Rotterdam School of Management
Erasmus University

IFI Erasmus, visit Rotterdam School of Management (Sept. 13, 2022)

Sustainable Investing: The Arguments

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RSM - a force for positive change

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For starters...

- Mentimeter

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Who am I?

- Professor of Finance @ RSM, Erasmus University
- Scientific Director @ pensions-thinktank Netspar
  - MSc in Econometrics @ Erasmus University
  - PhD in Financial Economics @ Maastricht University
  - Visiting @ Princeton, Ohio State, Duke & UCLA
- Main expertise: financial markets, investing, liquidity, efficiency; last 4 years: sustainable finance
- Experience in teaching / training:
  - BSc & MSc courses at RSM
  - Some MBA / exec ed courses
  - Pension Innovation program @ TIAS
  - Sessions for asset managers, pension funds, insurance companies, regulatory / supervisory bodies

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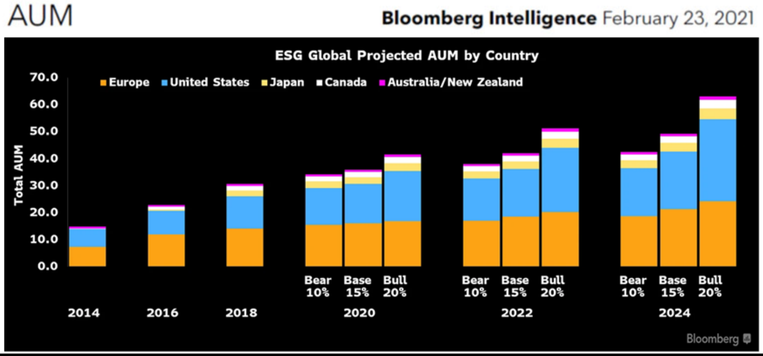
Backdrop: Surge in sustainable investing

- United Nations' Principles for Responsible Investment (PRI)
  - "Responsible investment (...) aims to incorporate environmental, social and governance (ESG) factors into investment decisions, to better manage risk and generate sustainable, long-term returns."
  - >4,800 signatories representing >US$100 trillion AUM of 2022

ESG assets may hit $53 trillion by 2025, a third of global AUM

Bloomberg Intelligence February 23, 2021



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Main arguments for sustainable investing

- 4 main arguments (not mutually exclusive):
  1) Ethical reasons
  2) Impact
  3) Stronger ESG stocks may have higher stock returns
  4) Stronger ESG stocks may have lower risk

- *(This list is not exhaustive, other arguments include: compliance, reputation, litigation risk.)*

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Argument 1) Ethics

- First, do no harm (Latin: Primum non nocere)
  - *In medical terms: 'non-maleficence'*
- Reason to reflect on your investments, such as:
  - Human rights violations
    - Child labor
    - Slavery
    - Poor working conditions
  - Harmful products
    - Controversial weapons
    - Tobacco
    - Coal
  - Harmful production processes
    - Deforestation
    - Poor agricultural practices (use of chemicals, monoculture)

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Should an economist talk about ethics?

- Economics is rife with normative assumptions: the well-known Portfolio Theory by Harry Markowitz is based on a simple utility function that describes investor preferences
- If U is utility and if A defines a particular investor's risk aversion:

$$U = E[R] - \frac{1}{2} A\sigma^2$$

- In other words:
  - Investors *like* E[R] (expected return)
  - Investors *dislike* σ(R) (standard deviation = risk)
  - They don't care about anything else
- At the very least, this limited view should be pointed out!
- But, in my experience, it also helps to frame sustainable investing in the context of ethics

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Argument 2) Impact

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- More ambitious? Beneficence → investing to have impact
- Three key ways to impact:

A. Influencing capital allocation
  - Tougher to access capital for poorer ESG firms
  - They have higher cost of capital and will invest less, because of:
    i. Pricing of risks
    ii. Pricing of preferences
  - Possibly reputation damage + exec compensation for poor ESG firms?

B. Directly influencing firms
  - Shareholder votes, engagement, credit oversight

C. 'Impact investing'
  - Provide capital to firms with positive impact
  - Private markets, green bonds?

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Argument 3) ESG & stock returns

- Common argument goes along these lines:
  a) Stronger ESG firms have better management
  b) Therefore better profitability
  c) Therefore better stock returns
- However:
  - Even if a) is true, this does not imply b)
  - Even if b) is true, this does not imply c)
    - In efficient markets, higher profitability is priced in
- So why could stronger ESG firms have higher stock returns?
  - If a) and b) are true but the stock market is slow to realize this (inefficient markets / learning)
  - If ESG inflows pushes stock prices of better ESG stocks up (demand effects)
  - Related: gradual pricing of risks and/or preferences

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What does the evidence say? (1)

- Friede, Busch & Bassen (2015)' meta analysis of >2000 studies: *"business case for ESG investing is empirically very well founded"*
- However:
  - Skeptical about quality of underlying studies
  - Publication bias / wishful thinking
  - Positive relation driven by demand effects?

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The irony of impact investing

- Important argument for why sustainable investing could have impact is 2A) capital allocation:
  - If stronger ESG firms more easily attract capital, their cost of capital will decrease
  - So sustainable corporate investments will become more attractive
  - And polluting investments will become less attractive
- However:
  - A firm's cost of capital = investors' expected returns
- *Isn't it ironic? The more successful sustainable investing is in terms of impact, the lower the expected returns on sustainable investments!*
- Source of reduction cost of capital strong ESG firms matters:
  i. *Pricing of risks: investor gets fair return*
  ii. *Pricing of preferences: investor sacrifices some return*

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What does the evidence say? (2)

- Hong & Kacperczyk (2009): sin stocks (stocks from traded companies involved in producing alcohol, tobacco, and gambling) have higher stock returns
- Chava (2014): investors demand significantly higher expected returns on stocks excluded by environmental screens
- Bolton & Kacperczyk (2021, 2022): firms with a greater carbon footprint have higher stock returns
- Consistent with new theory: Fitzgibbons, Pedersen & Pomorski (2020) + Pastor, Stambaugh & Taylor (2020)

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Argument 4) ESG & risk

- Common argument goes along these lines:
  - a) Poorer ESG firms may be exposed to sources of risk
  - b) These risks are hard to diversify
  - c) Thus better to divest from poor ESG firms

- However:
  - Again, depends on market efficiency
  - In efficient markets, risks are priced and yield a risk premium
- That said:
  - It seems less likely that all ESG risks are fully priced
    - Because long-term and uncertain (e.g., climate risks)
  - Plus: it can still be worthwhile to give up risk premium

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2020 Global Risks Landscape

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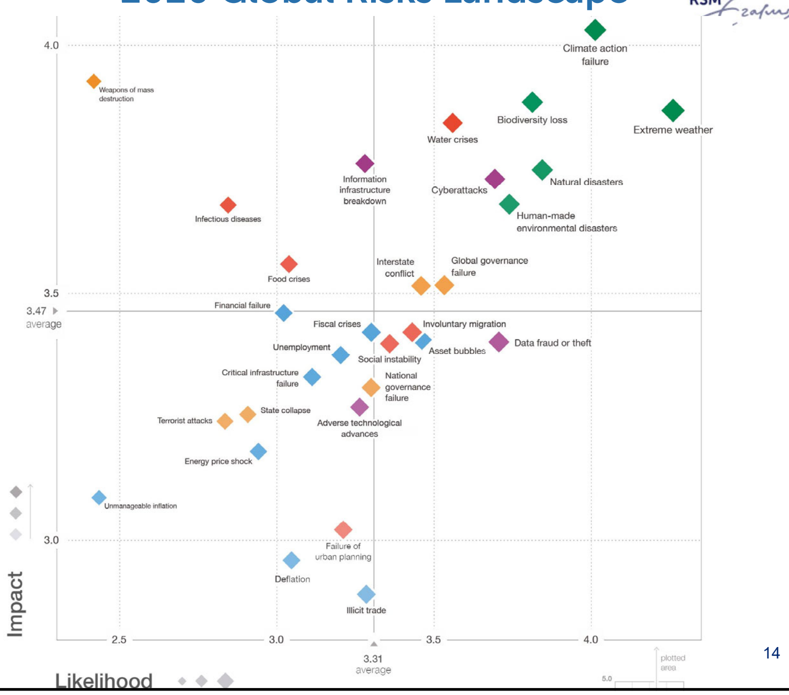
Source: World Economic Forum Global Risks Report 2020



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What does the evidence say? (3)

- Few studies
  - Lins, Servaes & Tamayo (2017): U.S. stocks with high CSR ratings performed relatively well during the 2008-2009 crisis
  - Albuquerque, Koskinen, Yang & Zhang (2020): U.S. stocks with high E and S ratings had relatively higher returns & lower return volatilities during the COVID-19 outbreak
  - Ilhan, Sautner & Vilkov (2021): greater tail risk for firms with a greater carbon footprint
  - Hoepner, Oikonomou, Sautner & Starks (2020): ESG engagement reduces the downside risk of the target firm

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Are climate risks priced in financial markets?

- Growing evidence that *some climate risks are priced*, e.g.:
  - Bolton & Kacperczyk (2021): carbon premium in equities
  - Engle et al. (2020): climate change news in equities
  - Murfin & Spiegel (2020): sea level rise in residential real estate
  - Rizzi (2022): extreme weather events in munical bonds
- But:
  - The evidence is still early stage and often indirect
  - Studying such asset pricing effects is notoriously challenging
  - Stroebel & Wurgler's (2021) survey among academics and practitioners: *"by an overwhelming margin [20 to 1], respondents believe that asset prices underestimate climate risks"*
- Plus: *even if climate risks carry a risk premium, should financial institutions really run these risks?*

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Impact through engagement

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- Common argument: real impact is only possible if you engage with companies
  - But: engagement is not easy and costs money + effect of engagement difficult to measure
- What does the evidence say? Few studies
  - Dimson, Karakaş & Li (2015, 2020) suggest correlation between (coordinated) engagement and sustainable behavior of companies
  - But: evidence is limited and causality is up for debate
    - There are many other influences on companies
    - Often engagement on “small” or ongoing issues
- My own assessment
  - Worth taking engagement seriously as an impact strategy
  - But not obviously better than exclusion (“money talks”)

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Impact investing

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- Common argument: if you really want to have impact, you have to finance positive-impact firms that otherwise can’t access capital
  - Private markets
  - VC / PE / infrastructure
  - But: we know little about effectiveness
- What does the evidence say? Hardly any studies at al
- My own assessment
  - No expert
  - Argument makes sense + diversification benefits
  - But requires careful consideration of opportunities, costs, risk/return, governance

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My latest research

1. Figure this thing out!
2. Address the issue of conflicting ESG ratings
    - Berg, Koelbel & Rigobon (2022) report average correlation of 0.60 among six different ESG ratings for U.S. stocks

- Encompassing approach
    - 9,253 stocks from 46 countries
    - Period 2001-2020
    - Currently 3 key ESG rating agencies: Refinitiv, MSCI & Sustainalytics
        - Talking to S&P Global and FTSE

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Conservative set-up

- Extensive filtering of stock-level data from Compustat Global, following Bessembinder, Chen, Choi & Wei (2019) and Chaieb, Langlois & Scaillet (2021)
- Control for a host of other stock characteristics such as size, BtM, profitability, momentum, leverage, investment, …
    - More powerful than time-series factor model regressions
- Fixed effects crucial given strong industry and country components of ESG (Gillan, Koch & Starks, 2021)
    - Use panel models with *industry-month + country-month fixed effects*
    - Comparable to Fama-MacBeth with industry and country dummies
    - More conservative than month, country, and industry fixed effects
- Standard errors double clustered at stock and month levels

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Sample composition

	Refinitiv Sample	Sustainalytics Sample
No. Stocks	6,593	4,371
No. Stock-Months	553,388	335,582
Start Date	2004-Jan	2011-Jan

	MSCI IVA Sample	*Composite Sample*
No. Stocks	8,291	9,253
No. Stock-Months	578,089	730,984
Start Date	2001-Jan	2001-Jan

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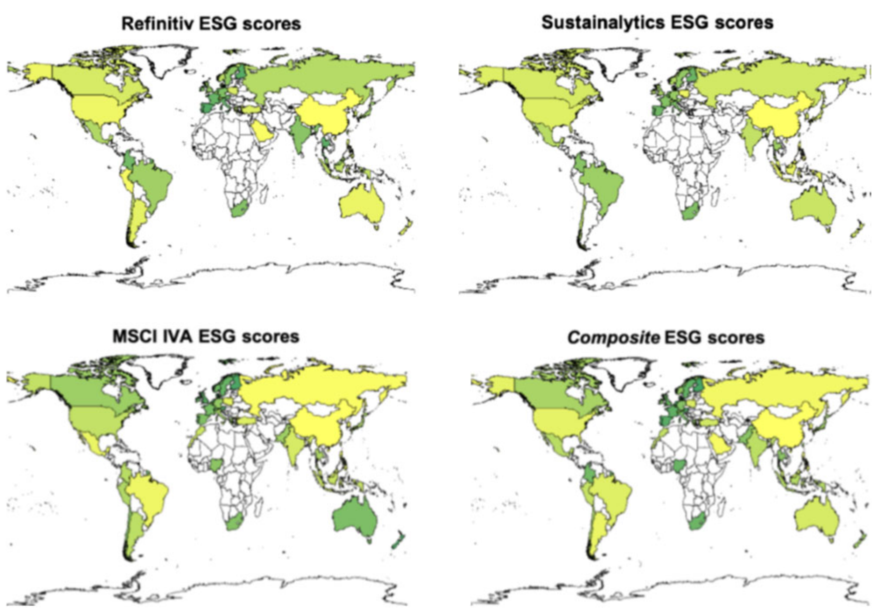
Geographical distribution



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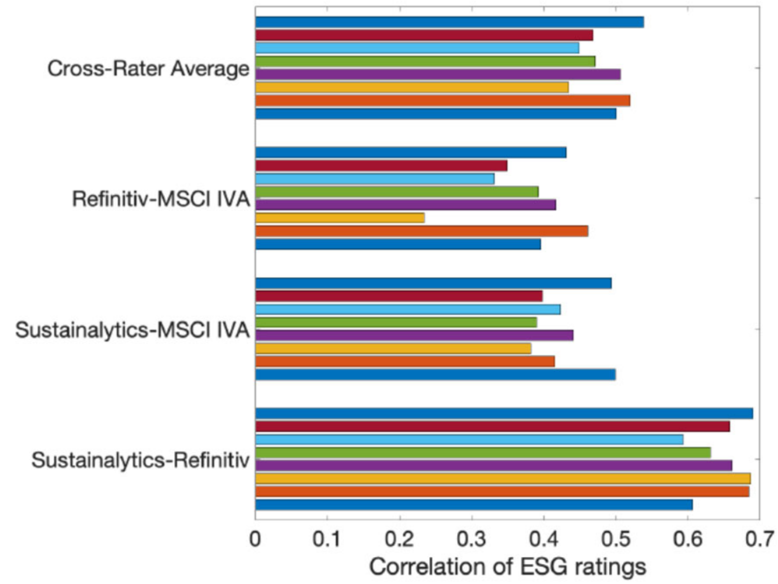
Correlations



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Baseline regressions

	Refinitiv			
	(1)	(2)	(3)	(4)
ESG	0.000			
	(0.296)			
E		-0.000		
		(-0.049)		
S			0.001	
			(0.547)	
G				0.000
				(0.465)
Size	0.033	0.027	0.031	0.029
	(0.939)	(0.748)	(0.947)	(0.807)
B/M	-0.017	-0.019	-0.018	-0.019
	(-0.504)	(-0.557)	(-0.525)	(-0.552)
B/M Dummy	-0.280*	-0.281*	-0.275*	-0.276*
	(-1.723)	(-1.730)	(-1.692)	(-1.694)
Momentum	0.578**	0.581**	0.580**	0.581**
	(2.094)	(2.104)	(2.097)	(2.110)
Total Volatility	0.007	0.007	0.007	0.007
	(0.295)	(0.291)	(0.286)	(0.285)
Inverse Price Ratio	0.004	0.003	0.004	0.004
	(0.145)	(0.127)	(0.152)	(0.142)
Leverage	-0.202	-0.208	-0.214	-0.216
	(-1.060)	(-1.078)	(-1.099)	(-1.128)
Investment	0.001	0.005	0.001	0.002
	(0.009)	(0.060)	(0.017)	(0.022)
Gross Profitability	0.462***	0.461***	0.467***	0.466***
	(3.937)	(3.919)	(3.975)	(3.957)
R&D	2.112**	2.088**	2.131**	2.124**
	(2.527)	(2.493)	(2.566)	(2.541)
Tangibility	-0.146	-0.146	-0.150	-0.150
	(-0.987)	(-0.988)	(-1.015)	(-1.015)
Industry-by-Month FE	Yes	Yes	Yes	Yes
Country-by-Month FE	Yes	Yes	Yes	Yes
Observations	552,097	552,073	552,962	552,962
R-squared	0.389	0.389	0.389	0.389

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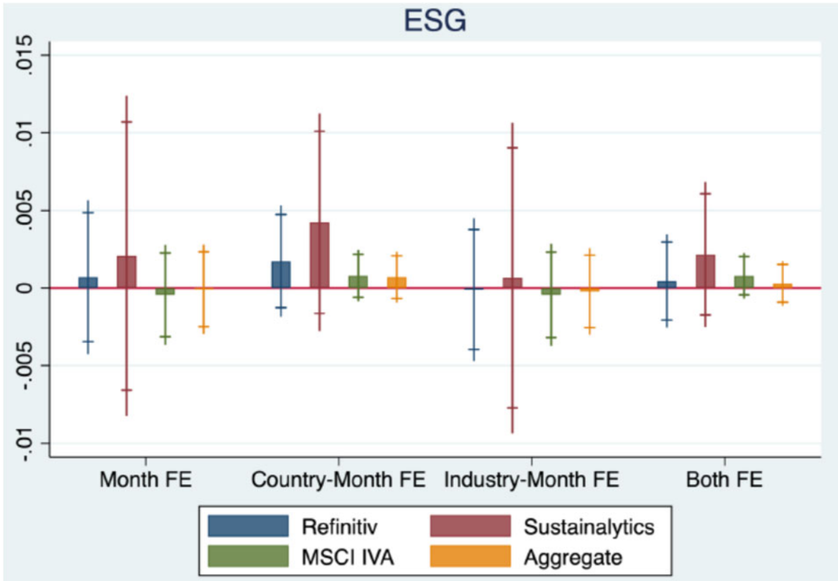
Graphical representation: ESG



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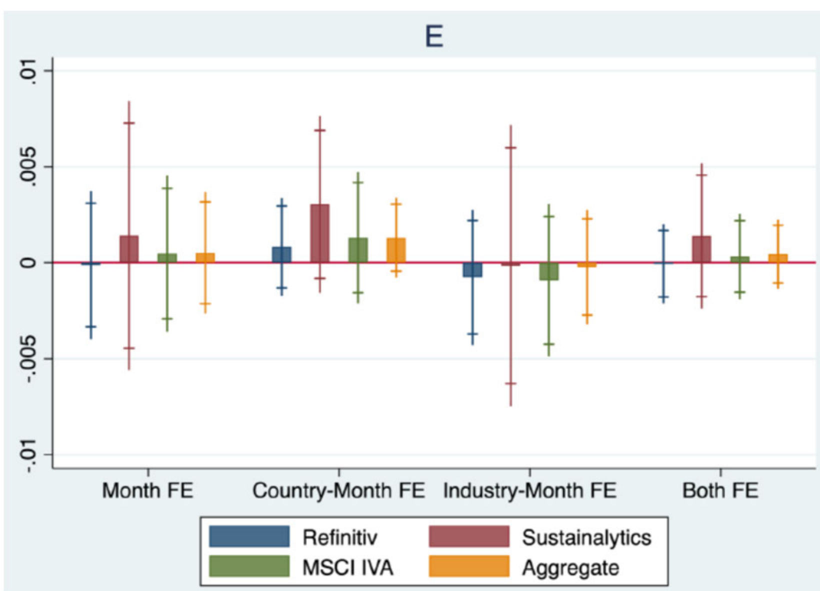
Graphical representation: E



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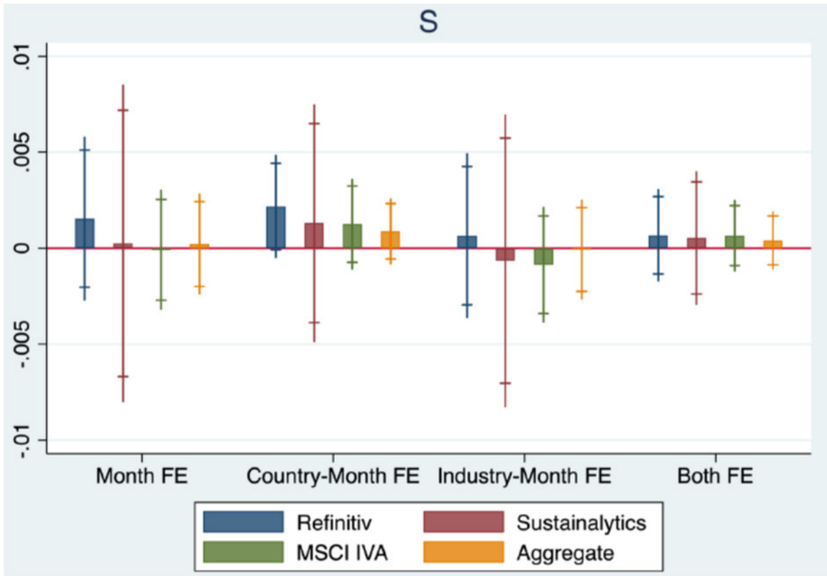
Graphical representation: S



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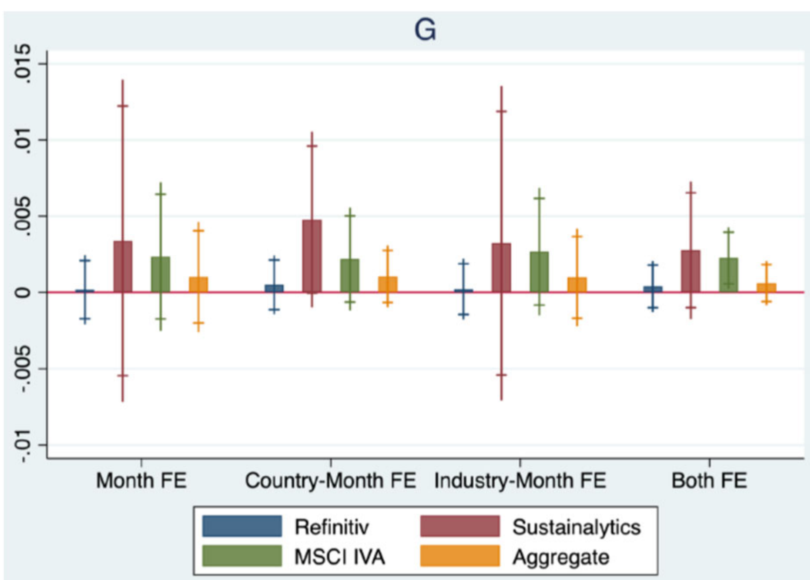
Graphical representation: G



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Do we *really* find nothing?

- Well…
  - nothing for different ESG databases
  - nothing for E, S, G individually
  - nothing for ESG momentum
  - nothing for different regions
  - nothing for different sectors
  - nothing for different time periods
  - nothing for negative ESG screens

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What does all this mean?

- Good news!
  - ESG investing has not come at the expense of returns in past 20 years
  - Little indication of "green bubbles"
  - It may still be possible to benefit from learning effects (pricing of ESG risks and preferences)
- Bad news!
  - Strong ESG firms do not (yet) have a lower cost of capital
  - So impact requires even greater ESG flows and/or voting+engagement

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Future of sustainable investing

- Financial arguments for more sustainable investing:
  - Return: ESG risks & preferences don't seem priced in yet, so it may be possible to benefit from such pricing
  - Risk: may be possible to reduce ESG risks without sacrificing risk premium
- But:
  - We only looked at ESG; carbon risk may already be priced in
    - *Many new data developments: Paris alignment, SDGs*
  - If ESG risks & preferences get priced in, the expected return of ESG investing will decrease over time
    - This is also necessary for impact
- Non-financial arguments (ethics, impact):
  - I expect that pressure on institutional investors to become more sustainable will only increase

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Takeaways for training finance professionals

- Here are my own lessons learned:
  - Offer a framework for thinking about sustainable investing
  - Bring up ethics!
  - Be fair in presenting the arguments, even if they seem to be hurting the cause
  - Academic evidence helps, but also point out limitations
- Thank you very much for your attention!!

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