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ESG & Business Valuation

Theoretical considerations, empirical evidence, upcoming challenges

Agenda

› Four Theses

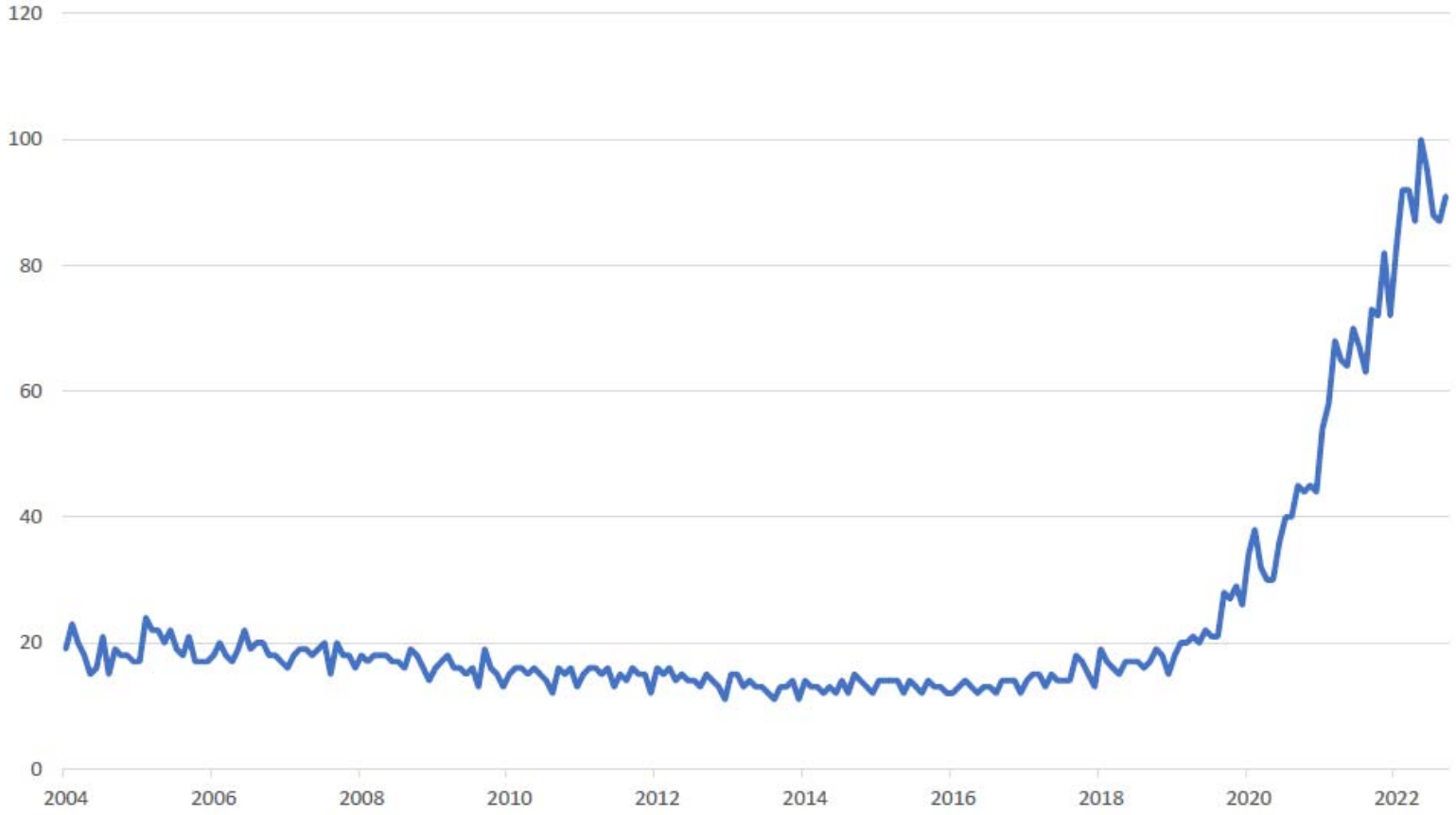
› Background and Topics of Sustainability and ESG

› Theoretical Insights for Business Valuations (BV)

› Empirical Evidence

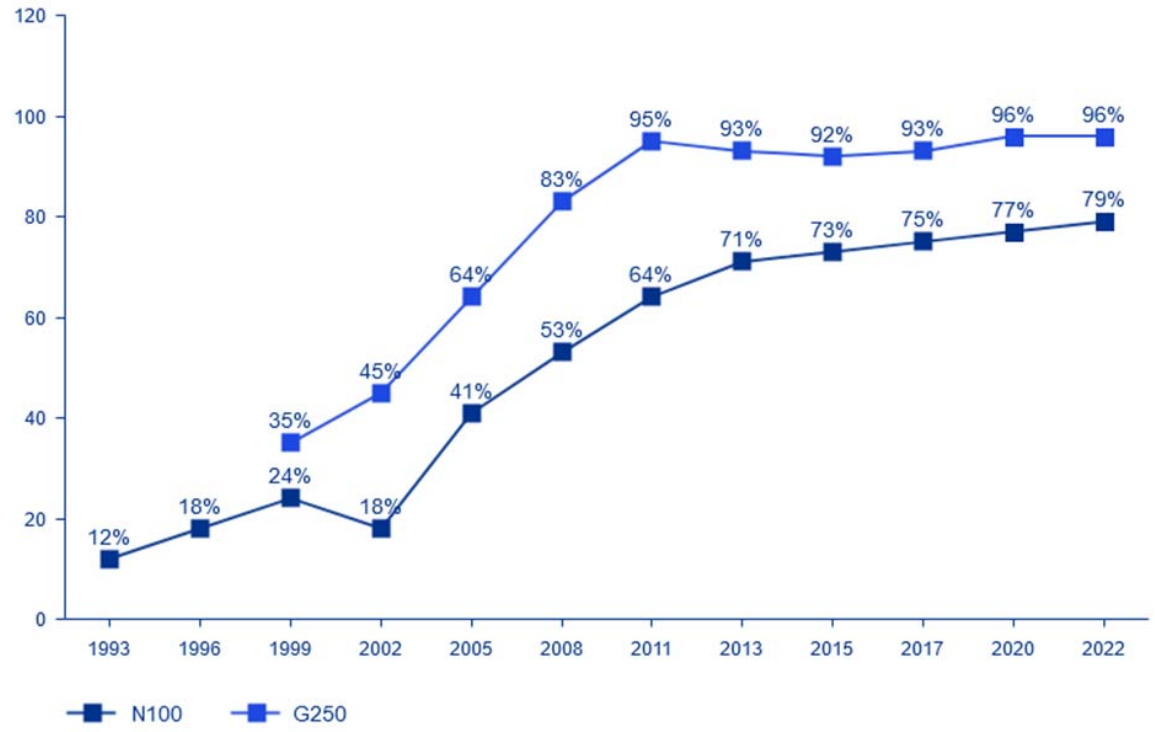
› Upcoming Challenges

1st Thesis: ESG Hype (1) (World wide Google Search per August 2022)



1st Thesis: ESG Hype (2) (KPMG Survey (2022), p. 13)

Global sustainability reporting rates (1993–2022)



Base: 5,800 N100 companies and 250 G250 companies
Source: KPMG Survey of Sustainability Reporting 2022, KPMG International, September 2022

1st Thesis: ESG Hype (3) (KPMG Survey (2022))

- G250 = World's 250 largest companies by revenue based on 2021 Fortune 500 ranking => upper curve
- N100 = worldwide sample of top 100 companies by revenue in 58 countries, territories and jurisdictions => lower curve

1st Thesis: ESG Hype (4) (KPMG Survey (2022), p. 16)

Figure 4: Countries, territories and jurisdictions with sustainability reporting rates higher than 90 percent (2022)

Base: 5,800 N100 companies

Source: KPMG Survey of Sustainability Reporting 2022, KPMG International, September 2022

2nd Thesis: ESG Drives Performance

› Whelan et al. (2021). ESG and Financial Performance. Uncovering the Relationship by *Aggregating Evidence from 1,000 Plus Studies* Published between 2015 – 2020.

- *"Notably, very few studies found definitive negative correlations between ESG and financial performance."* (p. 10)
- While studies were lacking to explain why these relationships exist, ESG consideration appears to have a fundamentally positive effect on financial performance

› Comparable study of Friede et al. (2015) exists

3rd Thesis: ESG Drives Business Value

› Strategy-oriented ESG consideration

- ❖ Increases future cash flows
- ❖ Reduces cash flow risk and cost of capital
- ❖ Increases share prices and/or multiples via reputation building

4th Thesis: Presupposition Thesis

› To (really) accept the last thesis, we have to be able

- ❖ to describe ESG factors qualitatively precisely & can quantify them sufficiently
- ❖ to define rules to manage trade-offs between E, S & G
- ❖ to master sophisticated statistical methods

ESG Factor?

BECK = NO 2 OF GERMAN BEER MARKET

BREWED WITH **100%** RENEWABLE ELECTRICITY

Background and Topics of ESG (1)

- Key players besides individual state legislation or national standard-setters
  - UN
  - NGOs
  - EU
- Main topics
  - Environment and climate (nature)
  - Investments and finance (strategy)
  - Non-financial reporting (accounting & auditing)

Background and Topics of ESG (2)

1987 World Commission on Environment and Development (Brundtland Commission)

1997 Foundation of Global Reporting Initiative (GRI)

1999 First Draft of Sustainability Reporting Guidelines

2004 ESG developed as acronym in a report by 20 financial institutions

2006 ESG Issues mentioned in UN‘s Principles for Responsible Investment

Background and Topics of ESG (3)

2014 EU Directive on Non-financial Reporting (NFRD)

2015 UN Paris Agreement: Treaty on Climate Change Adopted by 196 Parties (limit global warming to well below 2, preferably to 1.5 degrees Celsius)

2015 UN 2030 Agenda: Transforming our World for Sustainable Development (Definition of 17 goals)

Background and Topics of ESG (4)

2018 EC's Action Plan on Sustainable Finance (3 goals, 10 measures, incl. *Taxonomy*)

2021 EC's Draft of Corporate Sustainability Reporting Directive (CSRD), last version in 2022

2021 Creation of International Sustainability Standards Board (ISSB) by IFRS Foundation Trustees

ESG Topics

Environmental	Social	Governance
▪ *Climate policies* ▪ Energy, waste and pollution prevention & control ▪ Sustainable use & protection of water ▪ Transition to a circular economy ▪ Natural resource conservation ▪ Protection, restoration of biodiversity & ecosystems	▪ *Relationships with stakeholders* ▪ Workplace conditions, employees‘ health & safety ▪ Salary, career, pensions ▪ Diversity, equity, inclusion ▪ Company holds suppliers to own ESG standards ▪ Company takes no unethical advantage of customers	▪ *Compliance* ▪ Accurate & transparent reporting ▪ Integrity & diversity in leadership selection ▪ No conflicts of interest in choice of board members & executives ▪ No political contributions to obtain preferential treatment ▪ No engagement in illegal conduct

Big words

› "Anyone who doesn't take sustainability seriously enough won't get any more money from investors in ten years. They will disappear from the market."

Christian Sewing, CEO of Deutsche Bank,

Frankfurt Euro Finance Summit,

June 2021

› CONCLUSION: *ESG relevance is based on strategy implications for companies, their future business models*

Theoretical Insights for BV (1)

- Professional business valuations are (at least) based on
  - Knowledge of valuation purpose and legal requirements
  - *Understanding of the valuation object's business model in the past and in the future, after expected transformation*
  - SWOT analysis
  - *DCF methods* (FTE, APV, WACC)
  - Testing DCF result with market cap or multiples

- My first question is: *What are analytical results of ESG consequences for business valuation by DCF methods?*

Theoretical Insights for BV (2)

- An ESG-oriented strategy doesn‘t change the DCF method, but might influence its input
- Cash flow consequences may result from
  - Balancing all ESG components or prioritizing one component
  - ESG-oriented investments
  - ESG-oriented returns on investment
  - Competitive behaviour & benefit duration (if any) => terminal value
  - Company classification by EU Taxonomy and ESG ratings
- All these factors are company-specific, at most industry-dependent, but cannot be recorded in general terms

Theoretical Insights for BV (3)

- Capital cost consequences may result from
  - EU Taxonomy assignment
  - ESG ratings
  - Change of market (portfolio) return
  - Change of beta
  - Change of leverage
- Again, these points are expected to be company-specific

Theoretical Insights for BV (4)

› **EU Taxonomy** = classification scheme for specific economic activities to evaluate EU's environmental objectives

- Corporate activities shall be qualified as (i) contributing substantially to climate change mitigation, (ii) enabling such a mitigation or (iii) transitional
- Companies must disclose (i) EU taxonomy-compliant share of turnover, (ii) CapEx share and (iii) OpEx share both aligned with EU taxonomy
- *Class assignment is influenced by politics (cf. debate about fossil gas and nuclear energy)*
- *Classification is very detailed (137 disclosure requirements with 600 to 700 data points), but cannot present the breadth of business activity*

Empirical Findings (1)

› ESG ratings create problems because of great diversity

Table 1: BDO's correlations between ESG ratings providers

%	MSCI	S&P	Sustainalytics	CDP	ISS	Bloomberg
MSCI		35.7	35.1	16.3	33.0	27.1
S&P	35.7		64.5	35.0	13.9	74.4
Sustainalytics	35.1	64.5		29.3	21.7	58.4
CDP	16.3	35.0	29.3		7.0	44.1
ISS	33.0	13.9	21.7	7.0		21.3
Bloomberg	37.1	74.4	58.4	44.1	21.3	

Source: Aronsohn (2022), p. 31, Prall (2021), cross section of over 400 companies across 24 industries

Empirical Findings (2)

Table 3. Correlations between ESG Scores. This table presents the correlations of all four subsamples: Eurozone, U.K., Japan, and the U.S. We use MSCI's IVA Industry Weighted score, Sustainalytics' ESG Risk Ratings, Refinitiv's TRESG score, RepRisk's Reputation Risk Index (RRI), Truvalue Labs' Insight Score (TVL), Moody's Global score, S&P Global's ESG score, and ISS's Numeric ESG Overall Rating. We multiplied Sustainalytics' and RepRisk' scores by -1 and added 100 so that a higher value corresponds to a better ESG performance for all ratings.

	ISS	Moody's	MSCI	Refinitiv	RepRisk	Sustainalytics	S&P Global	TVL
Eurozone								
ISS	1							
Moody's	0.65	1						
MSCI	0.47	0.50	1					
Refinitiv	0.56	0.63	0.42	1				
RepRisk	-0.24	-0.35	-0.07	-0.43	1			
S&P Global	0.50	0.59	0.39	0.63	-0.43	1		
Sustainalytics	0.26	0.31	0.39	0.23	0.18	0.22	1	
TVL	0.24	0.17	0.21	0.06	0.10	0.05	0.06	1
U.K.								
ISS	1							
Moody's	0.68	1						
MSCI	0.35	0.23	1					
Refinitiv	0.62	0.56	0.21	1				
RepRisk	-0.29	-0.31	0.05	-0.38	1			
S&P Global	0.55	0.64	0.18	0.68	-0.37	1		
Sustainalytics	0.23	0.18	0.39	0.10	0.17	0.16	1	
TVL	-0.02	-0.09	0.15	-0.04	0.30	-0.17	0.09	1

› Source: Berg et al. (2022), p. 9.

Empirical Findings (3)

- Larcker et al. (2022) state:
  - "We find that while ESG ratings providers may convey important insights (…), *significant shortcomings exist* in their objectives, methodologies, and incentives which detract from the informativeness of their assessments." (p. 1)
  - *Different objectives:* Investors' help for "doing good" vs. "company's support for risk mitigation"
  - *Different measures:* "FTSE Russell (…) uses 300 indicators. Refinitiv uses 630 ESG metrics. S&P Global uses 1,000 (..) data points."
  - *Important decisions:* "One is assessing materiality. (…) Another (…) is how to deal with missing data. (…) A related decision is how to standardize variables when they are reported differently (…). Finally, the ratings provider must decide how to weight both the variables in their importance to E, S, and G, and also the overall pillars of E, S, and G in relation to one another." (p. 4)

Empirical Findings (4)

- Christensen et al. (2022) state:
  - Corporate disclosure does not reduce the divergence of ESG ratings but increases it
  - "(...) due to the subjective nature of ESG information (...) higher disclosure would be associated with higher disagreement, as disclosure expands opportunities for different interpretations of information." (p. 148)
  - *"This suggests that greater corporate disclosure requirements of environmental and social data might not lead to more consistent ESG ratings. In this way, ESG ratings might be similar to equity analyst ratings, where the rating is ultimately dependent on the interpretation of information rather than its availability."* (Larcker et al. (2022), p. 6)

Empirically based criticism of ESG ratings

› "Socially responsible divestment reduces aggregate sustainable performance when investors use ESG ratings. Due to information asymmetries, socially responsible investors shift their portfolios towards firms with high ESG ratings rather than firms with exemplar sustainable performance. *We causally show that this provides incentives for firms to reduce their cost of capital by inflating their ESG ratings*. Consequently, ESG rating inflation is so prominent that (...) ratings are inversely related to sustainable performance because promises of sustainable performance improvements do not materialize up to 15 years in the future. *Accordingly, the ESG-rating-based divestment portfolios are less sustainable than the market portfolio. Therefore, divestment hinders rather than helps societal welfare.*" (Bams/van der Kroft (2022), Abstract)

Conclusions (1)

1. DCF inputs may be changed by following an ESG-based strategy, but clear analytical results are lacking
2. One can only assume that they will be strongly company-dependent, while generalizable results must be absent
3. Valuers must place special emphasis on analyzing the future business model of the valuation object and the associated consequences among competitors
4. Equally important appears to be the strategy perception among stakeholders, which is influenced by the taxonomy and ratings

Empirical Evidence

- ESG/CSR profile and activities are shown to be strongly related to the firm's
  - market
  - leadership and owner characteristics
  - risk
  - performance
  - value
- My second question is: *What are sound empirical results of ESG consequences for business valuation by DCF methods?*

ESG & Financial Performance (1)

Positive correlation	Mixed or no results	Methodological criticism
Whelan et al. (2021): "very few studies found definitive negative correlations between ESG and financial performance" Friede et al. (2015): "Roughly 90% of studies find a nonnegative ESG–CFP relation. (…) the large majority of studies reports positive findings."	Atz et al. (2021): "we did *not* find an outsized financial return for ESG strategies" Halbritter/Dorfleitner (2015): "The results suggest that investors should no longer expect abnormal returns by trading a difference portfolio of high and low rated firms with regard to ESG aspects."	Krahnen et al. (2021): "the observed outperformance of so-called 'green' (…) investment strategies can be traced back to a *portfolio composition that systematically selected ex post winners*, namely, those stocks that were positively surprised by the climate-concern shock. *Scrupulous empirical research tries to avoid this form of hindsight bias."* - Pastor et al. (2022) deliver details.

ESG & Financial Performance (2)

Positive correlation	Methodological criticism
Yu/Zhao (2015): "This paper aims to examine whether capital market rewards firms with good corporate sustainability practices in an international setting by using the Dow Jones Sustainability Index (...) as an integrated measure of firm sustainability performance. (...) The authors find a *positive relation between sustainability performance and firm value* (...)."	It is unlikely that the chosen index is a good measure of sustainability. The largest companies in the world are represented in it. In addition, it is unlikely that Tobins Q (sum of market value of equity, short-term debt and long-term debt divided by total assets) is a good measure of firm value.

ESG & Risk

Negative correlation	Mixed results
Gillan et al. (2021): "With regard to risk and cost of capital, with a few exceptions, the empirical evidence generally supports the view that higher ESG/CSR attributes lower both." Giese et al. (2019): "(…) companies' ESG information was transmitted to their valuation and performance, both through their systematic risk profile (lower costs of capital and higher valuations) and their idiosyncratic risk profile (higher profitability and lower exposures to tail risk)." *(no details)*	Sassen et al. (2016): "By performing fixed effects regressions with clustered standard errors at the firm level, we provide evidence that social performance lowers firm risk. (…) environmental performance generally decreases idiosyncratic risk, whereas it has a negative effect on total and systematic risk in environmentally sensitive industries only. However, we have been unable to detect significant results for corporate governance performance."

ESG & Equity Cost (1)

Negative correlation	Mixed results
Gonçalves et al. (2022): "This study examines the association between firms' (…) (ESG) performance and the cost of capital for the largest European firms listed on the STOXX Euro 600 in a large panel from 2002 to 2018. We find that ESG is priced by both debt and equity markets, although in different directions. *While better ESG performance is associated with a lower cost of equity, the relationship is positive regarding the cost of debt*."	Khanchel/Lassoued (2022): "the three dimensions do not have the same effect. Governance disclosure decreases the cost of capital during the first years, and in later years, the effect becomes positive. Over time, social disclosure increases the cost of capital. However, environmental disclosure shows a negative and significant effect on the cost of capital during the first years but no significant effect later in time. Our results contribute to explaining the *dynamic effect of CSR disclosure*."

ESG & Equity Cost (2)

Negative correlation	Mixed results
Lodh (2020): "Companies with high ESG scores, on average, experienced lower costs of capital compared to companies with poor ESG scores in both developed and emerging markets during a four-year study period. The cost of equity and debt followed the same relationship." *(no details)* Pellegrini et al. (2019): "(...) firms with higher ESG Scores exhibit cheaper equity financing. Our findings suggest that for a 10% increase in the ESG Overall Score, the cost of equity of firms declines by 134 bps." (Oil & Gas sector, *no details)*	Ramirez et al. (2022): "there is an inverse effect relationship between ESG scores and the cost of capital. Additionally, *we did not find a relationship between the Social Pillar score and the Environmental Pillar score with the cost of capital*. By contrast, the Governance Pillar score shows a negative relationship with the cost of capital."

ESG & Equity Cost (3)

Negative correlation	Positive correlation
Ng/Rezaee (2015): "(ESG) is negatively associated with cost of equity, but only growth and research (environmental and governance) sustainability performance dimensions contribute to this relationship." Dhaliwal et al. (2011): "(…) firms with a high cost of equity capital in the previous year tend to initiate disclosure of CSR activities in the current year and (…) initiating firms with superior social responsibility performance enjoy a subsequent reduction in the cost of equity capital."	Chava (2014): "I find that investors demand significantly higher expected returns on stocks excluded by environmental screens (such as hazardous chemical, substantial emissions, and climate change concerns) compared to firms without such environmental concerns. Lenders also charge a significantly higher interest rate on the bank loans issued to firms with these environmental concerns."

ESG & Equity Cost (4): Badreldin/Nietert (2022)

Methodological warning
„(...) our paper has three objectives: first, to bring the theoretical ESG cost of capital formulas into an empirically implementable form; second, to prove analytically that regression- and theory-based cost of capital diverge; third, to empirically analyze both the statistical and economic significance of the differences between regression- and theory-based cost of capital. *(...) we demonstrate that the cost of capital differences between regression- and theory-based cost of capital are both statistically and economically significant, where neither the sign nor the size of cost of capital differences can be forecasted with the help of different ESG rating methodologies or stock characteristics.*
Hence, theory-based cost of capital should always be employed even though they are more tedious to implement empirically."

Conclusions (2)

1. How ESG strategies affect company performance, risk, and cost of capital is fairly unclear
2. Many studies have methodological problems or do not reveal details about their technical approach
3. Empirical evidence suffers not only from methodological shortcomings, but also from the diversity and ambiguity of ESG indicators and their dynamic evolution
4. The conclusion cannot be that there is no relationship between ESG strategy and business valuation. Rather, it is to look for it on a company-specific basis. In a sense, ESG is a strategy factor like many others.

Upcoming Challenges

1. There is regulatory competition, advisory competition, and an information (or better: data) overload
2. Sustainability and ESG (not only beauty) is in the eye of the beholder*
3. SEC, EU, national governments, international standard setters (like ISSB, supported by GRI, EFRAG or ESMA), enforcement agencies etc. are not pulling in the same direction, but create huge compliance and reputational risks for companies
4. HOW TO DEAL WITH IT IN A SUSTAINABLE WAY?

*cf. Burzer et al. (2022); Christensen et al. (2022)

Literature (1)

- Aronsohn, A. (2022). Unlocking the Value of ESG. The European Business Valuation Magazine, 01/2022, 26-36.
- Atz, U./Liu, Z./Bruno, C.C./Van Holt, T. (2021). Does Sustainability Generate Better Financial Performance? Review, Meta-analysis, and Propositions. Version: 2021-08-31. SSRN-d3708495.pdf.
- Badreldin, A./Nietert, B. (2022). Cost of Capital for ESG and Non-ESG-Stocks: Regression- versus Theory-based Approaches. June 08, 2022. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4131385
- Bams, D./van der Kroft, B. (2022). Divestment, informations asymmetries, and inflated ESG ratings. SSRN Working Paper, June 7, 2022.
- Berg, F./Kölbel, J.F./Pavlova, A./Rigobon, R. (2022). ESG Confusion and Stock Returns: Tackling the Problem of Noise. October 6, 2022. SSRN-id3941514.
- Burzer, J./Knoll, L./Lorenz, D. (2022). ESG und deutsche Aktien: Liegt die Nachhaltigkeit im Auge des Betrachters? Der Betrieb. 75 (30), 1721-1729.

Literature (2)

- Chava, S. (2014). Environmental Externalities and Cost. Management Science. 60(9), 2223-2247.
- Christensen, D./Serafeim, G./Sikochi, A. (2022). Why Is Corporate Virtue in the Eye of the Beholder? The Case of ESG Ratings. The Accounting Review, 97 (1), 147–175.
- Dhaliwal , D.S./Li, O.Z./Tsang, A./Yang, Y.G. (2011). Voluntary Nonfinancial Disclosure and the Cost of Equity Capital: The Initiation of Corporate Social Responsibility Reporting. The Accounting Review, 86 (1), 59-100.
- Friede, G./Busch, T./Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 210–233.
- Giese, G./Lee, L./Melas, D./Nagy, Z./Nishi-kawa, L. (2019). Foundations of ESG Investing: How ESG Affects Equity Valuation, Risk, and Performance. MSCI The Journal of Portfolio Management, 45 (5).
- Gillan, S.L.,/Koch, A./Starks, L.T. (2021). Firms and Social Responsibility: A Review of ESG and CSR Research in Corporate. Journal of Corporate Finance. 66, February 2021, https://doi.org/10.1016/j.jcorpfin.2021.101889.

Literature (3)

- Gonçalves, T.C./Dias, J./Barros, V. (2022). Sustainability Performance and the Cost of Capital. International Journal of Financial Studies. 10, 63. https://doi.org/10.3390/ijfs10030063
- Halbritter, G./Dorfleitner, G. (2015). The wages of social responsibility — where are they? A critical review of ESG investing. Review of Financial Economics. 26, 25-35.
- Khanchel, I./Lassoued, N. (2022). ESG Disclosure and the Cost of Capital: Is There a Ratcheting Effect over Time? Sustainability. 14(15), 1-19.
- KPMG (2022). Big shifts, small steps. Survey of Sustainability Reporting 2022. October 2022, https://assets.kpmg/content/dam/kpmg/xx/pdf/2022/10/ssr-small-steps-big-shifts.pdf
- Krahnen, J. P./Rocholl, J./Thum, M. (2021). A primer on green finance: From wishful thinking to marginal impact. SAFE White Paper No. 87, October 2021.
- Larcker, D.F./Pomorski, L./Tayan, B./Watts, E.M. (2022). ESG Ratings. A Compass without Direction. SSRN-id4179647.
- Lodh, A. (2020),. ESG and the cost of capital, https://www.msci.com/www/blog-posts/esg-and-the-cost-of-capital/01726513589

Literature (4)

- Ng, A.C./Rezaee, Z. (2015). Business sustainability performance and cost of equity capital. Journal of Corporate Finance. 34, 128–149.
- Pastor, L./Stambaugh, R.F./Taylor, L.A. (2022). Dissecting green returns. Journal of Financial Economics. 146, 403-424.
- Pellegrini, C.B./Caruso, R./Mehmeti, N. (2019). The impact of ESG scores on cost of equity and firm's profitability. New Challenges in Corporate Governance: Theory and Practice, 38-40.
- Prall, K. (2021). ESG Ratings: Navigating Through the Haze. Blog posting at CFA Institute (August 10, 2021), https://blogs.cfainstitute.org/investor/2021/08/10/esg-ratings-navigating-through-the-haze/
- Ramirez, A.G./Monsalve, J./González-Ruiz, J.D./Almonacid, P./Peña, A. (2022). Relationship between the Cost of Capital and Environmental, Social, and Gover-nance Scores: Evidence from Latin America. Sustainability 2022, 14, 5012.
- Sassen, R./Hinze, A./Hardeck, I. (2016). Impact of ESG Factors on Firm Risk in Europe. Journal of Business Economics. 86, 867-904.

Literature (5)

- UN, Financial Sector Initiative (2004). Who Cares Wins.
- Whelan, T./Atz, U./Van Holt, T./Clark, C. (2021). EASG and Financial Performance. Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015 – 2020. NYU/Stern Center for Sustainable Business.
- Yu, M./Zhao, R. (2015). Sustainability and firm valuation: an international investigation. International Journal of Accounting and Information Management. 23 (3), 289-307.