

Unpacking the ESG ratings: Do you trust your rater? *

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Abstract

As ESG investing goes mainstream, investors increasingly rely on ESG ratings when making investment decisions. In this study we "unpack" the overall ESG ratings provided by four prominent ESG data providers into their three main pillars (environment, social, and governance). Using a sample of European and UK companies we question the role of the governance and social pillars into the overall ESG scores. Besides, analysing the main drivers of the ESG ratings, we found that having an external auditor improves the overall ESG ratings. The results of this study add on the ESG-credibility debate and call for a better understanding of the three components of such ratings.

Keywords: Environmental, social, and governance factors (ESG); credit risk; debt cost; equity cost; sovereign bonds; portfolio management

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1 Introduction

Within the last decades a growing awareness of Environmental, Social, and Governance (ESG) problems has influenced public opinion and prompted governments and firms to integrate ESG dimensions into their regulatory and firm decisions. Simultaneously, investors were facing a considerable need for precise information about companies' environmental and social behaviours, which led to the creation of the Environmental, Social and Governance rating agencies. As a result, a new specialized market has soared and traditional rating agencies such as Standards and Poor, Moody's and Fitch started incorporating these aspects into their analyses, while financial data and information providers such as Thomson Reuters and Bloomberg started proposing their own ESG ratings.

This cumulatively has led to a surge in ESG based investing, with total volume of labelled sustainable debt reaching almost half a trillion USD (USD496.1bn)¹ in the first half of 2021 . This shift in public appetite for sustainable financial instruments is not only coming from investor-based interest but also increasing public and regulatory concern over climate change. As a result, ESG ratings are now regularly mentioned throughout the financial press, policy debates, and academic research. However, their prominence takes center stage when shaping the investment decisions of institutional investors. To date several papers have documented the effect between ESG ratings and investor behavior. [Rzeźnik et al. \(2021\)](#) shows that the inversion of the Sustainalytics rating scale, which contained no new information led some investors to incorrectly assess the meaning of the change in ESG ratings. They bought (sold) stocks they perceived as haven been ESG upgraded (downgraded) even when the opposite is true. [Berg et al. \(2022\)](#) document the impact of a change in ESG rating on mutual fund holdings, stock returns and corporate investing. They find that in response to an ESG downgrade stocks have a negative and long-term stock return.

However persistent issues remain with ESG ratings. There is no standardized approach to ESG ratings, with different raters often using different source material, and accounting

¹https://www.climatebonds.net/files/reports/cbi_susdebtsun.h12021_02b.pdf

methodologies often leading to investor confusion and greenwashing. [Berg et al. \(2019\)](#) examined why ESG ratings diverge and found that measurement contributes 56% of the divergence, scope 38%, and weight 6%. In particular they identified that the measurement divergence was being driven by a rater effect whereby the raters overall impression of the firm influences their measurement of certain categories. The impact of this rating divergence has consequences in the financial markets as seen by [Gibson et al. \(2021\)](#) who used data from seven different data providers and found that disagreement between ESG ratings and Environmental ratings was positively related to stock returns suggesting a risk premium for firms with higher environmental disagreement. [Christensen et al. \(2021\)](#) found that ESG rating disagreement is associated with higher stock return volatility and larger absolute price movements. Whilst [Kimbrough et al. \(2022\)](#) find that ESG disagreement is associated with uncertainty in the capital markets.

As a result, numerous proposals for regulation and more transparency have been made in response to the unsatisfactory state of the current ESG rating ecosystem. For instance, the Financial Markets Standards Board published a spotlight report on ESG ratings in July 2022, evaluating prospects for increased transparency and comparability. The European Securities and Markets Authority has also been consulting on this subject since spring 2020. In response, the European Union launched a consultation earlier this year to “help the Commission gain a better insight on the functioning of the market for ESG ratings, as well as better understand how credit rating agencies (CRAs) incorporate ESG risks in their creditworthiness assessment”.

Yet despite the ample evidence of the impact of ESG rating on investor behavior, the documented disagreement between ESG rating and its impact on financial market, no study to-date has looked at the potential conflict this rating divergence could be creating for firms. As seen in the literature firm managers have an incentive to increase ESG ratings and reduce disagreement between rating agencies, in order to attract institutional investors and reduce their cost of capital. However, a tradeoff occurs, conflicting assessments of a firm’s Environmental, Social and Governance performance may create confusion over what aspects of firm behavior needs to be improved and creates different

marginal rates of substitution between the pillars based of raters differing measurement and weighting strategies. This creates the potential to allow managers to cherry pick areas for improvement. Thus, we aim to unpack the ESG ratings and examine this lack of standardization in ESG rating, discuss the potential tradeoffs that could be occurring and examine what are the main drivers behind these ESG ratings.

2 One size does not fit all. The problem with ESG Ratings

One key aspect of this project is the construction of a comprehensive “ESG database” that collects high-quality and sufficiently long time series both on corporate actions and ESG ratings to carry out relevant empirical analyses. Our dataset consists of monthly ESG data from Sustainalytics, RobecoSAM, Refinitiv and Bloomberg for listed firms in the 27 EU countries and the United Kingdom. Our time series ranges from 2002 to 2020 and contains ESG ratings as well as ESG KPIs that are synthesized data by rating agencies. Table 1 provides a description of the rating scales and source material used by the four ESG rating agencies in our sample. Typically, Sustainalytics measures firms ESG performance using an ESG risk score, this is an inverted scale in which 0 represents the least risk (best in class) and 100 represents high risk (worst in class) but in order to make all ratings comparable we use the Sustainalytics rank where firms’ are ranked based on their ESG behavior from 0 (worst in class) to 100 (Best in class). As seen in column 3 of Table 1 the approaches used by Sustainalytics, Bloomberg and Refinitiv are all similar as they depend on publicly available information. However, Bloomberg also makes direct contact with the firm in order to formulate their rating. RobecoSAM is the outlier in our sample as they use an entirely different approach and depend solely on survey data. Despite the fact rating agencies appear to be using similar source material, often the ways in which it is processed can subsequently lead to vastly different ratings for the same firm.

Table 2 provides the descriptive statistics for the four rating agencies in our sample on

a yearly basis from 2016 to 2020. In our sample Refinitiv provides ratings beginning from 2002 however in order to perform a comparative analysis we examine from 2016 onwards. The first observation that is evident is that all four rating agency across all pillars (Environmental, Social and Governance) increases their firm coverage over time, this is unsurprising given the increasing demand for ESG information. Refinitiv has the most comprehensive coverage in our sample providing 1862 EU firms ESG ratings in 2020, whilst RobecoSAM, Sustainalytics and Bloomberg have a coverage of 1023, 630 and 229 firms respectfully. Sustainalytics has the highest mean ESG score of 73.67 in 2016 and although this is decreasing every year it still remains the highest amongst the rating agencies. By further examining this decrease in ESG rating over time, we see that the largest decrease of mean ESG rating happens to RobecoSAM with a decrease of 21.51 points. Contrary to the other three rating agencies, Bloombergs mean ESG rating increases over time. In order to make this comparison more robust we use a sub-sample of our data and perform descriptive statistics for firms that have E, S and G ratings from all four raters. The results are displayed in Table 3, as we can see the mean ESG ratings across all agencies becomes closer in magnitude. Sustainalytics still has the highest mean ESG rating every year, whilst Bloomberg is still the lowest across all dimensions. Interestingly the Governance pillar for Refinitiv, RobecoSAM and Sustainalytics has the lowest mean rating compared to their Environmental and Social pillars, however Bloomberg's mean Governance rating is the highest of all it's pillars. This points to several possible issues, first rating agencies are not providing uniform firm ratings, second this discrepancy is persistent across every pillar, and third this is producing differing marginal rates of substitution between the pillars depending on the rating agency.

2.1 Intra-correlations between E,S,G, and ESG ratings

To unpack the accounting methodologies of the rating agencies and how they differ we investigate the correlations between of ESG with the E, S, G pillars, the

intra-correlations between the E-S-G pillars and the distributions of the ratings. Figure 1 shows the correlation and intra-correlation for Bloombergs ratings, displayed is a visual demonstration of the dispersion of the rating correlation (as demonstrated by the scatter plots), a visualization of the distribution of the ratings, and the correlation/intra-correlation. First we start by observing the correlations, evidently the Bloomberg ESG rating is highly correlated to it's Environmental rating at 0.83, but drops for Social and governance to 0.64 and 0.31. By further observing the intra-correlation we see that the correlation between Governance and Environmental, and Governance and Social falls even lower to 0.17 and 0.06, essentially pointing to no relation between the pillars. By examining the dispersion of these correlations we see that the low Governance intra-correlations appears to be concentrated in the lowest Environmental and Social ratings. Further we look to the distributions of scores. Noticeably, the ESG ratings appear to be approximately normally distributed, with Social and Environmental skewed considerably to the left, indicating that the majority of firms in our Bloomberg sample have poor environmental and social performance. Whilst the distribution for Governance is skewed to the right indicating favorable Governance rating.

Figure 2 shows the correlation and intra-correlation for Refinitiv. Immediately it is evident that the correlations and intra-correlations are much higher than for Bloomberg, although the intra-correlation between Governance and Environmental, and Governance and Social are still considerably low at 0.39 and 0.43. However unlike Bloomberg the correlation between Social and Environmental is substantially higher at 0.73, indicating that if Refinitiv deems you perform well in Environmental this is often reflected in your Social score too. By observing the dispersion scatter plots, we can see that the low intra-correlations for Governance appear to be present as every level of Environmental and Social ratings. The distributions of the Refinitiv ratings appear similar to that seen by Bloomberg. We see that once again the ratings for ESG appear to be normally distributed, whilst Social and Governance moderately skewed to the left and the right respectfully. However, the distribution for Environmental scores is heavily skewed to the left meaning that the majority of firms are being poorly rated in their environmental

performance, thus it appears that the poor performance in Environmental is being compensated by higher markings in Governance and social scores and thereby leading to the normal distribution seen for the overall ESG score.

Contrary to Bloomberg and Refinitiv, the correlations and the intra-correlations depicted in Figure 3 for RobecoSAM are very high. This is potentially pointing to different account methodologies whereby a firm deemed good/bad in one pillar by RobecoSAM is deemed good/bad in all other. However by examining the distribution of the scores, we see a flatter distribution with a spike at their highest rating for all dimensions.

Figure 4 depicts the correlations and intra-correlations for Sustainalytics. We can see that the correlation between ESG and all individual pillars is high, with the lowest correlation coming from the Social pillar at 0.76. However similar to Bloomberg and Refinitiv these correlations drop once we observe the intra-correlation of the pillars, in particular the lowest correlation of 0.55 is between Governance and Social. As we can see from the distributions of the scores, all Sustainalytics scores are skewed to the right, indicating that they favorably rate firms.

In order to understand how these intra-correlations might be affecting the marginal rate of substitution between the pillars and shaping managers ESG behaviour we observe the example depicted in Table 4. Table 4 depicts the ESG ratings for Bollore transportation company in our sample in 2021. If a manager was seeking to improve their ESG ratings based on these scores, it is unclear which dimension to improve. Based upon RobecoSAM the firm is already a high performer and needs only marginal improvement in all areas of ESG, however by just observing Refinitiv or Bloomberg scores the manager should focus greater attention on improving the Governance or social aspects of the firm respectively. Whilst Sustainalytics would incentivise a manager to improve both. Thus different rating agencies are providing vastly different incentives to firm managers, potentially hindering the path to overall ESG improvement.

Thus these correlations, intra-correlations and rating distribution point to vastly different accounting methodologies used by the different rating firms. RobecoSAM whos source material is solely reliant on survey data provided by the firms, seems to

provide uniform ratings across ESG and its pillars. However Bloomberg, Refinitiv and Sustainalytics methodology to seem to point to separate and uncorrelated governance, social and environmental pillars. This can create a problem of different marginal rates of substitution between the different pillars for firm managers depending on the rating agency.

2.2 How does the divergence evolve over time?

Next we examine how this divergence evolves over time. Figures 5-7 show the rating disagreement for each pillar along a yearly basis from 2016 to 2020. All ratings are standardised and sorted using the Refinitiv's score as a reference. Figure 5-7 allow us to analyze the rating agencies driving this disagreement. Figure 5 depict the Environmental disagreement, all raters appear to be dispersed around Refinitiv, with the majority of the outliers belonging to Bloomberg. Figure 5 shows that over time RobecoSAM appears to be decreasing their disagreement with Refinitiv. By observing Figure 6 it's evident that the number of outliers of the Social pillars is increasing over time, with this effect is primarily being driven by Bloomberg. Whilst in Figure 7, the disagreement of the governance pillar appears to be primarily driven by RobecoSAM.

Figure 8 shows the average standard deviation of ESG, Environmental, Social and Governance for 394 firms which having a rating from all rating providers ranging from 2016 to 2020. Immediately we can see that Governance has the highest average standard deviation across all dimensions, followed by Social, Environmental and then the cumulative ESG dimension. All four appear to experience a sharp decrease in average standard deviation between 2016 and 2017 with this remaining persistent for ESG and Social. However all dimensions experiencing a minor incline in 2020, except for Governance. This points to the disagreeance amongst raters being largely driven by the Social and Governance pillars.

3 How to improve your ESG rating

Given the confusion faced by firms over how to improve their ESG ratings we look to the main drivers of ESG scores and which ESG Key Performance Indicators (KPI's) are associated with high ESG scores. Figure 9 shows the Pearson's correlation between the ESG ratings for RobecoSAM, Sustainalytics, Refinitiv and the KPI's with the highest correlation. Sustainalytics and Refinitiv demonstrate a higher correlation to the KPI's than RobecoSAM, possibly due to the source material used. Evidently one of the highest correlated KPI's for all three raters is the "CSR Sustainability External Report", indicating that all rating agencies value external sustainability auditing. Beyond this Sustainalytics and Refinitiv are also highly correlated to "Environmental Supply Chain Management", "Incentives for individual management of climate change" and "Climate change commercial risks". In general RobecoSAM is less correlated to the KPI's but still relevant was "UN Global Compact Signatory", "GRI Report Guidelines" and "Policy Environmental Supply Chain". This indicates that depending on which rating a firm would like to improve different steps should be taken, however the "CSR Sustainability External Report" seems to be a universal KPI for improving all ESG ratings.

Next we disentangle the previous analysis by industry, as different industries will experience different ESG concerns. Once again the highest correlation is marked by the darkest shade of blue. Observing Figure 10 we can see that for all industries the "CSR Sustainability External Report" still remains amongst the most correlated for obtaining a high ESG score. Also relevant across most industries is the "Human rights Policy", "Policy Business Ethics" and "Policy in Fair compensation". The industry who's ESG rating is least correlated with all KPI's appears to be Investment Holding Companies, whilst the industries with the highest correlation appear to be Renewable Energy, Automobiles, personal Household products and Consumer goods. This is unsurprising as energy sectors and consumer goods are typically more carbon intensive industries.

4 Conclusion

To date the majority of the literature has focused on the impact ESG ratings on investor behavior and financial markets, yet no study has examined the effect of rating divergence on manager incentives. In this letter we "unpack" the overall ESG ratings for four of the top EU ESG data providers (Sustainalytics, Refinitiv, RobecoSAM and Bloomberg) into their individual pillars.

First we perform Pearson correlations and intra-correlations for each rating agency, to examine the correlation between ESG and its pillars but also the intra-correlation between the pillars. We find that these intra-correlations point to the vastly different accounting methodologies used by the rating agencies. Our findings demonstrate the high correlation and intra-correlation for RobecoSAM, whose source material is solely reliant on survey data. This indicates that firms rated by RobecoSAM are provided with almost uniform ratings across ESG and its pillars. Contrary to this Bloomberg, Refinitiv and Sustainalytics provide differing levels of intra-correlation which at times is extremely low. This lack of uniform methodology is creating a problem of different marginal rates of substitution between the different pillars for firm managers.

To further analyse the dynamics at play, we generate the average standard deviation of these pillars for firms with multiple ratings and examine how this evolves over time. We find that Governance consistently has the highest standard deviation followed by Social, indicating that these pillars are creating most of the confusion for firms. Furthermore, we explore the main drivers of the ESG ratings, and find that having an external auditor improves the ESG ratings for all agencies.

The results of this study add to the ESG-credibility debate and call for a better understanding of the three pillars. These conflicting assessments of a firm's Environmental, Social and Governance performance may create confusion beyond what is observed in the financial markets and may mislead firm managers over what ESG aspects need to be improved. Furthermore this could potentially allow managers to cherry pick areas for improvement.

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Table 1: Overview of ESG rating agencies

Data Provider	Rating scale	Sources
Sustainalytics	0 - 100	Public disclosure, Media and news NGO reports
Bloomberg	0 - 10	Company reports, Publicly available information, Firm direct contact
RobecoSAM	0 - 100	Survey approach
Refinitiv	0 - 100	Company websites, Company reports, NGO Websites, Media and news Stock Exchange filings

Table 2: Descriptive statistics for the intra-correlation analysis

	year	Bloomberg						Refinitiv						RobecoSAM						Sustainalytics					
		# firms	mean	std	25%	50%	75%	# firms	mean	std	25%	50%	75%	# firms	mean	std	25%	50%	75%	# firms	mean	std	25%	50%	75%
ESG	2016	181	3,73	1,13	2,93	3,76	4,46	1067	52,84	20,18	37,90	53,98	68,54	416	68,08	25,20	50,75	74,50	90,00	438	73,67	25,03	60,29	82,61	92,86
	2017	213	3,90	1,11	3,14	3,98	4,65	1160	53,88	20,04	40,70	55,23	69,45	643	57,75	29,10	34,00	58,00	85,00	452	72,97	24,97	59,23	81,08	92,62
	2018	221	4,01	1,15	3,21	4,06	4,81	1571	51,73	20,80	36,08	52,60	68,02	810	48,93	30,10	23,00	46,00	77,00	505	72,66	24,71	59,26	79,79	92,50
	2019	225	4,19	1,18	3,38	4,21	5,08	1736	51,83	20,79	36,14	53,00	67,86	982	45,85	29,44	21,00	42,00	70,00	593	69,93	25,14	53,85	76,06	91,21
	2020	229	4,31	1,19	3,42	4,31	5,10	1862	51,24	21,20	34,83	52,85	67,97	1023	46,57	29,58	21,00	43,00	73,00	630	69,94	24,74	53,14	75,29	91,05
Environmental	2016	748	2,23	1,87	0,55	1,98	3,41	1067	48,89	28,09	24,53	50,51	73,99	416	67,69	25,06	50,75	73,00	89,00	438	70,49	25,45	55,00	78,68	90,91
	2017	769	2,46	1,91	0,76	2,17	3,80	1160	48,53	28,15	24,52	50,05	72,54	643	58,34	28,13	36,00	59,00	84,00	452	69,82	25,40	53,33	77,03	91,08
	2018	782	2,68	1,98	0,97	2,46	4,03	1571	44,57	28,20	20,77	43,34	68,21	810	51,02	28,73	27,00	49,00	76,00	505	69,22	25,16	51,16	75,82	90,63
	2019	786	2,95	2,02	1,28	2,79	4,38	1736	45,37	27,98	22,78	44,90	69,53	982	48,41	28,10	25,00	44,00	70,00	593	66,91	25,00	48,89	71,53	88,67
	2020	788	3,26	1,99	1,79	3,14	4,72	1862	44,36	28,08	20,61	44,35	67,72	1023	49,66	28,17	26,00	47,00	73,00	630	67,09	24,97	48,32	72,71	88,35
Social	2016	748	2,30	1,66	1,06	1,81	3,17	1067	56,93	23,04	39,86	57,17	75,89	416	67,53	26,54	49,75	74,00	90,00	438	68,56	27,40	53,57	76,92	90,77
	2017	769	2,59	1,73	1,28	2,10	3,45	1160	59,49	22,16	45,25	61,19	77,01	643	55,87	31,10	28,00	58,00	85,00	452	67,77	27,07	50,00	76,00	90,48
	2018	782	2,76	1,74	1,45	2,34	3,68	1571	57,24	22,50	40,19	58,56	75,41	810	46,02	31,62	18,00	39,00	76,00	505	68,33	26,93	50,00	75,82	91,30
	2019	786	2,94	1,79	1,57	2,54	3,99	1736	56,86	22,77	39,57	58,39	75,39	982	42,83	30,45	16,00	36,00	69,00	593	65,97	27,40	46,43	72,97	89,84
	2020	788	3,16	1,86	1,68	2,80	4,31	1862	55,12	23,63	36,92	56,70	74,94	1023	43,99	30,34	17,00	39,00	71,00	630	65,74	26,69	48,25	70,82	88,59
Governance	2016	748	5,62	1,47	4,56	5,71	6,75	1067	49,58	22,84	31,05	50,85	67,56	416	67,46	25,06	50,00	73,50	89,00	396	72,55	25,31	58,54	81,03	92,33
	2017	769	5,79	1,39	4,87	5,87	6,85	1160	49,80	22,99	31,38	50,20	67,90	643	58,26	27,93	36,00	58,00	84,00	409	72,21	25,17	58,07	79,73	92,59
	2018	781	5,91	1,37	4,97	5,97	6,89	1571	49,52	23,59	30,34	50,48	68,94	810	50,27	28,74	26,00	47,00	76,00	461	71,82	25,26	56,48	79,17	92,31
	2019	786	6,11	1,32	5,19	6,19	7,09	1736	49,77	23,58	30,75	50,22	68,94	982	47,37	28,23	24,00	43,00	70,00	531	69,60	25,64	53,57	76,22	91,21
	2020	788	6,29	1,32	5,40	6,34	7,31	1862	50,90	23,55	31,43	51,42	70,47	1023	47,96	28,48	24,00	44,00	72,00	562	69,63	24,92	52,77	75,29	90,29

Table 3: statistics of the overlap sample (the one we used for the analysis on divergence) decide if to use both of them or just one

	year	Bloomberg						Refinitiv						RobecoSAM						Sustainalytics					
		count	mean	std	25%	50%	75%	count	mean	std	25%	50%	75%	count	mean	std	25%	50%	75%	count	mean	std	25%	50%	75%
ESG	2016	71	4,03	0,95	3,40	3,96	4,50	253	67,53	15,40	59,92	69,36	78,72	253	69,96	25,51	50,00	78,00	92,00	253	78,13	21,89	68,49	85,02	94,27
	2017	92	4,21	1,01	3,47	4,11	4,74	309	65,39	16,30	56,68	67,73	77,50	309	63,60	27,12	41,00	65,00	89,75	309	74,36	24,09	60,60	81,14	93,31
	2018	103	4,27	1,04	3,62	4,28	4,85	342	66,36	15,93	57,48	69,18	77,75	342	60,98	27,50	38,00	59,63	86,92	342	74,01	24,38	60,03	82,51	94,07
	2019	105	4,40	1,04	3,67	4,51	4,91	356	68,25	15,54	60,23	71,59	79,36	356	59,65	27,33	36,92	58,92	85,54	356	74,16	23,18	59,85	81,15	93,23
	2020	116	4,60	1,04	3,92	4,67	5,21	381	70,18	14,28	63,72	72,81	80,22	381	61,34	26,95	39,83	61,67	87,00	381	74,71	22,48	60,76	80,93	93,27
Environmental	2016	253	2,84	2,03	1,25	2,53	4,26	253	67,18	21,23	55,54	72,04	83,88	253	70,04	24,93	53,00	77,00	91,00	253	74,98	22,66	65,51	80,94	92,76
	2017	309	2,86	2,06	1,19	2,67	4,28	309	64,99	22,30	53,14	69,80	83,00	309	64,34	26,24	44,50	67,75	89,00	309	71,27	24,42	55,09	76,93	92,45
	2018	342	3,05	2,10	1,38	3,00	4,55	342	65,77	22,09	53,25	70,56	82,18	342	62,32	26,36	43,17	62,88	85,92	342	70,40	24,89	53,39	77,19	91,60
	2019	356	3,20	2,13	1,50	3,18	4,68	356	66,27	22,40	53,09	70,42	84,05	356	61,11	26,36	40,00	62,13	85,67	356	71,39	23,02	57,23	77,22	91,10
	2020	381	3,52	2,10	1,90	3,69	5,08	381	68,09	21,05	55,95	72,90	84,32	381	62,93	26,27	41,00	66,00	86,00	381	72,06	22,87	55,87	77,75	91,00
Social	2016	253	2,44	1,56	1,34	2,08	3,11	253	72,36	17,88	62,93	75,79	85,53	253	69,02	25,73	50,00	77,00	90,00	253	76,58	21,39	65,36	83,38	93,77
	2017	309	2,60	1,64	1,42	2,19	3,32	309	70,77	18,70	58,91	74,05	85,33	309	63,33	26,77	42,25	65,25	88,00	309	73,78	23,42	60,16	79,10	93,57
	2018	342	2,77	1,68	1,51	2,41	3,58	342	71,79	17,91	60,86	75,00	85,44	342	61,13	26,69	40,00	60,71	87,33	342	73,47	23,51	58,29	80,28	92,89
	2019	356	2,88	1,68	1,66	2,49	3,67	356	73,23	17,23	64,77	75,90	86,15	356	59,88	26,49	38,00	59,75	85,75	356	73,22	23,39	60,92	79,18	91,76
	2020	381	3,10	1,71	1,85	2,75	4,03	381	74,97	16,32	65,86	78,57	87,04	381	61,56	26,15	40,50	62,50	86,33	381	73,73	22,63	60,48	80,05	91,54
Governance	2016	253	5,99	1,32	4,92	6,18	7,02	253	59,95	20,78	45,54	62,82	77,34	253	69,00	26,93	47,00	80,00	91,00	253	72,29	26,07	59,09	79,25	93,03
	2017	309	5,99	1,30	5,05	6,09	7,13	309	56,71	21,84	41,66	59,42	74,29	309	61,28	29,37	36,00	62,50	89,50	309	68,22	26,63	52,72	76,56	90,34
	2018	342	6,03	1,24	5,22	6,08	6,94	342	58,14	21,39	42,06	61,40	75,35	342	57,87	29,71	32,67	58,00	87,58	342	68,89	26,80	50,62	76,57	91,80
	2019	356	6,10	1,23	5,29	6,07	6,87	356	61,89	20,27	48,68	65,64	77,31	356	56,66	29,25	32,65	54,83	85,08	356	68,89	25,96	51,33	76,26	90,88
	2020	381	6,30	1,17	5,58	6,24	7,09	381	64,47	19,24	52,85	67,12	79,35	381	58,69	28,76	37,00	58,00	87,17	381	69,27	24,80	53,94	75,72	90,26

Table 4: ESG ratings for Entertainment company Bollore in 2021

Pillar	Sustainalytics	Bloomberg	RobecoSAM	Refinitiv
ESG	11	Na	85	57
Environmental	65	4	90	73
Social	1	1	85	76
Governance	2	5	84	28

5 List of Figures

Figure 1: Intra-correlation between Environmental, Social, Governance and ESG score as provided by Bloomberg for a sample of 799 European companies

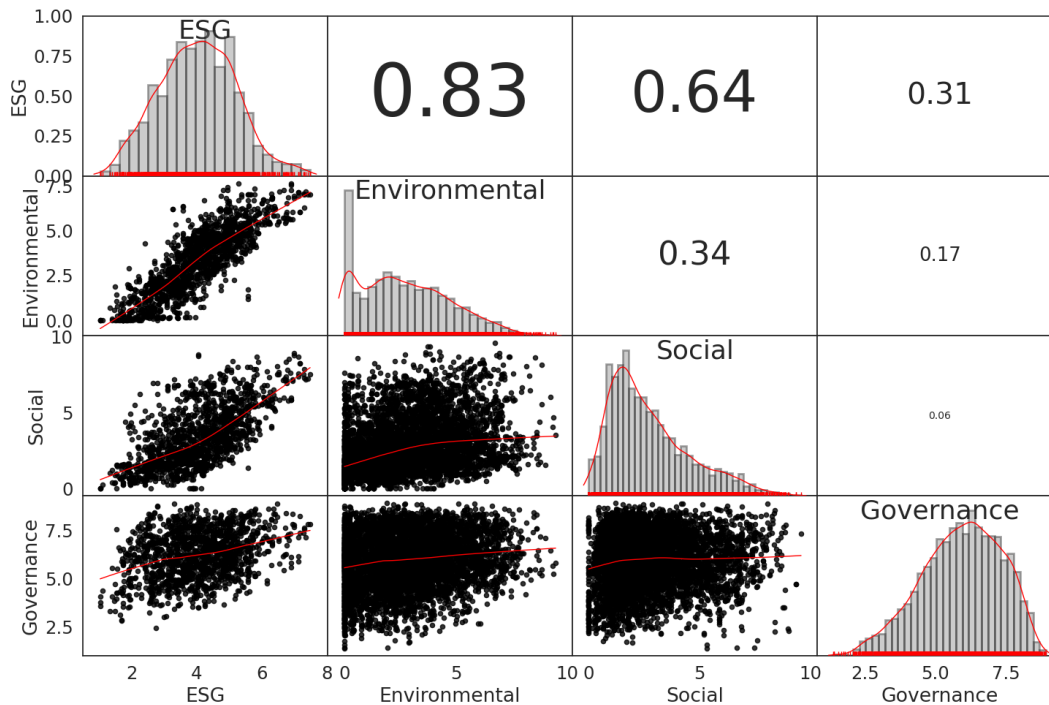


Figure 2: Intra-correlation between Environmental, Social, Governance and ESG score as provided by Refinitiv for a sample of 2445 European companies

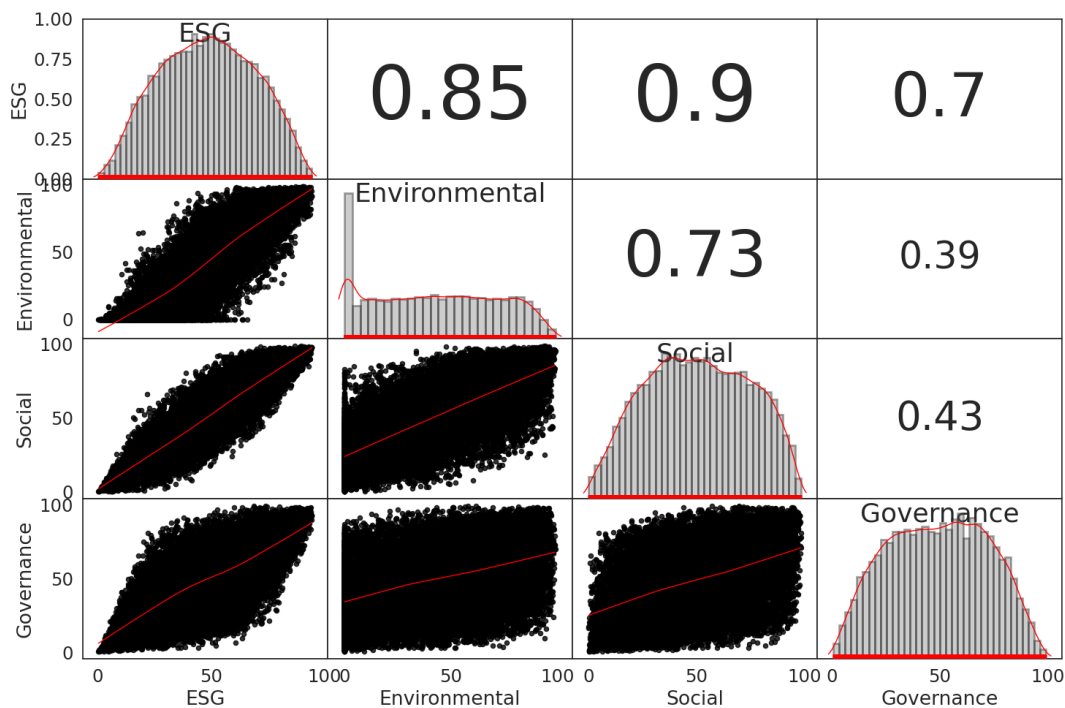


Figure 3: Intra-correlation between Environmental, Social, Governance and ESG score as provided by SP (ex RobecoSAM) for a sample of 1411 European companies

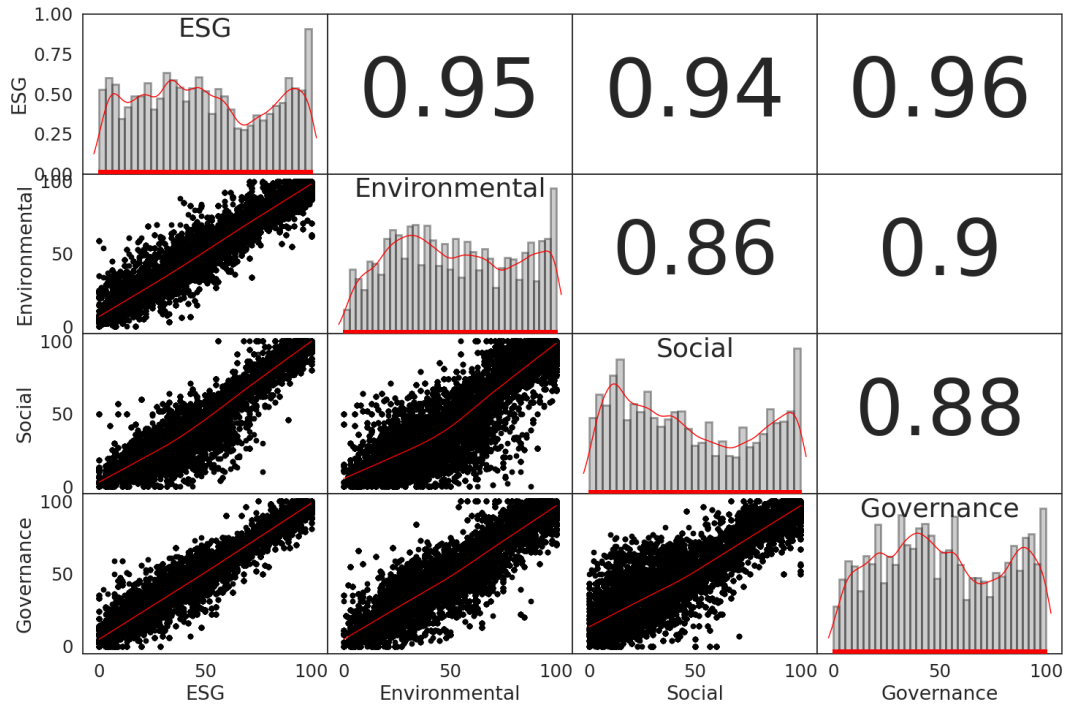


Figure 4: Intra-correlation between Environmental, Social, Governance and ESG score as provided by Sustainalytic for a sample of 647 European companies. The scores have been collected before the methodology change

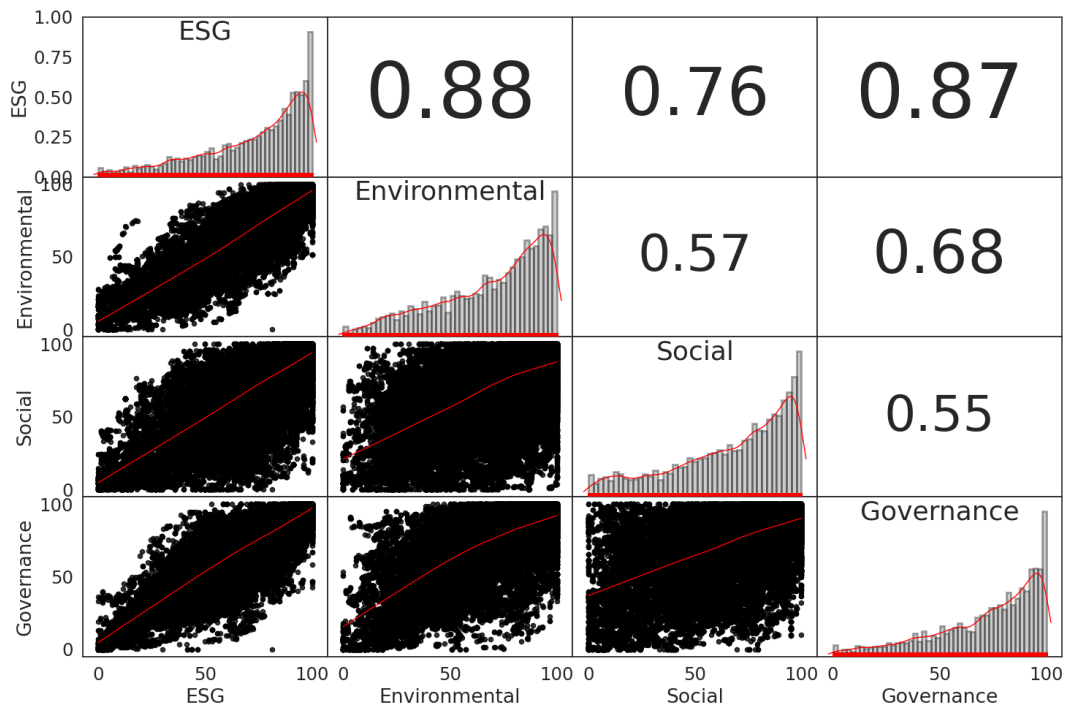


Figure 5: Environmental Rating Disagreement between RobecoSAM (blue), Sustainalytics (orange), Refinitiv (green), and Bloomberg (red). All ratings have been standardized and sorted using Refinitiv's scores as reference.

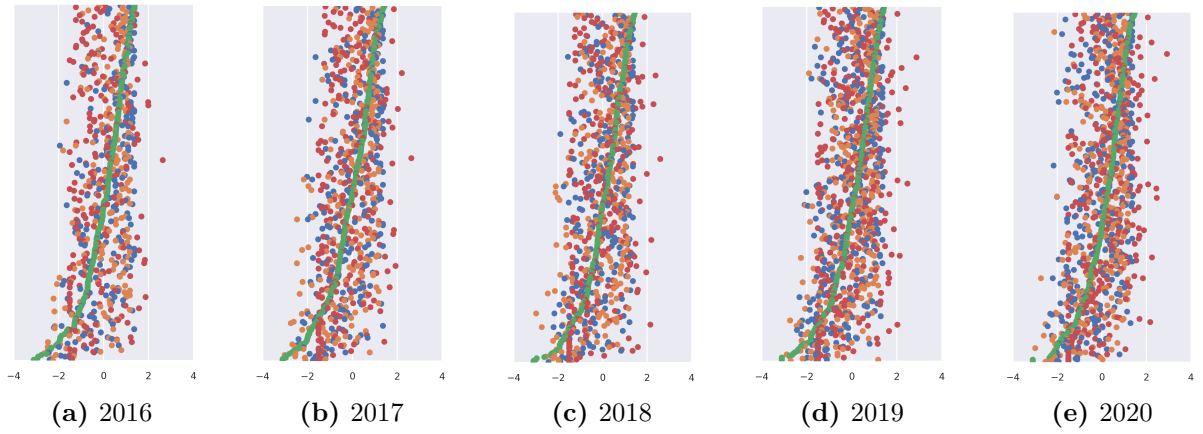


Figure 6: Social Rating Disagreement between RobecoSAM (blue), Sustainalytics (orange), Refinitiv (green), and Bloomberg (red). All ratings have been standardized and sorted using Refinitiv's scores as reference.

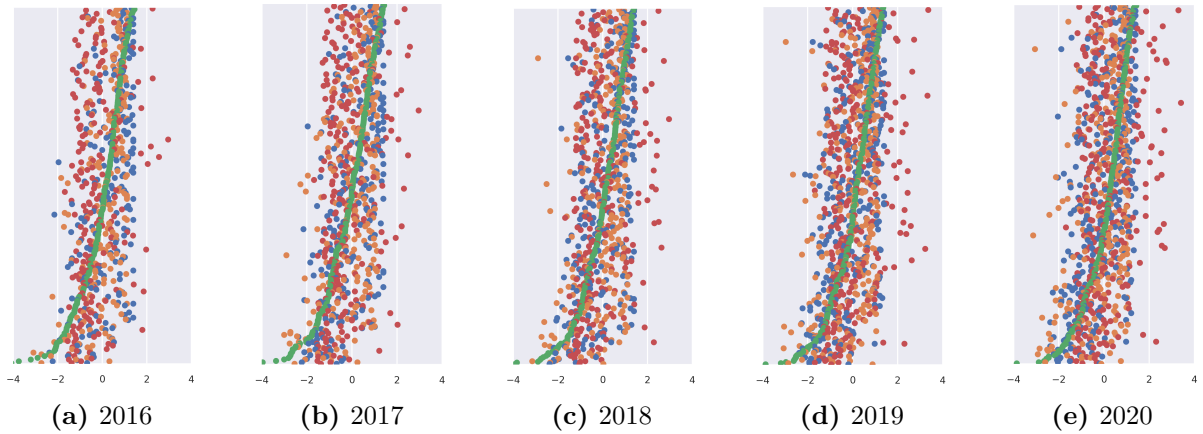


Figure 7: Governance Rating Disagreement between RobecoSAM (blue), Sustainalytics (orange), Refinitiv (green), and Bloomberg (red). All ratings have been standardized and sorted using Refinitiv's scores as reference.

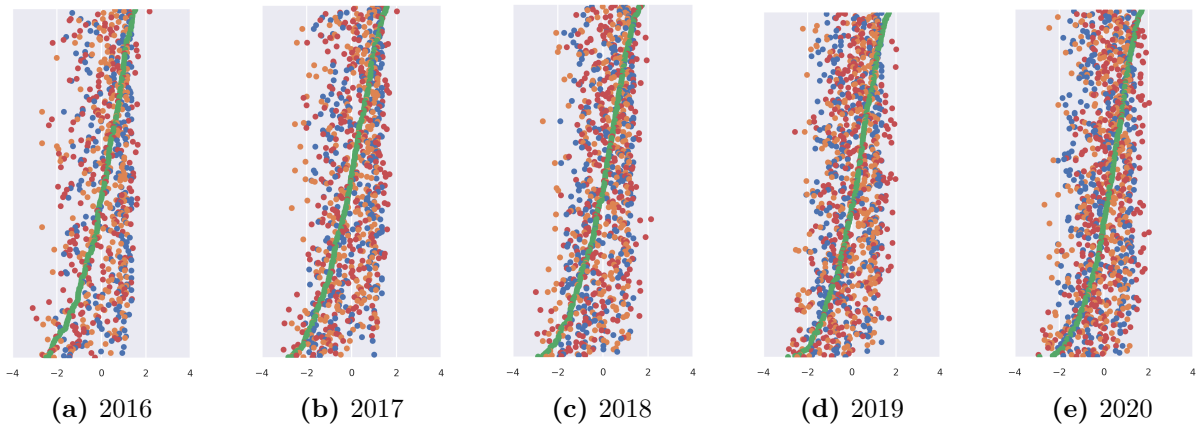


Figure 8: Average standard deviation of Environmental (green), Social (blue), and Governance (yellow) ratings divided per year. The average standard deviation is calculated on a sample of 394 European companies. Each year we take the average of the standard deviations computed using the rating provided by the four agencies of all the companies in the sample.

