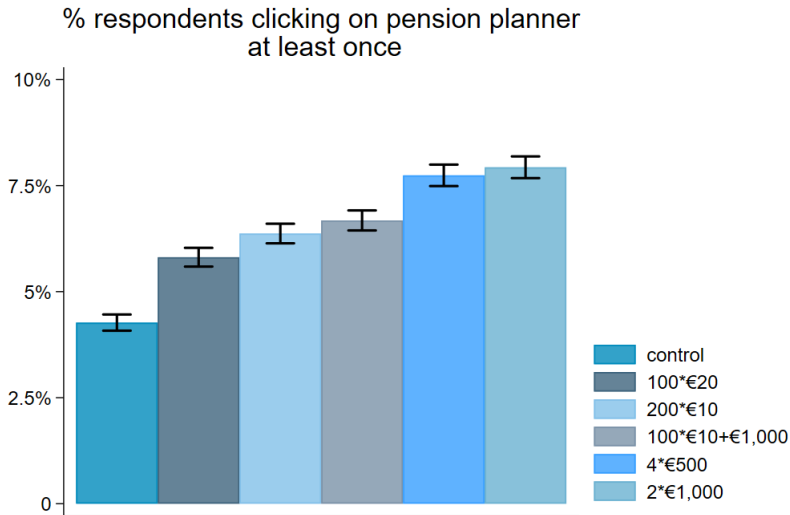
### 3 – Why these Treatments? - II

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- Higher incentives found to be more effective than low incentives
  - Gym attendance (Charness & Gneezy, 2009)
  - Smoking cessation studies (Volpp et al., 2008)
  - HIV incidence (Björkman Nyqvist et al., 2018)
- What if the expected amount to be won is the same between treatments?
  - Prospect Theory: people overweigh small probabilities  
(Tversky & Kahneman, 1992)
  - Loewenstein, Weber, Hsee & Welch (2001): people are completely insensitive to probabilities

### 3 – The large lottery increases the lookup rate by 3.9pp or 91%

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Can pension knowledge and savings behaviour be increased through the intervention?

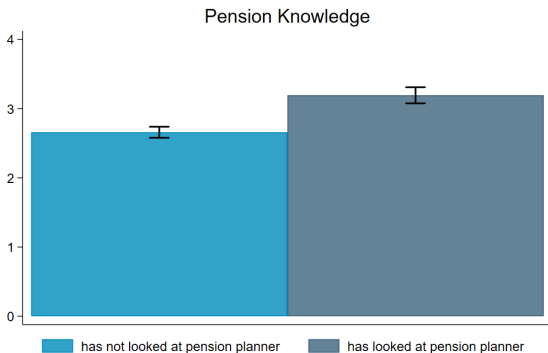
### 3 – Survey Data

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- Three weeks after having sent the letters, 50.000 participants were invited to participate in a survey
- We asked them six questions on pension knowledge, such as
  - On the website of Pensioenfonds Detailhandel, you can change your investment portfolio- correct/false.
  - Who pays the contribution for the pension fund?- only the employer/only the employee/most of the times both.
  - If you retire, you can choose to receive a higher level of pension first and then a lower level- correct/false.
- We asked them whether they had changed their savings behaviour within the last three weeks

### 3 – Does Pension Information Lead to Higher Pension Knowledge?

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Participants who looked at the pension planner score 0.64 points more than participants who did not look.

Does this effect persist when we use a 2SLS IV-approach to take account of reverse causality?

### 3 – Pension Information Does Not Increase Knowledge

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	Pension Knowledge
Pension Planner	0.2722 (0.4877)
Male	0.1931** (0.0748)
30-39 years	0.2252* (0.1301)
40-49 years	0.5255*** (0.1401)
50-59 years	0.9859*** (0.1325)
60-67 years	1.6224*** (0.1307)
Income	0.0121*** (0.0020)
Part-timer	0.0329 (0.0897)
Partner	0.1273* (0.0722)
Constant	1.4845*** (0.2337)
Observations	2,231
Province Dummies	YES

The second stage of the 2SLS approach

### 3 – Pension Information Does Not Increase Extra Savings

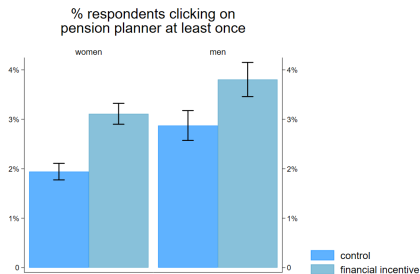
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	Saved Additionally
Pension Planner	-0.0550 (0.0627)
Male	0.0153 (0.0099)
30-39 years	0.-0.0128 (0.0166)
40-49 years	-0.0179 (0.0091)
50-59 years	-0.0267 (0.0165)
60-67 years	-0.0074 (0.0181)
Income	0.0002 (0.0003)
Part-timer	0.0146 (0.0114)
Partner	-0.0005 (0.0089)
Constant	0.0417 (0.0304)
Observations	2,231
Province Dummies	YES

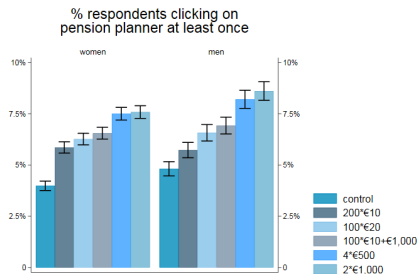
The second stage of the 2SLS approach

Do the effects of financial incentives depend on participants' characteristics?

### 3 – Heterogeneity: Gender



Study 1



Study 2

## 4 – Conclusion

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- Financial incentives increase the rate at which participants look at the pension planner in both experiments
  - A lottery with a few larger amounts is more effective than a lottery of many smaller amounts
  - In our context: financial incentives worked best for all subgroups
  - Although we do find a positive correlation between looking at the pension planner and pension knowledge, participants who have looked at the pension planner do not score higher on a pension knowledge quiz in a 2SLS regression
- ⇒ It remains difficult to change literacy and savings behaviour





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Looking forward to feedback and questions!

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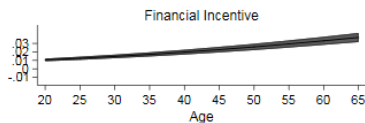
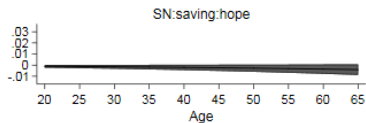
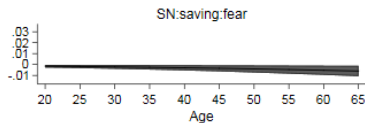
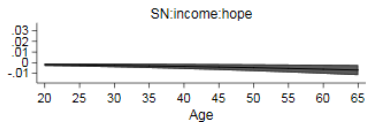
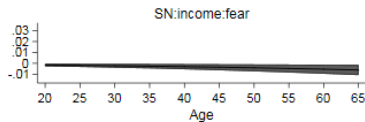
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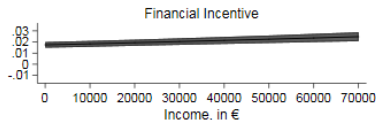
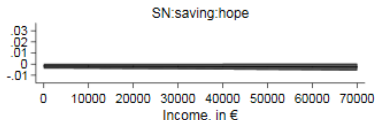
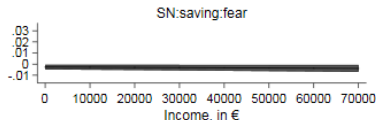
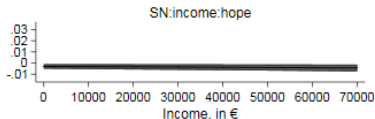
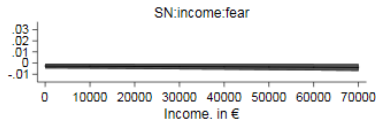
## 5 – App.: Marginal Effects at Different Ages

### Average Marginal Effects Effects on Login Rate



## 5 – App.: Marginal Effects at Different Income Levels

### Average Marginal Effects Effects on Login Rate



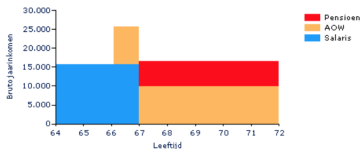
## 5 – App.:Pension Planner

Je hebt gevraagd hoe hoog jouw pensioen is op basis van een gewenste pensioenleeftijd van 67 jaar en 0 maand(en).

De pensioenplanner heeft het volgende voor je berekend:  
Jouw pensioeninkomen is 105% van je salaris.

Het gekozen scenario is mogelijk fiscaal niet toegestaan. Wij adviseren de keuzes zo aan te passen dat je inkomen vanaf 1 december 2019 lager is dan je salaris.

Jouw te bereiken pensioen (alle bedragen zijn bruto in € per jaar)			
Datum	01-03-2018	01-01-2019	01-12-2019
Leeftijd	65 jr 3 mnd	66 jr 1 mnd	67 jr 0 mnd
Salaris	15.862	15.862	0
Pensioen	0	0	6.579
Basisregeling	0	0	6.579
AOW	0	10.008	10.008
<b>Totaal (Bruto)</b>	<b>15.862</b>	<b>25.870</b>	<b>16.587</b>
(%)	(100%)	(163%)	(105%)
<b>Bruto per maand</b>	<b>1.322</b>	<b>2.156</b>	<b>1.382</b>
<b>Netto per maand</b>			<b>1.261</b>
- waarvan netto van Pensioenfonds Detailhandel			416





## 5 – App: The Repeated Use of Financial Incentives

VARIABLES	Pension Planner (Study 2)		
200*€10	0.0151*** (0.0015)	0.0151*** (0.0015)	0.0131*** (0.0022)
100*€20	0.0208*** (0.0015)	0.0208*** (0.0015)	0.0168*** (0.0022)
100*€10+€1,000	0.0241*** (0.0015)	0.0241*** (0.0015)	0.0242*** (0.0023)
4*€500	0.0346*** (0.0016)	0.0346*** (0.0016)	0.0335*** (0.0024)
2*€1,000	0.0365*** (0.0016)	0.0365*** (0.0016)	0.0356*** (0.0024)
Financial incentive in Study 1		0.0008 (0.0018)	-0.0038 (0.0034)
Not a member in Study 1		0.0067*** (0.0011)	0.0047** (0.0021)
Fin. inc. in Study 1 * 200*€10			0.0103* (0.0054)
Fin. inc. in Study 1* 100*€20			0.0136** (0.0057)
Fin. inc. in Study 1* 100*€10+€1,000			0.0018 (0.0055)
Fin. inc. in Study 1* 4*€500			0.0019 (0.0058)
Fin. inc. in Study 1* 2*€1,000			0.0002 (0.0058)
Not a member in Study 1* 200*€10			0.0023 (0.0031)
Not a member in Study 1* 100*€20			0.0062* (0.0032)
Not a member in Study 1* 100*€10+€1,000			-0.0005 (0.0032)
Not a member in Study 1* 4*€500			0.0020 (0.0034)
Not a member in Study 1* 2*€1,000			0.0019 (0.0034)
Constant	0.0251*** (0.0022)	0.0210*** (0.0023)	0.0223*** (0.0025)
Observations	257,433	257,433	257,433
R-squared	0.010	0.010	0.010
Other Covariates	YES	YES	YES

## 5 – App.: Saving - Positive

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Dear participant,

Have you ever thought about your income for later? Your pension? The money which you will receive monthly from 67 onwards?

**A big part of the Dutch think that they save enough to retain their current level of consumption in retirement. And you?**

On [www.pensioenfondsdetailhandel.nl](http://www.pensioenfondsdetailhandel.nl) you check- in less than a minute - what you will be able to spend soon.

This is how you do it:

- Go to 'Mijn Omgeving' on [pensioenfondsdetailhandel.nl](http://pensioenfondsdetailhandel.nl);
- Log in with your personal ID number;
- And look at your personal pension accrual and pension scheme.

With this new insight you can decide whether you want to lay aside additional money or whether you want to keep on accruing your pension as you are used to.

Additionally, really handy, on 'Mijn Omgeving' you see what it means for your pension if you change your job, start living together, get married or divorced...

Topics you also find back in the Jij&Wij Magazine, the journal you receive with this letter.

May I ask you to quickly check your data?

Thanks in advance,

Best wishes,

## 5 – App.: Saving - Negative

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Dear participant,

Have you ever thought about your income for later? Your pension? The money which you will receive monthly from 67 onwards?

**A big part of the Dutch think that they save too less to retain their current level of consumption in retirement. And you?**

On [www.pensioenfondsdetailhandel.nl](http://www.pensioenfondsdetailhandel.nl) you check- in less than a minute - what you will be able to spend soon.

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