

How Institutional Investors Can Reshape E(SG) Around the World

The EC Sustainable Finance Action Plan: the potential of regulation
to tackle climate change

EFA 2019 – Nova SBE Lisbon

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SHANGHAI, CHINA

How Institutional Investors Can Reshape E(SG) Around the World

I.

HOW U.S. INSTITUTIONAL INVESTORS HAVE SHAPED GOVERNANCE (G)



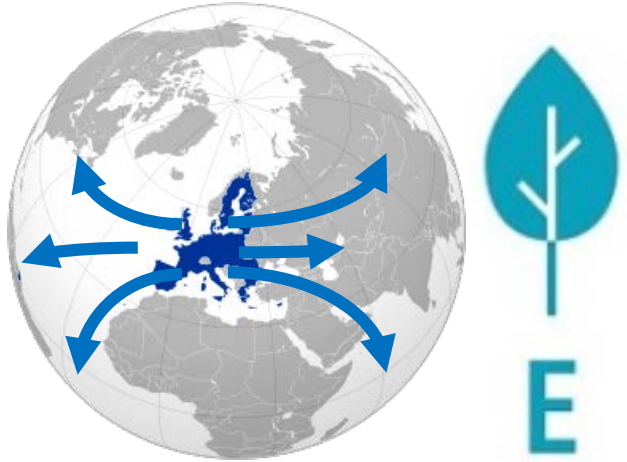
II.

CAN INSTITUTIONAL INVESTORS SHAPE ENVIRONMENTAL (E) & SOCIAL (S)?



III.

POTENTIAL ROLE OF EUROPE TO TACKLE CLIMATE CHANGE?

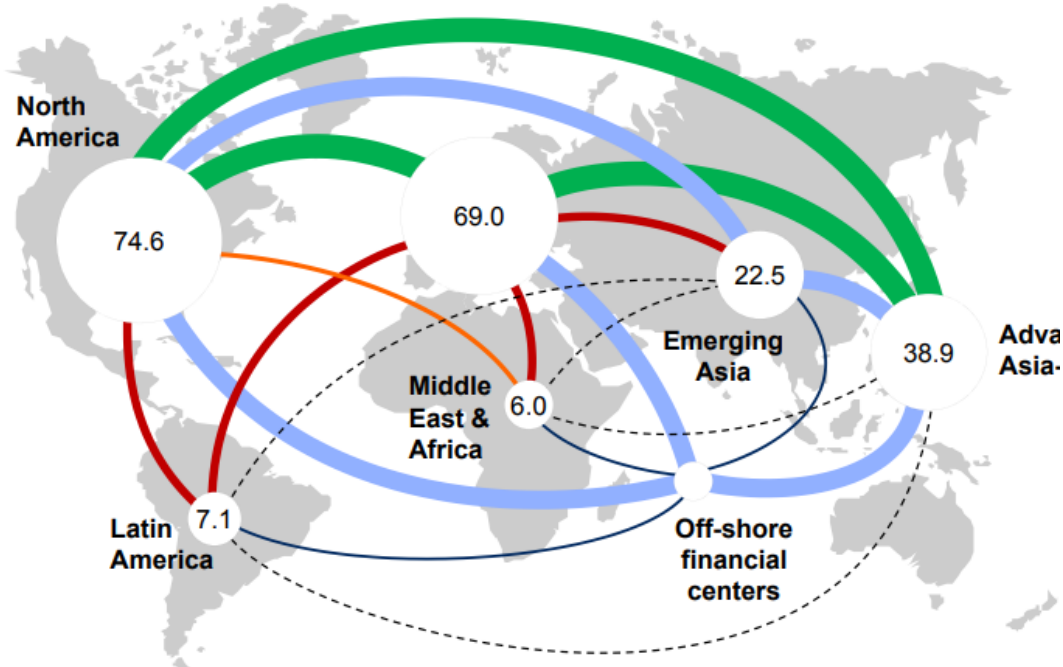


INSTITUTIONAL INVESTORS = THE FORCE BEHIND GLOBALIZATION

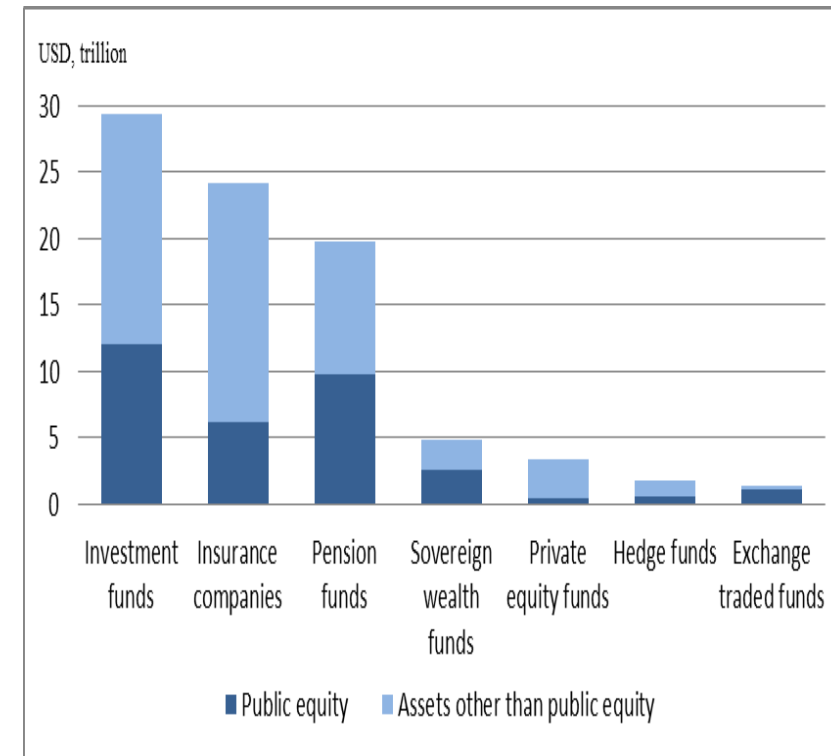
McKinsey Global Institute
Mapping global capital markets 2011

By 2011, the web of cross-border investment assets had grown significantly in breadth and depth

Width of lines shows total value of cross-border investments between regions as percent of global GDP¹



Institutional Investor Holdings = \$28 Trillion in Public Equities [2011]



Source: OECD Institutional Investors Database, SWF Institute, IMF, Preqin, BlackRock, McKinsey Global Institute

GLOBAL RESEARCH ON “G”?



Globalization of a firm's shareholder base can be a positive force on Governance (G)!

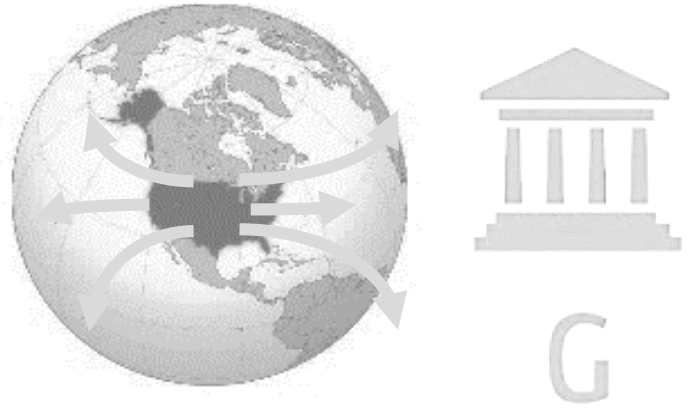
Rise of Foreign Institutional Ownership (Foreign IO) on average leads to:

- > **Performance:** Increased shareholder pressure to perform (Ferreira & Matos, JFE 2008)
- > **M&As:** Increased likelihood of cross-border takeovers (FMM, RFS 2010)
- > **Governance:** Adoption of more shareholder-centric (US-style) practices (AEFM, JFE 2011)
- > **CEO Pay:** Convergence to international/US executive compensation practices (FFMM, RFS 2013)
- > **LT Investing:** Can sustain long-term investing (BFMP, JFE 2017)

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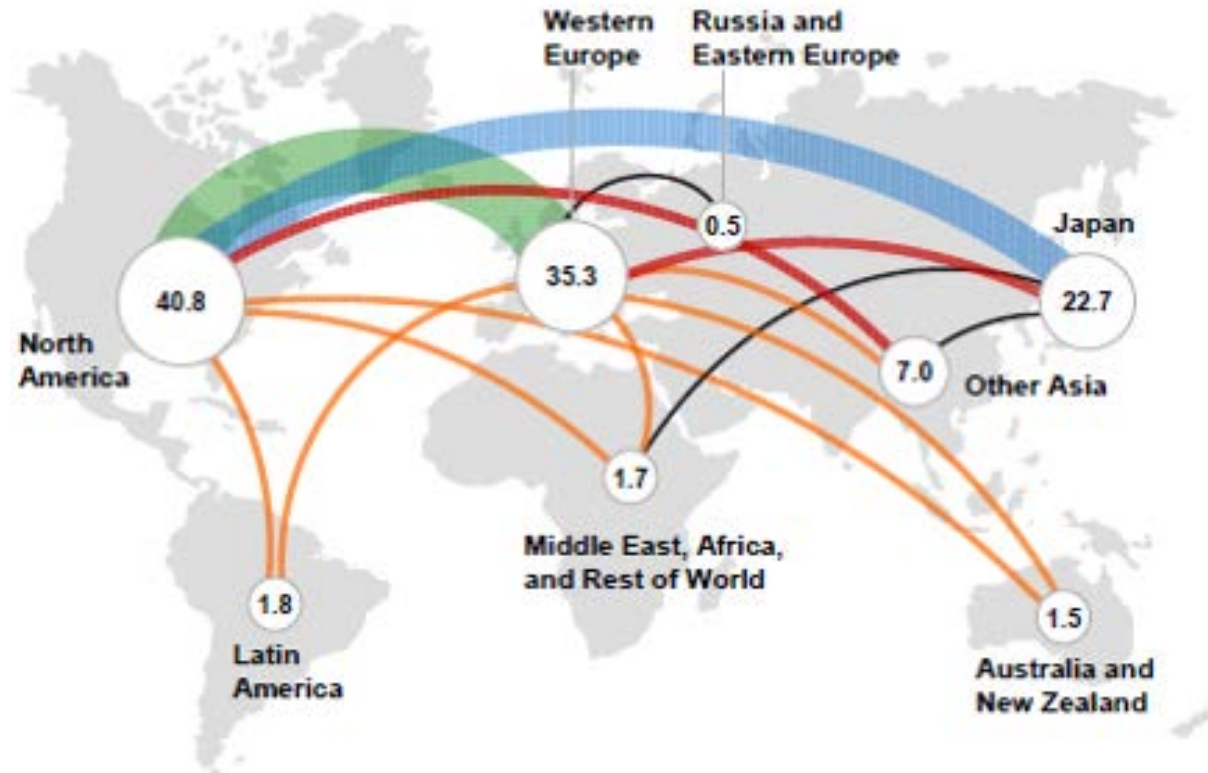
POTENTIAL ROLE OF EUROPE TO TACKLE CLIMATE CHANGE?



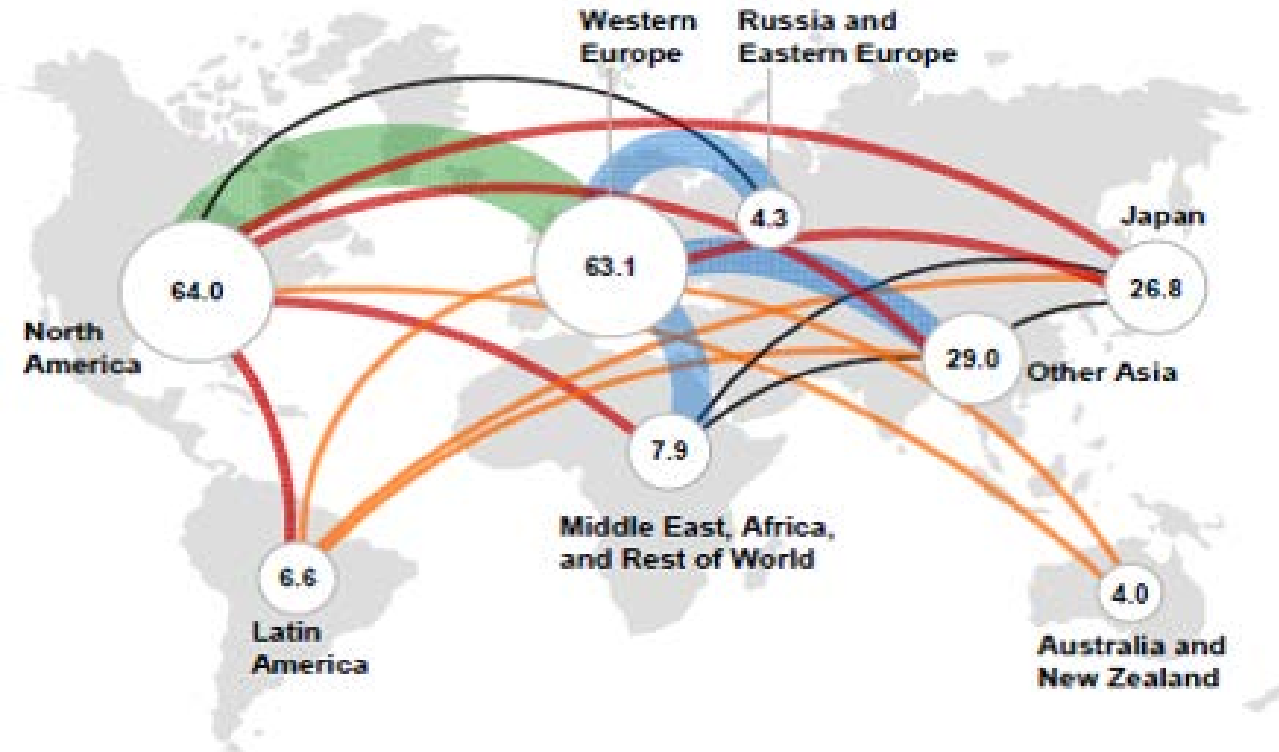
THE WORLD IS MORE MULTI-POLAR ! ... WILL EUROPE MATTER FOR E & S (INSTEAD OF U.S. FOR G) ?

McKinsey Global Institute
Mapping global capital markets 2011

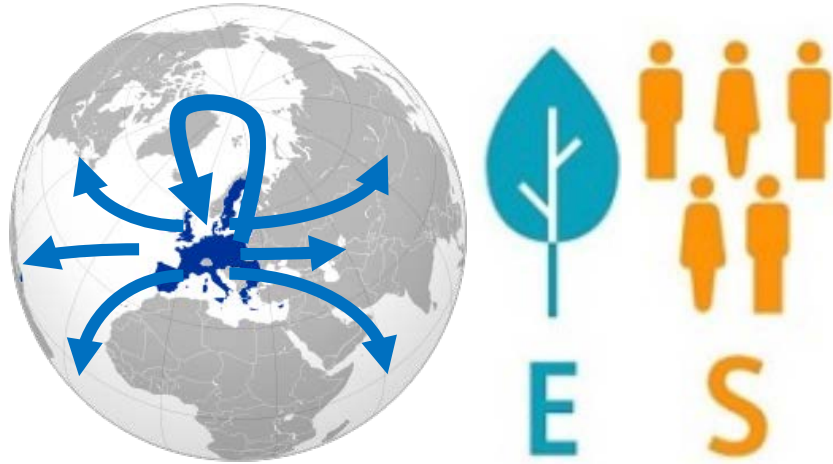
1999:



2011:



GLOBAL RESEARCH ON “E” & “S”?



Can changes in firms' shareholder base have impact on Environmental (E) & Social (S) performance!

- > Dyck, Lins, Roth & Wagner “Do Institutional Investors Drive Corporate Social Responsibility? International Evidence” (JFE forth.)
- > Krüger, Sautner & Starks “The Importance of Climate Risk for Institutional Investors”(RFS forth.)
- > Dimson, Karakaş & Li “Coordinated Engagements”(2018, PRI AWARD)
- > Starks, Venkat & Zhu (2018)
- > Gibson Brandon & Krueger (2018)
- > Amel Zadeh & Serafeim (2018 FAJ)
- > Hartzmark & Sussman (2019 JF forth.)
- > Riedl and Smeets (2017 JF) , Bauer, Smeets, & Ruof (2019)
- > ...

Responsible Institutional Investing Around the World

Simon Glossner (U Virginia, Darden), Rajna Gibson (U Geneva), Philipp Krueger (U Geneva). Pedro Matos (U Virginia, Darden) and Tom Steffen (U Geneva)

What do we study in this paper?

Combine survey data reported by institutions (“policies”) with archival data (“outcomes”)

Q1. Institutional commitment to sustainable and responsible investment (SRI)

- a. Which kind of institutions publicly commit to SRI?
- b. Are institutional equity portfolios of investors who publicly commit to SRI different in terms of ESG?

Q2. Styles of implementing SRI

- a. How do institutions implement SRI?
- b. What are the effects of different styles of implementation on portfolio-level ESG outcomes?

Q3. Are there trade-offs between sustainability and attractive positive risk/return profiles?

Data 1: PRI

- Principles for Responsible Investing
 - 2006: original 21 institutions (CalPERS, Hermes, Norway SWF, etc.) + 47 founding signatories
 - 2018:

2

UN PARTNERS:
UNEP FINANCE INITIATIVE
UN GLOBAL COMPACT



2000+

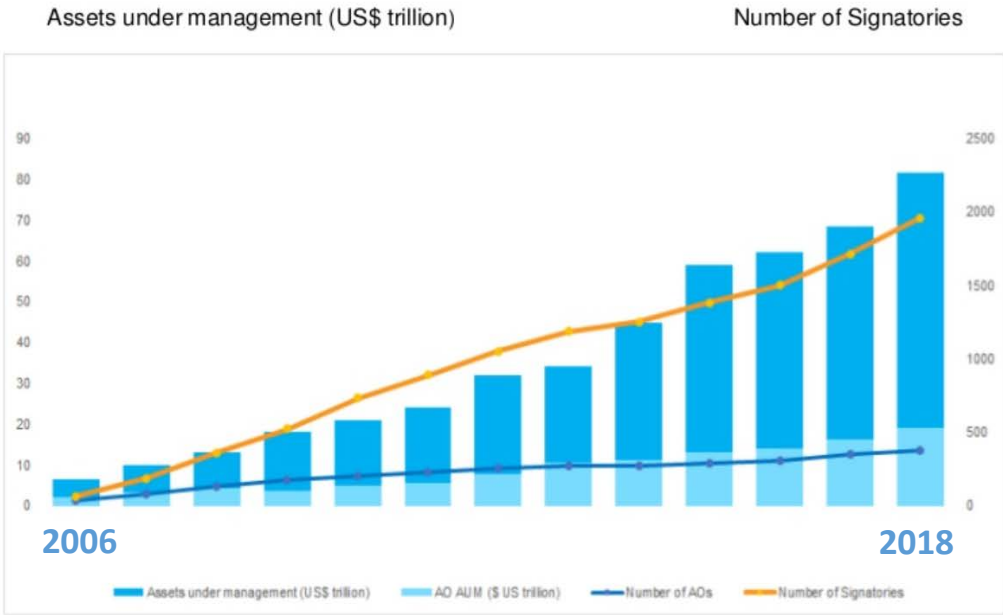
SIGNATORIES:
ASSET OWNERS
INVESTMENT MANAGERS
SERVICE PROVIDERS



80+

US\$ trn
ASSETS UNDER
MANAGEMENT





CONSISTENT GROWTH

- Number of signatories has increased by 57% from April 2014 to April 2018

SIGNATORY TYPES

- Asset Owners: 19%
- Investment Managers: 68%
- Service Providers: 13%

Data 1: PRI (contd.)

The six Principles for Responsible Investment:

1 We will incorporate ESG issues into investment analysis and decision-making processes.

2 We will be active owners and incorporate ESG issues into our ownership policies and practices.

3 We will seek appropriate disclosure on ESG issues by the entities in which we invest.

4 We will promote acceptance and implementation of the Principles within the investment industry.

5 We will work together to enhance our effectiveness in implementing the Principles.

6 We will each report on our activities and progress towards implementing the Principles.



Data 1: PRI (contd.)

PUBLIC REPORTERS - KEY DATA

1184

Number of signatories

\$70,662.00

AUM US\$ billion

Signatory name

Name	AO IM	Region	Sub-region	HQ Country	AUM US\$ billions
BlackRock	IM	Canada & US	US	United States	\$5,100.00
The Vanguard Group, Inc.	IM	Canada & US	US	United States	\$3,931.56
State Street Global Advisors (SSGA)	IM	Canada & US	US	United States	\$2,468.46
AXA Group	AO	Europe	France	France	\$1,529.32
JPMorgan Asset Management	IM	Canada & US	US	United States	\$1,517.79
Credit Suisse AG	IM	Europe	DACH	Switzerland	\$1,238.96
GPIF	AO	Asia	Japan	Japan	\$1,235.74
Goldman Sachs Asset Management (GSA...)	IM	Canada & US	US	United States	\$1,177.74
Amundi	IM	Europe	France	France	\$1,158.72
Legal & General Investment Management...	IM	Europe	UK & Ireland	United Kingdom	\$1,114.51

<https://www.unpri.org/signatories/reporting-for-signatories>

Data 1: PRI (contd.)

- Example: Blackrock

BlackRock



Signed the Principles: 7 October 2008

- Signatory category: Investment Manager
- HQ: United States

[View latest Transparency Report](#)

1. Organisational overview		
2. Strategy and governance		
Climate change reporting		
Asset class-specific modules		
3. DIRECT Listed equity (incorporation)	6. DIRECT Private equity	9. DIRECT Inclusive finance
4. DIRECT Listed equity (active ownership)	7. DIRECT Property	10. INDIRECT Manager selection, appointment and monitoring
5. DIRECT Fixed income	8. DIRECT Infrastructure	11. INDIRECT Inclusive finance
12. Closing module		

(... focus on general modules (1. and 2.) as well as listed equity (3. and 4.); use only "mandatory to report & disclose" indicators

Data 1: PRI (contd.)

- Example of survey question:
 - Module: Listed equities integration
 - Question: LEI 04.1

LEI 04	Indicator status MANDATORY	Purpose DESCRIPTIVE	Principle PRI 1
--------	-------------------------------	------------------------	--------------------

LEI 04	INDICATOR		
LEI 04.1	Indicate and describe the type of screening you apply to your internally managed active listed equities.		
	Type of screening	Screened by	Description
	Negative/exclusionary screening	<input type="checkbox"/> Product <input type="checkbox"/> Activity <input type="checkbox"/> Sector <input type="checkbox"/> Country/geographic region <input type="checkbox"/> Environmental and social practices and performance <input type="checkbox"/> Corporate governance	
	Positive/best-in-class screening	<input type="checkbox"/> Product <input type="checkbox"/> Activity <input type="checkbox"/> Sector <input type="checkbox"/> Country/geographic region <input type="checkbox"/> Environmental and social practices and performance <input type="checkbox"/> Corporate governance	
	Norms-based screening	<input type="checkbox"/> UN Global Compact Principles <input type="checkbox"/> The UN Guiding Principles on Business and Human Rights <input type="checkbox"/> International Labour Organization Conventions <input type="checkbox"/> United Nations Convention Against Corruption <input type="checkbox"/> OECD Guidelines for Multinational Enterprises <input type="checkbox"/> Other; specify _____	

Data 2: Factset institutional holdings

- FactSet/LionShares: institutional equity holdings data (Ferreira & Matos JFE 2008)
 - **Asset owners:** pension funds, foundation and endowment managers, sovereign wealth funds, etc.
 - **Investment managers:** asset managers, bank investment companies, etc.
- (MSCI ACWI countries)

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CRSP
CUSIP
Corporate Library
DMEF Academic Data
Dow Jones
Eventus
FDIC
Factset
Fama French & Liquidity Factors
Federal Reserve Bank
IBES
IRI

Factset - Stock Ownership Summary
This research application provides institutional ownership statistics by firm and was developed by Miguel Ferreira (Nova School of Business and Economics, miguel.ferreira@novasbe.pt) and Pedro Matos (University of Virginia - Darden School of Business, matosp@darden.virginia.edu).

Rules for usage - Please respect the following three rules when using the Stock Ownership Summary file:
1. Please reference the following paper when using this data: Ferreira, Miguel, and Pedro Matos, 2008, *Journal of Financial Economics* 88, 499-533.
2. Please do not share this file as it is for academic use only. Please refer others to this web page.
3. If you find any errors please notify us at support_ownership@novasbe.pt so that we can update the file and notify others. We collect your e-mail address for notification of problems and updates.

For further details, please find here [the Stock Ownership Overview](#) developed by Miguel Ferreira and Pedro Matos.

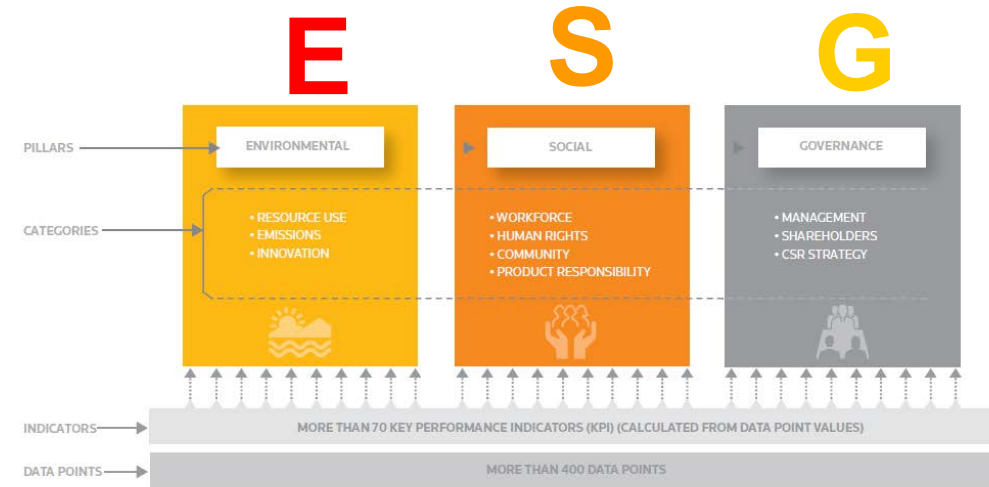
For the SAS code that generates the data below at the firm/quarter level, please see the [sample programs](#) provided by the authors.

For more about this dataset, see the [Variable Descriptions](#), [Dataset List](#), [Manuals and Overviews](#) or [FAQs](#).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	factset_er	quarter	rquarter	sec_count	ENTITY_PFI	ISIN	SEDOL	CUSIP	TIC	mktcap	io_usd	nbr_firms	io	io_dom	io_for	io_for_us	io_for_nu
2	002X06-E	2010Q1	2010Q1	FR	Total SA	FR000012X815CS57	F9212410C	FP		129,800	58,677	1329	41%	12%	29%	14%	16%
3	002X06-E	2010Q2	2010Q2	FR	Total SA	FR000012X815CS57	F9212410C	FP		101,178	40,866	1320	40%	12%	29%	14%	15%
4	002X06-E	2010Q3	2010Q3	FR	Total SA	FR000012X815CS57	F9212410C	FP		115,335	44,712	1318	39%	11%	28%	13%	14%
5	002X06-E	2010Q4	2010Q4	FR	Total SA	FR000012X815CS57	F9212410C	FP		119,000	43,235	1374	36%	9%	27%	13%	14%
6	002X06-E	2011Q1	2011Q1	FR	Total SA	FR000012X815CS57	F9212410C	FP		136,462	48,805	1382	36%	8%	28%	14%	15%
7	002X06-E	2011Q2	2011Q2	FR	Total SA	FR000012X815CS57	F9212410C	FP		130,032	45,788	1372	35%	8%	27%	14%	15%
8	002X06-E	2011Q3	2011Q3	FR	Total SA	FR000012X815CS57	F9212410C	FP		100,518	36,469	1346	36%	9%	27%	14%	15%
9	002X06-E	2011Q4	2011Q4	FR	Total SA	FR000012X815CS57	F9212410C	FP		115,589	41,167	1317	36%	9%	27%	13%	15%
10	002X06-E	2012Q1	2012Q1	FR	Total SA	FR000012X815CS57	F9212410C	FP		114,834	42,197	1353	37%	10%	27%	14%	15%

Data 3: Stock-level ESG scores

- Thomson Reuters ASSET4 ESG Ratings



- MSCI ESG Ratings



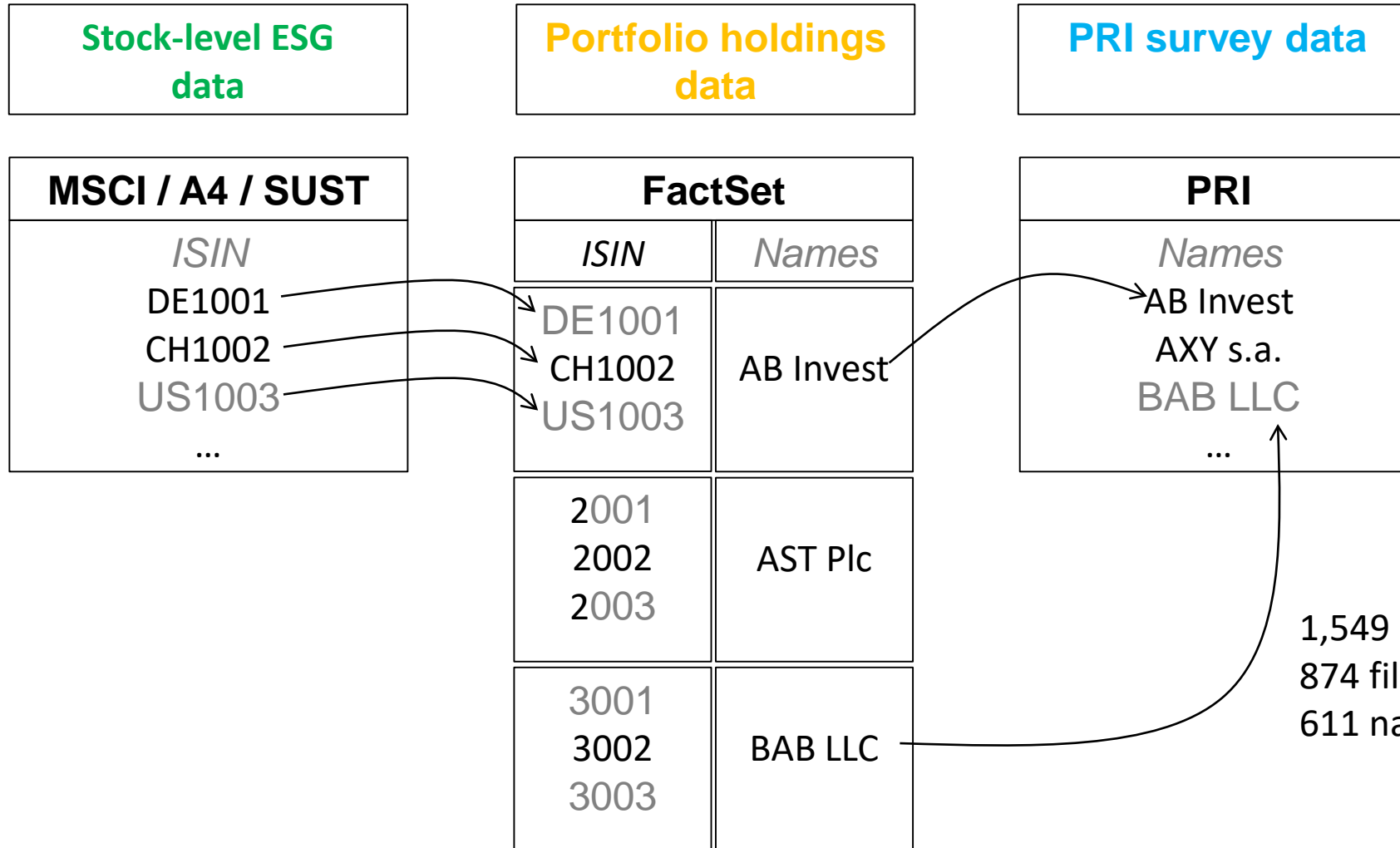
MSCI ESG RATINGS METHODOLOGY

FROM MSCI ESG RESEARCH LLC

- Sustainalytics ESG Ratings



Putting it together: matching



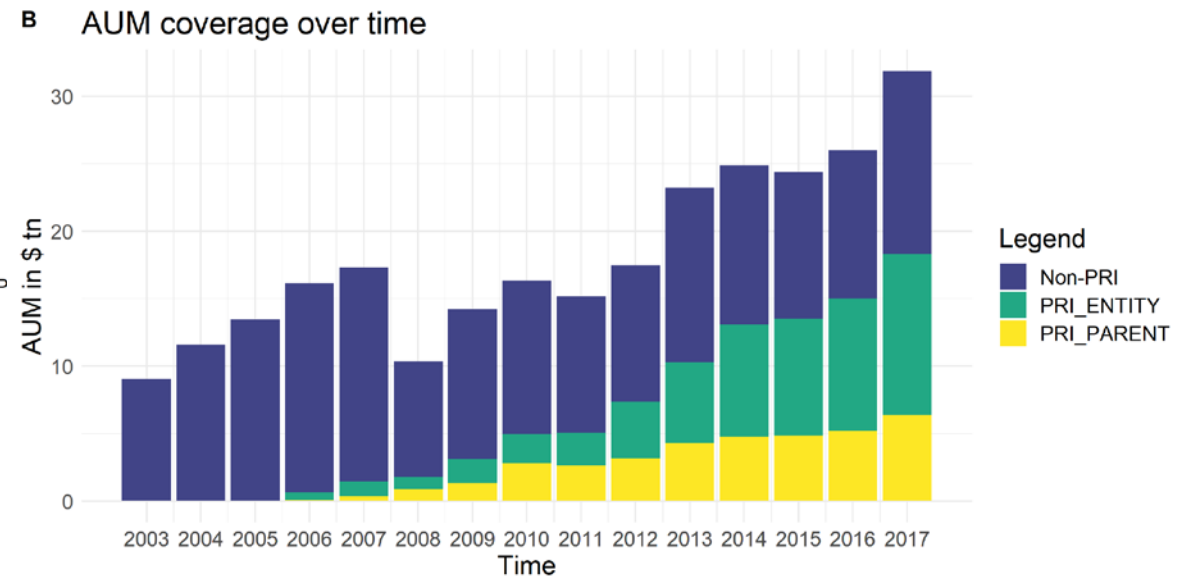
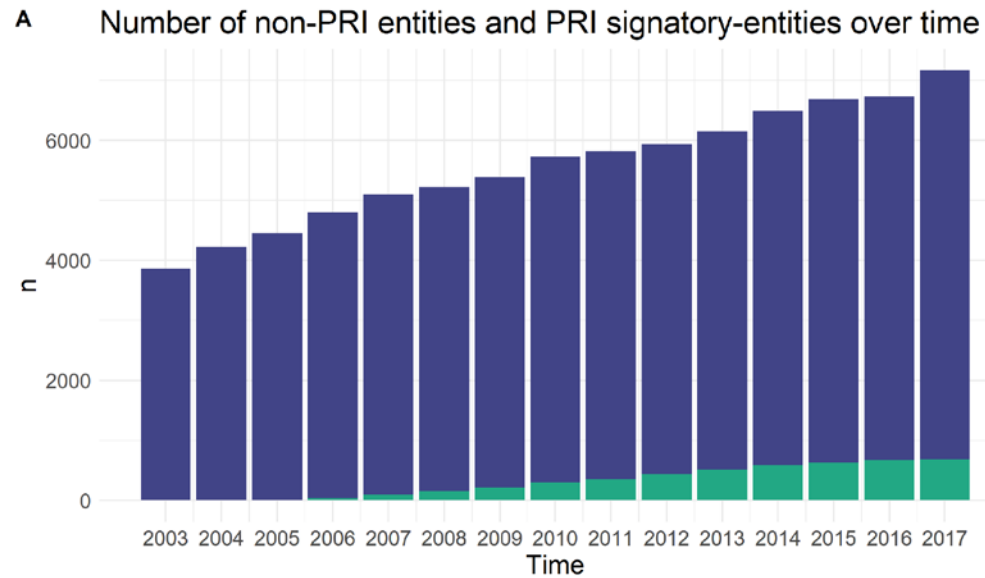
Putting it together (contd.)

Table A.1. Top institutional investors by region

Parent name	Country	Region	Signing year	PRI: parent	PRI: entity	Parent AUM	PRI AUM covg
Norges Bank Investment Management	NO	Europe	2006	0	1	664 bn	100 %
UBS Group AG	CH	Europe	2009	0	1	316 bn	34 %
AXA SA	FR	Europe	2007	1	1	239 bn	100 %
BPCE SA	FR	Europe	2008	0	1	239 bn	34 %
Deutsche Bank AG	DE	Europe	2008	0	1	223 bn	1 %
Janus Henderson Group Plc	GB	Europe	2006	0	1	221 bn	9 %
Schroders Plc	GB	Europe	2007	1	0	189 bn	100 %
Standard Life Aberdeen Plc	GB	Europe	2007	1	1	179 bn	100 %
Amundi	FR	Europe	2006	0	1	168 bn	41 %
Legal and General Group Plc	GB	Europe	2010	0	1	157 bn	98 %
Stichting Pensioenfond ABP	NL	Europe	2006	1	1	152 bn	100 %
Credit Suisse Group AG	CH	Europe	2014	1	0	135 bn	100 %
The Vanguard Group, Inc.	US	North America	2014	1	1	2732 bn	100 %
BlackRock, Inc.	US	North America	2008	1	0	2619 bn	100 %
State Street Corp.	US	North America	2012	0	1	1328 bn	90 %
The Capital Group Cos., Inc.	US	North America	2010	1	0	1265 bn	100 %
FMR LLC	US	North America		0	0	938 bn	
T. Rowe Price Group, Inc.	US	North America	2010	1	0	665 bn	100 %
JPMorgan Chase and Co.	US	North America	2007	0	1	491 bn	51 %
Wellington Management Group LLP	US	North America	2012	0	1	482 bn	99 %
The Bank of New York Mellon Corp.	US	North America	2006	0	1	423 bn	54 %
Northern Trust Corp.	US	North America	2009	0	1	384 bn	95 %
Invesco Ltd.	US	North America	2013	1	0	364 bn	100 %
Dimensional Fund Advisors LP	US	North America	2012	1	1	360 bn	100 %
Nomura Holdings, Inc.	JP	Asia-Pacific + others	2011	0	1	250 bn	52 %
Sumitomo Mitsui Trust Holdings, Inc.	JP	Asia-Pacific + others	2006	0	1	141 bn	89 %
FIL Ltd.	BM	Asia-Pacific + others	2012	1	0	135 bn	100 %
ORIX Corp.	JP	Asia-Pacific + others	2006	0	1	128 bn	32 %
Mitsubishi UFJ Financial Group, Inc.	JP	Asia-Pacific + others	2006	0	1	119 bn	45 %
Daiwa Securities Group Inc.	JP	Asia-Pacific + others	2006	0	1	59 bn	99 %
Macquarie Group Ltd.	AU	Asia-Pacific + others	2015	0	1	57 bn	0 %
Asset Management One Co., Ltd.	JP	Asia-Pacific + others	2013	1	1	51 bn	100 %
Commonwealth Bank of Australia	AU	Asia-Pacific + others	2007	0	1	43 bn	27 %
Korea National Pension Service	KR	Asia-Pacific + others	2009	0	1	38 bn	48 %
Pendal Group Ltd.	AU	Asia-Pacific + others	2011	1	1	32 bn	100 %
Magellan Financial Group Ltd.	AU	Asia-Pacific + others	2012	0	1	30 bn	100 %



Fig. 1. Descriptive statistics on PRI signatory institutions

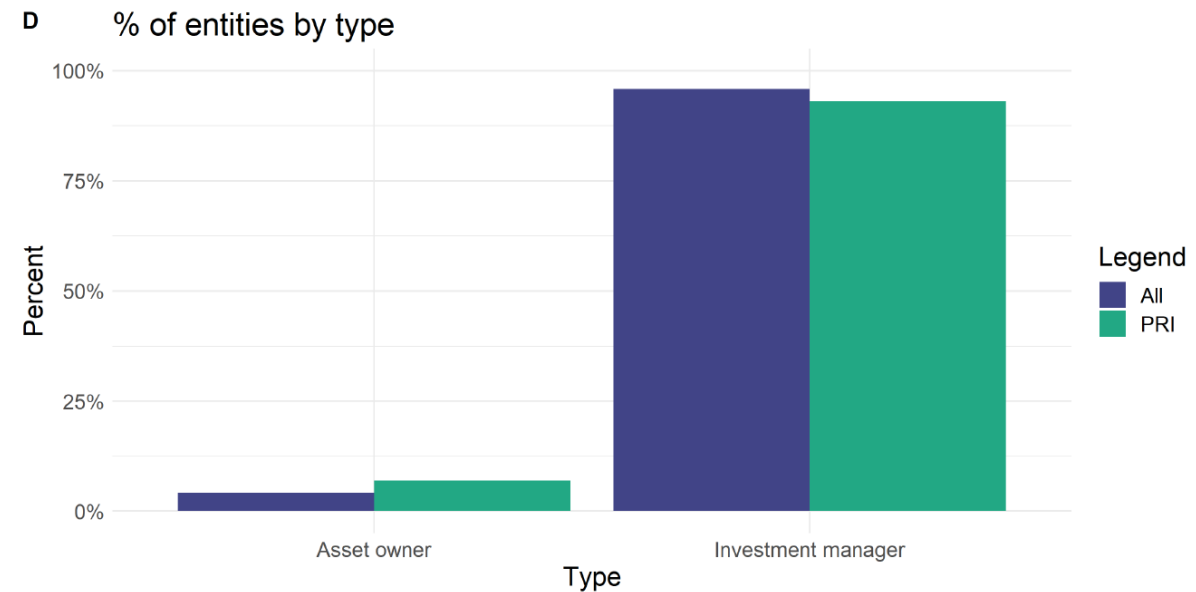
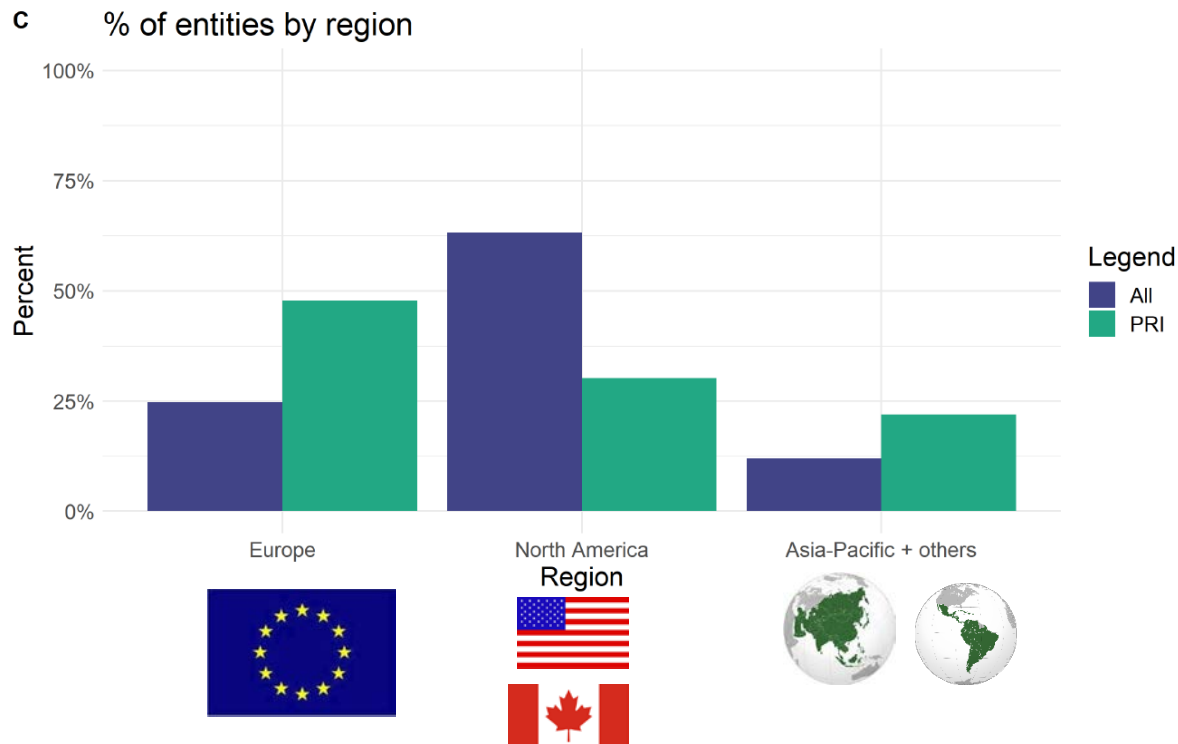


-> Growth in number of PRI signatories

-> Growth in \$ AUM of PRI signatories : ~60% by 2017 !

Question 1.a: Which institutions commit to responsible investing?

Fig. 1. Descriptive statistics on PRI signatory institutions

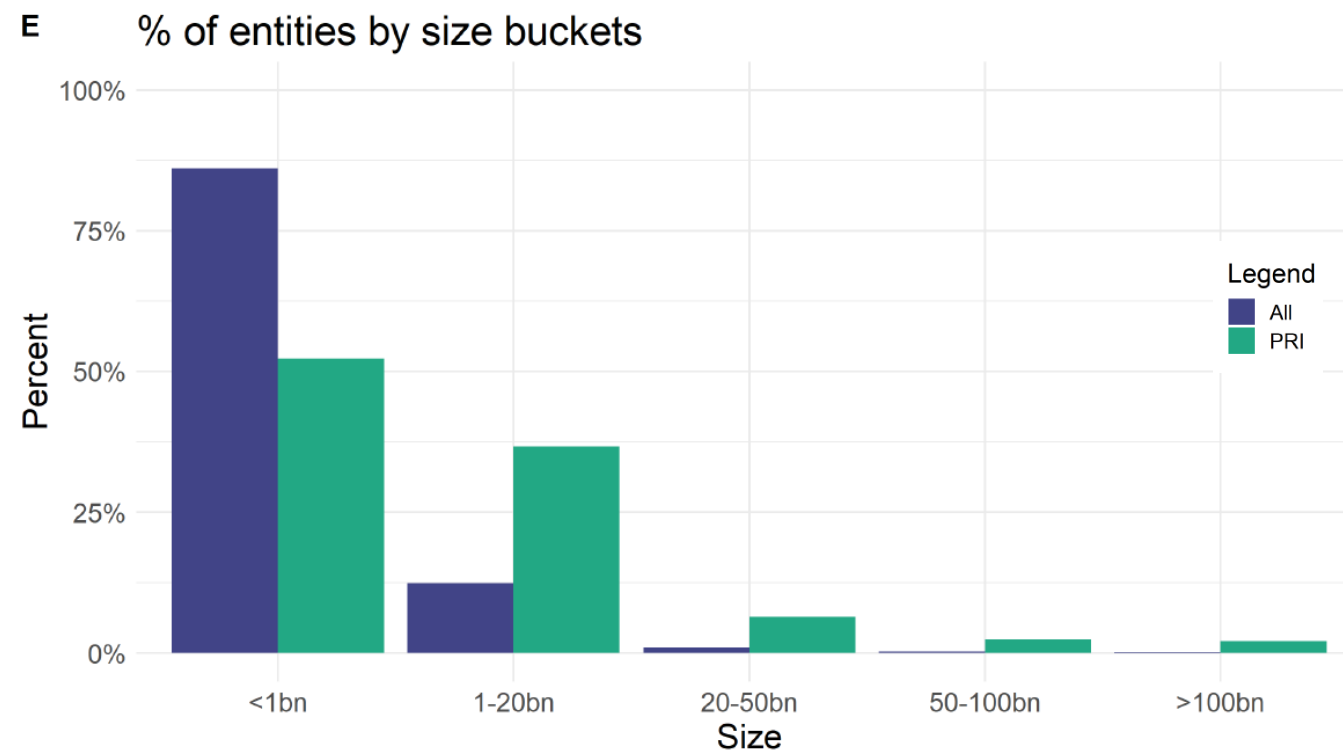


-> PRI signatories: more European

-> PRI signatories: more asset owners

Question 1.a: Which institutions commit to responsible investing? (contd.)

Fig. 1. Descriptive statistics on PRI signatory institutions



-> PRI signatories: Larger institutions

Question 1.b: Portfolio-level ESG of PRI vs. non-PRI institutions?

- Measuring sustainability at the **stock-level**
 - Composite Asset 4 + MSCI + Sustainalytics score (See Gibson Brandon and Krueger (2018, WP)):

$$Score_{it} = \frac{1_{A4,it} \times z_t(Score_A4_{it}) + 1_{MSCI,it} \times z_t(Score_MSCI_{it}) + 1_{SUST4,it} \times z_t(Score_SUST_{it})}{1_{A4,it} + 1_{MSCI,it} + 1_{SUST,it}}$$

$Score_A4_{it}$ = Thomson Asset4 ESG score of stock i in year t

$Score_MSCI_{it}$ = MSCI ESG score of stock i in year t

$Score_SUST_{it}$ = Sustainalytics ESG score of stock i in year t

$1_{A4,it}$ = Dummy variable indicating if Thomson Asset 4 score available for stock i in year t

$1_{MSCI,it}$ = Dummy variable indicating if MSCI score available for stock i in year t

$1_{SUST,it}$ = Dummy variable indicating if Sustainalytics score available for stock i in year t

-> Repeat separately
for E, S, and G
category...

Question 1.b: Portfolio-level ESG of PRI vs. non-PRI institutions?

- Measuring sustainability at the **portfolio-level**:
 1. Sustainability “footprint” (see Gibson Brandon and Krueger, 2018; Starks Venkat and Zhu, 2018):

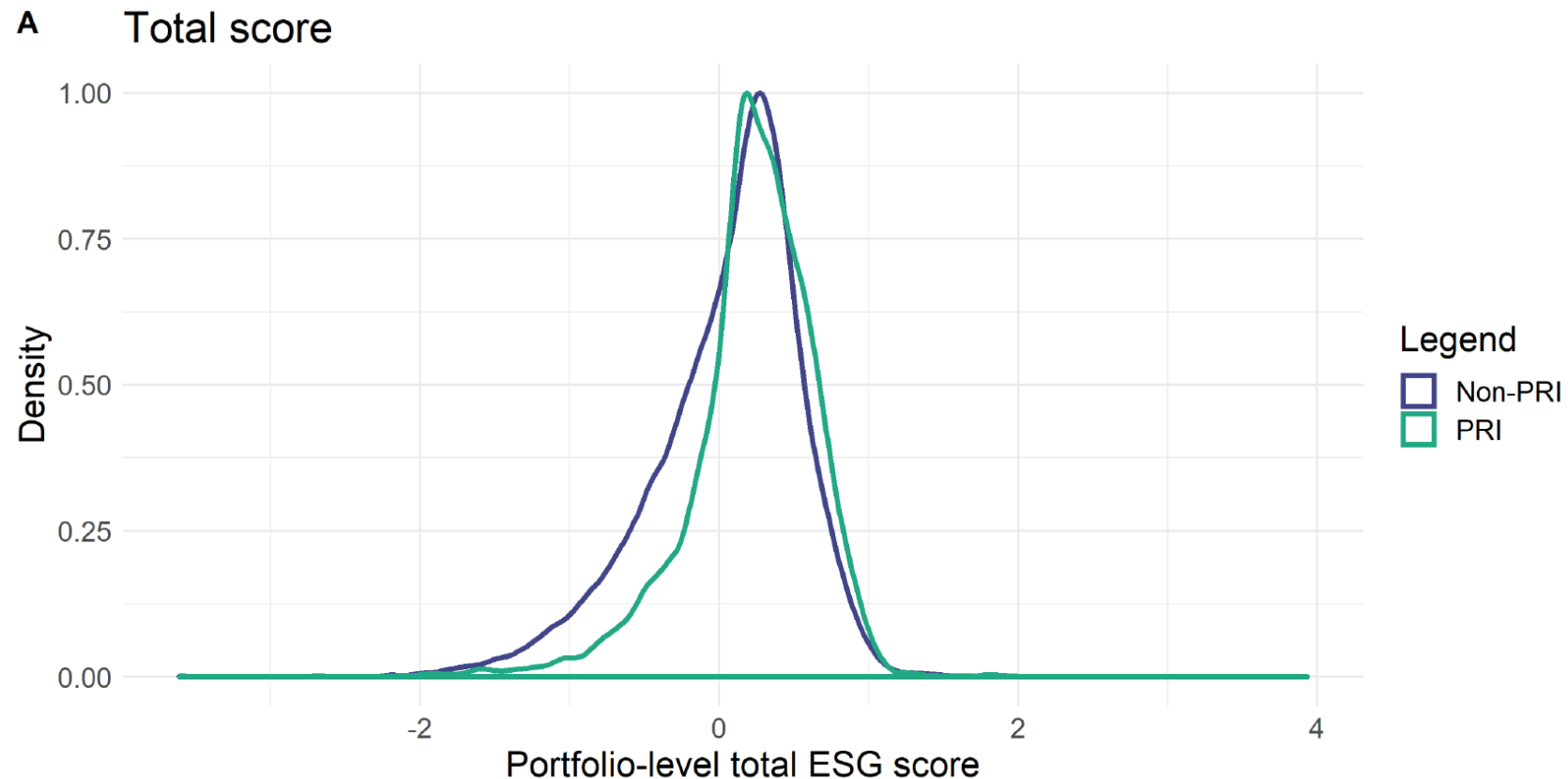
$$Score^{PF}_{j,t} = \sum_{i=1}^{N_{j,t}} w_{i,j,t} \times Score_{i,t}$$

2. ESG tail allocation:

fraction of portfolio allocated to stocks with lowest quartile (Q1) and highest quartile (Q4) ESG scores

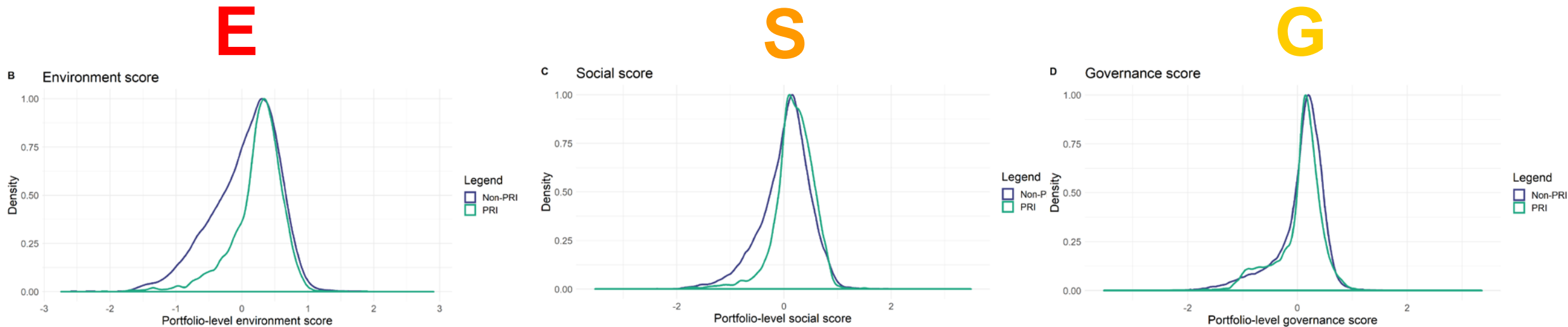
Question 1.b: Portfolio-level ESG of PRI vs. non-PRI institutions?

Fig. 2. Densities of portfolio-level ESG scores: PRI vs. non-PRI



Question 1.b: Portfolio-level ESG of PRI vs. non-PRI institutions?

Fig. 2. Densities of portfolio-level ESG scores: PRI vs. non-PRI



-> PRI signatories:
Better portfolio
environmental
scores

-> PRI signatories:
Better portfolio
social scores

-> Difficult to discern
any differences in
terms of governance

Question 1.b: Portfolio-level ESG of PRI vs non-PRI institutions?

- Tail allocation

Table 7. What is the portfolio allocation of PRI signatories to high and low total score stocks?

	<i>Dependent variable:</i>			
	Quartile-to-overall AUM ratio			
	(1) Total Q1	(2) Total Q2	(3) Total Q3	(4) Total Q4
PRI dummy	-0.02*** (0.01)	-0.01* (0.00)	-0.00 (0.00)	0.03*** (0.01)
Europe	-0.15*** (0.01)	-0.06*** (0.01)	0.01 (0.01)	0.20*** (0.01)
North America	-0.07*** (0.01)	0.02* (0.01)	0.03*** (0.01)	0.02*** (0.01)
Investment manager	0.04*** (0.01)	0.02*** (0.00)	-0.02*** (0.01)	-0.03*** (0.01)
AUM	-0.01*** (0.00)	0.00 (0.00)	0.00*** (0.00)	0.01*** (0.00)
Year fixed effects	Yes	Yes	Yes	Yes
Observations	83,768	83,768	83,768	83,768
R ²	0.07	0.08	0.04	0.18
Adjusted R ²	0.07	0.08	0.04	0.18

Note: * p<0.1; ** p<0.05; *** p<0.01

-> PRI signatories overweight (underweight) stocks with better (worse) ESG scores

Question 2: Main RI implementation strategies?

[The] Thematic / [Int] Integration



Pre-Investment

- [Neg] Negative screening
- [Pos] Positive screening
- [N-b] Norms-based

Post-Investment

- [Indiv eng] Individual engagement
- [Colla eng] Collective engagement
- [Int vot] Internal voting

Divestment?

Amel-Zadeh & Serafeim, 2018; CFAI 2015; GSIA, 2016)
-> No official classification/taxonomy of implementation styles for SRI

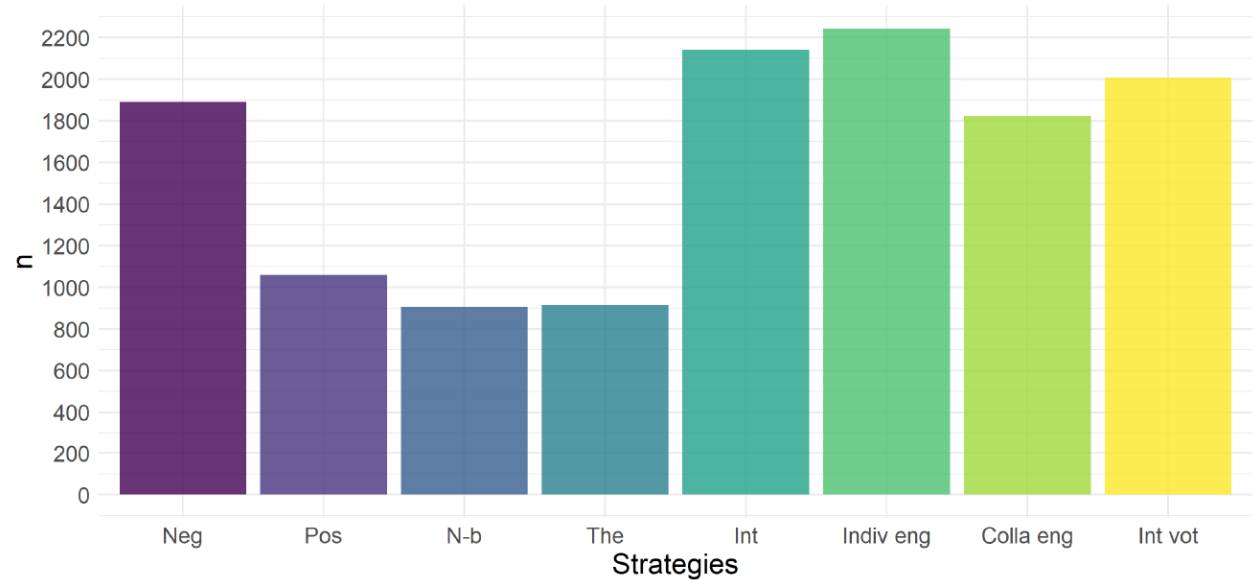
Question 2-a: Main RI strategies?

Table 7. Summary statistics: Responsible investment strategies

	PRI									Mean	SD
	Total	Neg	Pos	N-b	The	Int	Indiv eng	Colla eng	Int vot		
Panel A											
Overall	2,778	68%	38%	33%	33%	77%	81%	66%	72%	4.67	2.23
Year											
2013	438	62%	26%	19%	27%	74%	79%	68%	64%	4.18	2.04
2014	490	65%	32%	30%	29%	73%	78%	66%	72%	4.44	2.18
2015	554	70%	38%	31%	32%	77%	81%	62%	74%	4.64	2.13
2016	622	69%	42%	38%	37%	78%	82%	65%	75%	4.86	2.31
2017	674	71%	47%	40%	37%	82%	83%	68%	74%	5.03	2.31
Region											
Europe	1,371	72%	42%	44%	35%	76%	80%	67%	67%	4.84	2.26
North America	767	64%	33%	22%	30%	72%	75%	60%	67%	4.23	2.37
Asia-Pacific + others	640	65%	36%	20%	32%	85%	91%	70%	89%	4.86	1.88
Type											
Asset owner	182	52%	18%	38%	15%	73%	87%	77%	85%	4.46	1.94
Investment manager	2,596	69%	40%	32%	34%	77%	80%	65%	71%	4.69	2.25
Size											
<1bn	1,219	60%	34%	26%	29%	69%	73%	55%	65%	4.13	2.38
1-20bn	1,109	71%	40%	37%	31%	81%	84%	72%	74%	4.91	2.04
20-50bn	218	76%	41%	42%	46%	85%	90%	70%	81%	5.33	2.03
50-100bn	131	82%	52%	33%	51%	94%	94%	80%	86%	5.73	1.68
>100bn	101	92%	38%	45%	47%	90%	95%	84%	99%	5.89	1.48
Panel B											
Strategy = 0	218	0%	0%	0%	0%	0%	0%	0%	0%	-	-
Strategy = 1	77	38%	6%	0%	0%	19%	5%	3%	29%	-	-
Strategy = 2	197	26%	7%	6%	3%	27%	59%	50%	23%	-	-
Strategy = 3	251	31%	12%	6%	8%	56%	75%	40%	73%	-	-
Strategy = 4	383	48%	17%	14%	13%	91%	81%	59%	78%	-	-
Strategy = 5	548	87%	21%	20%	20%	96%	96%	77%	83%	-	-
Strategy = 6	517	95%	52%	42%	47%	93%	99%	84%	89%	-	-
Strategy = 7	307	99%	93%	70%	68%	97%	100%	85%	87%	-	-
Strategy = 8	280	100%	100%	100%	100%	100%	100%	100%	100%	-	-

Note: This table contrasts the investment strategies of PRI signatories across different dimensions. The strategies are negative screening (*Neg*), positive screening (*Pos*), norms-based screening (*N-b*), thematic investment (*The*), integration of ESG factors (*Int*), individual engagement (*Indiv eng*), collaborative engagement (*Colla eng*), and internal voting (*Int vot*). The *Total* column reports the number of investor-year observations for a given dimension. In Panel A, the applied strategies (in percent) are compared across the *year*, *region*, *type*, and *size* dimensions. Panel B compares which strategies are applied (in percent) when an investor simultaneously employs several of them, ranging from no strategy at all (*Strategy = 0*) to all strategies at the same time (*Strategy = 8*). All the percentages are computed using the number of observations in the *Total* column as denominator. The *Mean* and *SD* report the average and standard deviation of applied styles for a given row. Overall sample period is 2013-2017 with 2,778 investor-year observation for which PRI data is available.

A Investor-year PRI observations



Neg = negative screening
 Pos = Positive screening
 N-b = norms-based screening
 The = thematic investment
 Int = integration of ESG factors
 Indiv eng = individual engagement
 Colla eng = collaborative engagement
 Int vot = internal voting

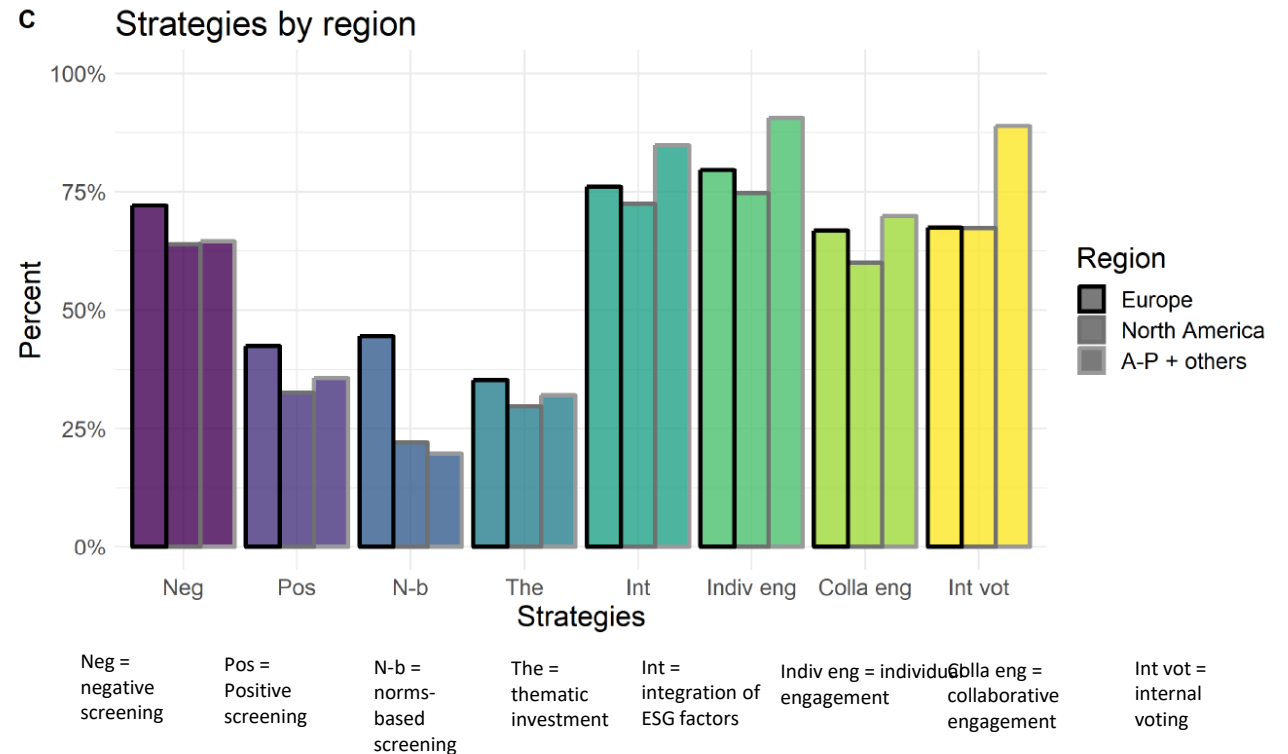
-> Negative screening, integration, and engagement related ESG policies (active ownership) most prevalent among PRI signatories

Question 2-a (cont.): RI by geographies?

Table 7. Summary statistics: Responsible investment strategies

	PRI										
	Total	Neg	Pos	N-b	The	Int	Indiv eng	Colla eng	Int vot	Mean	SD
Panel A											
Overall	2,778	68%	38%	33%	33%	77%	81%	66%	72%	4.67	2.23
<i>Year</i>											
2013	438	62%	26%	19%	27%	74%	79%	68%	64%	4.18	2.04
2014	490	65%	32%	30%	29%	73%	78%	66%	72%	4.44	2.18
2015	554	70%	38%	31%	32%	77%	81%	62%	74%	4.64	2.13
2016	622	69%	42%	38%	37%	78%	82%	65%	75%	4.86	2.31
2017	674	71%	47%	40%	37%	82%	83%	68%	74%	5.03	2.31
<i>Region</i>											
Europe	1,371	72%	42%	44%	35%	76%	80%	67%	67%	4.84	2.26
North America	767	64%	33%	22%	30%	72%	75%	60%	67%	4.23	2.37
Asia-Pacific + others	640	65%	36%	20%	32%	85%	91%	70%	89%	4.86	1.88
<i>Type</i>											
Asset owner	182	52%	18%	38%	15%	73%	87%	77%	85%	4.46	1.94
Investment manager	2,596	69%	40%	32%	34%	77%	80%	65%	71%	4.69	2.25
<i>Size</i>											
<1bn	1,219	60%	34%	28%	29%	69%	73%	55%	65%	4.13	2.38
1-20bn	1,109	71%	40%	37%	31%	81%	84%	72%	74%	4.91	2.04
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Panel B											
Strategy = 0	218	0%	0%	0%	0%	0%	0%	0%	0%	-	-
Strategy = 1	77	38%	6%	0%	0%	19%	5%	3%	29%	-	-
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Strategy = 6	517	95%	52%	42%	47%	93%	99%	84%	89%	-	-
Strategy = 7	307	99%	93%	70%	68%	97%	100%	85%	87%	-	-
Strategy = 8	280	100%	100%	100%	100%	100%	100%	100%	100%	-	-

Note: This table contrasts the investment strategies of PRI signatories across different dimensions. The strategies are negative screening (*Neg*), positive screening (*Pos*), norms-based screening (*N-b*), thematic investment (*The*), integration of ESG factors (*Int*), individual engagement (*Indiv eng*), collaborative engagement (*Colla eng*), and internal voting (*Int vot*). The *Total* column reports the number of investor-year observations for a given dimension. In Panel A, the applied strategies (in percent) are compared across the *year*, *region*, *type*, and *size* dimensions. Panel B compares which strategies are applied (in percent) when an investor simultaneously employs several of them, ranging from no strategy at all (*Strategy = 0*) to all strategies at the same time (*Strategy = 8*). All the percentages are computed using the number of observations in the *Total* column as denominator. The *Mean* and *SD* report the average and standard deviation of applied styles for a given row. Overall sample period is 2013-2017 with 2,778 investor-year observation for which PRI data is available.



-> European signatories: more screening

-> Asia Pacific signatories: more ESG related engagement policies

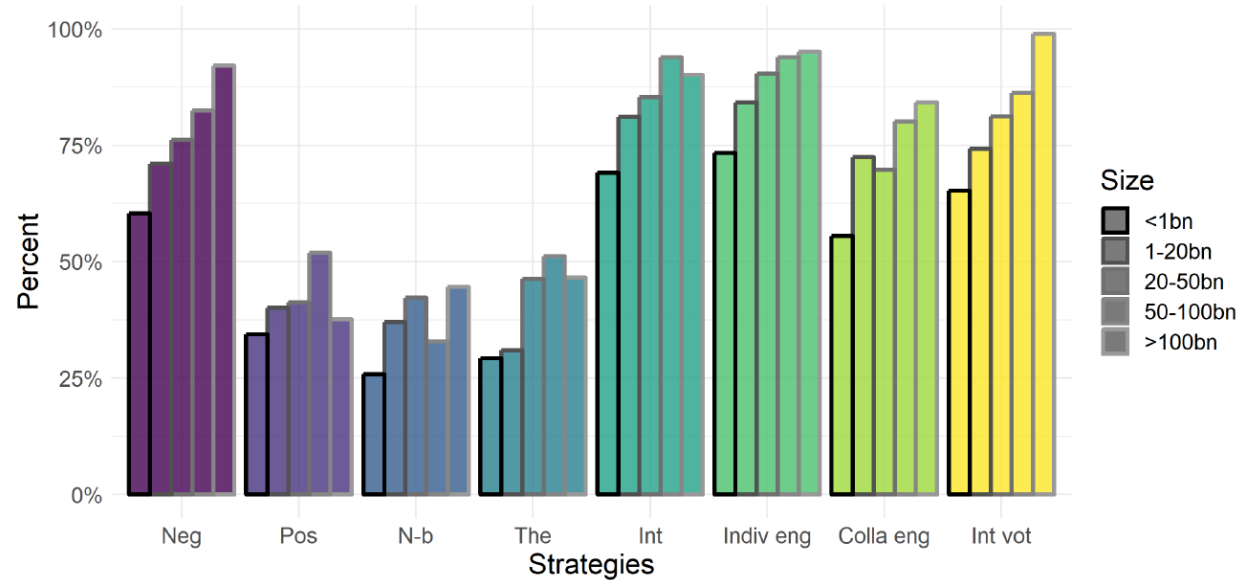
Question 2-a (cont.): RI by investor size?

Table 7. Summary statistics: Responsible investment strategies

	PRI										
	Total	Neg	Pos	N-b	The	Int	Indiv eng	Colla eng	Int vot	Mean	SD
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Overall	2,778	68%	38%	33%	33%	77%	81%	66%	72%	4.67	2.23
Year											
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2017	674	71%	47%	40%	37%	82%	83%	68%	74%	5.03	2.31
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Europe	1,371	72%	42%	44%	35%	76%	80%	67%	67%	4.84	2.26
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Panel B											
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Strategy = 4	383	48%	17%	14%	13%	91%	81%	59%	78%	-	-
Strategy = 5	548	87%	21%	20%	20%	96%	96%	77%	83%	-	-
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Strategy = 8	280	100%	100%	100%	100%	100%	100%	100%	100%	-	-

Note: This table contrasts the investment strategies of PRI signatories across different dimensions. The strategies are negative screening (*Neg*), positive screening (*Pos*), norms-based screening (*N-b*), thematic investment (*The*), integration of ESG factors (*Int*), individual engagement (*Indiv eng*), collaborative engagement (*Colla eng*), and internal voting (*Int vot*). The *Total* column reports the number of investor-year observations for a given dimension. In Panel A, the applied strategies (in percent) are compared across the *year*, *region*, *type*, and *size* dimensions. Panel B compares which strategies are applied (in percent) when an investor simultaneously employs several of them, ranging from no strategy at all (*Strategy = 0*) to all strategies at the same time (*Strategy = 8*). All the percentages are computed using the number of observations in the *Total* column as denominator. The *Mean* and *SD* report the average and standard deviation of applied styles for a given row. Overall sample period is 2013-2017 with 2,778 investor-year observation for which PRI data is available.

E Strategies by size



Neg = negative screening
 Pos = Positive screening
 N-b = norms-based screening
 The = thematic investment
 Int = integration of ESG factors
 Indiv eng = individual engagement
 Colla eng = collaborative engagement
 Int vot = internal voting

-> larger investors: more negative screening and more engagement related policies

Question 2-b: What is the effect of different RI strategies on portfolio-level ESG scores?

Table 9. Is there an effect of implementation strategies on ESG portfolio footprints?

	<i>Dependent variable:</i>			
	Total score (1)	Environment score (2)	Social score (3)	Governance score (4)
Negative screening	0.04 (0.03)	0.05** (0.02)	0.05** (0.02)	-0.04 (0.03)
Positive screening	0.08*** (0.03)	0.08*** (0.02)	0.06*** (0.02)	0.04* (0.02)
Norms-based screening	0.01 (0.03)	-0.00 (0.03)	0.01 (0.02)	-0.02 (0.02)
Thematic	-0.04 (0.02)	-0.03 (0.02)	-0.04* (0.02)	-0.03 (0.03)
Integration	-0.01 (0.03)	-0.01 (0.03)	-0.02 (0.03)	-0.01 (0.03)
Individual engagement	0.07 (0.04)	0.06 (0.04)	0.06 (0.04)	0.01 (0.04)
Collaborative engagement	0.02 (0.03)	0.00 (0.02)	0.02 (0.02)	0.03 (0.04)
Internal voting	-0.03 (0.03)	-0.03 (0.03)	-0.03 (0.02)	0.02 (0.03)
AUM	0.03*** (0.00)	0.04*** (0.00)	0.02*** (0.00)	0.01* (0.01)
Year fixed effects	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
Type fixed effects	Yes	Yes	Yes	Yes
Observations	2,796	2,796	2,796	2,796
R ²	0.21	0.21	0.20	0.14
Adjusted R ²	0.20	0.20	0.19	0.13

-> Screening associated with better portfolio-level scores

-> Other approaches no discernible differences in terms of portfolio-level ESG

Question 2-b (cont.): Effect of types of screening?

Table 10. What is the effect of screening strategies on ESG portfolio footprints?

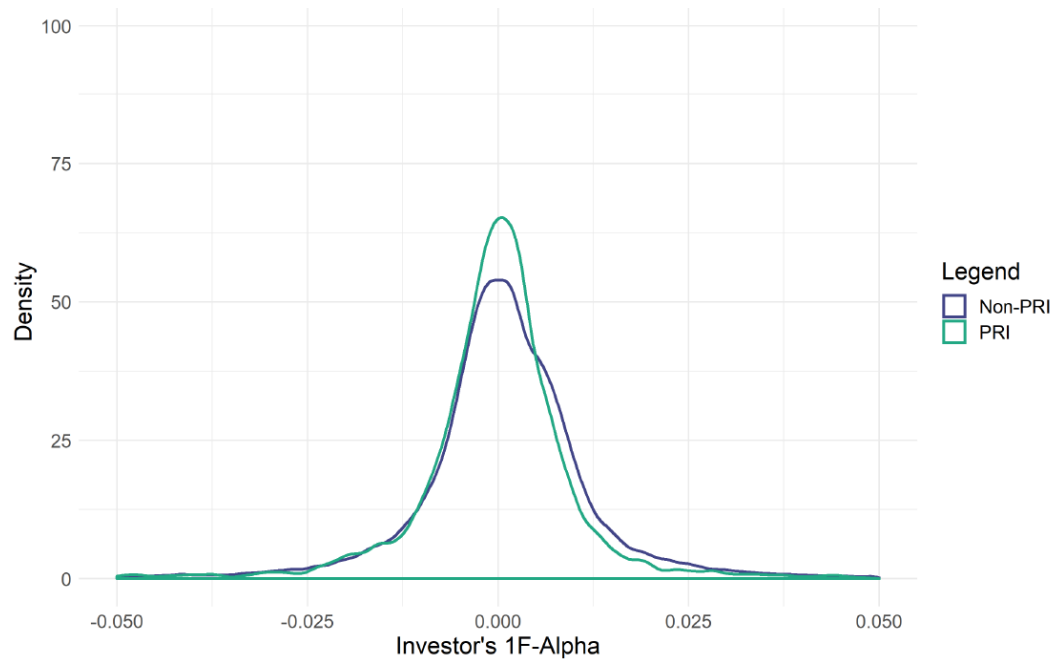
	<i>Dependent variable:</i>			
	Total score (1)	Environment score (2)	Social score (3)	Governance score (4)
Negative categorical screening	0.05 (0.03)	0.04 (0.03)	0.07** (0.03)	-0.02 (0.04)
Negative E&S screening	-0.00 (0.03)	0.01 (0.03)	0.01 (0.02)	-0.04 (0.04)
Negative G screening	-0.03 (0.03)	-0.04* (0.02)	-0.05** (0.02)	0.04 (0.03)
Positive categorical screening	-0.03 (0.04)	-0.03 (0.03)	-0.03 (0.04)	-0.02 (0.03)
Positive E&S screening	0.11* (0.06)	0.08* (0.05)	0.09* (0.05)	0.12 (0.08)
Positive G screening	0.01 (0.05)	0.05 (0.04)	0.01 (0.03)	-0.08 (0.07)
AUM	0.03*** (0.00)	0.04*** (0.00)	0.02*** (0.00)	0.01** (0.01)
Year fixed effects	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
Type fixed effects	Yes	Yes	Yes	Yes
Observations	2,796	2,796	2,796	2,796
R ²	0.21	0.21	0.20	0.14
Adjusted R ²	0.20	0.21	0.20	0.13

- > Some evidence that negative screening on governance has a negative effect on portfolio-level E&S score
- > Mainly, positive E&S screening having has an positive effect on

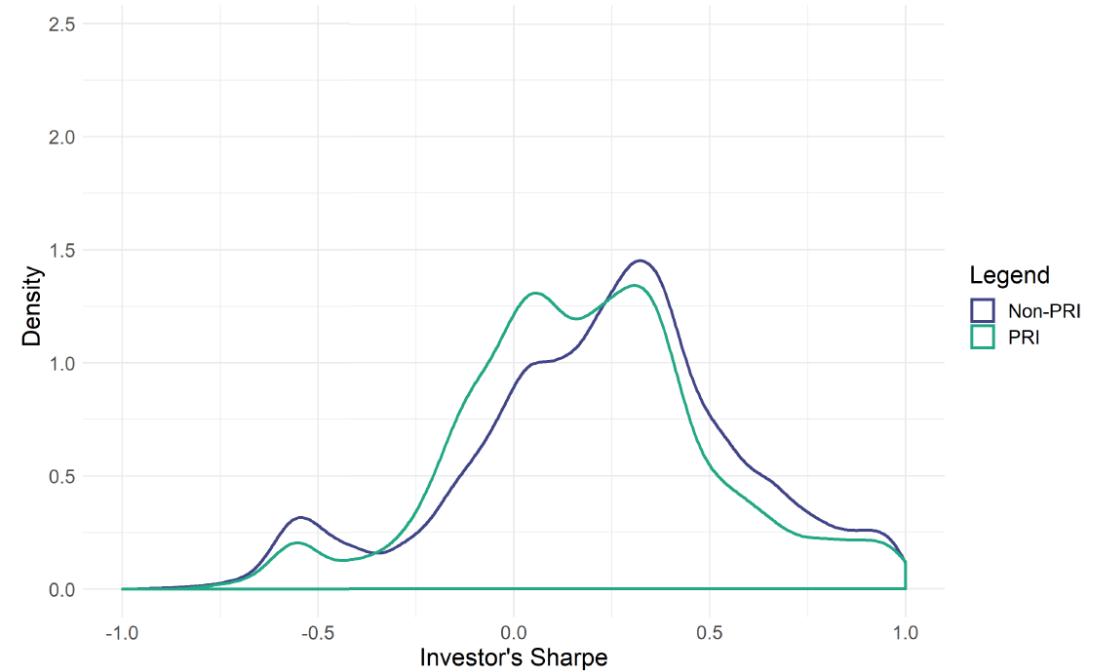
Question 3: What is impact of RI on portfolio risk/return?



Question 3 (cont.):



*-> PRI signatories:
Lower risk-adjusted returns*



*-> PRI signatories:
Lower Sharpe ratios*

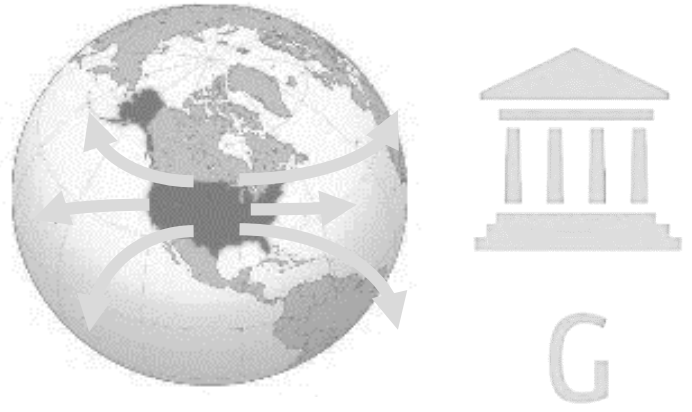
Conclusion

- First paper to study (i) institutional investors' public commitment to RI and (ii) effectiveness of RI strategies in delivering pf-level sustainability
- Evidence that
 - larger and European based institutions as well as asset owners more likely to commit to RI
- Different implementation strategies show varying effectiveness in increasing pf-level sustainability
 - Screening most effective
- Next steps: Look further at intra-portfolio tails and risk/return tradeoffs associated with screening and other approaches

How Institutional Investors Can Reshape E(SG) Around the World

I.

HOW U.S. INSTITUTIONAL INVESTORS HAVE SHAPED GOVERNANCE (G)



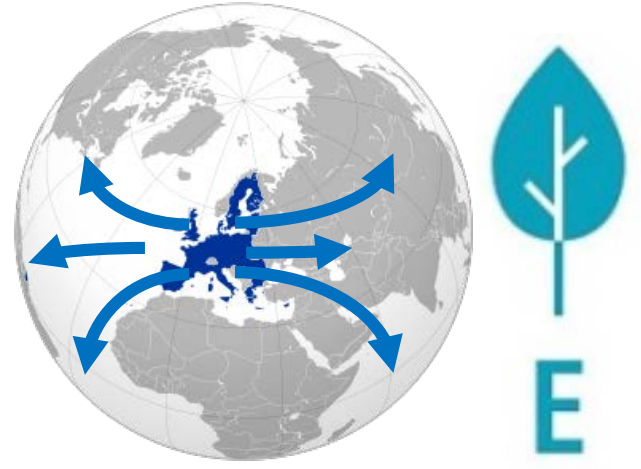
II.

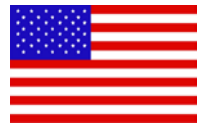
CAN INSTITUTIONAL INVESTORS SHAPE ENVIRONMENTAL (E) & SOCIAL (S)?



III.

POTENTIAL ROLE OF EUROPE TO TACKLE CLIMATE CHANGE?





G

Vs.



Pros	. lots on market forces / functional convergence (“money speaks!”)	. climate change more urgent!
Cons	. primacy of Anglo-Saxon shareholder-centric governance questioned after the global financial crisis	. investing in G may be sufficient for E & S? . political /marketing rather an investment case? . more subject to PR manipulation/“greenwashing”? . may direct less capital to locations that need it most (necessarily poor on ESG – corrupt and polluted)?
Challenges	. strong shareholder-centric governance could lead to short-termism / suboptimal outcomes	. how to measure E&S? . data inconsistencies?

- Policy-making should be evidence-based! Support academic research on the European market!



“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”

The Adventures of Sherlock Holmes

“A Scandal in Bohemia”



Thank you!



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