



# The displacement effect of compulsory pension savings on private savings

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# Overview

## ***The displacement effect of compulsory pension savings on private savings: an identification strategy using institutional differences across occupations in the Netherlands***

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- Introduction
- Data
- First tentative results
- Next steps

# Introduction

## Central research question

*What is the impact of (compulsory) second pillar pensions on private household wealth?*

## Literature

- Line of literature started with Feldstein (1974).
- Since then, many studies with large range of results, from no impact to full displacement. E.g.: Gale (1998), Attanasio and Brugiavini (2003), Engelhardt and Kumar (2011)
- Possible explanations:
  - differences in observation period, country, pension scheme, etc.
  - measurement error and omitted variables

## Our additions to the literature

- We use unique register data on Dutch second pillar pension wealth and participation
- We acknowledge heterogeneity by looking at different groups separately, e.g. occupational choice and institutional setting

# Estimation of displacement effect

The displacement effect ( $\beta$ ) is usually estimated with this basic model:

$$A_i = \alpha X_i + \beta PW_i + \varepsilon_i$$

Common sources of bias in this type of analyses (following Gale, 1995; Alessie et al., 1997):

- Omitted variables, e.g. saving propensity, life expectancy, retirement age
- Measurement error, e.g. narrow wealth measures, gross vs. net, estimated vs. observed pension wealth, income vs. total compensation.

# Institutional setting – Occupational choice and second pillar pension participation (I)

## Second pillar pensions in the Netherlands

- The second pillar consist of the (capital funded) occupational pension schemes.
- There is no general obligation to participate, but when social partners provide a pension scheme, the government can make this scheme mandatory for an entire sector or profession.
- About 90% of all employees participate in the second pillar (CBS, 2010).
- There are also mandatory professional pension funds for independent (self-employed) professionals, like medical specialists, physiotherapists and notaries. And there is one industry pension fund (for painters, carpenters and glaziers) that includes self-employed.
- In total, about 5-10% of all self-employed participate in the second pillar.

# Institutional setting – Occupational choice and second pillar pension participation (II)

	Wage employed	Self-employed
Participation in 2 <sup>nd</sup> pillar	<b>WEP</b> (81%)	<b>SEP</b> (1%)
No participation in 2 <sup>nd</sup> pillar	<b>WEN</b> (9%)	<b>SEN</b> (9%)

- First step: OLS estimations for WE and SE separately
- Second step: PSM for WEP and WEN, and for SEP and SEN

# Data

## Sources of data:

1. IPO Wealth (1998-2012)
2. CBS Pensioenaanspraken (2005-2011)
3. CBS 'witte vlek': 2<sup>nd</sup> pillar pension participation of employees (2007-2010)

## Available info on sample (N=100.000 households):

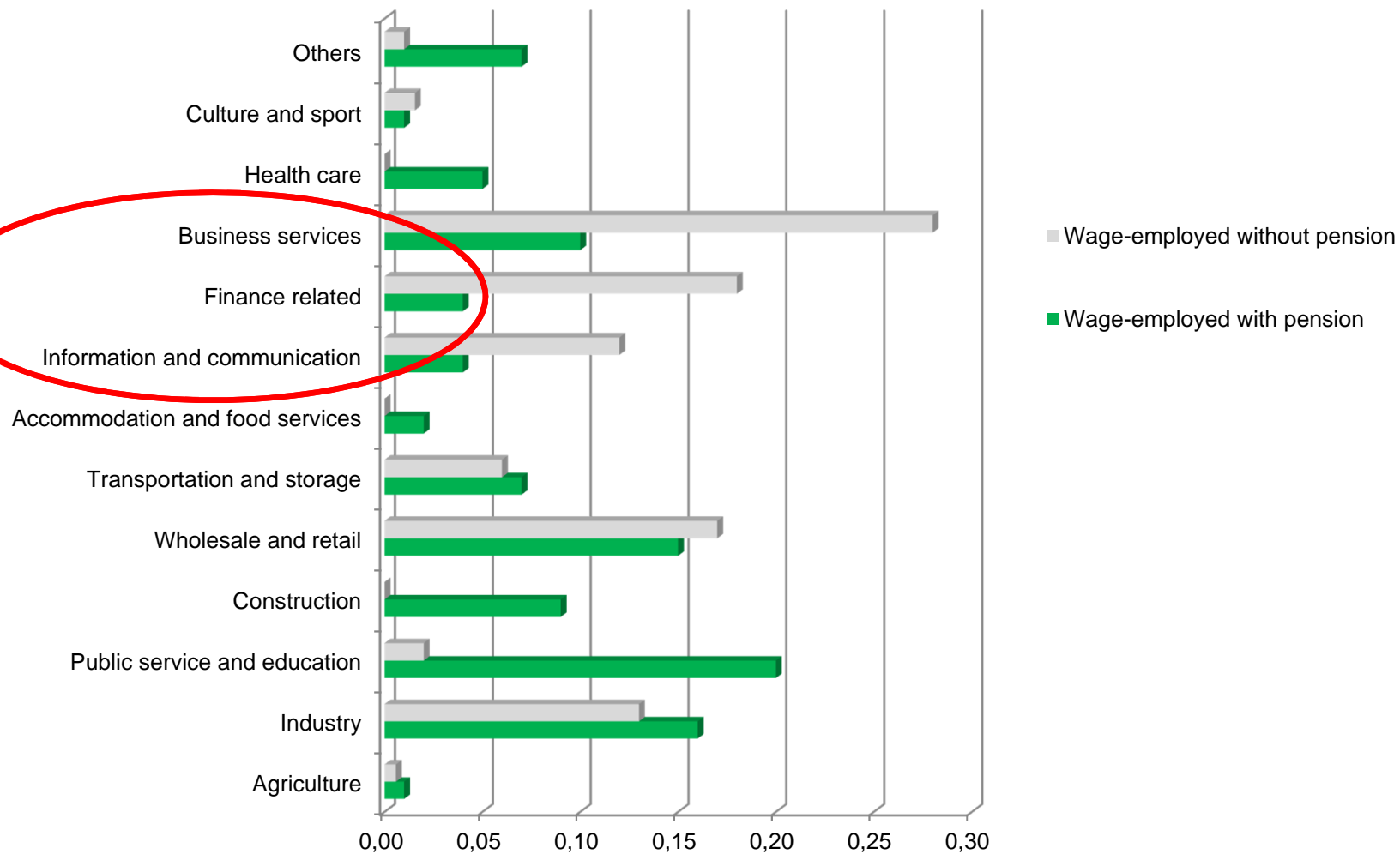
- Background characteristics: gender, age, household composition, employee/self-employed, urbanization level, country of origin, etc.
- Financial information: income, assets (incl. home, stocks/bonds, current and saving accounts), debts
- Pension information
  - *Second pillar*: current annuity value, potential annuity value at retirement, number of years of participation, pension scheme (DC/DB)
  - *Third pillar*: fiscally facilitated pension premiums 2000-2012

# Descriptive Statistics (2010)

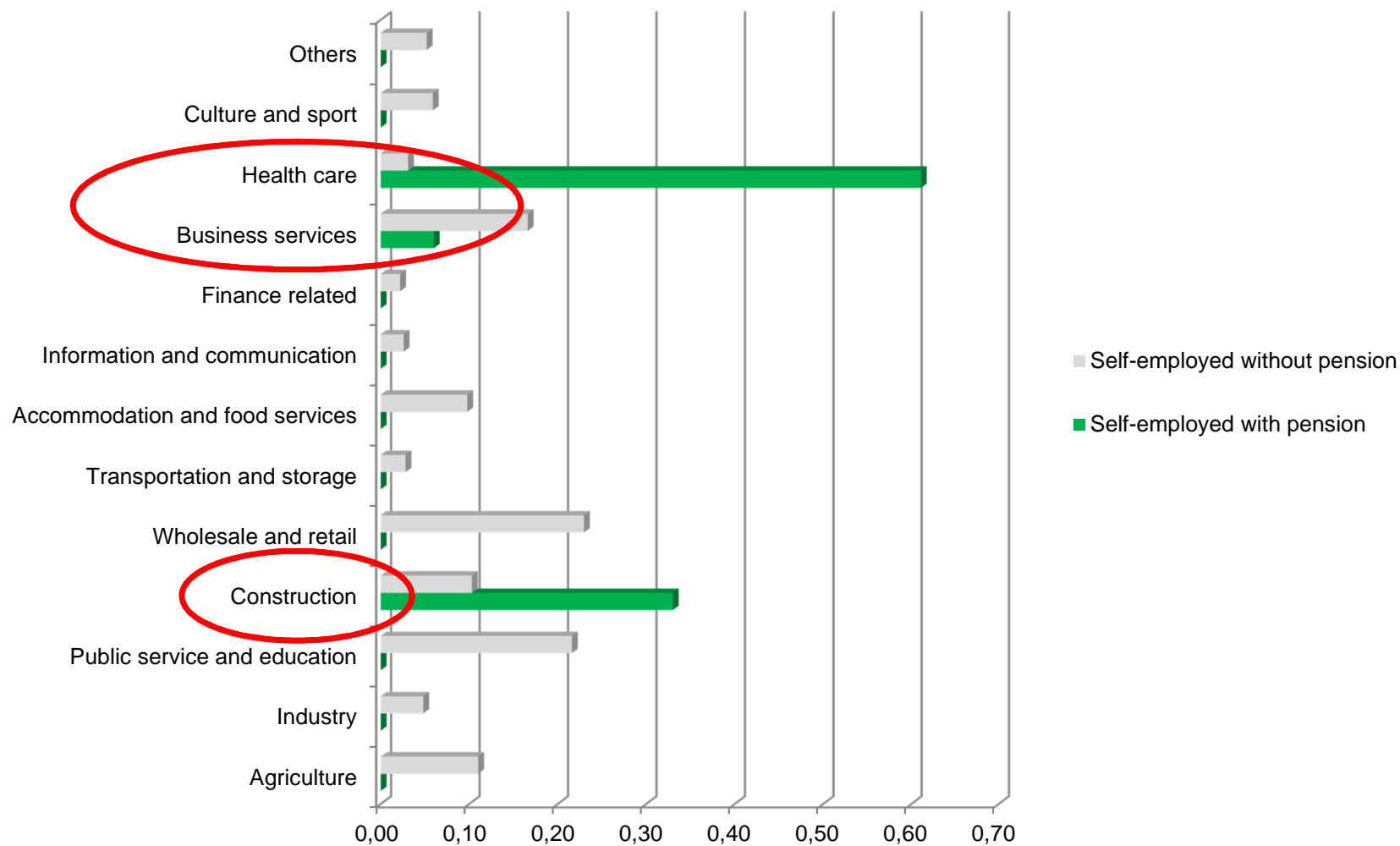
		WEP	WEN	p-value	SEP	SEN	p-value
<b>Private household wealth</b>	Mean	105861	100136	0.05	379205	238232	0.00
	Median	62585	46535		215015	127200	
<i>o/w primary residence wealth</i>	<i>Mean</i>	<i>56368</i>	<i>44487</i>	<i>0.00</i>	<i>86168</i>	<i>80654</i>	<i>0.00</i>
	<i>Median</i>	<i>17866</i>	<i>0</i>		<i>78527</i>	<i>30238</i>	
<i>o/w 3rd pillar pension wealth</i>	<i>Mean</i>	<i>4915</i>	<i>4451</i>	<i>0.045</i>	<i>26010</i>	<i>16800</i>	<i>0.00</i>
	<i>Median</i>	<i>0</i>	<i>0</i>		<i>4435</i>	<i>0</i>	
<b>2nd pillar pension wealth</b>	Mean	88033	57780	0.00	81478	17886	0.00
	Median	64688	44384		39194	6082	
<b>Household net total compensation</b>	Mean	43312	37877	0.00	78279	31849	0.00
	Median	39541	32844		64487	27793	
<b>Indicator for having own house</b>		0.81	0.75	0.00	0.77	0.71	0.00
<b>Indicator for having mortgage</b>		0.77	0.71	0.00	0.91	0.73	0.00
<b>Age</b>		44	42	0.00	47	46	0.25
<b>Indicator for immigrant</b>		0.15	0.22	0.00	0.16	0.17	0.85
<b>Number of observations</b>		23809	2631		82	1532	



# Descriptive Statistics – WEP/WEN by sector



# Descriptive Statistics – SEP/SEN by sector



# First tentative results - OLS

	Wage-employed		Self-employed	
	Couples	Singles	Couples	Singles
<b>Complete samples</b>	0.097**	0.235***	-2.223***	-0.118
<b>o/w Total private household wealth &gt; p(50)</b>	-0.051*	-0.150*	-1.501*	-0.233

- Wage-employed show a significant positive displacement effect of 10% (couples) to 24% (singles). The top half of the private household wealth distribution shows a significant negative displacement effect of -5% to -15%.
- Self-employed show a negative displacement effect of -12% (singles, insign.) to 222% (couples, sign.). The top half of the private household wealth distribution shows a negative displacement effect of -23% (singles, insign.) to -150% (couples, sign.).

# First tentative results - PSM

<i>(Couples only)</i>	Wage-employed	Self-employed
<b>ATT (total private household wealth)</b>	-14,187***	-13,292
<i>Difference in household 2<sup>nd</sup> pillar pension wealth between matched groups</i>	14,878	52,923
<i>Displacement effect</i>	-0.954	-0.251

- WEP have on average 14,200 euro less private household wealth than matched WEN. They have 14,900 euro more pension wealth, so displacement is around -95%.
- SEP have on average 13,300 euro less private household wealth than matched SEN (not sign.). They have 52,900 euro more pension wealth, so displacement is around -25%.



# Next steps

- Further explore and update CBS data sets
- Make use of the panel data set
- Construct an IV
- Find and add additional data sources, e.g. LISS panel

...Additional suggestions?