Personal Values, Responsible Investing and Stock Allocation

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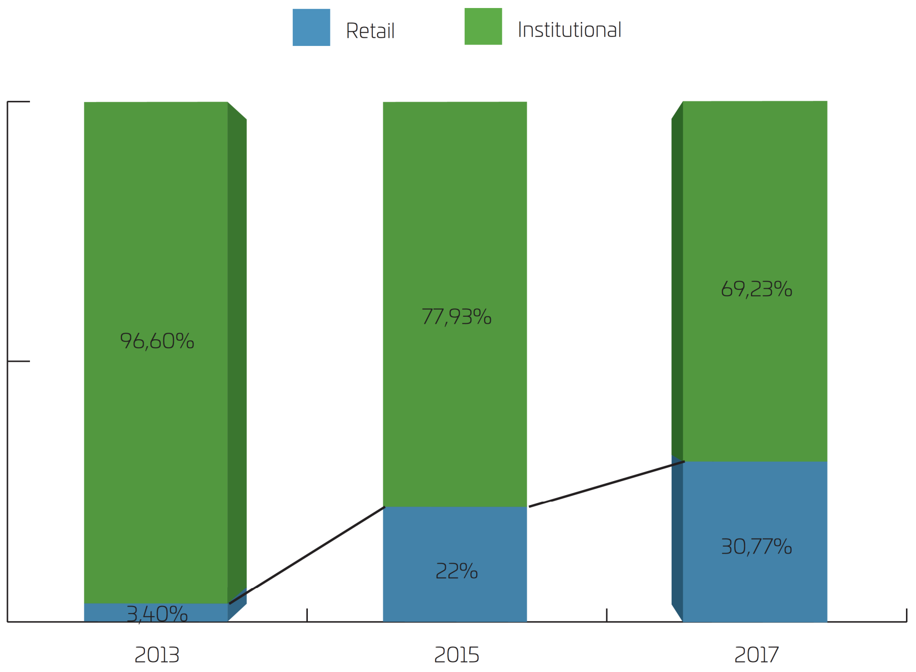
Background

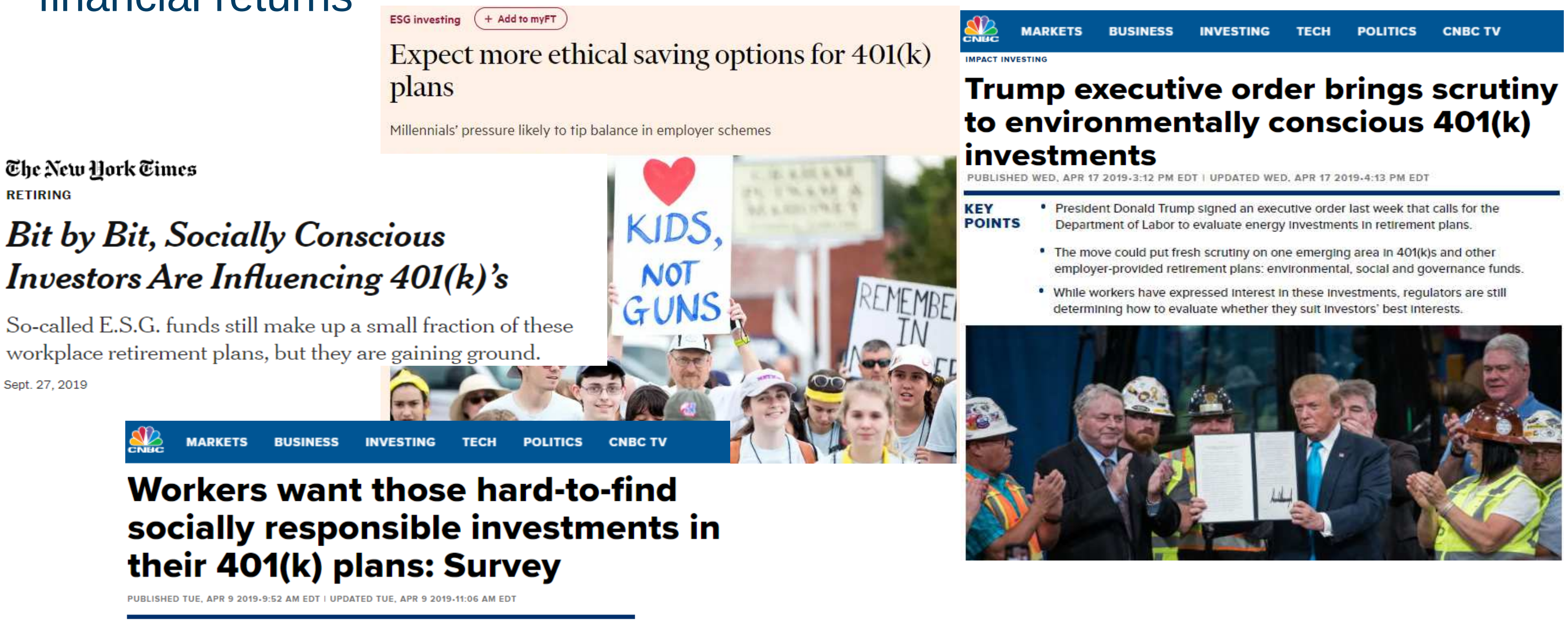
- **Socially responsible investing (SRI)** is increasingly popular among retail investors
- In Europe: retail products account for more than 30% of SRI assets, only 3.4% in 2013 (Eurosif 2019)
- In the US: 25% of SRI assets (US SIF 2019)



Source Eurosif (2019)

Research Question

- In the US, growing demand for SRI funds in 401(k) plans…
- …but ongoing debate on their desirability in terms of **fiduciary duties** and financial returns



ESG investing + Add to myFT

Expect more ethical saving options for 401(k) plans

Millennials' pressure likely to tip balance in employer schemes

MARKETS BUSINESS INVESTING TECH POLITICS CNBC TV

IMPACT INVESTING

Trump executive order brings scrutiny to environmentally conscious 401(k) investments

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KEY POINTS

- President Donald Trump signed an executive order last week that calls for the Department of Labor to evaluate energy investments in retirement plans.
- The move could put fresh scrutiny on one emerging area in 401(k)s and other employer-provided retirement plans: environmental, social and governance funds.
- While workers have expressed interest in these investments, regulators are still determining how to evaluate whether they suit investors' best interests.

The New York Times

RETIRING

Bit by Bit, Socially Conscious Investors Are Influencing 401(k)'s

So-called E.S.G. funds still make up a small fraction of these workplace retirement plans, but they are gaining ground.

Sept. 27, 2019

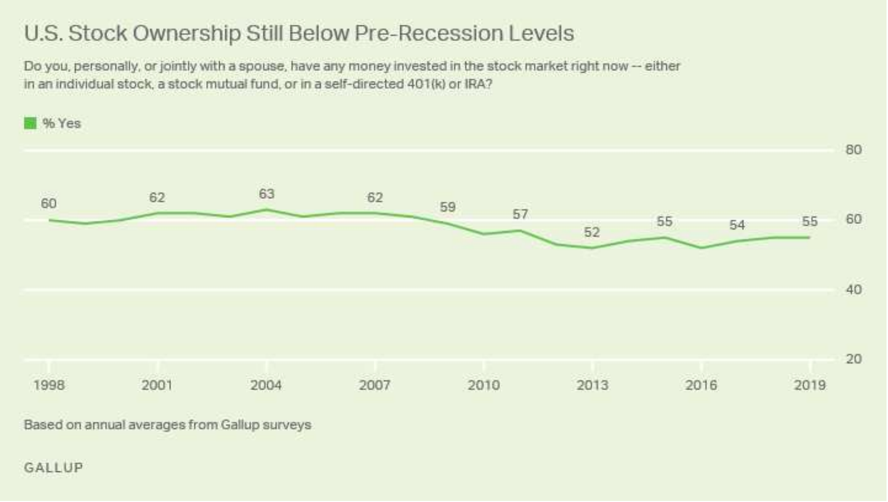
MARKETS BUSINESS INVESTING TECH POLITICS CNBC TV

Workers want those hard-to-find socially responsible investments in their 401(k) plans: Survey

PUBLISHED TUE, APR 9 2019-9:52 AM EDT | UPDATED TUE, APR 9 2019-11:06 AM EDT

An overlooked point: Does the offering of responsible funds affect investors' portfolio allocation and risk-taking behavior?

The Stock Market Participation Puzzle



- **Low stock market participation:** key topic in household finance (Campbell, 2006)

- **Policy objective**: large welfare effects, as individuals more and more responsible to invest for their pensions

- The stock market participation puzzle known to be driven by a mix of **financial, behavioral** and **social and cultural factors**, including:

- **Informational costs** (Bonaparte and Kumar, 2013)
- **Financial literacy** (Van Rooij, Lusardi, and Alessie, 2011), **optimism** (Puri and Robinson, 2007), **earlier life experiences** (Malmendier and Nagel, 2011), **interpersonal trust** (Guiso, Sapienza, and Zingales, 2008)
- **Stock market aversion** related to **social capital** (Guiso, Sapienza, and Zingales, 2004), **political preferences** (Kaustia and Torstila, 2011), etc.

Personal Values and Investment Decisions

1) Stock market aversion: left-wing / pro-social investors **less likely to invest in stocks** because of a generalized antipathy towards capital markets (Kaustia and Torstila, 2011; D'Acunto, 2015; Ke, 2019)

2) Personal values and SR investment: left-wing / pro-social investors **more inclined to invest according to SR criteria** (Hong and Kostovetsky, 2012; Riedl and Smeets, 2017; Anderson and Robinson, 2019)

Our conjecture:

1) + 2): Responsible funds allow pro-social investors to invest in the stock market while avoiding the "cognitive dissonance" of investing against their values

→ The offering of **SRI funds increases stock-market participation**

Preview of the results

- We analyze the 2017 portfolio choices of approximately 965,500 active participants in employee saving plans in France

- The inclusion of **responsible equity options** in the funds' menu is associated with an **increase in stock-market participation** by the plan participants

- Analyses along the geographical variation in **political preferences**: the observed effect is driven by **social and cultural factors ("personal values")**

Empirical setting

Saving Plans in France

- France's **employee saving** framework very close in principle and functioning from the 401(k) in the US

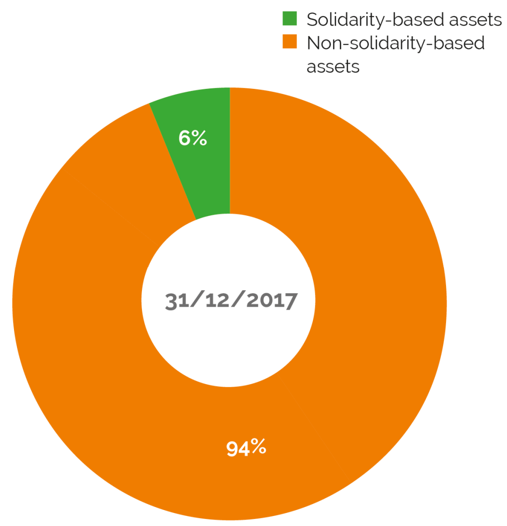
- Around **56% of French employees** have access to at least one form of such saving schemes (DARES, 2018)

Empirical setting

Responsible funds in saving plans

- Unique feature of the French setting: since 2010, **all firms> 50 employees** must include **at least one solidarity fund** among the investment options

- Solidarity funds required to invest 5 to 10% of asset in **accredited** solidarity-based enterprises of social utility



Source Finansol (2018)

Solidarity funds

We define **responsible investing** as investments made through **solidarity funds**. At least two main advantages:

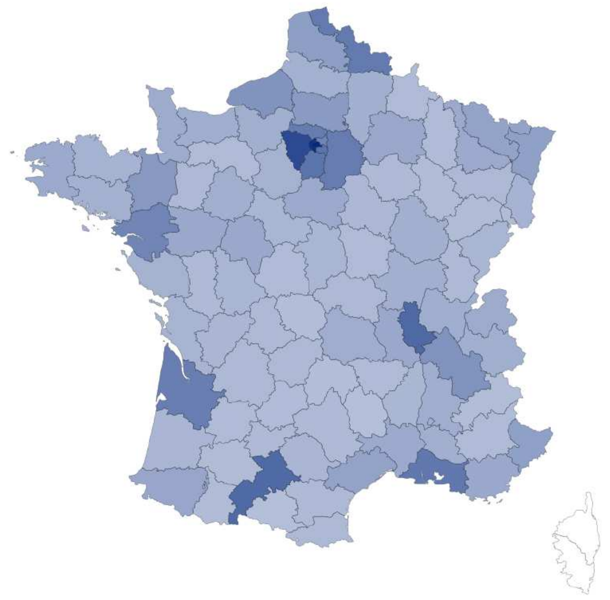
1) Solidarity funds have common characteristics **defined by law**
2) Less concerns on the **endogeneity** nature of responsible fund offering

Data and Key Figures

Data

- Cross-sectional data on portfolio decisions in 2016 / 2017

- Data-set covers
    - around **965,500 employees** in around **18,700 firms**
    - 94 out of 96 French “départements”



Key Figures

- **All plans** (>50 employees) include at least one solidarity fund, equity (27%) or balanced (78%)
- **Half of the plans** include one solidarity fund, equity (22%) or balanced (27%)
- **13%** : average weight invested in equity funds (end 2016)

Empirical strategy

Econometric specifications

- **Cross-sectional analysis**: Compare the share of new contributions allocated to stocks (%EQΔ2017) in plans with and without responsible equity funds:

$$\%EQ_{i,j,\Delta 2017} = \alpha + \beta_1 \times ResponsibleEQ_j + X_i' \times \beta_2 + F_j' \times \beta_3 + \varepsilon_{i,j}$$

- **Difference-in-differences:** Study the change in stock allocation decisions (%EQΔ2017 -- %EQ2016) when the employer introduces a new responsible equity fund to the funds' menu:

$$\%EQ_{i,j,\Delta 2017} - \%EQ_{i,j,2016} = \alpha + \beta_1 \times \Delta ResponsibleEQ_{j,2017} + X_i' \times \beta_2 + F_j' \times \beta_3 + \varepsilon_{i,j}$$

Cross-sectional regression results

Dependent variable:	(1) $\%EQ_{\Delta 2017}$	(2) $\%EQ_{\Delta 2017}$	(3) $\%EQ_{\Delta 2017}$	(4) $\%EQ_{\Delta 2017}$	(5) $\%EQ_{\Delta 2017}$
Responsible EQ	2.200***	3.120***	9.420***	-5.150***	0.818***
	(0.051)	(0.061)	(0.187)	(0.201)	(0.050)
Responsible EQ # Female		-2.680***			
		(0.096)			
Responsible EQ # Age			-0.159***		
			(0.004)		
Responsible EQ # Account size (ln)				0.841***	
				(0.022)	
Responsible EQ investor$_{2017}$					29.000***
					(0.150)

(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
				0.413***
				(0.012)
				0.058***
				(0.000)
				0.001***
				(0.000)
				0.193***
				(0.003)
				0.139***
				(0.002)
				-0.921***
				(0.009)
				6.950***
				(0.126)
				965,563
				0.118

- Participants in saving plans offering responsible equity funds have **2.2% higher average stock allocation** (~1/10 of sd of stock allocation in 2017)
- Effect stronger for male and young participants, and for those with larger accounts
- Results driven by participants' investments in responsible equity funds

DID regression results

Dependent variable:	(1) $\%EQ_{\Delta 2017} - \%EQ_{2016}$	(2) $\%EQ_{\Delta 2017} - \%EQ_{2016}$	(3) $\%EQ_{\Delta 2017} - \%EQ_{2016}$
Δ Conventional EQ_{2017}	-0.792		
	(1.516)		
Δ Responsible EQ_{2017}		6.784***	5.787***
		(2.066)	(1.463)
%EQ 2016	-0.267***	-0.267***	
	(0.177)	(0.179)	
Account size (ln)	0.500**	0.478**	0.353**
	(0.210)	(0.222)	(0.157)

			0.012***
			(0.005)
			0.000
			(0.000)
			0.111*
			(0.065)
			-0.428
			(2.733)
			0.138
			(0.138)
			-0.607
			(1.613)
			725,340
			0.007
			Yes

- Introduction of a responsible equity fund associated with an **increase in stock allocation of approx. 6.8%** (~1/2 of sd of the shift towards equity in 2017)

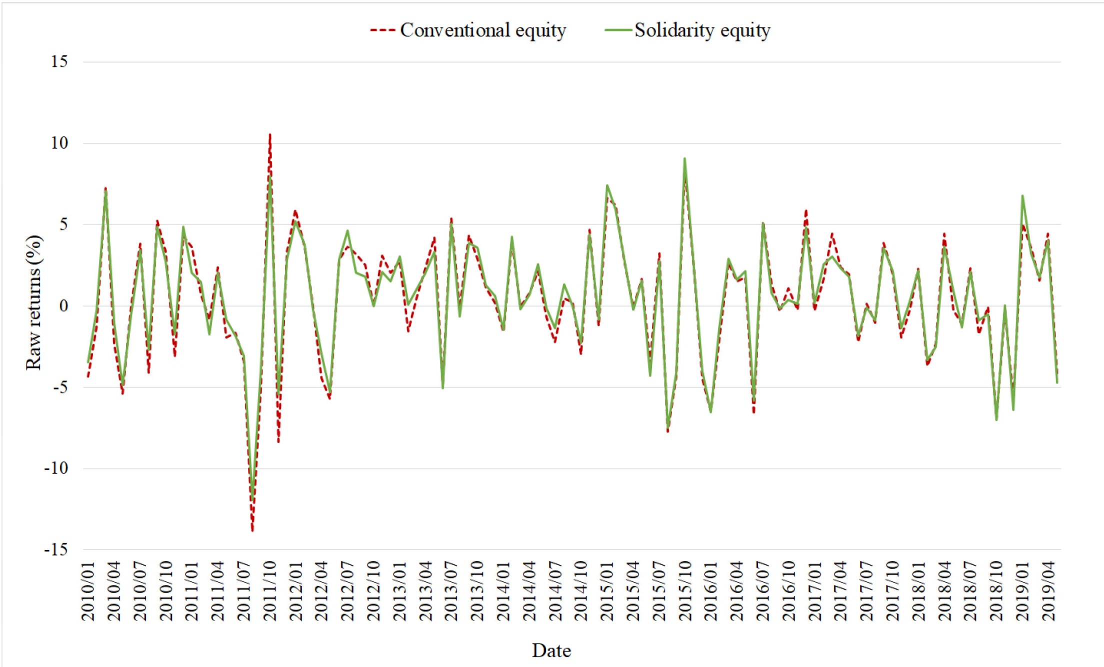
- **Placebo test**: addition of new “normal” equity funds does not lead to an increase in stock allocation (in line with Huberman and Jiang, 2006)

→ The possibility to invest in equity “responsibly"' makes stock allocation more appealing to a significant fraction of individual investors

Why Does Responsible Investing Increase Stock Allocation?

- According to standard theory, the **offering of responsible funds should not affect portfolio choices** (as long as equity investing is feasible)

- Unless investors perceive the sustainability features of responsible funds with a superior future risk-adjusted performance



Sample:13 solidarity and 107 normal equity funds offered in the plans

Personal values?

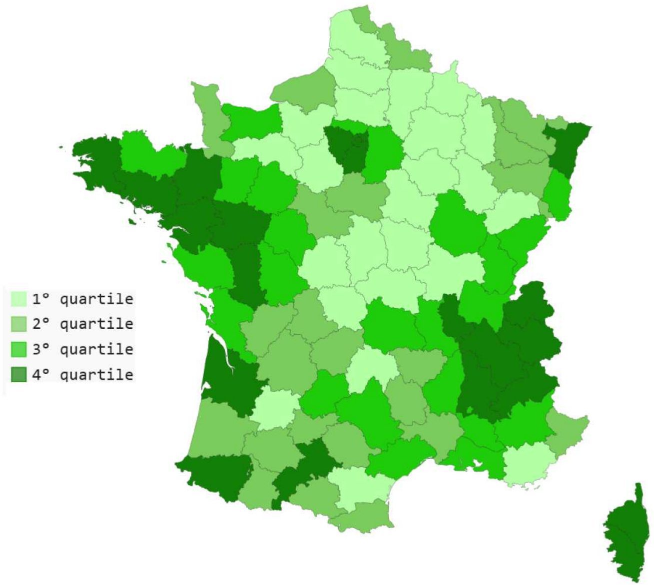
- Responsible funds attract investors who would have been otherwise reluctant to invest in equity on the stance of social / cultural reasons

- To test for the **personal-values** explanation: cross-sectional analysis along regional differences in **political preferences**

- Robust correlation between voting behavior and pro-social preferences (Fisman, Jakiela, and Kariv, 2017)

- Our focus: "Département"-level variation in the % of votes to **green parties** at the 2019 EU election

- Control for regional differences in GDP per capita (Das, Kuhnen, and Nagel, 2017) and social capital (Guiso et al., 2004)



Effect of political preferences

Dependent variable:	(1) $\%EQ_{\Delta 2017}$	(2) $\%EQ_{\Delta 2017}$	(3) $\%EQ_{\Delta 2017}$	(4) $\%EQ_{\Delta 2017}$
Responsible EQ	2.177***	0.337	2.177***	-0.224
	(0.051)	(0.245)	(0.051)	(0.347)
%Green	17.712***	12.922***		
	(0.890)	(1.087)		
Responsible # %Green		$\boxed{11.392^{***}}$		
		$\boxed{(1.486)}$		
%Left			1.328**	-1.591**
			(0.532)	(0.676)
Responsible # %Left				$\boxed{7.024^{***}}$
				$\boxed{(1.003)}$
Voting turnout	3.898***	3.704***	4.510***	4.204***
	(0.737)	(0.737)	(0.738)	(0.739)
GDP pc	0.000***	0.000***	0.000***	0.000***
Observations				
R-squared				
Constant & contr				

• The effect of responsible equity funds on stock allocation is concentrated in areas with **high support to Green parties**

• Same results when using a left-right political spectrum

Concluding remarks

- **Responsible investing can increase the stock-market participation of a significant part of the population**

Contributions

- **Limited stock-market participation**, and how to increase it (e.g. Calvet et al., 2019)
- **Role of culture and personal values** in financial decision making (Kaustia and Torstila, 2011 ; Hong and Kostovetsky, 2012 ; Riedl and Smeets, 2017)
- **Framing** of financial offering influences portfolio choices (e.g., Benartzi and Thaler, 2001 ; Huberman and Jiang, 2006 ; Brown et al., 2007)

Concluding remarks

Policy Implications

- Actual debate and concerns about **limited stock market participation**:
    - For **pension adequacy**
    - For the development of **European Capital Market Union** (European Commission, ESMA)

- **Attractiveness of equity funds** not only linked to their financial performance, but also to their ability to attract investors who otherwise may have been **reluctant to invest in the capital markets**

Appendix: Data

Explanatory variables

Dependent variables

Table 1: Summary statistics of plan-level variables

	N	p05	p25	mean	p50	p75	p95	sd
Responsible EQ	18,699	0.00	0.00	0.22	0.00	0.00	1.00	0.42
Responsible balanced	18,699	0.00	0.00	0.27	0.00	1.00	1.00	0.44
Δ Conventional EQ_{2017}	18,699	0.00	0.00	0.10	0.00	0.00	1.00	0.30
Δ Responsible EQ_{2017}	18,699	0.00	0.00	0.01	0.00	0.00	1.00	0.12
%EQ offered 2016	18,699	0.00	0.00	16.31	0.00	28.57	50.00	20.45
Number funds	18,699	1.00	2.00	4.57	4.00	6.00	13.00	4.22
Mean match rate	18,699	0.00	0.00	153.30	150.00	300.00	300.00	140.83
Max match	18,699	0.00	0.00	3,520.02	2,744.00	9,414.72	9,4141.72	3,914.58
Number employees	18,699	1.00	1.00	60.76	3.00	6.00	100.00	1,087.80

Table 2: Summary statistics of individual-level variables

	N	p5	p25	mean	p50	p75	p95	sd
% $EQ_{\Delta 2017}$	965,563	0.00	0.00	13.96	0.00	21.65	63.78	22.67
% EQ_{2016}	725,340	0.00	0.00	12.88	1.83	20.20	52.56	19.44
% $EQ_{\Delta 2017}$ - % EQ_{2016}	725,340	-18.70	0.00	4.28	0.00	5.06	40.95	19.14
Responsible EQ $investor_{2017}$	965,563	0.00	0.00	0.02	0.00	0.00	0.00	0.15
Responsible $investor_{2017}$	965,563	0.00	0.00	0.22	0.00	0.00	1.00	0.41
Age	965,563	27.00	36.00	45.53	46.00	55.00	63.00	11.35
Female	965,563	0.00	0.00	0.34	0.00	1.00	1.00	0.47
Account size (ln)	965,563	2.24	3.24	4.44	3.94	4.46	5.04	4.90

Appendix: Robustness: Saving plans > 50 employees

Motivation

- All firms with more than 50 employees must and do offer solidarity options
- Mitigates concerns regarding the endogenous offer of responsible options
- Identification comes exclusively from the difference between responsible equity vs balanced funds

Dependent variable:	(1) $\%EQ_{\Delta 2017}$	(2) $\%EQ_{\Delta 2017}$	(3) $\%EQ_{\Delta 2017}$	(4) $\%EQ_{\Delta 2017}$	(5) $\%EQ_{\Delta 2017}$
Responsible EQ	0.488***	1.123***	8.249***	-9.283***	-0.324***
	(0.058)	(0.066)	(0.192)	(0.203)	(0.057)
Responsible EQ # Female		-1.908***			
		(0.099)			
Responsible EQ # Age			-0.172***		
			(0.004)		
Responsible EQ # Account size (ln)				1.127***	
				(0.023)	
Responsible EQ investor 2017					27.309***
					(0.156)
Constant	0.516***	0.207	-3.293***	5.707***	3.271***
	(0.149)	(0.149)	(0.173)	(0.181)	(0.147)
Observations	822,781	822,781	822,781	822,781	822,781
R-squared	0.070	0.071	0.072	0.073	0.104
Constant & controls	Yes	Yes	Yes	Yes	Yes