

Title: Exploring Social Origins in the Construction of ESG Measures

Working Paper

Robert G. Eccles and Judith C. Stroehle¹

Saïd Business School, University of Oxford

Abstract

As both demand and supply for information about companies' sustainability performance continues to grow, many investors complain that the ESG data universe is getting too complex and confusing. Several studies have shown how rating agencies and data vendors display very little agreement on how to construct and use ESG measures. While commending these findings, we argue that only studying how data diverges is missing the insights of a more substantial question about the why of this divergence. Taking a lens of "social construction", we thus set out to explore the differences between ESG measures as a function of (a) data vendors' diverse social origins and (b) their necessity to create a unique profile in a maturing market. Examining five cases of eight interconnected ESG data vendors and rating agencies, we thus show how the origin of each company (their founding principles, legal status, purpose, etc.) strongly influences its conception of sustainability, definition of materiality, and by extension, the way ESG issues are measured and sold. We find that data vendors can be characterized into groups of value- vs values-based organizations, and that dynamics of consolidation on the ESG market and the mainstreaming of ESG data use are linked to a shift from values- to value-driven investors in the ESG space. Finally, the paper highlights pathways into a new ESG research agenda which explores the impact of the here examined origins of metrics.

Introduction

Whereas companies' disclosure of financial information is well-defined through national and international accounting standards, disclosure of non-financial data, mostly referred to as environmental, social, and governance (ESG) information, remains highly unorganized, without universally accepted standards to refer to. Still, the demand for non-financial disclosure is rising rapidly, especially to inform what is often referred to as responsible, impact, or ESG investing². The 59 trillion US Dollars in assets under management by signatories to the United

¹ Prof Robert G. Eccles is Visiting Professor of Management Practice at Saïd Business School, University of Oxford (contact: Robert.eccles@sbs.ox.ac.uk) and Dr Judith C. Stroehle is a Postdoctoral Researcher at Saïd Business School, University of Oxford (contact: Judith.stroehle@sbs.ox.ac.uk).

² Terminology here remains vague and confusing and there are a number of different strategies that fall under these broad umbrella terms. For example, Eurosif has identified seven responsible investment strategies: best-in-

Nation's Principles for Responsible Investment (PRI) is only one point of evidence on how large the demand for ESG data is (PRI, 2016). On the data supply side, for example, the providing platform Bloomberg registered a fourfold increase in the use of ESG data on their platform between 2010 and 2015 (Bloomberg, 2015). And as the empirical evidence grows that positive ESG performance is related to positive financial performance, and that incorporating material ESG data in investment decisions can contribute to superior returns, the demand for high quality and comparable ESG data will likely continue to grow (Beal et al. 2017; Khan, Serafeim and Yoon, 2016; Eccles, Ioannou and Serafeim, 2014).

An ever-growing universe of ESG standard setting NGOs and commercial data vendors is looking to meet this demand, offering to address information asymmetry about non-financial concerns between companies and investors by supplying related information and creating ratings (Doh et al, 2010). And although some organizations have been created with the explicit goal to standardize nonfinancial reporting³, most ESG metrics are very diverse in application (used to create corporate reports, rankings, various portfolio ratings, and sustainability indices, etc.) and in terms of indicators measured, methodology used, and weights applied (Chatterji et al. 2016). There is consequently a deep disconnect between standard setting attempts and the data that are actually provided, and different vendors can have diverse assessments of a company's nonfinancial performance on the same issue. This is partly due to the difficulty of capturing fuzzy concepts, such as sustainability.⁴ Such differences are important because they can lead to significantly diverse ratings and associated recommendations, creating a confusing data universe which may overwhelm and even misinform investors and generally undermines the credibility of ESG disclosure (Delmas, Etzion, and Nairn-Birch, 2013).

Both in academia and in the capital markets, the fact that data vendors do not agree is a much-discussed issue (Gray, 2010; Margolis and Walsh, 2003). However, even though studies seek to address whether ESG issues are measured correctly (Chatterji et al. 2016; Delmas et al., 2013; Sharfman, 1996), and increasingly, NGOs and consultancy firms attempt to organize this universe for their significant audiences by offering ESG ecosystem maps (BrownFlynn, 2018) or reports which "Rate the Raters" (SustainAbility, 2018), there is very little discussion about

class, engagement & voting, ESG integration, exclusions, impact investing, norms-based screening, and sustainability-themed. <https://www.eurosif.org/responsible-investment-strategies/>, accessed March 2018.

³ Most notably the Global Reporting Initiative (GR) and the Sustainability Accounting Standards Board (SASB)

⁴ One group addressing this issue is the "Aggregate Confusion" research project at the MIT Sloan School's Sustainability Initiative, <http://mitsloan.mit.edu/sustainability/aggregateconfusion>, accessed March 2018.

why there is so little agreement on how to capture ESG performance. Addressing this issue is the focus of this paper.

We recognize that there are technical reasons for the differences between ESG ratings and rankings, such as methodological differences in the way they are assembled. Our aim is to understand the underlying reasons for these technical differences by considering contextual factors, such as diverse local environment and motives for creating these metrics. Based on this, we argue that there is no “correct” technical solution to measure ESG and that differences have to be seen as a function of diverse origins rather than simply diverse measurement.

Making use of the concept of “social construction”, we will explore the history and social origin of nine diverse ESG data and analytics organizations, who have partly merged or been acquired by one another: Vigeo-EIRIS, KLD, MSCI, ISS-oekom, Sustainalytics, Morningstar, and GES International. To understand how each data vendor shapes ESG, we will look at a) the dimensions used to define sustainability, b) the definition of materiality, and c) data vendors’ specific service offerings and methodologies and link these dimensions to the social origins (founding members, legal status, geography etc.) of our cases. By doing so, we hope to inform the academic debate about the origins of ESG metrics and outline how these origins potentially inhibit convergence. Finally, social origins also allow us to explain diversity in ratings and give guidance to data users, on how to better contextualize the differences between ESG sources.

The Complex World of ESG

The ecosystem of organizations that provide ESG data is vast and products offered range from a wide variety of overall rating scores (sometimes including sub-dimensions), ratings on specific issue areas, overall rankings of companies based on specific scores, as well as tools providing evaluation of companies’ ESG performances⁵. According to the Global Initiative for Sustainability Ratings⁶, over 100 organizations are collecting data, analysing, and rating or ranking company ESG performance today (GISR, 2018). The origins of these organizations can be traced back to the late 1970s (Friede et al, 2015), when sustainability issues first entered the considerations in the capital market, often driven by NGOs who were seeking to inform

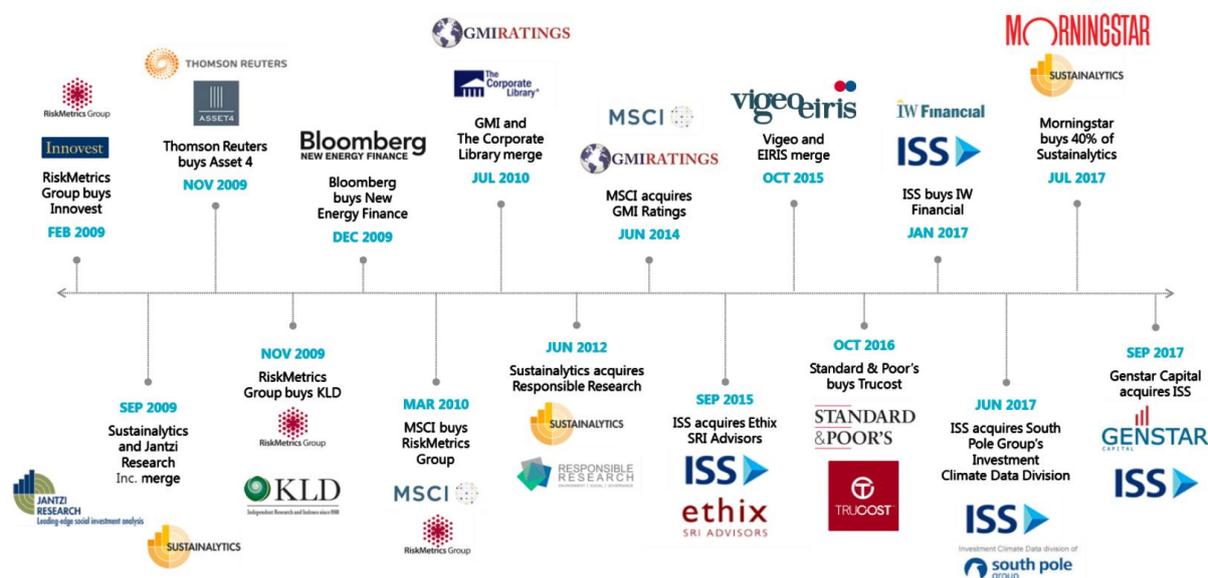
⁵ For a review of this ecosystem see “The ESG Ecosystem” Understanding the Dynamics of the Sustainability Ratings & Rankings Landscape,” by Barb Brown and Mike Wallace, Brown Flynn, February 2018.

⁶ <http://ratesustainability.org/about/why-gisr/>, accessed April 2018.

investors about companies' involvements in controversial issues such as nuclear weapons development or Apartheid South Africa⁷.

Even though there has been substantial consolidation of rating agencies over the course of the last 30 years (see Figure 1), the diversity of these data vendors remains impressive. Some of these organizations are for profit, others are non-profit, and some have a subject matter focus, such as climate (e.g., the former Carbon Disclosure Project, CDP⁸) or human rights (e.g., Corporate Human Rights Benchmark), while others focus on the entire range of issues covered under ESG. Increasingly, data vendors also diversify their service offering, moving away from only selling data and research to investors, to offering consulting services and including multiple technology and management solutions in their portfolio, such as application programming interfaces (APIs) that feed ESG data directly onto corporate servers or advise on ESG integration⁹ into wider investment strategies and engagement. Additionally, data vendors increasingly face pressures to grow and internationalize the universe of companies they cover, as data users seek ever larger quantities of data to benchmark their analyses. A trend which supports consolidation and benefits larger data vendors.

Figure 1: Recent History of ESG Data Vendor Consolidation



Source: Figure from Brown Flynn (2018): The ESG Ecosystem Understanding the Dynamics of the Sustainability Ratings & Rankings Landscape, p. 6.

⁷ The EIRIS Foundation is a good example of this value driven approach to responsible investment research. Founded in the early 1980s by a group of churches and charities, the foundation focussed on the need for research to help them with their concerns about investing in companies contributing to Apartheid South Africa (<http://www.eirisfoundation.org/who-we-are/history/>).

⁸ <https://www.cdp.net/en>, accessed April 2018.

⁹ ESG integration is generally seen as the strategy on how to embed environmental, social and governance considerations into wider business strategies, operations and product and service offers. See <https://www.unpri.org/listed-equity/a-practical-guide-to-esg-integration-for-equity-investing/10.article>

Depending on the topic and geographical focus, data vendors collect the ESG information needed for rating periodically (usually annually) and in a variety of ways. They use surveys to companies, analyses of company documents (e.g., sustainability reports), interviews with company personnel and other stakeholders (such as trade unions, NGOs, etc.), and, increasingly, natural language processing and artificial intelligence technologies to scrape the web of unstructured data (e.g., TruValue Labs). Some also collect surveys to individuals to capture perceptions of companies along various dimensions (e.g., Corporate Human Rights Benchmark, Ethisphere, JUST Capital, and Reputation Institute). Data will be used in different ways to create a specific range of indicators, representing qualitative and quantitative data dimensions, frameworks, and conventions which data vendors design. Each vendor has their own trade-marked methodology to sell data with a specific value proposition. However, since transparency about indicators and methodologies used is low, the distinct contribution of diverse methodologies is not always obvious.

Additionally, there is a wide range of organizations which use data from these ESG data vendors to create their own rankings and aggregate index solutions. Mainstream data vendors like Bloomberg and Thomson Reuters are distribution channels for these ratings, alongside a wider offering of financial information, such as prices on stocks and other securities. Organizations such as CSR Hub¹⁰ and the recently formed World Benchmarking Alliance¹¹ serve as aggregators of data from a variety of sources. In specific cases, non-data selling organizations may use surveys to collect their own data. RobecoSAM¹², for example, is a sustainability investing asset manager with \$120 bn. in assets under management¹³ which invites 3400 companies every year to answer their questionnaire. Instead of selling the data, insights are used for in-house investment decisions and to create indices, of which the best-known is the Dow Jones Sustainability Indices (DJSI). Also, the NGO CDP collects its own, survey-based data¹⁴.

In some instances, aggregate data sources and sustainability indices can be more credible to investors than the rankings from data vendors themselves - even though they may be based on

¹⁰ Provides “transparent ratings and rankings of 17,913 companies from 133 countries, driven by 556 industry-leading CSR/ESG data sources”, <https://www.csrhub.com/>, accessed March 2018.

¹¹ Aviva, the UN Foundation, BSDC11, and Index Initiative are in the consultation phase of the World Benchmarking Alliance “to develop, fund, house and safeguard free publicly available corporate sustainability benchmarks aligned with the SDGs”, <https://www.worldbenchmarkingalliance.org/>, accessed March 2018

¹² <http://www.robecosam.com/>, last accessed April 2018.

¹³ <http://www.robecosam.com/en/about-us/about-robecosam.jsp>, last accessed April 2018.

¹⁴ Including the answers of some 6400 companies outlining their environmental risk processes, they align their information request with the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD) <https://www.cdp.net/en/companies-discloser/disclosure-in-2018>, accessed April 2018.

the same metrics. In 2012, a survey conducted by the NGOs SustainAbility and GlobeScan showed how leading sustainable development experts and practitioners perceive the credibility of sustainability ratings¹⁵. The four most credible ratings were the CDP (with 76% of respondents rating it credible), the Dow Jones Sustainability Index (63%), the Access to Medicine Index (AMI) (58%), and the FTSE4Good Index Series (55%). The latter two contain aggregate information from ESG data vendors: AMI exclusively uses data from Sustainalytics (whose inhouse ratings ranked only 10th with 49%) and FTSE4Good Index Series uses research services from Vigeo-EIRIS (with 35%, ranked 16th). Among the ratings of data vendors, Oekom's corporate ratings achieved the highest credibility (fifth place, 54%) and MSCI ESG Research (former KLD) ranked 8th with 50%.

As comparability of these data sources remains low¹⁶, but demand is at an all-time high, meta-ratings emerge to "Rate the Raters"¹⁷ (SustainAbility, 2018) and initiatives, such as the "ESG Ratings and Rankings Working Group" at the World Business Council on Sustainable Development (WBCSD), try to help companies understand and cope with the differences in ratings they receive. These meta-studies address investors' need for clarity about the large amount of ESG information they have to choose from. Companies, on the other hand, are overwhelmed with the large number of surveys they are asked to participate in every year, with almost 60% of companies getting 10 or more requests for surveys per year (Brown Flynn, 2018). The resulting "survey fatigue" may have negative effects on data quality in terms of representativeness and the accuracy of data given (ibid, 2018). ESG data disclosure may additionally be biased towards companies that have more capability to provide the information, such as larger companies, or those who are more inclined to put in the extra effort, such as from specific industries or regions¹⁸.

¹⁵ SustainAbility's Rate the Raters research periodically polled sustainability experts about key sustainability ratings, rankings and indices, with the first survey in 2010, the second in 2012 and this third survey in late 2013. In 2013, 702 qualified sustainability experts were drawn from: corporate, government, non-governmental, academic/research, service/media, and other organizations. Question: "How credible do you find the following ratings and rankings to be? Please use the 5-point scale provided, where 1 is "not at all credible" and 5 is "very credible" or choose "not familiar." Survey online available under https://globescan.com/wp-content/uploads/2017/07/Rate_the_Raters_2013-Polling_the_Experts-GlobeScan_SustainAbility-3.pdf, last accessed April 2018.

¹⁶ The MIT Sloan School has a research project called "Aggregate Confusion" that is addressing this issue of comparability (<http://mitsloan.mit.edu/sustainability/aggregateconfusion>, accessed March 2018). They have found correlations between different rating agencies to be as low as 10%.

¹⁷ Spearheaded by the NGO SustainAbility since 2010 (www.sustainability.com, accessed April 2018), the project tries to engage with experts in the field to assess which ratings and indices are most trusted, useful and know in the ESG community.

¹⁸ GS Sustain (2017) <https://lasolascap.com/images/Thoughts/17/GS%20Sustain%20-%20PMs%20guide%20to%20the%20ESG%20Revolution.pdf>, last accessed July 2018.

Seeking clarity within this complexity, several academic studies assess the validity of ESG data. Projects such as the MIT “Aggregate Confusion” project or studies such as Chatterji et al. (2016) and Delmas et al. (2013) attempt to document the alignment (or lack thereof) of social ratings from diverse sources. Using different methods and assessing diverse cases, they all arrive at the common conclusion that comparability within the ESG universe is low. In another, earlier effort to assess the data validity of ESG ratings for academic purposes, Sharfman (1996) compared KLD data and the *Fortune* magazine corporate reputation survey. Although correlations found between scores were not overwhelming (only about 50% of variance was explained), the study was able to show how the similarity between the ratings was inconsistent over time, revealing first evidence of data divergence between the examined providers as time progressed.

The common shortfall of these diverse assessments of ESG concept and data validity is that they all concern themselves with the question whether and how diverse ESG data sources differ, without focussing on the why. Since there are no measurement standards and reporting requirements for ESG information, the emergence of a variety of data vendors with diverse data, moving in to address the market need for information, is not at all surprising but a normal market-driven process of competitive differentiation. Furthermore, discussions on ESG data diversity are often fuelled by the underlying question of whether there is a ‘best’ solution to measuring ESG. However, since concepts used for the creation of ESG data are socially constructed, there is no objective right or wrong. Instead of looking for the ‘best’ source, users of these data will benefit more from understanding how social origins shape ESG data to assess how to best use it for their own needs (e.g., when producing their own social construction of investment decisions).

The Social Construction of Sustainability Ratings

In the literature on social evaluations of firms and organizations, the two preconditions for convergence of ratings are “common theorization” and “commensurability” (Chatterji et al, 2016). Theorization is the conceptual discourse raters produce (e.g., how food has to be to receive a Michelin star; Rao, Monin and Durand, 2003), whereas common theorization describes the shared beliefs raters would need to have about this discourse – so in our case, about what being socially responsible means. These shared views could decide which concepts and dimensions investors should care about or which industries are especially harmful (Chatterji et al, 2016). Commensurability, on the other hand, describes whether different raters

measure the same construct in a similar way (Sauder and Espeland, 2009). If both common theorization and commensurability are high, convergence is likely.

In a study focussed on assessing such likelihood of convergence, Chatterji et al, 2016 test common theorization and commensurability of six different ESG ratings¹⁹. After comparing conceptualization and measurement of all six social ratings, they conclude that neither common theorization nor commensurability exists in the ESG ratings world and that, due to this, convergence is unlikely to occur. We commend the effort made in this study; however, we argue that it is lacking one significant aspect in the assessment of inhibited convergence in the ESG ratings world: the social and contextual origin of social ratings.

For example, prior studies underline that raters actively distinguish themselves from one another in particular dimensions to establish recognizable identities on the market (Negro et al., 2011). We believe that the decision of how an organization positions itself on the market is however not random, but rather a function of its social origins. The impact of organizational origins on their views and behaviour has previously been studied in many different areas. In the literature on socially responsible investment for example, studies have explored whether social networks (e.g., common educational backgrounds of fund managers and CEOs) can explain mutual fund voting behaviour (Butler and Gurun, 2012) or whether cross-holdings of firms affect positive views on mutual funds (He, Huang, and Zhao, 2017). Further, Bolton et al. (2018) place institutional investors on a political / ideological scale from left (only caring about social returns) to right (only caring about economic returns) according to the patterns in their proxy voting records. Whereas this study does not attempt to explain where these differences come from, it illustrates how ideology and social belief play an important and increasing role on the capital market.

Other previous studies on social ratings have furthermore documented how firms may vary in the responses they give to one and the same rating systems due to diversity in their external environments (Crilly et al., 2012; Delmas and Toffel, 2008; Philippe and Durand, 2011). Organizations from the same industry and geographic location are thus likely to have similar organizational responses to common external challenges, such as industrial environmental management (Delmas and Toffel, 2008), as they relate to the same regulative, normative, and cognitive factors of a shared context (DiMaggio and Powell, 1983). Whereas we maintain the institutional approach within the strategic management research literature which highlights that the institutional pressures of social and cultural environments influence strategic decision

¹⁹ KLD, Asset4, Calvert, FTSE4Good, DJSI, and Innovest.

making of companies (Ingram and Silverman, 2002; Lounsbury, 2001), we also take into account Delmas and Toffel's (2008) work, building on Hoffman (2001), which suggests that organizations differ in how they receive and respond to these institutional pressures due to a diversity of elements in their external environments *and* due to the differences in the influence of their functional departments. In this view it is both, external environments and internal, organizational processes that affect how a company responds to market pressures.

As a consequence of the above, social and cultural environments will also affect the products companies offer to the market. We see that this is specifically the case in the companies we are interested in, ESG data vendors, as they offer products which rely on fuzzy concepts (such as sustainability) or require the construction of new concepts. Since the idea of social construction is attached to a whole world of theoretical legacy, we want to keep it rather simple when speaking in these terms. Social construction will mean for us nothing more than the process of creating new frameworks and measures which are infused with meaning by the company (which may in turn make reference to meaning that already exists, such as international conventions) and which an organization creates to address a specific market need (in our case, how to capture non-financial performance of companies, to include them in various evaluations of the same). We thus speak of the social origins of an organization as the decisive factor of how social construction takes place.

By conceptions of sustainability²⁰ we refer to how data vendors perceive and contextualize the purpose of ESG (data to inform the world vs. data to transform the world). A data vendor's mission or purpose statement will give a strong indication of this. It will also manifest in the dimensions which are being used to measure ESG and specific indicators selected to capture environmental, social and governance risks in a particular light. This can, for example, give light to preferences of one category over another (e.g., more environmental, less social) and specific types of measures (e.g., policy vs. performance related, qualitative vs. quantitative). The understanding of materiality reveals the way in which rating agents prioritize certain issues. The most commonly accepted concept of materiality recognizes that some information is more important to investors in making investment decisions than others²¹. Alternatively,

²⁰ The terms "sustainability", "corporate social responsibility" (CSR) or "environmental, social and governance" (ESG) have been used synonymously in the past, describing a firm's voluntary actions to manage environmental and social impact as well as positive contribution to society (Khan, et al 2016). In this paper we believe that an organization's understanding of the former two can influence the latter.

²¹ According to the U.S. Supreme Court, information is material if there is "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available." www.sasb.org/materiality/important/. Last accessed April 2018.

however, materiality can also be seen as an externality²². In the world of ESG, material issues are usually those that have the greatest impact on the firm's ability to create shareholder value (Eccles and Serafeim, 2013). Whether and how this principle of materiality is applied can have a significant influence on how measures are aggregated and weighted. In other words, efforts to capture materiality of ESG issues may lead to conceptual discrimination between material and immaterial issues, which often vary between industries (Khan, et al. 2016).

Finally, the products and services offered by a data vendor give essential clues about the mission and purpose of the organization, revealing its core value proposition and business strategy. Whereas early service offers and products may reveal the strategic origin and history of an organization, we believe that also the later product portfolio is a function of this origin which can offer interesting insights about the decisions taken on the way. Since an organization's strategic positioning will decide on its core audience and matters of interest, it may also significantly influence which metrics are being chosen, and how they are measured.

The Social Origins of ESG Metrics

This section contains a short study of our eight cases, briefly outlining their history and establishment (overview in table 1). It is followed by three sections in which we demonstrate how the social origins of these data vendors may influence concepts and measures of ESG. Our comparison will be focussed on three dimensions – conception of sustainability, definition of materiality, and service offering – and aim to reveal how each is influenced by the organization's' origins.

Vigeo- EIRIS

The origins of the Ethical Investment Research Services (EIRIS) Ltd. lead us to London in 1983 where a group of churches and charities set up a foundation to fund an independent research organisation which would help them make informed decisions on how to invest responsibly and avoid companies such as those involved in Apartheid South Africa. Inspired by problems revealed through the Campaign Against Arms Trade (exposing public councils, pension funds, charities, religious organizations etc. with investments in arms exporting companies²³), EIRIS's origins lie in consulting activities for NGOs (e.g., investment and campaign target screening) and charities (e.g., donor screening services)²⁴.

²² The Global Reporting Initiative (GRI) is for example an advocate of materiality as externality.

²³ EIRIS news release on <https://web.archive.org/web/20050412122421/http://www.eiris.org:80/Files/PressReleases/CharitiesandArms.pdf>. <https://www.caat.org.uk/campaigns/paying-the-price>, Last accessed April 2018.

²⁴ <https://web.archive.org/web/20000303163945/http://www.eiris.org:80/>, archived from 2000. Accessed April 18.

The research company Vigeo was created under French law in 2002, taking over the activities of Arèse, the first socially responsible investing (SRI) rating agency in France. The driving force behind this creation was Nicole Notat, the former secretary general of the French labour union CFTD²⁵ who was looking to set up an organization that would drive new CSR benchmarks for asset managers. In 2003, the Vigeo business expanded by launching its sustainability audit business for companies²⁶.

Table 1: Overview of Cases – Corporate history and establishment.

Dimension	Sustainalytics	Morning star	EIRIS	Vigeo	MSCI	KLD	Oekom	ISS	GES Internat.
Geography (HQ)	NL (Amsterd.)	US (Chicago)	UK (London)	France (Paris)	US (NYC)	US (Boston)	Germany (Munich)	UK (London)	Sweden (Stockholm)
Establishment	Merger of Jantzi Research (Canada), DSR (NL), Scoris DE and AIS (Spain).	Joe Mansueto creates start-up to provide private investment research.	Research Entity of EIRIS Foundation for churches and charities.	Created by N. Notat, president of French labour union	Founded by Morgan Stanley to take over indexing business of Capital Internat.	Created as social investment research business by Kinder, Lydenberg, & Domini.	IPO of Ökom GmbH, a German environmental ranking company	Started by Bob Monks to create more active voting behaviour	M. Furugård and Nyman, activists/economists, create CSR consulting firm Caring Capitalism.
Year	1992 (Jantzi)	1984	1983	2002	1986	1988	1993	1985	1992
Key Moment	2009: Creation of Sustainalytics	2010: 40% Acquisition of Sustainalytics	2005: Vigeo and Eiris merge into Vigeo-EIRIS		2010: Acquisition of KLD and creation of MSCI ESG Research		2018: Acquisition of Oekom and creation of ISS-oekom		2003: Branded as GES.
Company structure	Private shared capital.	Publicly traded on NASDAQ	Private: investors (62%), NGOs/ unions (24%) companies (14%)		Publicly listed on NYSE		Privately held by Genstar Capital		Private Limited Company.
Early business	Sustainability performance research	"Informing and empowering private investors"	Investment research for NGOs and churches.	Monitoring for investors and CSR Audits.	Pioneering the market for global equity indexes.	Performance benchmarks and RI research	Environmental rating.	Raise proxy voting of institut, investors.	CSR Consulting
Current business	ESG Data, Analytics and Services	Financial rating, asset management etc.	ESG Data and Analytics & Company Auditing		Financial rating, asset management etc.	ESG Data, Analytics and Services	Proxy Voting, ESG Data, Analytics and Services		Engagement Services

Source: Authors (2018). Information pooled from publicly available information on corporate websites, in corporate reports and other public company sources.

²⁵ Confédération Française Démocratique du Travail.

²⁶ <http://www.vigeo-eiris.com/vigeo-eiris/history/>, Last accessed April 2018.

In 2005, EIRIS and Vigeo merged into Vigeo-EIRIS, a private company of European scope with a wider range of service offerings not only for institutional investors and asset managers but also for private investors, NGOs, and Charities (more EIRIS) as well as public entities and companies (more Vigeo). After the merger, Vigeo-EIRIS counted about 80 employees and set up headquarters in Paris, France. Vigeo-EIRIS's body of shareholders contains asset managers and pension fund (46.86%), trade unions (26.74%) and corporations (26.40%) (Arista, 2015).

MSCI and KLD

KLD Research & Analytics, Inc. – formerly known as Kinder, Lydenberg, Domini & Co. – was founded in Boston in 1988 with the mission²⁷ to “remove barriers to socially responsible investing, [and] provide superior research and support services to the socially responsible investment market” and the purpose to “influence corporate behaviour toward a more just and sustainable world” (KLD, 2005). With this activist attitude at heart, and focussing largely on institutional investors, KLD rapidly grew into one of the most important ESG data providing companies in the United States and soon expanded its research and ratings to other markets. In 2007, over two-thirds of the institutional money managers worldwide were using KLD's research to integrate ESG factors into their investment decisions²⁸. In 2009, KLD was acquired by RiskMetrics, a risk management and corporate governance company which was created in 1994 out of J.P. Morgan's internal value-at-risk program.

MSCI was created in 1986 when Morgan Stanley bought the rights to the indexing business from Capital International²⁹ (thus the name Morgan Stanley Capital International, MSCI) and became a pioneer in developing the market for global equity indexes, first primarily in the US and later also globally. Whereas Morgan Stanley is still a majority shareholder, MSCI is not a division of the well-known investment bank, but an independent company.

MSCI ESG Research was launched as part of MSCI Group with the acquisition of the RiskMetrics Group in 2010, which included companies such as KLD, Centre for Financial Research and Analysis (CFRA), Innovest Strategic Value Advisors, Inc., and Institutional Shareholder Services (ISS), Inc. Whereas ISS and CFRA were sold off again in the following years, KLD and Innovest would become what is now known as the MSCI ESG Research Group. Established in 1995 with the mission of integrating sustainability and finance by

²⁷ web.archive.org/web/20050403203540/http://www.kld.com:80/about/mission.html, last accessed April 2018.

²⁸ web.archive.org/web/20070524034938/http://www.kld.com:80/about/index.html, last accessed April 2018.

²⁹ This company was a unit of the Los Angeles-based investment management firm Capital Group. In the late 1960s, Capital International created a series of stock market indices that tracked international markets.

identifying non-traditional sources of risk potential for investors³⁰ and bought by RiskMetrics in 2009, Innovest's methodology later strongly influenced MSCI ESG Research. Today MSCI is listed on the New York Stock Exchange with a market capital of approx. \$13.5 billion³¹ and about 2600 employees of which roughly 150 are research analysts. MSCI ESG Research provides ESG ratings for over 6,000 companies and more than 400,000 equity and fixed income securities³² and is the world's biggest ESG rating agency.

Oekom and ISS

Founded by a German environmental publishing house (*Umweltmedienverlag ökom*) as a private start-up in Munich in 1993, the predecessor of today's oekom, Ökom GmbH, was set up for the specific purpose of developing environmental ratings. After successful early years in the environmental ratings business, oekom research AG was created in 2002 as a public spinoff of Ökom GmbH³³ to focus on a broader concept of corporate responsibility rating³⁴. Before 2002, the main base of Ökom clients consisted of several German church investors, NGOs, and international organizations (i.e. Greenpeace, WWF, World Bank/IFC), consulting firms (e.g., Roland Berger), asset owners (mostly large German companies), and few asset managers (some local German banks)³⁵. Fifteen years after the IPO, with about 90% private and 10% institutional investors, oekom research continues to display a strong connection to its heritage, with two churches and one environmental foundation representing the lion's share of its institutional investor base. Today, oekom ratings cover about 4,000 companies and 57 countries, serving over 180 asset managers and asset owners in 13 countries, thereby influencing around \$1.5 trillion assets under management (oekom, 2018). The company employs 90 staff, including 60 analysts.

Institutional Shareholder Services Inc. (ISS) was launched 1985 in the UK as an organization to promote good corporate governance and to raise the level of active and informed proxy voting among institutional investors. In 1992, it became the first organization to offer agency voting services. To widen its portfolio, ISS created the subsidiary ISS Corporate Solutions, Inc.

³⁰ <https://www.businesswire.com/news/home/20090219005029/en/RiskMetrics-Group-Acquire-Innovest>, last accessed July 2018.

³¹ Google Invest, <https://www.google.com/search?q=NYSE%3A+MSCI&ie=utf-8&oe=utf-8&client=firefox-b-ab>, last accessed April 20th, 2018.

³² https://www.msci.com/documents/1296102/1636401/MSCI_ESG_Ratings_Factsheet+2017.pdf/61e32c80-57fe-4fd9-9965-db951bd559cb, last accessed April 2018.

³³ The company still exists now incorporated in the publishing house, <https://www.oekom.de/index.php?id=744>, last accessed April 2018.

³⁴ http://www.oekom-research.com/index_en.php?content=historie, last accessed April 2018.

³⁵ https://web.archive.org/web/20020506043824fw_/http://www.oekom.de:80/ag/german/kunden.htm, last accessed April 2018.

(ICS) in 1997 to provide corporate governance solutions also for corporations³⁶. In 2006, RiskMetrics acquired ISS for their corporate governance expertise, before RiskMetrics was then acquired by MSCI in 2010. ISS was owned by MSCI until April 30, 2014 when it was purchased by Vestar Capital Partners and then sold to Genstar Capital in October 2017.

Only recently has ISS become interested in offering “stand alone” ESG solutions, first purchasing the Swedish Ethix socially responsible investment Advisors in 2015 (becoming ISS Ethix), entering into a strategic partnership with RepRisk later that year³⁷ (a Swiss company which is especially known for its research and data on reputational risks), and finally acquiring oekom in March 15th, 2018 to become ISS-oekom³⁸.

Sustainalytics and Morningstar

Sustainalytics was created in 2009 out of a merger of several research and rating organizations, of which the Canadian Jantzi Research had the most influence on the current set up of. Created in 1992, Jantzi Research was one of the first North American companies after KLD to offer solutions for ESG data and research about companies for investors, as well as sustainability consulting to institutional investors. First mainly focused on indexing (Jantzi Social Index³⁹) in the Canadian capital market, Jantzi soon created partnerships in Europe, namely with the Dutch Sustainability Ranking DSR (a Triodos bank company⁴⁰) and Scoris GmbH, a joint venture of European rating agencies⁴¹. In 2003, the three partners formed the SiRi (Sustainable Investment Research International) Group. With the Spanish research company AIS (*Analistas Internationales en Sostenibilidad*) joining SiRi as research partner in 2005, the group’s global reach spread to the Latin American market. SiRi Group formally merged into Sustainalytics in 2009⁴², with Triodos Bank, MeesPierson, the Dutch pension fund PGGM, and Michael Jantzi

³⁶ <https://www.issgovernance.com/about/iss-history/>, last accessed April 2018.

³⁷ <https://www.issgovernance.com/iss-announces-strategic-partnership-with-reprisk-to-offer-esg-solutions/>

³⁸ http://www.oekom-research.com/index_en.php?content=news_20180315112120, last accessed April 2018.

³⁹ Most known is *The Jantzi Social Index (JSI)* was launched in January 2000 in partnership with Dow Jones Indexes. It is a socially screened, market capitalization-weighted common stock index modelled on the S&P/TSX 60 consisting of 50 Canadian companies that pass broad set of ESG criteria. <https://www.sustainalytics.com/jantzi-social-index/>, last accessed April 2018.

⁴⁰ Triodos Bank is a Dutch financial institution, focussed on sustainable banking. Offering a range of accounts for individuals, businesses and charities who want to “make a positive change”, Triodos is a self-proclaimed pioneer in ethical banking with about €14.5bn under management. www.triodos.co.uk/en/personal/make-your-money-count, last accessed April 2018.

⁴¹ Scoris GmbH was formed as a German company, headquartered in Hannover, as a joint venture of several European and research agencies with Axel Wilhelm – who is the head of the German IMUG rating company today - as founder, shareholder and managing director. See http://www.upj.de/fileadmin/user_upload/MAIN-dateien/Aktuelles/Nachrichten/BS_Studie_TransparenzCSR2004.pdf, last accessed April 2018.

⁴² Formally, the Scoris GmbH was renamed into Sustainalytics in 2009 before acquiring Jantzi Research. See www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=98236653, last accessed April 2018.

as main shareholders. In 2012, Sustainalytics entered the Asian market with an office in Singapore, which was closed again in 2015 due to "difficult soft market conditions"⁴³.

In 2016, Morningstar acquired 40% of Sustainalytics. Morningstar is a publicly listed US company which was founded in Chicago, 1984 by investment banker Joe Mansueto to create investment research for private investors and later to offer ratings of companies and investment portfolios. Today, Morningstar provides data and research on a wide range of investment offerings, including managed investment products, publicly listed companies, private capital markets, and real-time global market data. Since 2016, the company also offers a Morningstar Sustainability Rating (MSR) using Sustainalytics data. The company offers asset management and investment advisory, with more than \$200 billion under advisement and management⁴⁴.

GES International

Inspired by the CSR movement in the United States, Magnus Furugård and Susanne Nyman, two Swedish Greenpeace activists with background in economics, management and journalism⁴⁵, create a CSR screening and consulting firm under the name Caring Capitalism (later Caring Company) in Stockholm in 1992. By developing CSR audits with measurable human and labour rights indicators, the first large screening assignment was done for the first Swedish ethical fund WASA U-hjälpsfond⁴⁶ in 1996. Gradually moving from corporate consulting to the investor space, the company created its first norm-based investment screening model SSE (Svenska Statens Etik) for the Swedish national pension fund AP1 in 2000 and an engagement service for the same in 2001. In 2003, Caring Company changed its name to GES Investment Services, to underline its now exclusively investor-focussed services. Today its name is GES which stands for Global Engagement Services, the company's main business. In 2007, GES Burma engagement services was launched on request of the Church of Sweden and the pension insurance companies Folksam (Sweden) and KLP (Norway). In 2012, GES formed a strategic partnership with the German oekom, to cover German-speaking markets and strengthened its international presence with new offices in Oceania and London in the following years. In 2014, GES launched its Stewardship and Risk Engagement services, an extension to its overall engagement portfolio. To this day, clients of GES are largely from the European market, of which a majority are Scandinavian institutional investors.

⁴³ <http://www.eco-business.com/news/sustainalytics-pulls-out-of-singapore/>, last accessed April 2018.

⁴⁴ <http://www.eco-business.com/news/sustainalytics-pulls-out-of-singapore/>, last accessed April 2018.

⁴⁵ <https://www.gesinternational.com/about/corporate-history/>, last accessed May 2018.

⁴⁶ 1996 the insurance company Wasa started a "social" securities fund, the U-aid fund, where two percent of the fund's annual assets were distributed to six aid organizations each year.

The Conceptualization of “Sustainability”

Since “sustainability” is such a fuzzy notion, we look at a range of proxies to try and capture our data vendors’ conceptualization of it. Most common sources we used included statements of mission, vision or purpose, and the dimensions, frameworks and benchmarks used to define and ground ESG standards. We found a variety of interesting links between the social origins of our cases and their conceptualization of sustainability, which suggest an overall categorization of value- vs. values-based ESG data vendors. The examples in the following illustrate this juxtaposition.

In the case of Vigeo-EIRIS, for example, we find a strong link between the nature and plurality of stakeholders involved in the foundation of Vigeo and EIRIS and a strongly values-based conceptualization of sustainability. In the company’s mission, Vigeo-EIRIS defines social responsibility as “commitment to responsible performance which serves legitimate objectives, [...] and enables positive differentiation” (Vigeo-EIRIS⁴⁷, 2018). The mention of legitimation suggests that vision and mission of this company are based on a very specific values system which has been shaped by the long-standing involvement and historical influence of churches, charities, and trade-unions on both founding organizations.

Vigeo-EIRIS rates companies’ ESG performance using a framework of 38 sustainability criteria, which are grouped into six domains of analysis (see Table 2) (Arista, 2015: 14f). A set of predominantly qualitative measures (81.60%) are used to capture these, which suggests a special interest in “soft” issues around sustainability (human issues, processes, policies), rather than “hard” measures (such as performance metrics). Criteria consider different geographical and cultural contexts and Vigeo-EIRIS rating systems are adapted for companies that are active in countries with sensitive political or cultural backgrounds (Arista, 2015). Especially their first two domains of analysis, human resources (including professional relations, labour relations, working conditions) and human rights at the workplace (including freedom of association, collective bargaining, non-discrimination, etc.⁴⁸) appear to be a direct function of the influence of French labour unions on the agenda of Vigeo-EIRIS, incorporating by far the widest range of labour issues in their definition of ESG among all data vendors we examined.

To legitimize its standards, Vigeo-EIRIS uses many universally recognized standards as benchmarks, ranging from broader ILO and UN conventions to specific EU green papers and

⁴⁷ <http://www.vigeo-eiris.com/vigeo-10-years-already-by-nicole-notat/>, Last accessed April 2018.

⁴⁸ Additional dimensions are promotion of equality, elimination of illegal working practices such as child or forced labour, prevention of inhumane or degrading treatment such as sexual harassment, protection of privacy and personal data (Arista, 2015).

treaties⁴⁹. Its agenda is also very consistent with the Global Reporting Initiative (GRI): 96% of issues covered by the GRI framework are included in Vigeo-EIRIS assessments (GRI, 2018).

Table 2: ESG Data Dimensions and Benchmarks.

Dimension	Vigeo-EIRIS	MSCI	Oekom	Sustainalytics	GES International
Rating	-- to ++	AAA to CCC	A+ to D-	0 - 100	n/a
Dimensions	38 sustainability criteria in six domains of analysis: - human resources, human rights at the workplace, - environment, - business behaviour, - corporate governance, and - community Involvement.	37 key issues, in ten themes: - climate change, natural resources, pollution/ waste, - environmental opportunities, - human capital, product liability, - stakeholder opposition, - social opportunities, - corporate governance, - corporate behaviour.	100 sector-specific criteria in 2 categories: - Social: staff and suppliers, society and product responsibility, corporate governance and business ethics. - Environmental: environmental management, products and services, eco-efficiency.	Min 70 sector-specific issues per industry in the categories: E – operations, supply chain, products & services; S – employees, supply chain, customers and community & philanthropy; G – business ethics, corporate governance and public policy.	Screening violations against ten dimensions: - community involvement, - corp governance, - customer/ product environment, - health and safety, - human rights, labour practices, social, environm. and ethical risk, - stakeholder engagement, - supply chain responsibility
Emphasis	80% Qualitative Human/ Labour rights	Quantitative performance measures	50% Quantitative / 50% Qualitative	50% Quantitative / 50% Qualitative	Norm based screening and engagement
Benchmarks	Applying a wide variety of public and international standards	Using industry performance benchmarks	Applying a variety of public and international standards	Using industry performance benchmarks and some public standards.	Applying a wide variety of public and international standards
Values vs. Value-based	Values-based	Value-based	Values-based	Hybrid	Values-based

Source: Authors (2018). Information pooled from publicly available information on corporate websites, in corporate reports and other public company sources.

⁴⁹ International Labor Organization (ILO) Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy; ILO Equality of Treatment Convention (Conv. 118); United Nations (UN) Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to promote and protect universally recognized Human Rights and Fundamental Freedoms; European Union (EU) Community Charter on the Fundamental Social Rights of Workers EU Council Decision 2003/578/CE of 22 July 2003; UN Universal Declaration of Human Rights; ILO Declaration on Fundamental Principles and Rights at Work; OECD Guidelines for Multinational Corporations; and many more. Full list on (Arista, 2015).

Finally, Vigeo-EIRIS has chosen to certify all its processes to the latest ISO 9001 standard and has certified its research with the ARISTA Standard⁵⁰, a responsible investment research standard which obliges ESG research institutions to include the key principles of quality, integrity, transparency, and accountability into their research processes (Arista, 2015). Other Arista certified organization among our cases are oekom research and GES International. The strong link to legal standards indicates how Vigeo-EIRIS positions itself in a public-private sphere.

In the case of MSCI and KLD, we observed the coming together of two very diverse conceptualizations of sustainability. The interesting part of the social origin story here thus lies in tracing how the priorities and definitions of sustainability and materiality changed when KLD was acquired by MSCI and turned into the MSCI ESG research unit. As opposed to KLD, MSCI's origins lie in the financial rating activities, focussing primarily on institutional investors and asset managers, and was thus not driven by a strong mission to save the world but by a pragmatic, quantitative approach to long-term risk management. KLD's definition of sustainability was rather values-driven, with the vision "to achieve [...] greater corporate accountability and, ultimately, a more just and sustainable world"⁵¹. This philosophy was adjusted quite radically when KLD, as a part of RiskMetrics, was acquired by MSCI, a financial rating agency with a clear focus on investment returns and where sustainability is strictly viewed as the long-term security of financial returns.

With the acquisition of RiskMetrics, MSCI however did recognize that societies and businesses were "increasingly unable to bear the costs of short-sighted corporate activities, and that ESG risks would have to be priced adequately into investors' portfolios to achieve long-term financial returns"⁵². MSCI's reason to invest in ESG was thus summarized with the following three pragmatic reasons: the world is changing, investors are changing, and data and analytics have evolved to factors that impact the long-term risk and return profile of institutional portfolios⁵³. MSCI ESG Research was thus established to provide the suitable metrics for this risk assessments "traditional investment research" have overlooked.

The rating agency oekom sets itself apart through a strong focus on environmental issues as a function of its origins in environmental rating: Instead of considering three ESG categories,

⁵⁰ Currently, there are 11 valid Arista Certificates of Conformity, including for Ethifinance, ETHIBEL, Global Investment Services International GES, EIRIS, Oekom and Equities. Full list of current certificates under http://www.aristastandard.org/content/the_audits_certificates.html, last accessed April 2018.

⁵¹ web.archive.org/web/20071109045842/http://www.kld.com:80/about/index.html, last accessed April 2018.

⁵² <https://www.msci.com/documents/10199/123a2b2b-1395-4aa2-a121-ea14de6d708a>, accessed May 2018.

⁵³ <https://www.msci.com/documents/1296102/1636401/MSCI+ESG+Rating+Brochure-V3.pdf/f2b4a27a-58f5-42c7-880b-cf8201039eaa>, last accessed April 2018.

oekom thus focusses on environmental issues on the one hand and on a combination of social and governance issues (where governance is understood as a part of the social dimension) on the other hand. In oekom's case, we find a methodology infused by a high commitment to rigour and transparency, showing strong links to its cultural heritage and early issue focus. The original oekom rating methodology was based on the so called "Frankfurt-Hohenheim Guidelines (FHG)", an extensive set of criteria for the ethical evaluation of companies developed by the German social ethics and Catholic theology professor Johannes Hoffman which strongly influenced oekom's conceptualization of sustainability. Including 800 indicators in a complex value-tree analysis, sustainability was defined in three dimensions: cultural sustainability, social sustainability, and environmental sustainability. Building on this framework, oekom created 100 sector-specific criteria which could be implemented adequately for corporate rating. However, to make their rating globally applicable, oekom has created specific criteria of "universal relevance", which are seen as important irrespective of geographical location, development status, etc. (Arista, 2015). The creation of such a universality pledge to indicators suggests a strong link between the organization's value system and the ESG metrics chosen.

GES International is very much a product of Swedish culture and depicts an interesting development in its conceptualization of sustainability. Originally started as a CSR consulting firm to corporations, GES quite radically changed its business model in the early 2000s to focus on responsible investment and engagement services instead. Together with Ethix (who was later bought by ISS and became ISS-Ethix), the so called "Nordic approach" to sustainability screening⁵⁴ was founded based on the wider framework of the United Nations Global Compact. In this, the company takes strong pride in being politically, religiously, and financially independent to ensure no third-party prejudice in its business⁵⁵. This approach relies entirely on media-screening of incidents that breach 10 outlined norms (see Table 2) with 75 criteria, the majority of which (52 or 71%) concern environmental violations. Screenings are updated daily and range from "no violation" of a norm, "an indication for violation" to a "confirmed violation". GES thus rates incidents rather than companies based on a strict set of norms. Norms are benchmarked to international standards and violations relate directly to specific international conventions and guidelines on human rights, labour standards, environment, and

⁵⁴ <https://www.gesinternational.com/policies/code-of-conduct/>, last accessed May 2018.

⁵⁵ <https://www.gesinternational.com/policies/independence-policy/>, last accessed July 2018.

corruption⁵⁶. Additionally, since 2006, GES is a signatory to the PRI and has been certified by the ARISTA standard for responsible investment research since 2015. Since 2014, GES analysts also conduct research work for oekom, based on oekom's methodology. GES is looking to apply some of this methodology also to its own products (Arista, 2015).

A summary of the observed dimensions for the conceptualization of sustainability can be found in Table 2. Morningstar and ISS are both not included here as they rely on the data from Sustainalytics and oekom respectively. Both organizations would however fall under the categorization of value-based assessment of sustainability, with a clear focus on shareholder returns in their use of ESG data. KLD is not included as it has dissolved within MSCI. The former KLD methodology would have classified as a values-based approach.

The Definition of Materiality

Building on the importance diverse conceptualizations of sustainability, we also find that the definition of materiality has a strong link to the social origins in each of our cases. Here too we find the tendencies of values- and value-based companies, whereas the former considers a wide range of significant audiences and stakeholders and therefore defines materiality as externality, the latter focuses on shareholders and defines materiality in terms of long-term financial returns and firm performance.

For example, Vigeo-EIRIS's defines materiality widely, including risks and opportunities not only for the company itself but also for the external stakeholders in a company's wider ecosystem. The company thus assesses risk factors that are material for both the company and its environment and the definition of materiality is one that includes risks and opportunities not only for the company itself, but also for those that are in the company's wider ecosystem. The importance of issues is accordingly weighted by three factors: 1. The nature of stakeholders' rights, interests, and expectations (assessed on a scale of "fundamental / essential / legitimate"), 2. The vulnerability of stakeholders by sector (assessed on a scale of "high / average / low"), and 3. Risk categories for the company (including categories such as human capital cohesion, operational efficiency, reputation, legal security, and more). This very wide definition of what

⁵⁶ GES supports the International Bill of Human Rights and the International Labour Organisations' (ILO) Declaration on Fundamental Principles and Rights at Work. In 2004, GES joined the United Nations (UN) Global Compact and we are strongly committed to its Ten Principles. We also support and promote the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises, the UN Guiding Principles for Business and Human Rights as well as the UN Sustainable Development Goals. Additionally, since 2006 we have been a signatory to the Principles for Responsible Investment (PRI). See "Values and Principles" on <https://www.gesinternational.com/policies/code-of-conduct/>, last accessed May 2018.

identifies as a material issue reflects the high diversity of shareholders and stakeholders (with a large emphasis on social actors) in Vigeo-EIRIS's composition and history.

The understanding of "who ESG research is for" also had a significant influence on the understanding of materiality in both KLD and MSCI. KLD's definition of materiality before acquired by MSCI included a wider range of stakeholders and considered a full list of controversial issues (nuclear energy, weapons sale, pollution, etc.) to be considered as exclusion criteria in its ratings. Assessments favoured corporations with strong stewardship of the environment, devoted to serving local communities, high labour standards, and high quality and safety of products. Seen as material were those issues which contributed to the benefit of the wider society, rather than just to that of investors: "KLD's analysis combines an awareness of the overarching impact companies can have on social and environmental conditions with sensitivity to the challenges faced by businesses operating in different sectors ...it therefore rates companies on both how they address the ESG challenges within their industry and how they treat all stakeholders⁵⁷" (KLD, 2007). This process was done without ever giving an overall score to companies, but rather by assigning certain qualities and challenges to each. A much narrower focus on shareholders and the definition of materiality can be found at MSCI: "A risk is material to an industry when it is likely that companies in a given industry will incur substantial costs in connection with it. An opportunity is material to an industry when it is likely that companies in a given industry could capitalize on it for profit" (MSCI, 2017). Material issues are identified for each industry and subsequently weighted on the sub-industry score levels. MSCI ESG, the successor of KLD, works with the materiality definition of MSCI.

Oekom is another interesting example where materiality is in line with its strongly values-based and universalistic approach to sustainability. The company acts under the acknowledgement that "the natural environment has an intrinsic value extending beyond its pure economic value. [...] Where conflicts arise in the achievement of environmental, social and economic goals, oekom research seeks to arrive at a fair and socially acceptable balance of interests which takes into account the fundamental importance of an intact, natural environment for social and economic development⁵⁸" (oekom, 2016). Long-term success is achieved by taking a holistic view of the risks and opportunities of sustainable development and material factors are related to environment and society as a whole, not just to economic returns. With this the company

⁵⁷ www.csrwire.com/press_releases/23136-KLD-Launches-Global-Sustainability-Index-GSI-, last accessed April 2018.

⁵⁸ Oekom Research understanding of sustainability. Last accessed April 2018, http://www.oekom-research.com/homepage/english/oekom_research_understanding_of_sustainability_E_2016.pdf

strongly highlights their commitment to leverage ESG data for social change, rather than just for economic profits.

GES' understanding of materiality is very close to that of oekom – considering a wide range of significant stakeholders and their wellbeing as material – although with less universalistic assumptions underlying the weighting of criteria. Criteria and indicators developed by the GES research group thus take into account sector specific issues, (e.g., sectors with high supply chain risk have supply chain related criteria) and different geographical and cultural contexts (e.g. lack of freedom of association policies may be less pressing if companies only have operations in countries with strong labour laws) (Arista, 2015).

Sustainalytics' assessment of materiality on the other hand is based on GRI's G4 Guidelines, pairing them with Sustainable Development Goals (SDGs) issues where applicable⁵⁹. When assessing the material issues of companies, Sustainalytics considers links between the management of environmental and social impacts and a company's competitiveness. To do so it focusses on a qualitative and quantitative ecosystem map, which addresses two main questions: (1) how strongly is the management of an environmental or social concern linked to a business driver that can create economic value (economic performance)? And (2) How strong is the evidence for the link? Sustainalytics is thus a somewhat hybrid organization with a rather values-based conceptualization of sustainability but a narrower definition of materiality.

Morningstar, using the ESG data from Sustainalytics for its Morningstar Sustainability Rating (MSR), offers investors a measure of how well the companies held in a portfolio are managing their ESG risks and opportunities relative to portfolios within the same Morningstar category⁶⁰. MSR uses normalized ESG scores based on the concept that the sustainability of a portfolio is the asset-weighted sum of the sustainability of its holdings. In other words, portfolio-scores are assessed as the asset-weighted average of a portfolio's normalized company-level ESG scores with deductions made for any controversies⁶¹. For Morningstar, ESG risks are an additional way of managing financial risk. Following its origins as financial rating agency, Morningstar assesses material issues solely according to long-term positive financial returns of portfolios.

⁵⁹ https://www.unglobalcompact.org/system/attachments/cop_2017/380461/original/Sustainable_Momentum-SustainabilityReport-2015-Final.pdf?1493818348, last accessed April 2018.

⁶⁰ <https://corporate1.morningstar.com/Morningstar-Sustainability-Rating-Methodology-2> accessed April 2018.

⁶¹ http://www.iwmonitor-digital.com/iwmonitor/november_december_2017/, last accessed April 2018.

Product and Service Offerings

The products and services offered by our data vendors offer another interesting insight into the development of ESG data commercialization. Most of our cases have seen an immense increase in service offerings and a move away from mere data and research offers towards bespoke analyses and other kinds of services.

Vigeo's core business, for example, originally set up to serve as research unit for asset owners and asset managers, soon included projects for companies (as CSR auditors) and local authorities (as consultants). To avoid potential conflicts of interest, Vigeo pledges to "the rigorous separation of ratings and auditing activities⁶²". The scope of services and products offered by Vigeo-EIRIS is significantly characterized by partnerships with a multiplicity of actors, such as unions (i.e., strategic partnership with UNI Global Union to consolidate its ESG data collection in 2008), pension consultancies (e.g., with Novaster in Spain, 2009), and other rating agencies (e.g., with oekom in the area of bonds, 2008). For a wide range of customers, Vigeo-EIRIS offers everything from CSR evaluation and policy support to labels and attestations, and advice on how to address poor ESG ratings. Vigeo-EIRIS perceives itself as an ESG data company with one part of the service offer being analytical and another being consulting services to companies.

Once MSCI acquired RiskMetrics, KLD's ESG service offering was absorbed and fundamentally adapted to the methods and service offering of Innovest. Whereas KLD's ESG ratings framework captured a company's sustainability performance in five broad and sector-neutral key categories⁶³ – environment, community and society, employees and supply chain, customer, and governance and ethics – MSCI ESG research today is focused on three key pillars (environmental, social, and governance) and 10 industry-weighted sub-themes underlying them (see Table 2).

MSCI methodology seeks to create transparency about risks through its ratings, which is achieved by measuring risks both as exposure metrics (how exposed is the company to each material issue?) and management metrics (how is the company managing each material issue?)⁶⁴. Creating a relative score which does not reflect a company's absolute performance, but its performance in comparison to its industry-peers, MSCI ESG ratings today vary from

⁶² <http://www.vigeo-eiris.com/vigeo-10-years-already-by-nicole-notat/>, Last accessed April 2018.

⁶³ https://web.archive.org/web/20100306024620/http://www.kld.com:80/research/ratings_indicators.html, last accessed April 2018.

⁶⁴ https://www.msci.com/eqb/methodology/meth_docs/Executive_Summary_MSCI_ESG_Ratings_Methodology.pdf, p2, last accessed April 2018.

AAA (best) to CCC (worst). The MSCI methodology displays a more quantitative approach to measuring ESG than was done by KLD, and “softer” measures, such as ethics and policies, are avoided and company business measures were increased. MSCI understands itself not as data, but as analytics company, which caters to investors with its services and not companies.

Table 3: ESG Data Vendors’ Product and Service Offerings

Name of Vendor	Vigeo-EIRIS	MSCI-ESG Research	Oekom	ISS	Sustainalytics	GES Int.
Products for Investors	[*]	[*]	[*]	[*]	[*]	[*]
Management of RI strategies	√	√	√	√	√	
ESG Indices & Ranking	√	√	√		√	
ESG integration & policy			(√)	√	√	√
Company reports		√	√	√	√	√
Country reports			√		√	√
Products for Companies	[*]			[*]		
Green bonds / social bonds	√		√		√	
CSR evaluation & consultancy	√		(√)			
Negative Screening	√	√	√	√	√	
Special considerations						
Sustainable goods and services	√		√		√	√
Prognosis (forward looking analyses)			√		√	
Corporate feedback mechanism		√	(√)			√
Expert feedback mechanism		√	√			
Purpose (Value vs Values driven)						
Provide data to change the world	√		√		(√)	√
Provide data to inform the world		√		√	√	
References made to public documents	√		√		(√)	√
Works with public actors (e.g., Governments.)	√		√			√
Works with social actors (e.g., NGOs)	√		√		(√)	(√)
Certifications of research	√	√	√			√

Source: Excerpt of Table A, full table in annex. Products reflect only those directly listed under the tab "our products" or "our solutions". Checkmarks in brackets suggest, that there is a product solution offered in this area, but either with a limitation (service only offered under specific circumstances) or the use is very limited. In the categories Products for Investors and Products for companies, the [*] indicates, whether the company has more products in this area. The full range of products is in this case captured in table A.

Over the course of time oekom has launched numerous new products, including several forms of company and country ratings, all of which underlie their own quality management standard for sustainability ratings, as well as the quality standard ARISTA, and the DeepData Delivery Standard⁶⁵. The service offering and metrics of oekom are strongly influenced by these understandings of sustainability and materiality. Firstly, oekom's overall ESG rating (ranging from A+ to D-) aspires to capture a very broad spectrum of social and environmental impact for companies (and countries), including the environmental and social benefits of its products and services, eco-efficiency of production processes and treatment of employees and suppliers, and the potential to manage challenges in the future⁶⁶.

Oekom also carries out an extensive negative screening against a catalogue of "ethical controversial business fields and practices" for each company (Arista, 2015), which sets a strict ethical minimum benchmark to any performance-based assessment. Depending on severity, appearing on the oekom controversy list can either lead to exclusion from being rated or is used as additional information tool for investors⁶⁷. Furthermore, whereas companies can comment on findings and complement information, the main feedback cycle of research goes through a network of sustainability, human rights, employment and consumer protection experts. This highlights how oekom relies on publicly-acknowledged expertise, rather than corporate feedback. Finally, since 2015, oekom also makes explicit reference to the UN SDGs in its definition of sustainability and offers product such as tracking UNGC violations, UN Human Rights and ILO standards and OECD guidelines for MNCs.

Having been serving the market as an advisor for investor activism and using ESG data from a range of sources rather than collecting it, ISS has always concentrated its expertise on solutions for corporate governance and proxy voting rather than social and environmental issues. ISS

⁶⁵ Concrete catalogue of requirements for the generation and provision of ESG information. The standard was initiated by a scientific board lead by Prof. Andreas Hoepner, ICMA Centre of Henley Business School, together with numerous investors and asset managers and introduced to the public in summer 2016. It is to be understood as a self-commitment of research and analyst firms to comply to clearly defined quality requirements that include a total of ten criteria, such as independence, the management of conflicts of interest, the rating process, the actuality of rating results, the consistency as well as transparency of the rating methodology and more. See full catalogue of criteria under <http://www.deepdata.ai/>, last accessed July 2018.

⁶⁶ www.oekom-research.com/index_en.php?content=responsible-investment-services, last accessed July 2018

⁶⁷ Controversial Business Areas cover Abortion, Alcohol, Animal Testing, Biocides, Coal and Oil, Chlorinated Pollutants, Embryonic Research, Hydraulic Fracturing, Furs, Gambling, GMOs, Military, Nuclear Power, Pornography, Tobacco and Violent Video Games and in most cases, includes the identification of respective share of net sales. Negative screening with regard to Controversial Business Practices covers UNGC Violations and other Controversial Business Practices including Business Malpractice (Corruption, Accounting Fraud, Antitrust, Other), Controversial Environmental Practices, Violations of Human Rights and Violations of Labour Rights and differentiates between violations by the company itself, violations within the supply chain and financing of controversial projects/activities. Countermeasures by the companies are systematically assessed and considered in the evaluation of controversial business practices, where appropriate (Arista, 2015).

analyses about 200 factors in four pillars: board structure, compensation/ remuneration, shareholder rights, and audit and risk oversight⁶⁸. Weighted according to regional legal and industry considerations, these factors inform the ISS voting policy. Through these acquisitions, ISS seeks to offer its clients – mainly asset owners, investment managers, hedge funds, broker-dealers, and custodian banks – additional support for socially responsible investing. For oekom, ISS-oekom offers the opportunity to further scale business and the universe of companies assessed, and therefore to compete against larger competitors such as MSCI. Compatibilities between oekom and ISS lie additionally in issue areas. Whereas oekom focuses strongly on social and environmental impact analyses, ISS is a global leader in providing corporate governance solutions. In other words, where oekom is an expert in “E” and “S”, ISS will provide a significant input on the “G” of ESG.

GES is the company with the most radical change in focus and service offerings amongst our cases. Started as a CSR consultancy firm for companies, it soon turned towards advising institutional investors on responsible investment strategies and today focuses on company engagement as main stream of revenue.

Finally, amongst the examined cases, Sustainalytics probably has the widest range of product offers, which are exclusively focussed on ESG. Through a range of acquisitions, Sustainalytics systematically expanded its portfolio, ranging from a wide variety of web-based tools, alert tools, and issue radars to the more “standard” services of ESG integration and portfolio assessment. The company also offers custom-made products for country-level analyses and specific company analyses. With its latest products, the company has entered as advisor into the proxy voting and engagement processes. This wide variety of offerings clearly shows how, since its earliest years, Sustainalytics considers itself as "an innovator of SRI intelligence and products, services and tools"⁶⁹.

Discussion: Social Origins as Inhibitors of Convergence?

Exploring the history and social origins of these eight important ESG rating agents and data vendors, we find that the social origins indeed played an important role for how these

⁶⁸ Specific factors include: for board structure (board and board committee composition, board practices, board policies, related party transactions and board controversies), for compensation/remuneration (pay for performance, non-performance based pay, use of equity, equity risk mitigation, non-executive pay, communications and disclosure, termination and controversies), for shareholder rights (one-share one-vote, takeover defences and meeting and voting related issues) and for audit and risk oversight (external auditors).

⁶⁹<https://web.archive.org/web/20060205080437/http://www.jantziresearch.com:80/index.asp?section=1>, last accessed April 2018.

organizations developed their definition and measurement of ESG. Founding personalities and principles, an early issue focus and groups of customers, and the resulting concepts of sustainability, definition of materiality and product and service offers all contribute to how and why measures of ESG are different, and potentially diverging.

We found, for example, that the establishment and early purpose of data vendors can have a strong influence on the dimensions which are being used to measure ESG. Our case with the strongest environmental background for instance, oekom, displayed a preference towards measuring certain indicators by focusing on only two broad ESG dimension: one for a company's environmental impact and one for the combined impact of social and governance issues. Furthermore, the only organization with an explicit category for labour conditions is the one which was founded by the former president of a labour union, Vigeo. And the organizations which have the strongest historical links to financial ratings, MSCI and Morningstar, include the most indicators for governance when defining ESG.

Secondly, we found that data vendor's definitions of materiality have impacts on how ESG indicators are weighted and interpreted. For example, the organizations which associate materiality with those issues that are most correlated with financial returns rigorously apply higher weights to those issues which are identified as material⁷⁰. MSCI and Sustainalytics are examples of this. Organizations with more holistic definitions of materiality and a values-based conception of sustainability, including the benefits for a wider range of stakeholders and the whole of society, usually have more diverse concepts of weighting their indicators, which are anchored in the organization's values and belief-system.

An extreme example of values-based decisions in measurement is represented by oekom's universality pledge (there are indicators of global importance). But also data vendors that take into consideration specific geographical and political variation (e.g., former KLD and Vigeo-EIRIS) make assumptions about factors to include and how to weigh them. Negative screening criteria (e.g., arms trade) may indicate how an organization sets specific ethical boundaries that outweigh financial considerations. Screenings are thus used to exclude companies from portfolios or provide clients with information on critical issues they may want to avoid when investing. Nowadays, lists of controversial issues (such as involvement in weapon's trade) are offered by almost all the data vendors; however, companies like oekom, Sustainalytics, Vigeo-EIRIS and formerly by KLD (less in MSCI) make a point out of offering a wide range of

⁷⁰ Immaterial factors may still be measured and taken into account, but with less importance for the outcome of the rating.

comprehensive negative screenings for several issues. Oekom, offering a whole database for controversial issues, arguably offers the largest collection of issues in this area.

Third, how a data vendor chooses to deal with international conventions (such as ILO and UN treaties) may be a function of the variety of actors involved in its organizational history. Those with a higher number and diversity of actors (by this we mean including NGOs, trade unions, churches, etc.) involved in their creation appear to have a higher inclination towards anchoring their measurement benchmarks in public standards. Vigeo-EIRIS and oekom are good examples of this, with extensive references to public sources, international treaties, and conventions in the definition of their benchmarks. Both have also sought external certification of their research system, which likely makes them even more inclined to link their measures to public sources, which already enjoy public legitimacy. Data vendors which have a more unilaterally corporate organizational history, on the other hand, are more likely to rely on fewer, and rather on self-developed or market-oriented benchmarks (e.g., creating benchmarks from average industry ESG scores). The methodologies of MSCI and Sustainalytics fit into this category. Although products are offered that refer to public standards (e.g., both offer Global Compact adherence screening), the benchmarks of their data do not explicitly refer to a range of public documents.

Furthermore, even though ESG data has no official national boundaries, we do see that there are certain cultural inclinations to the way different data vendors measure ESG. For example, with data from a French organization (Vigeo) being very labour-concern driven, a German company (oekom) using a complex set of indicators developed by a German professor as base of measurement, and American measures to put special importance on financial materiality (MSCI and Morningstar). Although these may just be coincidental characteristics due to the organization's other social origins which we have outlined before, we cannot but notice the national stereotypes that seem to appear.

These cultural dispositions may also lead to interesting dynamics between rated companies and their and rating agencies. Given that data vendors have a certain way in which they collect their data, rated companies may react and receive to the same ratings in different ways. The rating company is part of an overall social context and there is a dynamic interaction which helps explain why companies can respond to the same rating organization in different ways. In other words, we would expect that a French company would find it easier to understand the context of ratings from Vigeo, and e.g. the emphasis they put a labour issues, whereas an American

company, coming from a different context with a different understanding of labour conditions, may find it difficult to appreciate this.

Moreover, we see how social origin evolves into specific business strategies. The products and services offered by each data vendor appear as a rather obvious function of an organization's social origin. With the development of ESG indicators for the data, each organization has multiplied the variety of its products and services offered in a specific way. This variety takes two directions: organizations seek to either offer exclusive and specialized products in which they are particularly qualified (oekom's potentiality analysis, ISS advisory on governance and voting, MSCI ESG financial impact analyses, and so on) or they must create unique selling propositions to the products that may already exist on the market. ESG data and sustainability ratings tend to fall into the second category: there are many and they all seek to offer a unique added value, for example through an especially robust methodology, novel forms of data collection, or a unique way of weighting or benchmarking. The differences we see in ESG data, sustainability ratings, and positive and negative screenings are a combination of social origins (how they diverge) and the necessity to create a unique profile on a maturing market (why they diverge).

Overall, the discussed attributes seem to suggest that we see two larger clusters of data vendors within our cases: those with a value-driven approach, which create and use data with the aim to inform the world (about investment decisions), such as MSCI, Morningstar, and ISS; and those with a values-driven approach, creating data with the aim to change the world, such as Oekom, Vigeo-EIRIS, and GES. Only Sustainalytics seems to fall somewhere in the middle. The two clusters differ significantly in the way they conceptualize sustainability (sustainability as long-term financial performance vs. sustainability as a strategy to socially reform business) and define materiality (materiality based on financial returns vs. materiality as externality, based on benefits for the society as a whole). The value-driven approach to ESG data creation focuses stringently on investors as main audience of interest, which is also displayed in their portfolio of products and services. Values-driven data vendors on the other hand have a wider product portfolio, including service offerings for companies, a wider range of negative screening issues, as well as products for public actors and NGOs. This is a direct reflection of how much bigger their range of significant audiences (and by function of that how much broader their definition of materiality) is. Sustainalytics represents an interesting case here, with a formal definition of materiality as an issue of shareholder returns (value-driven) and a range of service offers which reflect a much wider range of significant audiences.

Furthermore, we seem to find several trends that accompany, and in some ways drive, the consolidation of vendors on the ESG market. First of all, ESG data vendors are under market pressure to provide assessments of an ever-larger universe of companies in order to provide users with a high quantity of benchmark possibilities. Mergers of smaller regional data vendors into larger entities or the acquisition of smaller research firms by larger ones is a logical and visible response to this demand. And even though the increased use of ESG data should generally be seen as a positive development, a shift from quality to quantity in data vendor's assessment of ESG issues in order to address these developments, may be a negative consequence of this. Moreover, and as the use of ESG becomes increasingly mainstream, there seems to be a shift from values- to value-driven interest in ESG data. Consequently, we see a strong increase in products and service offers that attend this interest from all data vendors.

Finally, we recognize that all measurements are social constructs (Hacking, 1999). Historical differences in measuring weight (e.g., ounces vs. grams) and distance (e.g., miles vs. meters) are a classical example of this. In most cases, their legitimacy depends on their utility and their relevance for the real-life context. Once measures are widely accepted by either social consent or public mandate, it is rather difficult to change them (one reason why differences in measures and distance have prevailed, rather than being changed into a global system). Evidently, the state can play a big role in both creating measurement standards which are mandated or in mandating a standard that someone else created.

One particular example of this is the financial accounting standards and reporting requirements. Even the most basic concepts of "revenue" and "profit", which are the ground-structure of our global capital markets, are of social construction. And whereas today we take for granted that listed companies report on their financials in a structured way, that accounting in both public and private companies follows the same standards, and that these numbers can be audited meticulously, this wasn't always so. In the United States, for example, accounting standards only came into existence with the creation of the Securities and Exchange Commission (SEC) in 1934, which was born as a result of the stock market crash of 1929 and the subsequent Great Depression. For ESG measurements we have not (yet?) seen social consent, neither efforts of state mandated standards, although there are certain NGOs (mainly the Sustainability Accounting Standards Board SASB and the GRI) which are attempting to advance this. Companies only have to report voluntarily and those who do use different formats that are not comparable to each other.

Conclusion

With the concept of “social construction” in mind, we set out to write this paper to complement the current literature that explores differences in ESG ratings by asking not only how but *why* the ESG universe displays such a high diversity in measures. With this we also seek to inform interested companies and investors about the origins of differences between ESG data sources. By looking at dimensions such as the history, establishment, ownership, and company purpose, we explored the social origins of our cases, showing how these origins shape conceptualizations of sustainability, definitions of materiality and their current product and service offering.

The origins of our cases are diverse, and we were surprised how easily we were able to draw the connections between this heritage and data vendors’ construction of ESG measures. Overall, we find two main clusters of organizations amongst our cases: data vendors with a value-driven approach and those with a values-oriented approach. In all observed dimensions, we find that these two categories of organizations diverge. For example, we found that value-based organizations tend to construct more quantitative, performance based metrics, whereas values-based data will include more qualitative, and policy-related information. We further found that data vendor’s definition of materiality has a strong impact on weights applied, mainly varying between a narrow definition of materiality as affecting shareholder returns, and a wider definition of materiality as externality and benefit for society. Furthermore, we found data vendors to take very different stances on incorporating public sources (ILO conventions, WTO agreements, UN treaties, etc.) as benchmarks to their data. Vendors with a variety of actors amongst their shareholders and history tend to be more values-based and refer to a larger set of legal sources. Other, more value-based organizations, refer to few or none of these documents. We also find that cultural identities seem to have a powerful influence on how measures are constructed and are perceived. Additionally, changing product patterns and consolidation amongst data vendors suggest a shift from values- towards value-driven interest in ESG as the use of this data becomes more mainstream. The danger of a shift from quality to quantity of measures in the assessment of ESG issues is directly connected to this.

Albite there is a trend of consolidation on the ESG market, we believe that a full convergence on ESG issues and measurements is unlikely due to the differences we find in the social origins of our cases and the consequently differing conceptualizations of sustainability and materiality. Furthermore, as the demand for ESG data increases, data vendors face the challenge to position themselves strategically in a maturing market. Products are thus created to offer a particular way of ESG measurement or a specific focus on services which they are especially prone to

due to their social origins. In our opinion, these dynamics will make it difficult for a consensus to emerge and for the meaning and purpose of ESG measurement to converge without formal standards. Understanding the dynamics of why such standards however do or do not emerge remains unanswered and we thus encourage further academic inquiries in this area.

Finally, we see this paper only as the beginning to a deeper understanding of diversity in the ESG universe. The patterns we point out in this paper (such as value- vs. value-based approaches to measuring ESG) offer a new pathway of comparison between data vendors. Questions about how these different data sources are used and integrated (i.e. a further exploration of the ESG demand side, as in Amel-Zadeh and Serafeim, 2018), and whether their power of prediction varies due to the characteristics we have identified, are therefore yet to be answered.

Bibliography

- Amel-Zadeh, A. and Serafeim, G. (2018): Why and How Investors Use ESG Information: Evidence from a Global Survey. In: *Financial Analysts Journal*, Third Quarter: 1-17.
- Arista Standard (2015): *Arista Standard 3.0: Oekom Transparency matrix*. Online available under www.aristastandard.org/content_files/file/TM%202015/oekomARISTA3.0TM2015.pdf, last accessed April 2018.
- Arista Standard (2015): *Arista Standard 3.0: Vigeo Transparency matrix*. Online available under http://www.aristastandard.org/content_files/file/TM%202015/VigeoARISTA3.0TM2015.pdf, last accessed April 2018
- Beal, D.; Eccles, R; Hansell, G; Lesser, R.; Unnikrishnan, S., Woods, W., and Young, D. (2017): *BCG Total Societal Impact. A new lens for strategy*. The Boston Consulting Group, Boston, United States.
- Bloomberg (2015): Sustainable business and finance: customers using ESG data. Online available under <http://www.bloomberg.com/bcause/customers-using-esg-data>. Last accessed April 2018.
- Bolton, P.; Li, T.; Ravina, E., and Rosenthal H. (2018): Investor Ideology. ECGI Working Paper Series in Finance. European Corporate Governance Institute, Working Paper No. 557/2018. http://ssrn.com/abstract_id=3119935.
- BrownFlynn, (2018): The ESG Ecosystem Understanding the Dynamics of the Sustainability Ratings & Rankings Landscape February 2018
- Butler, A. W. and Umit G. G. (2012). Educational networks, mutual fund voting patterns, and CEO compensation. In: *Review of Financial Studies*, 25, 2533-2562.
- Chatterji AK, Toffel MW (2010): How firms respond to being rated. In: *Strategic Management Journal* 31(9): 917–945.
- Chatterji, A. K., Durand, R., Levine, D., and Touboul, S. (2016): Do ratings of firms converge? Implications for managers, investors and strategy researchers. In: *Strategic Management Journal*, 37: 1597–1614.
- Crilly D, Zollo M, Hansen MT (2012): Faking it or muddling through? Understanding decoupling in response to stakeholder pressures. In: *Academy of Management Journal* 55(6): 1429–1448.
- Delmas M, Etzion D, Nairn-Birch N. (2013): Triangulating environmental performance: what do corporate social responsibility ratings really capture? In: *Academy of Management Perspectives* 27(3): 255–267.

- Delmas MA, Toffel MW (2008): Organizational responses to environmental demands: opening the black box. In: *Strategic Management Journal* 29(10): 1027–1055.
- Doh, J. P., Howton, S. D., Howton, S. W., & Siegel, D. S. (2010). Does the market respond to an endorsement of social responsibility? The role of institutions, information, and legitimacy. In: *Journal of Management*, 36(6), 1461–1485
- Eccles, R., and G., Serafeim. (2013): The Performance Frontier: Innovating for a Sustainable Strategy. In: *Harvard Business Review* 91, no. 5: 50–60.
- Eccles, R., and G., Serafeim. (2014): Corporate and Integrated Reporting: A Functional Perspective. Chapter in: *Stewardship of the Future*, edited by Ed Lawler, Sue Mohrman, and James O’Toole, Greenleaf, 2015.
- Eccles, R., Ioannou I., and Serafeim G. (2014): The Impact of Corporate Sustainability on Organizational Processes and Performance. In: *Management Science* 60, no. 11: 2835–2857.
- GISR (2018): *Global Initiative for Sustainability Ratings*. Online available under <http://ratesustainability.org/about/why-gisr/>, last accessed April 2018.
- Gray R. (2010): Is accounting for sustainability actually accounting for sustainability...and how would we know? an exploration of narratives of organisations and the planet. In: *Accounting, Organizations and Society* 35(1): 47–62.
- GRI (2018): Press Release. Online available <https://www.globalreporting.org/information/news-and-press-center/Pages/Vigeo-Eiris-CSR-Requires-Commitment-and-Accountability.aspx>. Last accessed April 2018.
- GS Sustain (2017) The PM’s Guide to the ESG Revolution. From article of faith to mainstream investment tool. Goldman Sachs.
- Gunnar F., Busch, T., and Bassen, A. (2015): ESG and financial performance: aggregated evidence from more than 2000 empirical studies. In: *Journal of Sustainable Finance & Investment*, 5:4, 210-233.
- Hacking, I. (1999): *The Social Construction of What?* Harvard University Press Cambridge, Massachusetts and London, England.
- Hoffman AJ. (2001): Linking organizational and field level analyses: the diffusion of corporate environmental practice. In: *Organization & Environment* 14(2): 133–156.
- Ingram P, Silverman BS. (2002): The new institutionalism in strategic management. In: *Advances in Strategic Management* (Vol. 19), Ingram P, Silverman BS (eds). JAI Press: New York; 1–30.
- Khan, M.; Serafeim, G. and Yoon, A. (2016): Corporate Sustainability: First Evidence on Materiality. In: *The Accounting Review*, Vol. 91, No. 6, pp. 1697-1724.

- Lounsbury M. (2001): Institutional sources of practice variation: staffing college and university recycling programs. *Administrative Science Quarterly* 46(1): 29–46.
- Margolis JD, Walsh JP. 2003. Misery loves companies: rethinking social initiatives by business. *Administrative Science Quarterly* 48(2): 268–305.
- MSCI (2017): MSCI Ratings Methodology. <https://www.msci.com/documents/10199/123a2b2b-1395-4aa2-a121-ea14de6d708a>, last accessed April 2018.
- Negro G, Hannan MT, Rao H. (2011): Category reinterpretation and defection: modernism and tradition in Italian winemaking. In: *Organization Science* 22(6): 1449–1463.
- Oekom (2016): Oekom research understanding of sustainability. Online under http://www.oekom-research.com/homepage/english/oekom_research_understanding_of_sustainability_E_2016.pdf, last accessed April 2018.
- Philippe D, and Durand R. (2011): The impact of norm-conforming behaviours on firm reputation. In: *Strategic Management Journal* 32(9): 969–993.
- Rao H, Monin P, Durand R. (2003): Institutional change in Toque Ville: nouvelle cuisine as an identity movement in French gastronomy. In: *American Journal of Sociology* 108(4): 795–843.
- Sauder M, Espeland WN. (2009): The discipline of rankings: tight coupling and organizational change. In: *American Sociological Review* 74(1): 63–82.
- Sharfman M. (1996) The construct validity of the Kinder, Lydenberg and Domini social performance ratings data. In: *Journal of Business Ethics* 15(3): 287–296.
- SustainAbility (2018): Rate the Raters 2018, Ratings Revisited. <http://sustainability.com/our-work/reports/rate-raters-2018-white-paper/>, last accessed April 2018.
- Sustainalytics (2016): Momentum. https://marketing.sustainalytics.com/acton/attachment/5105/f-0a2b/1/-/-/-/Sustainalytics_Sustainable%20Momentum_2016_small.pdf, last accessed April 2018.
- United Nations (2016): United Nations Principle of Responsible Investment. Online available under <https://www.unpri.org/pri/about-the-pri>. Last accessed April 2018.

ANNEX: Table A. A Comparison of Product and Service Offerings of Data Vendor

Name of Vendor	Vigeo-EIRIS	MSCI-ESG Research	Oekom	ISS	Sustainalytics	GES Int.
Products for Investors						
Management of RI strategies	√	√	√	√	√	
ESG Indices & Ranking	√	√	√		√	
Investment & portfolio performance analysis	√	√	√	√	√	
Responsible shareholding (active ownership)	√			√		
Creation of Investment universes	√		√	√	√	
Custom research services		√	√	√	√	√
ESG integration & policy development			(√)	√	√	
PRI integration services			√	√	√	√
Engagement services			√	√	√	√
Proxy voting services				√	(√)	
Fund screening		√		√		√
Company reports		√	√	√	√	√
Country reports			√		√	√
Emerging Markets Risk Assessment			√			
Technology Solutions			√	√	√	
Products for Companies						
Green bonds / social bonds	√		√		√	
CSR evaluation & consultancy	√		(√)			
Labels & attestations	√					
Socio-economic & environmental footprint	√					
Reputational Risk advisory				√		
Negative Screening						
Controversy Risk Assessment	√	√	√	√	√	√
Climate Risk Assessments	√	√	√	√	√	√
Fossil Fuel & Extractives Screening			√	√		√
Controversial Activities & Weapons	√		√	√		√
Sudan Screening	√					
Human rights violation screens			√		√	√
UNGC adherence		√			√	√
Special considerations						
Sustainable goods and services	√		√			√
Prognosis (forward looking analyses)			√		√	
Corporate feedback mechanism		√	(√)			√
Expert feedback mechanism		√	√			
Purpose (Value vs Values driven approach)						
Change the world	√		√		(√)	√
Provide data		√		√	√	
References made to public documents						
Works with public actors (i.e. governments)	√		√		(√)	√
Works with social actors (NGOs, etc.)	√		√		(√)	√
Arista certified	√		√			√
Other certifications / standards	√		√		√	√

Source: Information taken from the website of each data vendor. The products only reflect what is offered on the first level of visibility on their product websites (“Our Solutions” or “our Services”). Products and services not visibly listed here will not be reflected in this table.