SOCIALLY RESPONSIBLE INVESTMENTS

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Aim & Motivation

- To analyze *revealed* and *stated* individual preferences for socially responsible (SR) investments in the Netherlands
- To consider what can make SR investing attractive & for whom

- Tendency towards more choice flexibility for participants in occupational pensions
  - If participants can choose their own investment strategy, they may be interested SR investments
  - If employees can choose their own pension fund, pension funds can differentiate by, for example, SR investments
- Relevance for mutual funds and corporations (to reduce cost of capital)

Overview

- **Actual behavior** and **stated preferences** on socially responsible assets (saving accounts at SR banks, mutual funds)
- Survey data collected in **CentERpanel** in May 2016
- Descriptive analysis of an exploratory nature
- Specific **questions addressed** by econometric analyses
  1. What are the characteristics of actual SR investors?
  2. Do "special offers" help for actual behavior?
  3. What are the characteristics of respondents who state a preference for SR investing?
  4. How important are the characteristics/design of the investment product?

Some existing studies

- Pasewark and Riley (2010)
  - asked individuals to choose between 2 bonds: one issued by a tobacco company and one outside the tobacco industry
  - SR investors accept lower returns ➔
  - traditional wealth-maximization approaches by not including the investor's personal values fail to capture an important factor of investment decisions
- Bauer and Smeets (2015)
  - found high levels of social identification among young, highly-educated and low-wealth investors, based on NL bank data ➔
  - supporting the profiling of socially responsible investors done in Junkus and Berry (2010) for US
- Nilsson (2008)
  - Importance of gender and education
  - social investors not only driven by altruistic motives, but also by the idea that ethical mutual funds have average or higher performance.

Data

- Collected through an internet survey among participants of the CentERpanel run by CentERdata at Tilburg University, specialized in data collection and internet surveys.

- The CentERpanel consists of about 2,000 households and is broadly representative for the Dutch adult population.

- Used for numerous economic studies in existing papers and is the basis for the DNB Household Survey and the Dutch contribution to the ECB Financial Household Survey.

Actual vs Stated preferences for SR assets

Actual behavior and stated prefences
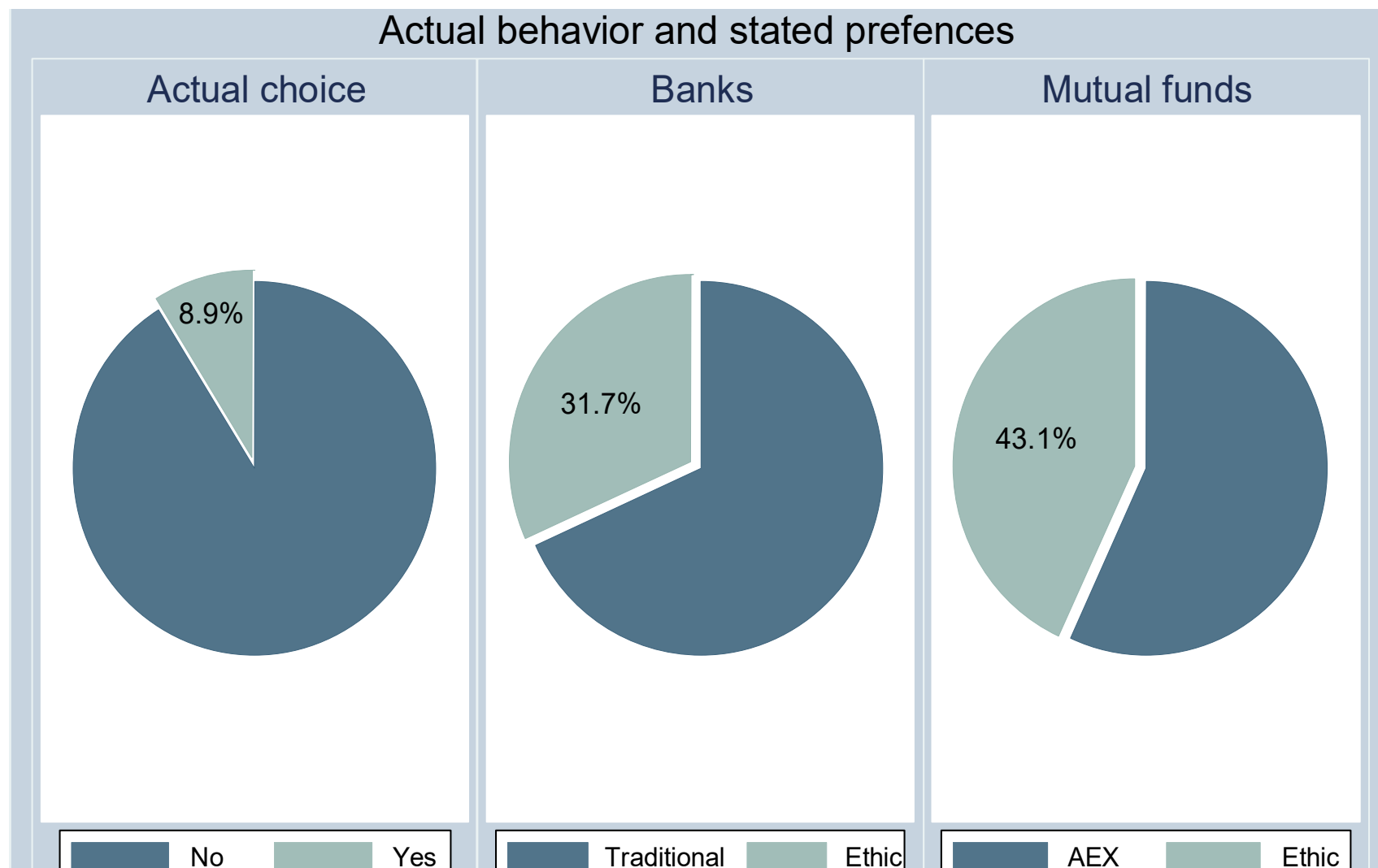
Actual ownership of SR assets

Q 1: Do you (or someone in your household) have any investments in socially responsible assets or other mutual funds that invest in environmentally friendly companies or in cultural or other activities that are beneficial to society?

Yes: 8.9%; No: 91.1%

Probit estimates:

	Coef.	T-value	
female	-.0303	-0.37	
lnhhinc	.0638	1.77	
age	.0709	3.80	(max at age 74)
age2	-.00048	-2.85	
kid	-.0348	-0.33	
edu_mid	.2226	1.86	
edu_hig	.6881	6.38	(marg. Effect 9.7%-points)
married	-.0765	-0.80	
work	.0734	0.67	
urban	.1065	1.31	
constant	-4.649	-7.64	

Reasons for SR investing (n=187)

- Want to contribute to improving society   60.4
- More confidence than in other financial companies   37.4
- Expected (financial) returns   24.0
- Tax favored nature of these assets   27.8
- Response to a special offer   3.7

Reasons for not investing in SR assets(n=1924)(with significant determinants)

- Should do this, but did not get to it   9.5%
  female (-); education (+)

- No money to invest   34.8%
  Age (-), education (-), married (-), work (-)

- Want to be able to withdraw immediately   47.5%
  Income (+)

- High costs or low (expected) returns   11.1%
- Only want to invest in traditional banks   14.5%
  Income (-), education (+), urban (-)

Actual behavior: special offers

At some banks you receive a present, like a **book or a voucher**, if you open a new account or start investing, or if you make an additional investment

Q 3: Did you (or anyone in your household) **ever receive such an offer, and if so, did you make use of it**?

a) As far as I know, I/we never received such an offer   63.0%

b) I/we received such an offer but did not make use of it   25.9%

c) I/we once made use of such an offer to allocate part of our savings   6.2%

d) I/we more than once made use of such an offer to allocate part of our savings   5.0%

Actual behavior & special offers - Probit regressions

	Offer received (n=2314)		Offer accepted given offer received (n=986)	
	Coeff.	T-value	Coeff.	T-value
female	.0357	0.66	.5140	6.13
lnhhinc	.0152	0.80	-.0231	-0.79
age	.0009	0.44	-.0063	-1.86
kid	.2790	4.23	.1128	1.11
edu_mid	-.1058	-1.48	-.1627	-1.47
edu_hig	.0118	0.17	-.2658	-2.51
married	.1143	1.75	.327	3.06
work	.0765	1.18	-.0193	-0.19
urban	.1339	2.44	-.095	-1.12
cons	-.6170	-2.90	.0278	0.08

Stated preferences: savings (1)

(randomizations in blue)

Q5: Suppose you receive an inheritance of [5000 / 10,000] but the condition is that you cannot spend the money now but only one year from now at the earliest. You can invest it in some **account or mutual fund** and receive the money plus net return one year from now. What would you choose if you had the following possibilities?

a) Put the money in a saving account **at a traditional bank** and receive an interest rate of 1%   (75.4%)

b) Put the money in a saving account **at a bank that only invests in socially responsible companies** and receive an interest rate of [0.6% / 0.8%].   (15.3%)

c) Put the money in a saving account **at a bank that only invests in socially responsible companies** and receive an interest rate of [0.5% / 0.75%]. In addition, if you open the account you get a **Deluxe edition of the book** Wildlife in Europe with a value of [40/ 60] if you would buy it in a store.   (9.3%)

Saving asset choice: traditional, SR, SR&gift -
Probit regressions

sp1_c	b or c (n=2289)		b given not c (n=2076)		c given not b (n=1983)		c given b or c (n=563)	
	Coeff	t-val	Coeff	t-val	Coeff	t-val	Coeff	t-val
_cons	-1.525	6.37	-1.917	-6.68	-2.291	-6.74	-.6117	-1.19
female	.0090	0.15	.0167	0.24	.0081	0.10	-.0642	-0.52
lnhhinc	.0099	0.46	.0163	0.64	.0094	0.33	-.0176	-0.38
age	.0071	3.03	.0046	1.72	.0102	3.11	.0075	1.52
kid	-.0566	0.77	-.1736	-2.04	.0841	0.84	.3081	2.02
edu2	.1761	2.12	.2439	2.50	.0284	0.25	-.1930	-1.05
edu3	.6223	8.01	.6598	7.23	.4624	4.45	-.1030	-0.62
married	-.0426	0.60	.0120	0.15	-.1156	-1.21	-.1497	-1.06
work	.0388	0.53	-.0173	-0.20	.1340	1.33	.1421	0.99
urban	.1554	2.59	.2113	3.06	.0137	0.17	-.1962	-1.58
Inh_10kE			.0208	0.20	-.3356	-3.97	-.0619	-0.39
High_return_b			.2636	3.05			-.9571	-6.47
High_return_c					.6403	7.59	.9612	7.88
Exp_book_c					.0787	0.99	.2150	1.80

Stated preferences: savings (2)

Q 6: What would you choose you if you had the following possibilities?

a) Put the money in a saving account at a traditional bank and receive an interest rate of 1% (68.3%)

b) Put the money in a saving account at a bank that only invests in socially responsible companies and receive an interest rate of [0.6% / 0.8%]. The **bank guarantees that the remaining** [0.4% / 0.2%] will be used for [vaccinations of children in Africa / loans to help women in developing countries to set up their own business].
(23.1%)

c) Put the money in a saving account at a bank that only invests in socially responsible companies and receive an interest rate of [0.5% / 0.75%]. In addition, when you open the account, the bank gives you a **voucher** worth [40/ 60] that you can spend on theater visits, cinema tickets, sports events, or concerts in the next twelve months. (8.6%)

Stated preferences: savings (3)

Q 7: Now suppose you can **split the amount in two**, put part of it in a savings account at a **traditional bank** with a 1% interest rate, **and** put the remaining part in a saving account at a **bank that only invests in socially responsible companies**, with an interest rate of [0.6% / 0.8%]. The bank **guarantees** that the remaining [0.4% / 0.2%] will be used for [vaccinations of children in Africa / loans to help women in developing countries to set up their own business].

How would you choose to allocate the total amount?

… % in the traditional savings account

… % in the socially responsible savings account

Percentage in the SR savings account (mean: 30.34%)

Traditional bank vs SR bank

Source: CentERpanel
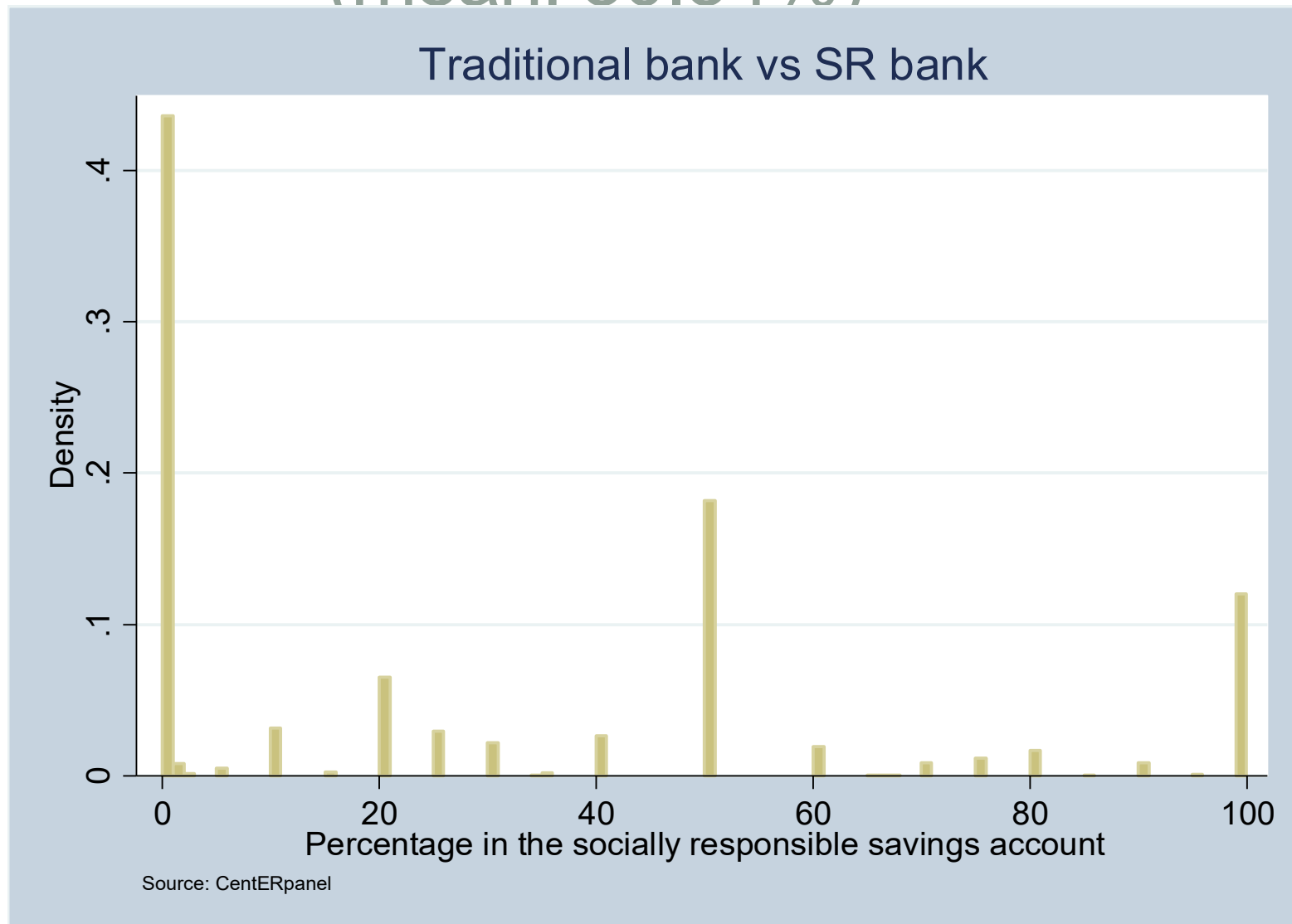
Allocation: Two-limit tobit estimates (censoring at 0 and 100)

	Coeff	t-val
constant	-38.793	-2.94
female	9.178	2.84
lnhhinc	1.821	1.59
age	.3869	3.08
kid	-3.141	-0.80
edu2	3.647	0.86
edu3	26.200	6.41
married	-9.470	-2.49
work	4.592	1.19
urban	6.599	2.03
Inh_10kE	-1.709	-0.48
High_Interest	9.817	3.13
loans_women	-1.915	-0.61
sigma	67.920	38.35

Stated preferences: mutual funds

Q 8: What would you choose you if you had the following possibilities?

a) Put the money in a **mutual fund with a return linked to the AEX** (Amsterdam Stock Exchange) Index. (The AEX invests in the stocks of the 500 largest companies in the Netherlands)   (65.9%)

b) Put the money in a mutual fund investing only in a careful selection of **socially responsible companies**. Compared to the AEX, this mutual fund has a [1.0 percentage points / 0.5 percentage points] lower return per year on average, and the same risk   (32.8%)

c) Put the money in a mutual fund investing only in a carefully selected group of **socially responsible companies**. Compared to the AEX, this mutual fund has a [1.2 / 0.6 percentage points] lower return per year on average, and the same risk. In addition, you get a **Deluxe Edition of the book** Wildlife in Europe (with a value of 50 euros if you would buy it in a store).
     (10.4%)

Revealed and Stated preferences for SR mutual funds

Actual behavior and stated prefences for mutual funds
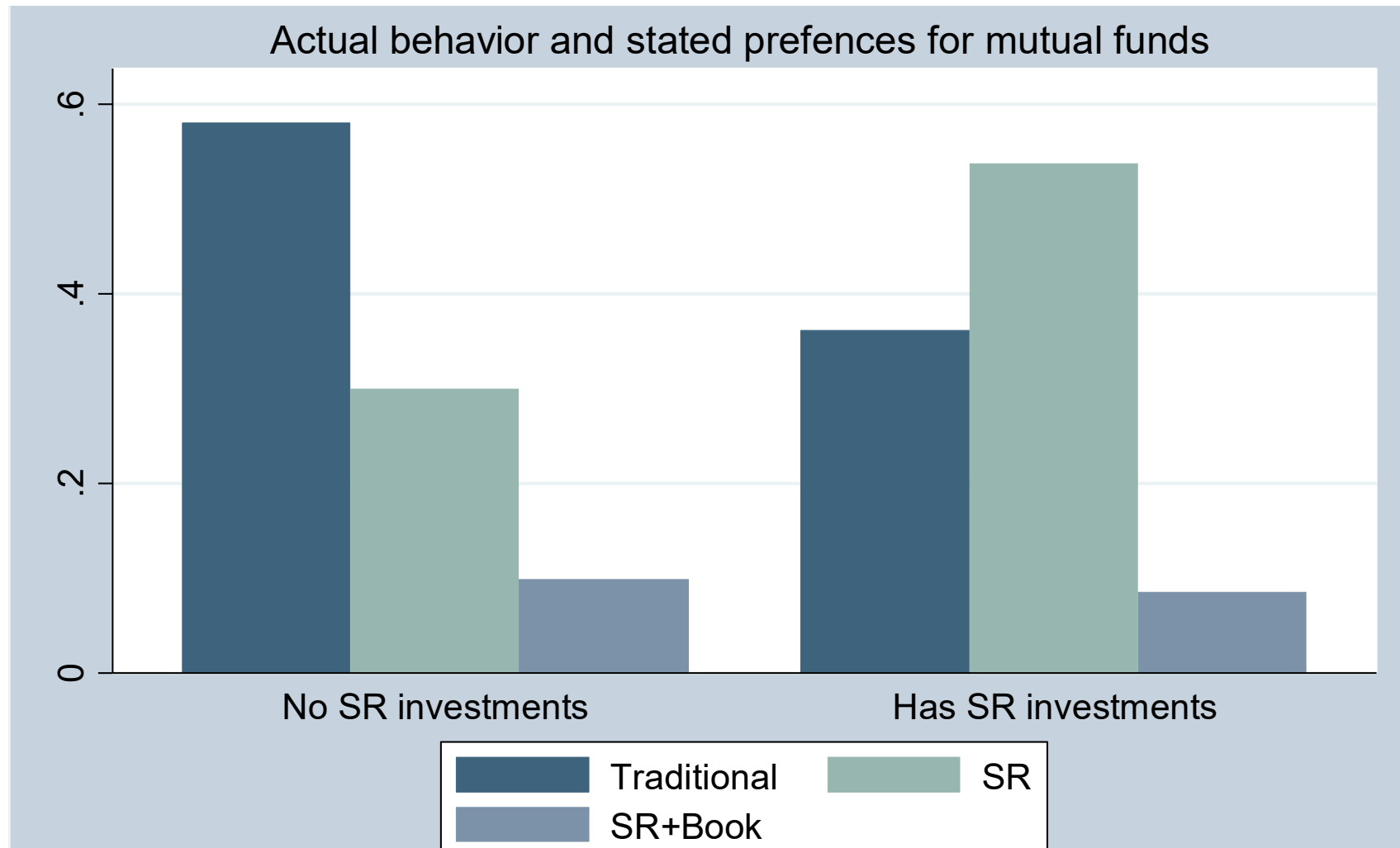
Mutual fund choice: traditional, SR, SR&gift - Probit regressions

	b or c (n=2261)		b given a or b (n=2027)		c given a or c (n=1520)		c given b or c (n=975)	
	Coeff	t-val	Coeff	t-val	Coeff	t-val	Coeff	t-val
constant	-.7902	-3.52	-1.1482	-4.67	-1.170	-3.62	-.0984	-0.26
female	.1716	3.09	.1784	2.99	.1348	1.63	-.0372	-0.40
lnhhinc	.0152	0.78	.0211	1.00	-.0009	-0.03	-.0214	-0.63
age	.0048	2.22	.0047	2.03	.0050	1.55	.0011	0.31
kid	-.0850	-1.26	-.1288	-1.78	.0330	0.33	.146	1.23
edu2	.0228	0.31	.0855	1.07	-.1009	-0.98	-.2164	-1.79
edu3	.3320	4.75	.4483	5.89	-.0075	-0.07	-.4421	-3.86
married	-.0254	-0.39	-.0039	-0.06	-.0787	-0.83	-.0707	-0.66
work	-.0299	-0.45	.0304	0.42	-.1730	-1.76	-.2036	-1.85
urban	.1860	3.36	.2174	3.65	.0637	0.77	-.1618	-1.74
Inh_10kE	-.0446	-0.74	.0151	0.23	-.184	-2.12	-.1953	-1.98
Low_return	.0607	1.13	.0154	0.27	.1683	2.11	.1545	1.72

Robustness/Alternatives

- Multinomial probit for the choice of the asset (traditional, SR, SR+gift or voucher) ✓

- Controlling for having a SR investiment (significant) ✓

- Allocation decision:
    - robustness for the 50-50 ✓
    - Ordered probit for 3-peaks and rounding ✓

- Accounting for the two-stage nature of the decision process:
    - *Nested logit*

Conclusions

- Our results suggest that **potential demand** for these types investments may exceed current holdings

- Strong interest shown by **highly educated** individuals, **olde**r individuals, and **women**

- **Returns matter**, also for SR investments

- Some suggestive evidence that certain **forms of ethical investments** may be more attractive than others

- Actual behavior: women more often accept "special offers." But this is less clear in the stated preferences

As Table 1 in the paper but Probit & no hldHead

Table: Participation in social investments - Probit

	(1) Actual	(2) Banks	(3) Banks	(4) Stocks
Female	0.006	−0.005	−0.004	0.065***
	(0.012)	(0.018)	(0.020)	(0.021)
Age	0.002***	0.002**	0.000	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)
Secondary education	0.032*	0.054**	0.039	0.008
	(0.019)	(0.026)	(0.028)	(0.029)
Tertiary education	0.099***	0.202***	0.223***	0.136***
	(0.018)	(0.024)	(0.025)	(0.028)
Working	0.005	0.013	0.030	−0.014
	(0.017)	(0.026)	(0.028)	(0.030)
Married / Living together	0.006	−0.012	−0.049**	−0.004
	(0.015)	(0.023)	(0.024)	(0.026)
Children in the household	−0.007	−0.033	−0.052**	−0.037
	(0.017)	(0.024)	(0.026)	(0.028)
Urban	0.018	0.046**	0.027	0.070***
	(0.013)	(0.019)	(0.021)	(0.023)
Log(Individual Income)	0.009*	−0.011**	−0.005	−0.001
	(0.005)	(0.005)	(0.005)	(0.006)
A-Random (Inheritance 10K)		0.011	0.024	0.020
		(0.018)	(0.019)	(0.021)
B-Random (Return SR bank)		−0.006		
		(0.018)		
C-Random (Return SR bank /2)		0.061***		
		(0.018)		
D-Random (Book value)		−0.012		
		(0.018)		
E-Random (Return SR bank)			0.040**	
			(0.019)	
G-Random (Vaccine/microloans)			−0.009	
			(0.020)	
H-Random (Return SR bank /2)			0.007	
			(0.019)	
I-Random (Voucher value)			0.000	
			(0.019)	
J-Random (Return SR fund)				0.026
				(0.021)
Observations	2055	2225	2223	2198
R^2				

Marginal effects; Standard errors in parentheses
SE clustered at the household level
Source: CenntERpanel
 (d) for discrete change of dummy variable from 0 to 1
* *p* < 0.10, ** *p* < 0.05, *** *p* < 0.01

Table: Intensity of social investments

	(1) OLS	(2) Tobit	(3) Margins	(4) No 50/50	(5) Oprobit
main					
Female	2.973**	8.676***	4.038***	12.894**	0.135***
	(1.475)	(3.211)	(1.488)	(5.212)	(0.048)
Age	0.476	0.837	0.169**	2.117*	0.013
	(0.296)	(0.642)	(0.068)	(1.092)	(0.010)
Age squared	-0.003	-0.004		-0.015	-0.000
	(0.003)	(0.006)		(0.011)	(0.000)
Secondary education	2.976	4.152	1.933	7.820	0.060
	(1.869)	(4.226)	(1.965)	(6.821)	(0.063)
Tertiary education	14.792***	28.121***	13.090***	44.848***	0.404***
	(1.962)	(4.296)	(1.949)	(7.067)	(0.063)
Working	2.552	4.140	1.927	7.471	0.051
	(2.146)	(4.651)	(2.164)	(7.485)	(0.069)
Married / Living together	-3.415*	-8.163**	-3.800**	-12.551*	-0.114*
	(1.879)	(3.974)	(1.844)	(6.426)	(0.059)
Children in the household	-1.919	-3.999	-1.861	-7.921	-0.063
	(1.945)	(4.293)	(1.995)	(6.706)	(0.064)
Urban	3.288**	6.052*	2.817*	10.388*	0.092*
	(1.621)	(3.504)	(1.629)	(5.510)	(0.052)
Log(Individual Income)	-0.124	-0.468	-0.218	-0.584	-0.007
	(0.393)	(0.880)	(0.410)	(1.382)	(0.013)
A-Random (Inheritance 10K)	1.555	5.046	2.349	6.930	0.066
	(1.461)	(3.169)	(1.473)	(5.072)	(0.047)
E-Random (Return SR bank)	4.704***	9.681***	4.506***	13.483***	0.139***
	(1.489)	(3.244)	(1.502)	(5.196)	(0.048)
G-Random (Vaccine/microloans)	-1.065	-1.557	-0.725	-4.745	-0.023
	(1.483)	(3.225)	(1.501)	(5.151)	(0.048)
Observations	2209	2209	2209	1805	2209
R^2	0.05177				

Marginal effects; Standard errors in parentheses
SE clustered at the household level
Source: CenntERpanel
 (d) for discrete change of dummy variable from 0 to 1
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table: Multinomial Probit - Wildlife Gift Bond (Q5)

	(1) Traditional	(2) SR	(3) SR + in-kind
Female	-0.007	0.004	0.003
	(0.019)	(0.016)	(0.013)
Age	-0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
Secondary education	-0.049*	0.048**	0.001
	(0.027)	(0.023)	(0.018)
Tertiary education	-0.182***	0.124***	0.058***
	(0.025)	(0.022)	(0.016)
Working	-0.014	0.009	0.005
	(0.026)	(0.021)	(0.017)
Married / Living together	0.005	0.010	-0.015
	(0.022)	(0.019)	(0.015)
Children in the household	0.037	-0.050**	0.013
	(0.025)	(0.021)	(0.016)
Urban	-0.044**	0.044***	-0.001
	(0.019)	(0.016)	(0.012)
Log(Individual Income)	0.010*	-0.014***	0.003
	(0.005)	(0.004)	(0.004)
A-Random (Inheritance 10K)	-0.007	0.021	-0.014
	(0.018)	(0.016)	(0.012)
B-Random (Return SR bank)	0.004	0.085***	-0.089***
	(0.018)	(0.015)	(0.012)
C-Random (Return SR bank /2)	-0.053***	-0.052***	0.105***
	(0.019)	(0.015)	(0.013)
D-Random (Book value)	0.012	-0.019	0.007
	(0.018)	(0.015)	(0.012)
Has SR investments	-0.219***	0.146***	0.073***
	(0.029)	(0.023)	(0.017)
Observations	2037	2037	2037

Standard errors in parentheses
SE clustered at the household level
Source: CenntERpanel
These are the marginal effects computed from the Multinomial Probit model estimates.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table: Vaccination Microcredit Bond (Q6)

	(1) Traditional	(2) SR	(3) SR + in-kind
Female	-0.010	0.022	-0.011
	(0.020)	(0.019)	(0.013)
Age	0.000	0.001	-0.001***
	(0.001)	(0.001)	(0.000)
Secondary education	-0.027	0.048*	-0.021
	(0.029)	(0.027)	(0.018)
Tertiary education	-0.204***	0.177***	0.027
	(0.027)	(0.025)	(0.017)
Working	-0.038	0.041	-0.003
	(0.028)	(0.026)	(0.018)
Married / Living together	0.035	-0.024	-0.011
	(0.024)	(0.021)	(0.015)
Children in the household	0.065**	-0.061***	-0.004
	(0.026)	(0.024)	(0.015)
Urban	-0.026	0.006	0.020
	(0.021)	(0.019)	(0.012)
Log(Individual Income)	0.005	-0.005	0.000
	(0.006)	(0.006)	(0.004)
A-Random (Inheritance 10K)	-0.027	0.020	0.007
	(0.020)	(0.018)	(0.012)
E-Random (Return SR bank)	-0.042**	0.096***	-0.054***
	(0.020)	(0.018)	(0.012)
G-Random (Vaccine/microloans)	0.019	-0.032*	0.013
	(0.020)	(0.018)	(0.012)
H-Random (Return SR bank /2)	-0.009	-0.048***	0.056***
	(0.020)	(0.018)	(0.012)
I-Random (Voucher value)	-0.014	-0.013	0.027**
	(0.020)	(0.018)	(0.012)
Has SR investments	-0.265***	0.214***	0.050***
	(0.033)	(0.029)	(0.019)
Observations	2035	2035	2035

Standard errors in parentheses
SE clustered at the household level
Source: CenntERpanel
These are the marginal effects computed from the Multinomial Probit model estimates.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table: Multinomial Probit - Wildlife Gift Stock (Q6)

	(1) Traditional	(2) SR	(3) SR + in-kind
Female	-0.072***	0.056***	0.016
	(0.022)	(0.021)	(0.014)
Age	-0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
Secondary education	-0.005	0.019	-0.014
	(0.031)	(0.029)	(0.017)
Tertiary education	-0.128***	0.138***	-0.010
	(0.029)	(0.027)	(0.017)
Working	0.016	0.007	-0.023
	(0.031)	(0.029)	(0.019)
Married / Living together	-0.003	0.015	-0.013
	(0.026)	(0.024)	(0.016)
Children in the household	0.048*	-0.061**	0.012
	(0.028)	(0.026)	(0.017)
Urban	-0.077***	0.079***	-0.002
	(0.023)	(0.021)	(0.014)
Log(Individual Income)	0.001	0.005	-0.005
	(0.007)	(0.006)	(0.004)
A-Random (Inheritance 10K)	-0.014	0.032	-0.017
	(0.022)	(0.021)	(0.013)
J-Random (Return SR fund)	-0.038*	0.013	0.025*
	(0.022)	(0.021)	(0.014)
Has SR investments	-0.176***	0.181***	-0.005
	(0.041)	(0.036)	(0.025)
Observations	2015	2015	2015

Standard errors in parentheses
SE clustered at the household level
Source: CenntERpanel
These are the marginal effects computed from the Multinomial Probit model estimates.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$