

## ONLINE APPENDIX

Appendix C. Bivariate correlations matrix

	1	2	3	4	5	6	7
1 TobinQ	1						
2 MtoB	0.000	1					
3 StkEng	0.010	-0.044***	1				
4 Reputation	-0.041***	-0.027**	0.153***	1			
5 DAssurance	-0.055***	-0.013	0.229***	0.086***	1		
6 Controversies	0.027**	-0.010	-0.108***	-0.097***	-0.076***	1	
7 ESGreporting	0.073***	-0.045***	0.000	-0.032***	-0.080***	-0.046***	1
8 ESGperformance	0.010	0.033***	0.382***	0.274***	0.315***	-0.301***	0.020
9 CSRgap	0.063***	-0.052***	-0.158***	-0.154***	-0.184***	0.144***	0.831***
10 ACindep	0.082***	-0.010	0.164***	0.093***	0.010	-0.115***	0.172***
11 ACexpertise	0.076***	-0.025**	0.132***	0.025**	-0.036***	-0.167***	0.211***
12 BoardSize	-0.154***	0.000	0.000	0.097***	0.090***	-0.142***	-0.051***
13 BoardActivity	-0.151***	0.010	-0.046***	0.000	0.065***	0.000	-0.086***
14 BoardIndep	0.010	0.010	0.177***	0.045***	0.064***	-0.143***	0.084***
15 CEOduality	-0.036***	0.025**	0.073***	-0.093***	0.082***	0.096***	0.010
16 BoardDiversity	0.103***	-0.027**	0.195***	-0.066***	0.121***	-0.141***	0.133***
17 CSRCommittee	-0.027**	0.010	0.250***	0.074***	0.222***	-0.097***	-0.045***
18 BoardTenure	0.145***	-0.010	0.024**	0.052***	-0.083***	0.000	0.023*
19 LogAge	-0.023*	0.049***	-0.010	0.010	0.109***	-0.047***	-0.126***
20 Size	-0.335***	-0.010*	0.096***	0.194***	0.165***	-0.413***	-0.056***
21 ROA	0.592***	0.000	0.000	0.010	-0.059***	0.010	0.099***
22 Leverage	-0.011*	0.000	0.023*	0.056***	-0.037***	0.054***	-0.023*
23 WorkCap	0.010	0.000	0.026**	0.031***	0.029***	-0.073***	-0.023*
24 R&D	-0.010	0.000	0.025**	0.031***	0.030***	-0.088***	-0.025**
25 Advertising	-0.025**	0.000	0.027**	0.042***	0.040***	-0.077***	-0.036***
26 CAPEX	-0.036***	0.000	0.039***	0.050***	0.035***	-0.056***	0.000
27 Dividend	0.000	0.000	0.036***	0.043***	0.000	0.000	0.010
28 EUDirective	-0.077***	0.010	-0.142***	-0.083***	-0.024**	-0.062***	-0.071***
29 StkOrientation	-0.148***	0.000	0.000	-0.113***	0.174***	0.115***	-0.078***
	8	9	10	11	12	13	14
8 ESGperformance	1						
9 CSRgap	-0.491***	1					
10 ACindep	0.173***	0.056***	1				
11 ACexpertise	0.192***	0.104***	0.263***	1			
12 BoardSize	0.067***	-0.096***	-0.172***	0.037***	1		
13 BoardActivity	-0.010	-0.073***	-0.154***	-0.192***	0.010	1	
14 BoardIndep	0.265***	-0.061***	0.236***	0.220***	-0.028***	-0.079***	1
15 CEOduality	0.000	0.045***	0.011*	-0.029**	-0.085***	0.049***	0.069***
16 BoardDiversity	0.293***	-0.025**	0.164***	0.352***	0.010	-0.109***	0.251***
17 CSRCommittee	0.324***	-0.166***	0.095***	0.105***	0.027**	-0.010	0.094***
18 BoardTenure	0.010	0.034***	0.123***	0.087***	0.000	-0.211***	-0.067***
19 LogAge	0.087***	-0.151***	-0.133***	-0.118***	0.109***	0.022*	-0.107***
20 Size	0.365***	-0.242***	0.000	0.059***	0.392***	0.140***	0.108***
21 ROA	-0.021*	0.086***	0.088***	0.066***	-0.106***	-0.120***	0.000

22	Leverage	-0.037***	0.010	-0.010	-0.119***	-0.107***	0.029**	-0.039***
23	WorkCap	0.056***	-0.046***	0.028**	-0.059***	-0.039***	0.010	0.010
24	R&D	0.068***	-0.067***	0.010	-0.010	-0.025**	0.000	0.010
25	Advertising	0.059***	-0.069***	0.010	-0.068***	-0.057***	0.010	-0.028**
26	CAPEX	0.056***	-0.039***	0.026**	-0.059***	-0.038***	0.046***	-0.010
27	Dividend	0.037***	-0.010	0.021*	-0.069***	-0.066***	0.108***	0.000
28	EUDirective	0.059***	-0.116***	-0.147***	-0.058***	-0.104***	0.077***	-0.066***
29	StkOrientation	0.039***	-0.087***	-0.378***	-0.260***	0.211***	0.112***	0.010

		15	16	17	18	19	20	21
15	CEOduality	1						
16	BoardDiversity	0.029***	1					
17	CSRCommittee	0.010	0.131***	1				
18	BoardTenure	-0.172***	0.027**	0.010	1			
19	LogAge	-0.068***	-0.010	0.093***	0.162***	1		
20	Size	-0.111***	0.074***	0.075***	-0.066***	0.066***	1	
21	ROA	-0.010	0.048***	-0.059***	0.075***	-0.048***	-0.191***	1
22	Leverage	0.046***	-0.123***	0.000	-0.085***	0.010	-0.075***	0.010
23	WorkCap	-0.048***	-0.077***	0.027**	-0.058***	0.022*	0.058***	0.038***
24	R&D	-0.042***	-0.069***	0.027**	-0.058***	0.027**	0.065***	0.010
25	Advertising	-0.043***	-0.113***	0.022*	-0.092***	0.025**	0.078***	0.010
26	CAPEX	-0.021*	-0.115***	0.010	-0.100***	0.000	0.089***	0.010
27	Dividend	0.027**	-0.075***	-0.022*	-0.087***	-0.029***	0.049***	0.037***
28	EUDirective	0.063***	0.170***	-0.057***	-0.087***	0.027**	0.113***	-0.075***
29	StkOrientation	0.109***	0.068***	-0.087***	-0.161***	-0.010	0.077***	-0.086***

		22	23	24	25	26	27	28
22	Leverage	1						
23	WorkCap	0.082***	1					
24	R&D	0.031***	0.880***	1				
25	Advertising	0.190***	0.840***	0.910***	1			
26	CAPEX	0.280***	0.721***	0.780***	0.821***	1		
27	Dividend	0.220***	0.420***	0.311***	0.382***	0.531***	1	
28	EUDirective	-0.170***	-0.046***	-0.044***	-0.065***	-0.073***	-0.065***	1
29	StkOrientation	0.062***	0.020	0.021*	0.029***	0.029***	0.027**	0.112***

The bivariate correlations are estimated for Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)

\*\*\* p-value<0.01. \*\* p-value<0.05. \* p-value<0.1

Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)

Coefficients include three decimal places.

**Online Table 1.** Robust analysis for Model 1 and Model 2: New evidence for other assurance parameters, controversies and CSRgap

<b>Panel A. Robust analysis for Assurer attributes (Group 2 Sample and random effects)</b>												
	Accountant				BrandName				Specialisation			
	Model 1	Model 2			Model 1	Model 2			Model 1	Model 2		
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
Controversies	-0.019** (0.009)	-0.009 (0.046)	0.049 (0.058)	-0.023* (0.014)	-0.0179* (0.009)	-0.011 (0.037)	-0.003 (0.053)	-0.017 (0.012)	-0.017** (0.008)	0.020 (0.035)	-0.021 (0.059)	-0.024** (0.011)
ESGreporting	-0.027 (0.019)	-0.019 (0.044)	-0.026 (0.019)	-0.042 (0.039)	-0.002 (0.017)	0.003 (0.035)	-0.002 (0.017)	-0.001 (0.032)	0.016 (0.013)	0.021 (0.031)	0.037** (0.018)	0.030 (0.028)
ESGperformance	0.728*** (0.215)	0.729*** (0.216)	0.746*** (0.221)	0.726*** (0.22)	0.004 (0.028)	0.004 (0.028)	0.022 (0.073)	0.004 (0.041)	-0.014 (0.025)	-0.021 (0.031)	-0.079 (0.083)	-0.025 (0.039)
CSRgap	-0.090*** (0.022)	-0.090*** (0.022)	-0.090*** (0.023)	-0.089*** (0.022)	0.279 (0.195)	0.278 (0.195)	0.282 (0.197)	0.279 (0.196)	-0.102 (0.159)	-0.089 (0.183)	-0.102 (0.193)	-0.082 (0.185)
Controversies		-0.000 (0.000)				-0.000 (0.000)				0.000 (0.000)		
*ESGreporting												
Controversies			-0.001 (0.001)				-0.000 (0.001)				0.001 (0.001)	
*ESGperformance												
Controversies				0.000 (0.000)				-0.000 (0.000)				0.000 (0.000)
*CSRgap												
ACindep	-0.083*** (0.022)	-0.083*** (0.022)	-0.084*** (0.022)	-0.082*** (0.022)	-0.058*** (0.018)	-0.058*** (0.018)	-0.058*** (0.018)	-0.058*** (0.018)	0.008 (0.012)	0.013 (0.013)	0.017 (0.014)	0.013 (0.013)
ACexpertise	0.171 (0.639)	0.188 (0.646)	0.154 (0.639)	0.135 (0.643)	0.415 (0.572)	0.420 (0.572)	0.415 (0.572)	0.415 (0.574)	0.675 (0.516)	0.566 (0.628)	0.612 (0.591)	0.548 (0.591)
BoardSize	0.101 (0.073)	0.102 (0.074)	0.101 (0.074)	0.099 (0.073)	0.079 (0.061)	0.079 (0.061)	0.079 (0.061)	0.079 (0.061)	0.008 (0.066)	0.066 (0.077)	0.071 (0.071)	0.069 (0.073)
BoardActivity	0.117 (0.077)	0.117 (0.078)	0.121 (0.080)	0.117 (0.077)	-0.053 (0.071)	-0.053 (0.071)	-0.052 (0.071)	-0.053 (0.071)	-0.104** (0.045)	-0.169*** (0.064)	-0.166*** (0.063)	-0.159** (0.064)
BoardIndep	-0.003 (0.008)	-0.003 (0.008)	-0.003 (0.008)	-0.003 (0.008)	0.003 (0.006)	0.003 (0.006)	0.003 (0.006)	0.0038 (0.006)	0.002 (0.006)	-0.001 (0.007)	0.001 (0.007)	0.000 (0.007)
CEOduality	1.621**	1.627**	1.651**	1.613**	0.966	0.965	0.967	0.966	-0.200	-0.365	-0.492	-0.489

	(0.711)	(0.713)	(0.721)	(0.711)	(0.630)	(0.630)	(0.632)	(0.631)	(0.555)	(0.615)	(0.599)	(0.595)
BoardDiversity	0.065**	0.065**	0.066**	0.065**	0.083***	0.083***	0.084***	0.083***	0.004	-0.005	-0.002	-0.002
	(0.032)	(0.032)	(0.032)	(0.032)	(0.029)	(0.029)	(0.030)	(0.030)	(0.026)	(0.028)	(0.027)	(0.027)
CSRCommittee	-0.028	-0.029	-0.009	-0.024	0.133	0.132	0.133	0.133	-0.171	-0.213	-0.274	-0.193
	(0.569)	(0.570)	(0.574)	(0.568)	(0.520)	(0.519)	(0.520)	(0.520)	(0.472)	(0.547)	(0.525)	(0.528)
BoardTenure	-0.059	-0.057	-0.065	-0.062	-0.141	-0.139	-0.142	-0.141	-0.137	-0.174*	-0.154	-0.159
	(0.141)	(0.142)	(0.142)	(0.141)	(0.120)	(0.120)	(0.120)	(0.120)	(0.097)	(0.105)	(0.107)	(0.114)
LogAge	0.922*	0.924*	0.962*	0.927*	1.107**	1.100**	1.112**	1.107**	-0.175	-0.113	-0.018	-0.009
	(0.521)	(0.523)	(0.540)	(0.523)	(0.439)	(0.437)	(0.440)	(0.440)	(0.394)	(0.392)	(0.544)	(0.436)
Size	-0.024	-0.027	-0.069	-0.029	0.063	0.061	0.052	0.063	0.280	0.242	0.238	0.202
	(0.400)	(0.397)	(0.414)	(0.400)	(0.305)	(0.304)	(0.307)	(0.304)	(0.250)	(0.279)	(0.253)	(0.262)
ROA	-0.014	-0.015	-0.015	-0.014	-0.004	-0.004	-0.004	-0.004	0.013	0.079**	0.047	0.058*
	(0.036)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.038)	(0.037)	(0.027)	(0.033)	(0.031)	(0.030)
Leverage	-0.007**	-0.007**	-0.007**	-0.007**	-0.005**	-0.005**	-0.005**	-0.005**	0.000	0.002	0.002	0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)
WorkCap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R&D	-0.000	-0.000	-0.000	-0.000	-0.001*	-0.001*	-0.001*	-0.001*	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Advertising	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAPEX	-0.001**	-0.001**	-0.001**	-0.001**	-0.000	-0.000	-0.000	-0.000	0.000	0.001*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	0.001*	0.001*	0.001*	0.001*	-0.001*	-0.001*	-0.001*	-0.001*	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
StkOrientation	0.096**	0.096**	0.096*	0.095**	0.022	0.022	0.021	0.022	-0.068*	-0.090**	-0.080*	-0.080*
	(0.049)	(0.049)	(0.049)	(0.049)	(0.044)	(0.044)	(0.044)	(0.044)	(0.036)	(0.044)	(0.041)	(0.041)
EUDirective	0.031	0.031	0.116	0.047	-0.079***	-0.079***	-0.079***	-0.079***	-0.020	-0.002	-0.004	-0.004
	(0.031)	(0.031)	(0.080)	(0.046)	(0.020)	(0.020)	(0.020)	(0.020)	(0.018)	(0.017)	(0.016)	(0.017)
country, industry, and year controlled												
LogLikelihood	-353.616	-353.604	-352.863	-353.500	-376.032	-376.019	-376.008	-376.035	-424.097	-436.137	-432.342	-432.950

**Panel B. Robust analysis for Controversies (Group 1 and 2 Samples)**

	Dassurance		EntireReport		Accountant		BrandName		Specialisation	
	random effects	fixed effects	random effects	fixed effects	random effects	fixed effects	random effects	fixed effects	random effects	fixed effects
	coef.	coef.	coef.	coef.	coef.	coef.	coef.	coef.	coef.	coef.
	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)
ESGcombined	0.040*** (0.009)	0.033*** (0.010)	0.004 (0.017)	0.008 (0.017)	0.059** (0.029)	0.067* (0.036)	0.034 (0.027)	0.088* (0.045)	0.051* (0.026)	0.068** (0.030)
ESGreporting	0.039*** (0.011)	0.035** (0.014)	0.731*** (0.071)	0.743*** (0.072)	0.059 (0.045)	0.038 (0.078)	0.035 (0.040)	0.013 (0.077)	0.064* (0.036)	0.145** (0.061)
CSRgap	-4.839*** (0.995)	-4.070*** (1.285)	0.712 (1.952)	0.642 (1.940)	-0.086** (0.042)	-0.062 (0.065)	-0.036 (0.037)	-0.019 (0.066)	-0.044 (0.038)	-0.129* (0.068)
ACindep	-0.016*** (0.006)	-0.019*** (0.007)	0.022*** (0.008)	0.017** (0.007)	-0.083*** (0.022)	-0.034 (0.035)	-0.057*** (0.018)	0.044 (0.048)	0.016 (0.013)	0.027 (0.024)
ACexpertise	-0.064 (0.264)	0.623** (0.317)	-0.394 (0.464)	-0.612 (0.441)	0.188 (0.638)	0.326 (0.790)	0.434 (0.565)	0.900 (0.835)	0.698 (0.665)	1.401 (0.914)
BoardSize	0.101** (0.042)	0.079 (0.057)	0.025 (0.051)	0.001 (0.047)	0.102 (0.073)	0.0447 (0.109)	0.081 (0.060)	0.049 (0.097)	0.036 (0.084)	0.082 (0.106)
BoardActivity	-0.005 (0.021)	-0.041 (0.029)	-0.001 (0.044)	0.001 (0.042)	0.119 (0.079)	0.206 (0.140)	-0.050 (0.070)	-0.157 (0.140)	-0.121** (0.054)	-0.121 (0.105)
BoardIndep	0.001 (0.003)	0.003 (0.003)	0.000 (0.005)	0.000 (0.005)	-0.003 (0.008)	-0.0138 (0.012)	0.0038 (0.006)	0.003 (0.008)	0.002 (0.007)	0.002 (0.009)
CEOduality	0.228 (0.261)	-0.105 (0.334)	-0.300 (0.383)	-0.274 (0.372)	1.572** (0.710)	0.464 (1.108)	0.951 (0.622)	-0.677 (1.158)	-0.281 (0.648)	0.200 (0.905)
BoardDiversity	0.027*** (0.010)	0.026** (0.013)	0.0048 (0.018)	0.011 (0.017)	0.066** (0.032)	0.092 (0.059)	0.082*** (0.029)	0.118* (0.063)	0.005 (0.038)	0.027 (0.051)
CSRCommittee	0.618* (0.330)	0.107 (0.413)	-0.079 (0.713)	-0.036 (0.699)	0.000 (0.566)	0.331 (0.799)	0.173 (0.513)	0.439 (0.809)	-0.218 (0.544)	0.176 (0.687)
BoardTenure	-0.097** (0.045)	0.009 (0.063)	-0.066 (0.055)	-0.043 (0.052)	-0.061 (0.140)	0.228 (0.271)	-0.137 (0.117)	-0.449 (0.312)	-0.138 (0.144)	0.295 (0.302)
LogAge	0.817*** (0.195)	2.268*** (0.730)	-0.138 (0.236)	-0.045 (0.225)	0.946* (0.525)	1.276 (5.300)	1.099** (0.434)	4.747 (3.629)	-0.016 (0.700)	-0.860 (3.806)

Size	0.712*** (0.142)	2.111*** (0.394)	-0.043 (0.138)	-0.011 (0.135)	-0.047 (0.403)	1.439 (1.541)	0.095 (0.297)	-1.951 (1.554)	0.294 (0.393)	-2.297 (1.653)
ROA	-0.017 (0.011)	-0.011 (0.010)	0.007 (0.032)	0.005 (0.028)	-0.015 (0.037)	-0.042 (0.062)	-0.003 (0.037)	-0.014 (0.063)	0.049 (0.035)	0.138* (0.071)
Leverage	-0.001** (0.000517)	-0.002* (0.001)	0.000 (0.003)	0.001 (0.003)	-0.007** (0.003)	0.033 (0.023)	-0.005** (0.002)	0.096* (0.058)	0.000 (0.003)	-0.009 (0.010)
WorkCap	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
R&D	0.001*** (0.000)	0.001* (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.001* (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Advertising	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
CAPEX	0.000 (0.000)	0.001* (0.000)	0.000 (0.000)	0.000 (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Dividend	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.001* (0.000)	-0.000 (0.000)	-0.001* (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
StkOrientation	0.060** (0.024)	0.047 (0.034)	0.031 (0.043)	0.016 (0.039)	0.095* (0.049)	0.001 (0.086)	0.021 (0.043)	-0.032 (0.105)	-0.068 (0.049)	-0.070 (0.073)
EUDirective	1.185*** (0.447)	1.057** (0.467)	0.445 (0.592)	0.399 (0.578)	0.734*** (0.216)	0.209** (0.094)	0.078*** (0.019)	0.300*** (0.010)	-0.012 (0.026)	0.013 (0.012)
LogLikelihood	-1624.373	-386.672	-122.004	-125.060	-353.468	-41.206	-377.157	-43.498	-424.933	-53.284

**Panel C. The impact of assurance services and controversies on CSR gap (Group 1 sample)**

	CSRgap			
	random effects		fixed effects	
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
DAssurance	-0.058*** (0.009)	-0.055*** (0.019)	-0.048*** (0.009)	-0.048** (0.020)
Controversies	0.001** (0.000)	0.000 (0.000)	0.001** (0.000)	0.000 (0.000)
DAssurance *Controversies		-0.000 (0.000)		-0.000 (0.000)
ACindep	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
ACexpertise	-0.014* (0.007)	-0.014* (0.007)	-0.027*** (0.008)	-0.027*** (0.008)
BoardSize	0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
BoardActivity	-0.000 (0.001)	-0.000 (0.001)	0.001 (0.001)	0.001 (0.001)
BoardIndep	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
CEOduality	-0.009 (0.007)	-0.009 (0.007)	-0.012 (0.008)	-0.012 (0.008)
BoardDiversity	-0.003*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
CSRCommittee	-0.061*** (0.011)	-0.061*** (0.011)	-0.051*** (0.012)	-0.051*** (0.012)
BoardTenure	-0.006*** (0.001)	-0.006*** (0.001)	-0.007*** (0.002)	-0.007*** (0.002)
LogAge	-0.051*** (0.007)	-0.051*** (0.007)	-0.118*** (0.013)	-0.118*** (0.013)
Size	-0.040*** (0.004)	-0.040*** (0.004)	-0.046*** (0.008)	-0.046*** (0.008)
ROA	0.001*** (0.000)	0.001*** (0.000)	0.001** (0.000)	0.001** (0.000)
Leverage	-0.001*** (0.000)	-0.0019*** (0.000)	-0.000 (0.000)	-0.000 (0.000)
WorkCap	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R&D	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Advertising	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
CAPEX	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Dividend	0.001* (0.000)	0.001* (0.000)	0.001** (0.000)	0.001** (0.000)
StkOrientation	-0.002	-0.002		

	(0.003)	(0.003)		
EUDirective	-0.003	-0.003		
	(0.005)	(0.005)		
R-square	0.117***	0.117***	0.111***	0.111***

Random effect models include control variables for year, country and industry  
Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)  
Group 2 sample (firms=888; observations= 7,333; period: 2010-2019; only firms that have hired sustainability assurance services)  
Coefficients and standard errors include three decimal places  
The statistics reported are based on two tailed tests  
\*\*\* p-value<0.01. \*\* p-value<0.05. \* p-value<0.1  
This table is available in the article as Table 3

**Online Table 2.** Complementary models for topics of controversies

<b>Panel A. Estimations for Dassurance (Group 1 Sample and random effects)</b>					
	<i>Assurance</i>	<i>StkEng</i>	<i>Reputation</i>	<i>TobinQ</i>	<i>MtoB</i>
	Model 1 <sup>a</sup>	Model 3 <sup>a</sup>	Model 3 <sup>a</sup>	Model 3 <sup>a</sup>	Model 3 <sup>a</sup>
	Coef.	Coef.	Coef.	Coef.	Coef.
	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)
Dassurance		0.727***	0.664***	0.001***	0.001***
		(0.264)	(0.168)	(0.000)	(0.000)
Comunity	0.702	0.008	0.206	0.000	0.000
	(0.448)	(0.358)	(0.244)	(0.000)	(0.000)
HumanRights	-0.069	0.094	-0.399*	0.000	0.000
	(0.364)	(0.325)	(0.209)	(0.000)	(0.000)
Management	0.047	-0.511*	0.222	0.000	0.000
	(0.302)	(0.283)	(0.184)	(0.000)	(0.000)
ProductResponsibility	-1.340***	0.063	0.288	-0.000	-0.000
	(0.483)	(0.494)	(0.301)	(0.000)	(0.000)
ResourceUse	-0.038	0.243	-0.002	0.000	0.000
	(0.383)	(0.363)	(0.214)	(0.000)	(0.000)
Shareholder	-1.528**	0.591	-1.042**	-0.000	-0.000
	(0.738)	(0.760)	(0.527)	(0.000)	(0.000)
Workforce	-1.233***	0.236	0.201	-0.000	-0.000
	(0.336)	(0.321)	(0.191)	(0.000)	(0.000)
ESGreporting	0.043***	0.038***	-0.018**	0.000	-0.000
	(0.013)	(0.011)	(0.008)	(0.000)	(0.000)
ESGperformance	0.050***	0.109***	0.108***	0.001*	-0.000
	(0.013)	(0.013)	(0.008)	(0.000)	(0.000)
CSRgap	-5.168***	-5.590***	1.927***	-0.000	0.000
	(1.141)	(1.048)	(0.681)	(0.000)	(0.000)
Acindep	-0.009	-0.010*	0.001	0.000	0.000
	(0.007)	(0.005)	(0.003)	(0.000)	(0.000)
Acexpertise	0.082	0.374	-0.272*	0.000	-0.000
	(0.287)	(0.242)	(0.145)	(0.000)	(0.000)
BoardSize	0.121***	-0.058	0.096***	0.001**	0.000
	(0.043)	(0.037)	(0.022)	(0.000)	(0.000)
BoardActivity	0.010	-0.019	0.000	-0.000	-0.001***
	(0.025)	(0.018)	(0.011)	(0.000)	(0.000)
BoardIndep	0.001	0.009***	0.001	-0.001**	-0.000
	(0.003)	(0.003)	(0.002)	(0.000)	(0.000)
CEOduality	-0.265	0.331	-0.631***	-0.000	-0.000
	(0.272)	(0.212)	(0.135)	(0.000)	(0.000)
BoardDiversity	0.091***	0.083***	-0.033***	0.001***	0.001***
	(0.011)	(0.010)	(0.005)	(0.000)	(0.000)
CSRCommittee	0.767**	0.733**	0.066	-0.001	-0.001
	(0.379)	(0.313)	(0.211)	(0.000)	(0.000)
BoardTenure	-0.074	-0.011	0.031	0.001***	0.001***
	(0.0498)	(0.044)	(0.026)	(0.000)	(0.000)
LogAge	1.134***	0.251	-0.289***	0.000	-0.000
	(0.218)	(0.182)	(0.107)	(0.000)	(0.000)

Size	0.659*** (0.141)	-0.017 (0.115)	0.259*** (0.067)	-0.001*** (0.000)	-0.001*** (0.000)
ROA	0.008 (0.011)	-0.022* (0.013)	0.012* (0.006)	0.001*** (0.000)	0.001*** (0.000)
Leverage	0.027*** (0.009)	0.004** (0.002)	0.002* (0.001)	-0.001** (0.000)	-0.000 (0.000)
WorkCap	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R&D	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.001* (0.000)
Advertising	0.000 (0.000)	-0.001* (0.000)	-0.001 (0.000)	0.000 (0.000)	0.001** (0.000)
CAPEX	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Dividend	0.000 (0.000)	0.000 (0.000)	-0.001* (0.000)	0.000 (0.000)	0.001* (0.000)
StkOrientation	-0.161** (0.077)	-0.641*** (0.082)	-0.130*** (0.040)	-0.000 (0.000)	0.000 (0.000)
EUDirective	0.879*** (0.157)	-0.054 (0.128)	-0.337*** (0.073)	-0.001*** (0.000)	0.000 (0.000)

country, industry, and year controlled

Log likelihood	-1529.120	-1620.153	-2882.165		
R-square				0.372	0.131

**Panel B. Estimations for Entire Report (Group 2 Sample and random effects)**

	<i>EntireReport</i>	<i>StkEng</i>	<i>Reputation</i>	<i>TobinQ</i>	<i>MtoB</i>
	Model 1A	Model 3A	Model 3A	Model 3A	Model 3A
	coef.	coef.	coef.	coef.	coef.
	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)
DAssurance		1.995*** (0.584)	-0.271 (0.342)	0.000 (0.000)	0.000 (0.000)
Comunity	1.870 (1.172)	-0.050 (0.402)	0.408 (0.266)	0.000 (0.000)	0.000 (0.000)
HumanRights	-0.160 (0.975)	-0.305 (0.377)	-0.337 (0.232)	-0.000 (0.000)	-0.000 (0.000)
Management	0.869 (0.888)	-0.223 (0.345)	0.146 (0.208)	0.000 (0.000)	0.000 (0.000)
ProductResponsibility	-0.432 (1.352)	-0.573 (0.614)	0.212 (0.333)	-0.000 (0.000)	-0.000 (0.000)
ResourceUse	0.266 (0.918)	-0.935** (0.454)	0.035 (0.237)	0.000 (0.000)	0.000 (0.000)
Shareholder	-1.223 (1.732)	0.162 (0.851)	0.912 (0.567)	0.000 (0.000)	-0.000 (0.000)
Workforce	1.257 (1.103)	0.481 (0.373)	0.115 (0.214)	-0.000 (0.000)	-0.000 (0.000)
ESGreporting	1.860*** (0.582)	-0.368* (0.196)	0.534*** (0.123)	0.000 (0.000)	-0.000 (0.000)
ESGperformance	0.309*** (0.044)	0.121*** (0.013)	0.103*** (0.008)	0.001** (0.000)	-0.001*** (0.000)

CSRgap	3.440*** (4.138)	-3.350*** (0.713)	0.594 (0.425)	-0.001** (0.000)	-0.001* (0.000)
ACindep	0.040** (0.017)	-0.012* (0.006)	-0.006 (0.004)	-0.000 (0.000)	0.000 (0.000)
ACexpertise	0.527 (0.655)	0.123 (0.274)	-0.154 (0.167)	0.000 (0.000)	-0.000 (0.000)
BoardSize	-0.006 (0.086)	-0.070* (0.042)	0.086*** (0.025)	0.000 (0.000)	-0.000 (0.000)
BoardActivity	-0.036 (0.066)	-0.016 (0.022)	0.006 (0.012)	-0.000 (0.000)	-0.001** (0.000)
BoardIndep	-0.006 (0.007)	0.008*** (0.003)	-0.000 (0.002)	-0.000 (0.000)	-0.000 (0.000)
CEOduality	0.972 (0.617)	0.408 (0.253)	-0.719*** (0.163)	-0.000 (0.000)	-0.000 (0.000)
BoardDiversity	0.022 (0.024)	0.074*** (0.011)	-0.039*** (0.006)	0.001*** (0.000)	0.001** (0.000)
CSRCommittee	2.610** (1.291)	0.949** (0.376)	0.107 (0.267)	-0.000** (0.000)	-0.001*** (0.000)
BoardTenure	0.061 (0.097)	0.021 (0.053)	0.043 (0.033)	0.001*** (0.000)	0.001*** (0.000)
LogAge	0.0711 (0.383)	-0.0270 (0.215)	-0.556*** (0.134)	-0.000 (0.000)	-0.000 (0.000)
Size	-0.0269 (0.247)	0.166 (0.131)	0.163** (0.079)	-0.001*** (0.000)	-0.001*** (0.000)
ROA	-0.065 (0.051)	-0.020 (0.015)	0.017** (0.008)	0.001*** (0.000)	0.001*** (0.000)
Leverage	-0.004 (0.003)	0.004* (0.002)	0.001 (0.001)	-0.001* (0.000)	-0.000 (0.000)
WorkCap	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R&D	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Advertising	0.000 (0.000)	-0.001* (0.000)	-0.000 (0.000)	0.000 (0.000)	0.001** (0.000)
CAPEX	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Dividend	0.000 (0.000)	0.000 (0.000)	-0.001* (0.000)	0.000 (0.000)	0.000 (0.000)
StkOrientation	0.085 (0.146)	-0.708*** (0.101)	-0.139*** (0.049)	-0.000 (0.000)	0.000 (0.000)
EUDirective	0.452* (0.264)	0.044 (0.144)	-0.298*** (0.087)	-0.001*** (0.000)	0.000 (0.000)

country, industry, and year controlled

Log likelihood	-187.291	-1148.632	-2157.900		
R-square				0.354	0.121

Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)

Group 2 sample (firms=888; observations= 7,333; period: 2010-2019; only firms that have hired sustainability assurance services)

Coefficients and standard errors include three decimal places

The statistics reported are based on two tailed tests

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\*\*\* p-value<0.01. \*\* p-value<0.05. \* p-value<0.1

This table is available in the article as Table 6

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**Online Table 3.** Change analysis for endogeneity problems

**Panel A.** Estimation for hypotheses H1 and H2

	Dassurance (Group 1 Sample)				EntireReport (Group 2 Sample)			
	Model 1 for changes		Model 2 for changes		Model 1 for changes		Model 2 for changes	
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
Controversies	0.005* (0.003)	-0.031** (0.012)	-0.030** (0.013)	-0.008* (0.004)	-0.001 (0.003)	-0.003 (0.003)	-0.025 (0.016)	-0.001 (0.003)
ESGreporting	3.545*** (1.075)	3.548*** (1.075)	3.519*** (1.074)	4.715*** (1.487)	4.297*** (0.279)	4.278*** (0.278)	4.277*** (0.278)	3.994*** (0.771)
ESGperformance	0.006* (0.004)	0.006* (0.004)	0.006* (0.004)	0.007* (0.004)	0.047*** (0.008)	0.047*** (0.008)	0.079*** (0.022)	0.048*** (0.008)
CSRgap	-0.032*** (0.011)	-0.039** (0.016)	-0.032*** (0.011)	-0.031*** (0.011)	0.024 (0.043)	0.025 (0.043)	0.019 (0.043)	0.024 (0.043)
Controversies *ESGreporting		-0.000 (0.000)				-0.010 (0.007)		
Controversies *ESGperformance			0.001*** (0.000)				0.000 (0.000)	
Controversies *CSRgap				-0.014 (0.012)				-0.004 (0.009)
ACindep	0.004 (0.004)	0.004 (0.004)	0.004 (0.004)	0.004 (0.004)	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)
ACexpertise	0.119 (0.219)	0.118 (0.219)	0.121 (0.218)	0.122 (0.219)	0.005 (0.212)	-0.007 (0.212)	0.006 (0.211)	0.005 (0.212)
BoardSize	0.036 (0.025)	0.036 (0.025)	0.037 (0.025)	0.037 (0.025)	-0.001 (0.027)	-0.001 (0.027)	-0.000 (0.027)	-0.00 (0.027)
BoardActivity	-0.011 (0.017)	-0.011 (0.017)	-0.013 (0.017)	-0.012 (0.017)	0.010 (0.016)	0.009 (0.016)	0.008 (0.016)	0.009 (0.016)
BoardIndep	0.004* (0.002)	0.003* (0.002)	0.004* (0.002)	0.004* (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
CEOduality	-0.187	-0.190	-0.170	-0.179	-0.394**	-0.389**	-0.390**	-0.391**

	(0.151)	(0.151)	(0.152)	(0.151)	(0.175)	(0.175)	(0.175)	(0.175)
BoardDiversity	-0.028***	-0.028***	-0.028***	-0.028***	-0.006	-0.006	-0.006	-0.006
	(0.006)	(0.006)	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)
CSRCommittee	0.210	0.210	0.185	0.201	-0.400	-0.401	-0.429	-0.404
	(0.268)	(0.268)	(0.268)	(0.268)	(0.308)	(0.308)	(0.307)	(0.308)
BoardTenure	0.017	0.018	0.019	0.018	0.056**	0.056**	0.056**	0.056**
	(0.024)	(0.024)	(0.024)	(0.024)	(0.027)	(0.027)	(0.027)	(0.027)
LogAge	-0.111	-0.113	-0.100	-0.104	-0.027	-0.026	-0.025	-0.024
	(0.082)	(0.082)	(0.083)	(0.082)	(0.107)	(0.107)	(0.107)	(0.107)
Size	0.061	0.063	0.064	0.061	-0.005	-0.007	-0.002	-0.007
	(0.061)	(0.061)	(0.061)	(0.061)	(0.071)	(0.071)	(0.071)	(0.071)
ROA	0.018**	0.018**	0.0180**	0.018**	-0.005	-0.005	-0.005	-0.005
	(0.008)	(0.008)	(0.008)	(0.008)	(0.013)	(0.013)	(0.013)	(0.013)
Leverage	-0.001	-0.001	-0.001	-0.001	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
WorkCap	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R&D	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Advertising	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAPEX	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
StkOrientation	0.017	0.017	0.019	0.018	-0.000	-0.000	-0.000	-0.000
	(0.027)	(0.027)	(0.027)	(0.027)	(0.000)	(0.000)	(0.000)	(0.000)
EUDirective	0.097*	0.097*	0.093*	0.094*	0.123*	0.126*	0.122*	0.125*
	(0.056)	(0.056)	(0.056)	(0.056)	(0.068)	(0.068)	(0.068)	(0.068)
	country, industry, and year controlled				country, industry, and year controlled			
Log Likelihood	-906.796	-906.595	-903.489	-906.119	-769.228	-768.511	-768.143	-767.951

**Panel B.** Estimation for hypothesis H3: Assurance change effect on firm value (Group 1 Sample)

	Model 3 for changes							
	StkEng		Reputation		TobinQ		MtoB	
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
DAssurance	0.001*** (0.000)	0.001*** (0.000)	0.001** (0.000)	0.001** (0.000)	0.000 (0.000)	0.000 (0.000)	0.001* (0.000)	0.001* (0.000)
Controversies	-0.000 (0.003)	-0.001 (0.003)	-0.003 (0.002)	-0.003 (0.002)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
DAssurance *Controversies		-0.004** (0.002)		-0.007** (0.003)		-0.000 (0.000)		-0.000 (0.000)
ESGreporting	10.120*** (0.939)	10.120*** (0.939)	7.861*** (0.758)	7.862*** (0.758)	0.000 (0.000)	0.000 (0.000)	0.001** (0.000)	0.001** (0.000)
ESGperformance	0.092*** (0.011)	0.092*** (0.011)	0.083*** (0.009)	0.083*** (0.009)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
CSRgap	-0.099*** (0.010)	-0.099*** (0.010)	-0.082*** (0.008)	-0.082*** (0.008)	-0.000 (0.000)	-0.000 (0.000)	-0.001** (0.000)	-0.001** (0.000)
ACindep	-0.004 (0.003)	-0.004 (0.003)	0.003 (0.0036)	0.003 (0.003)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
ACexpertise	-0.007 (0.187)	-0.008 (0.187)	-0.214 (0.138)	-0.214 (0.138)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
BoardSize	0.011 (0.023)	0.011 (0.023)	-0.007 (0.017)	-0.008 (0.017)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
BoardActivity	0.023** (0.010)	0.023** (0.010)	-0.017 (0.013)	-0.017 (0.013)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
BoardIndep	0.002 (0.002)	0.002 (0.002)	-0.003** (0.001)	-0.003** (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
CEOduality	-0.257* (0.141)	-0.257* (0.141)	-0.004 (0.110)	-0.005 (0.110)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
BoardDiversity	-0.013** (0.006)	-0.013** (0.006)	-0.013*** (0.004)	-0.013*** (0.004)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)

CSRCommittee	0.258 (0.258)	0.259 (0.258)	0.171 (0.203)	0.171 (0.203)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
BoardTenure	0.0010 (0.024)	0.001 (0.024)	-0.054*** (0.020)	-0.054*** (0.020)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
LogAge	-0.081 (0.075)	-0.081 (0.075)	0.006 (0.059)	0.006 (0.059)	0.000 (0.000)	0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)
Size	0.009 (0.056)	0.009 (0.056)	-0.058 (0.043)	-0.058 (0.043)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
ROA	-0.004 (0.009)	-0.004 (0.009)	0.007 (0.007)	0.007 (0.007)	0.001** (0.000)	0.001** (0.000)	-0.001* (0.000)	-0.0018* (0.000)
Leverage	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
WorkCap	0.600** (0.260)	0.477 (0.883)	0.206 (0.243)	0.119 (0.814)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R&D	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Advertising	0.001* (0.000)	0.001* (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
CAPEX	-0.001* (0.000)	-0.001* (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Dividend	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
StkOrientation	0.098*** (0.031)	0.098*** (0.031)	0.070*** (0.022)	0.070*** (0.022)	0.001** (0.000)	0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)
EUDirective	-0.040 (0.051)	-0.040 (0.051)	0.003 (0.039)	0.003 (0.039)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
country, industry, and year controlled								
LogLikelihood	-995.799	-995.788	-1554.618	-1554.611				
R-square					0.031	0.031	0.007	0.007

**Panel C. Estimation for hypothesis H3: Entire Report change effect on firm value (Group 2 Sample)**

Model 3 for changes

	StkEng		Reputation		TobinQ		MtoB	
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
EntireReport	0.001*** (0.000)	0.001*** (0.000)	0.001** (0.000)	0.001** (0.000)	0.001* (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Controversies	0.001 (0.003)	0.001 (0.003)	-0.001 (0.002)	-0.001 (0.002)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
EntireReport *Controversies		-0.010 (0.015)		-0.015 (0.010)		-0.000 (0.000)		-0.000 (0.000)
ESGreporting	0.053 (0.145)	0.053 (0.145)	0.316*** (0.107)	0.317*** (0.107)	0.000 (0.000)	0.000 (0.000)	0.001* (0.000)	0.001* (0.000)
ESGperformance	1.266*** (0.352)	1.275*** (0.353)	0.254 (0.236)	0.267 (0.238)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
CSRgap	-0.258* (0.139)	-0.256* (0.139)	-0.012 (0.109)	-0.010 (0.109)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
ACindep	-0.005* (0.003)	-0.005* (0.003)	0.002 (0.0032)	0.002 (0.003)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
ACexpertise	-0.060 (0.183)	-0.059 (0.183)	-0.242* (0.136)	-0.242* (0.136)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
BoardSize	0.021 (0.022)	0.021 (0.022)	-0.002 (0.017)	-0.002 (0.017)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
BoardActivity	0.020* (0.010)	0.020* (0.010)	-0.016 (0.012)	-0.017 (0.012)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
BoardIndep	0.002 (0.002)	0.002 (0.002)	-0.003** (0.001)	-0.003* (0.0013)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
CEOduality	0.001 (0.007)	0.001 (0.007)	0.006 (0.005)	0.006 (0.005)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
BoardDiversity	-0.016*** (0.006)	-0.016*** (0.006)	-0.014*** (0.004)	-0.014*** (0.004)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
CSRCommittee	0.167 (0.253)	0.167 (0.253)	0.106 (0.200)	0.108 (0.200)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)

BoardTenure	0.001 (0.024)	0.0012 (0.024)	-0.052*** (0.020)	-0.052*** (0.020)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
LogAge	-0.117 (0.074)	-0.117 (0.074)	-0.021 (0.058)	-0.021 (0.058)	0.000 (0.000)	0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)
Size	-0.029 (0.055)	-0.029 (0.055)	-0.086** (0.043)	-0.086** (0.043)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
ROA	-0.000 (0.009)	-0.000 (0.008)	0.008 (0.006)	0.008 (0.006)	0.001** (0.000)	0.001** (0.000)	-0.001* (0.000)	-0.001* (0.000)
Leverage	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
WorkCap	-0.023 (0.395)	0.798 (1.308)	0.060 (0.280)	1.307 (0.899)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R&D	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Advertising	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
CAPEX	-0.001* (0.000)	-0.001* (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Dividend	-0.001* (0.000)	-0.001* (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
StkOrientation	0.100*** (0.030)	0.100*** (0.030)	0.073*** (0.022)	0.073*** (0.022)	0.001** (0.000)	0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)
EUDirective	-0.044 (0.050)	-0.045 (0.050)	-0.000 (0.039)	-0.001 (0.039)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)

country, industry, and year controlled

LogLikelihood	-1046.542	-1046.337	-1602.603	-1601.630				
R-square					0.037	0.036	0.007	0.007

Random effect models include control variables for year, country and industry

Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)

Group 2 sample (firms=888; observations= 7,333; period: 2010-2019; only firms that have hired sustainability assurance services)

Coefficients and standard errors include three decimal places

The statistics reported are based on two tailed tests

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\*\*\* p-value<0.01. \*\* p-value<0.05. \* p-value<0.1  
This table is available in the article as Table 7

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**Online Table 4. Robust results from Propensity Score Matching (Group 1 Sample)**

<b>Panel A. Probit Analysis of controversies treatment</b>			<b>Panel B. Post-matching comparison</b>						
	(1)	(2)							
	coef.	coef.							
	(std.error)	(std.error)	(1)	(2)		Treatment	Match	Difference	
ESGreporting	0.0137*** (0.00323)	-0.0141*** (0.00322)	ESGreporting	88,747	88,942	-0,195	90,439	89,253	1,186
ESGperformance	0.00233 (0.00354)	-0.00225 (0.00353)	ESGperformance	62,046	62,183	-0,136	62,330	62,352	-0,022
CSRgap	-1.244*** (0.304)	1.278*** (0.304)	CSRgap	0,273	0,286	-0,013	0,283	0,256	0,027
BoardSize	0.0176** (0.00809)	-0.0175** (0.00800)	BoardSize	11,111	11,159	-0,048	11,370	11,459	-0,088
BoardActivity	0.00199 (0.00398)	-0.000876 (0.00396)	BoardActivity	9,782	10,286	-0,504	9,198	9,990	-0,792
BoardIndep	0.00112* (0.000601)	-0.000967 (0.000597)	BoardIndep	47,999	49,070	-1,071	51,575	52,949	-1,374
CEOduality	-0.0990* (0.0537)	0.0973* (0.0531)	CEOduality	62,948	60,962	1,987	59,941	62,794	-2,854
BoardDiversity	0.00632*** (0.00199)	-0.00626*** (0.00197)	BoardDiversity	17,451	18,175	-0,725	18,189	19,577	-1,388
CSRCommittee	0.131 (0.0874)	-0.153* (0.0875)	CSRCommittee	87,888	90,192	-2,304	90,256	92,602	-2,346
LogAge	0.0392 (0.0372)	-0.0358 (0.0365)	LogAge	3,455	3,428	0,027	3,530	3,523	0,007
Size	0.358*** (0.0232)	-0.359*** (0.0229)	Size	15,994	16,283	-0,289	16,280	16,273	0,007
ROA	0.00375 (0.00307)	-0.00328 (0.00306)	ROA	5,656	5,777	-0,121	5,633	5,438	0,194
Leverage	-0.000220* (0.000220)	0.000203 (0.000203)	Leverage	65,387	68,930	-3,543	65,387	67,393	-2,006

	(0.000132)	(0.000126)
Constant	-8.359***	8.406***
	(0.403)	(0.398)
LogLikelihood	-4.080.123	-4.067.876

**Panel C. Robust results from PSM matched sample of firms**

	Model 1		Model 3							
	DAssurance		StkEng		Reputation		Qtobin		MtoB	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	coef.	coef.	coef.	coef.	coef.	coef.	coef.	coef.	coef.	coef.
	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)	(std.error)
DAssurance			0.268***	0.769***	0.074**	0.121**	0.001***	0.001***	0.001***	0.001***
			(0.031)	(0.264)	(0.009)	(0.013)	(0.000)	(0.000)	(0.000)	(0.000)
Controversies	-0.040***	-1.078***	-0.002	-0.161	-0.001	-0.077	-0.001	-0.001	-0.001	-0.001
	(0.006)	(0.120)	(0.004)	(0.132)	(0.002)	(0.086)	(0.001)	(0.001)	(0.001)	(0.001)
ESGreporting	0.045***	0.044***	0.045***	0.036***	0.021**	0.018**	0.001	0.001	0.001	0.001
	(0.015)	(0.013)	(0.014)	(0.011)	(0.008)	(0.007)	(0.001)	(0.001)	(0.001)	(0.001)
ESGperformance	0.047***	0.0398***	0.124***	0.109***	0.113***	0.111***	0.001**	0.001*	0.000	0.000
	(0.016)	(0.014)	(0.015)	(0.013)	(0.009)	(0.008)	(0.000)	(0.000)	(0.001)	(0.001)
CSRgap	-5.319***	-5.302***	-6.155***	-5.360***	-2.178***	-1.938***	-0.001	-0.001	-0.001	-0.001
	(1.391)	(1.147)	(1.256)	(1.050)	(0.764)	(0.690)	(0.001)	(0.001)	(0.001)	(0.001)
ACindep	-0.009	-0.009	-0.015**	-0.013**	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.007)	(0.006)	(0.006)	(0.006)	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)
ACexpertise	-0.110	0.091	0.332	0.398	-0.160	-0.282*	0.001	0.001	-0.001	-0.001
	(0.341)	(0.292)	(0.275)	(0.243)	(0.157)	(0.147)	(0.001)	(0.001)	(0.001)	(0.001)
BoardSize	0.164***	0.090**	-0.068	-0.068*	0.081***	0.091***	0.001**	0.001**	0.001	0.001
	(0.052)	(0.042)	(0.044)	(0.037)	(0.024)	(0.022)	(0.000)	(0.000)	(0.001)	(0.001)
BoardActivity	0.010	0.002	-0.011	-0.015	-0.001	0.001	-0.001	-0.001	-0.001	-0.001
	(0.028)	(0.024)	(0.020)	(0.018)	(0.011)	(0.011)	(0.001)	(0.001)	(0.001)	(0.001)
BoardIndep	0.001	0.001	0.010***	0.010***	0.001	0.001	-0.001	-0.001**	-0.001	-0.001

	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.000)	(0.001)	(0.001)
CEOduality	-0.231	-0.361	0.283	0.306	-0.669***	-0.639***	-0.001	-0.001	-0.001	-0.001
	(0.309)	(0.268)	(0.248)	(0.212)	(0.147)	(0.136)	(0.001)	(0.001)	(0.001)	(0.001)
BoardDiversity	0.085***	0.091***	0.088***	0.082***	0.035***	0.034***	0.001***	0.001***	0.001***	0.001***
	(0.012)	(0.010)	(0.011)	(0.010)	(0.005)	(0.005)	(0.000)	(0.000)	(0.000)	(0.000)
CSRCommittee	1.011**	0.827**	1.286***	0.697**	0.026	0.051	-0.001	-0.001	-0.001	-0.001
	(0.431)	(0.378)	(0.397)	(0.313)	(0.240)	(0.213)	(0.001)	(0.001)	(0.001)	(0.001)
BoardTenure	-0.080	-0.120**	-0.020	-0.012	0.012	0.023	0.002***	0.002***	0.001*	0.001***
	(0.056)	(0.047)	(0.051)	(0.044)	(0.028)	(0.027)	(0.000)	(0.000)	(0.000)	(0.000)
LogAge	0.986***	1.113***	0.107	0.267	-0.222**	-0.274**	0.001	0.001	0.001	0.001
	(0.223)	(0.205)	(0.204)	(0.180)	(0.111)	(0.108)	(0.001)	(0.001)	(0.001)	(0.001)
Size	0.663***	0.624***	-0.113	-0.022	0.277***	0.283***	-0.001***	-0.003***	0.001***	0.001***
	(0.160)	(0.133)	(0.128)	(0.113)	(0.070)	(0.067)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	0.009	0.003	-0.016	-0.021	0.010	0.011*	0.002***	0.003***	0.001***	0.001***
	(0.012)	(0.011)	(0.015)	(0.013)	(0.007)	(0.006)	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	0.024**	0.024***	0.003	0.004*	0.002	0.002	-0.001**	-0.001**	-0.001**	-0.001**
	(0.010)	(0.009)	(0.002)	(0.002)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
WorkCap	-0.001	-0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R&D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Advertising	0.000	0.000	-0.001**	-0.001**	-0.001	-0.001	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
CAPEX	0.000	0.000	0.000	0.000	0.001**	0.001**	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	0.000	0.000	0.000	0.000	-0.001***	-0.001***	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
StkOrientation	-0.087	-0.169**	-0.682***	-0.645***	-0.153***	-0.135***	-0.001	-0.001	0.001	0.001
	(0.078)	(0.072)	(0.094)	(0.082)	(0.042)	(0.041)	(0.001)	(0.001)	(0.001)	(0.001)
EUDirective	0.739***	0.874***	-0.104	-0.060	-0.312***	-0.339***	-0.001***	-0.001***	0.001	0.001
	(0.158)	(0.149)	(0.140)	(0.127)	(0.074)	(0.073)	(0.000)	(0.000)	(0.001)	(0.001)

LogLikelihood	-1162.932	-1499.441	-1306.580	-1614.513	-2479.785	-2862.209			
R-square							0.357	0.370	0.106

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Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)

(1) The matched sample has been determined for similar company-level characteristics except for the difference in the case of companies suffering or not suffering from controversies according to the information of the ESG Controversies score from the Refinitiv ESG Score database.

(2) The matched sample has been determined for similar company-level characteristics, except for the difference in the level of controversies the company has been involved in, using the median value of the ESG Controversies score from the Refinitiv ESG Score database.

Coefficients and standard errors include three decimal places.

The statistics reported are based on two tailed tests

\*\*\* p-value<0.01. \*\* p-value<0.05. \* p-value<0.1

**Panel C** is available in the article as Table 8

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**Online Table 5. Robust results from Entropy balance (Group 1 Sample)****Panel A: Entropy Balancing test before Entropy Balancing**

	Treat			Control		
	mean	variance	skewness	mean	variance	skewness
ESGreporting	89,640	472,400	-2,255	88,890	493,200	-2,066
ESGperformance	71,430	149,900	-0,476	63,360	192,500	-0,410
CSRgap	0,170	0,066	-1,167	0,259	0,073	-0,955
BoardSize	12,660	12,380	0,814	11,340	12,940	0,850
BoardActivity	10,180	32,200	4,327	10,020	46,510	6,181
BoardIndep	58,420	1320,000	-0,352	48,930	1564,000	0,062
CEOduality	59,090	24,180	-0,370	66,940	22,130	-0,720
BoardDiversity	21,560	159,700	0,176	17,790	198,800	0,414
CSRCommittee	95,470	4,325	-4,374	89,820	9,147	-2,633
LogAge	3,595	0,735	-0,624	3,457	0,729	-0,593
Size	17,520	2,685	0,353	16,120	2,202	0,443
ROA	5,035	52,160	0,873	5,463	57,960	1,413
Leverage	27,060	15,840	7,182	43,870	38,129	11,290

**Panel B: Entropy Balancing test after Entropy Balancing**

	Treat			Control		
	mean	variance	skewness	mean	variance	skewness
ESGreporting	89,640	472,400	-2,255	89,640	432,300	-2,205
ESGperformance	71,430	149,900	-0,476	71,430	137,900	-0,601
CSRgap	0,170	0,066	-1,167	0,170	0,061	-1,122
BoardSize	12,660	12,380	0,814	12,660	14,000	0,734
BoardActivity	10,180	32,200	4,327	10,180	57,760	8,247
BoardIndep	58,420	132,000	-0,352	58,410	146,000	-0,315
CEOduality	59,090	24,180	-0,370	59,090	24,180	-0,370
BoardDiversity	21,560	159,700	0,176	21,560	190,100	0,127
CSRCommittee	95,470	4,325	-4,374	95,470	4,324	-4,374
LogAge	3,595	0,735	-0,624	3,595	0,682	-0,489

Size	17,520	2,685	0,353	17,520	2,983	0,298
ROA	5,035	52,160	0,873	5,035	56,620	6,080
Leverage	27,060	15,840	7,182	27,160	29,792	20,150

**Panel C. Robust results from Entropy balanced sample of firms**

	Model 1		Model 3		
	DAssurance coef. (std.error)	StkEng coef. (std.error)	Reputation coef. (std.error)	Qtobin coef. (std.error)	MtoB coef. (std.error)
DAssurance		0.0137** (0.060)	0.145** (0.057)	0.001*** (0.000)	0.001* (0.000)
Controversies	-0.001** (0.000)	-0.001 (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001 (0.001)
ESGreporting	0.009** (0.004)	0.017*** (0.004)	0.011*** (0.003)	0.001** (0.000)	0.001** (0.001)
ESGperformance	0.009** (0.004)	0.025*** (0.004)	0.0436*** (0.004)	0.001** (0.000)	0.000 (0.000)
CSRgap	-0.544** (0.153)	-1.726*** (0.362)	-0.855*** (0.318)	-0.001* (0.000)	0.000 (0.000)
ACindep	0.001 (0.001)	-0.001 (0.002)	-0.001 (0.001)	-0.001** (0.000)	0.001*** (0.000)
ACexpertise	-0.023 (0.076)	0.096 (0.063)	-0.090* (0.054)	-0.001 (0.001)	-0.001** (0.000)
BoardSize	0.003 (0.008)	-0.001 (0.007)	0.026*** (0.006)	-0.001 (0.001)	0.000 (0.000)
BoardActivity	0.006 (0.005)	-0.002 (0.004)	-0.001 (0.003)	-0.001*** (0.000)	0.000 (0.000)
BoardIndep	-0.001 (0.001)	0.001** (0.001)	0.002*** (0.001)	-0.001** (0.000)	0.000 (0.000)
CEOduality	0.232***	0.107**	-0.386***	-0.001***	-0.001***

	(0.046)	(0.047)	(0.039)	(0.000)	(0.000)
BoardDiversity	0.015***	0.016***	-0.011***	0.001***	0.001***
	(0.002)	(0.002)	(0.002)	(0.000)	(0.000)
CSRCommittee	0.256***	0.434***	-0.023	-0.001	-0.001
	(0.098)	(0.093)	(0.092)	(0.001)	(0.001)
BoardTenure	-0.034***	-0.019**	0.005	0.001***	0.001**
	(0.008)	(0.008)	(0.007)	(0.000)	(0.000)
LogAge	0.024	0.018	-0.065***	0.000	0.00
	(0.026)	(0.027)	(0.022)	(0.000)	(0.000)
Size	0.067***	-0.066***	0.049***	-0.001***	-0.001***
	(0.016)	(0.016)	(0.013)	(0.000)	(0.000)
ROA	0.008***	-0.001	-0.001	0.001***	0.001***
	(0.003)	(0.003)	(0.002)	(0.000)	(0.000)
Leverage	0.007***	0.001***	0.001*	-0.001*	0.001***
	(0.002)	(0.00)	(0.000)	(0.000)	(0.000)
WorkCap	-0.001***	0.001	-0.001**	-0.001*	-0.001***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
R&D	0.000	0.001*	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Advertising	0.000	0.001***	0.000	0.000	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAPEX	0.001*	0.001	0.001**	0.000	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	0.001***	0.001	-0.001***	0.001***	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
StkOrientation	-0.051***	-0.134***	-0.037***	0.000	0.001***
	(0.010)	(0.012)	(0.008)	(0.000)	(0.000)
EUDirective	0.214***	0.021	-0.112***	-0.001***	-0.001***
	(0.018)	(0.017)	(0.014)	(0.000)	(0.000)
LogLikelihood	-2317.440	-2135.728	-3317.807		
R-square				0.448	0.165

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Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)

Coefficients and standard errors include three decimal places

The statistics reported are based on two tailed tests

\*\*\* p-value<0.01. \*\* p-value<0.05. \* p-value<0.1

**Panel C** is available in the article as Table 9

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**Online Table 6.** Robust results from instrumental variables (Group 1 Sample)**Panel A. MediaCoverage instrument**

	Model 1		Model 3		
	DAssurance	StkEng	Reputation	Qtobin	MtoB
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
DAssurance		0.149** (0.072)	0.279** (0.080)	0.001*** (0.000)	0.001*** (0.000)
Controversies	-2.791*** (0.988)	-0.021 (0.015)	-2.785*** (0.988)	-0.001 (0.001)	-0.001 (0.001)
ESGreporting	0.188*** (0.061)	0.00735 (0.007)	0.188*** (0.061)	0.001* (0.000)	0.001 (0.001)
ESGperformance	15.730*** (5.868)	0.894*** (0.205)	15.73*** (5.869)	0.001** (0.000)	0.001 (0.001)
CSRgap	-0.099** (0.007)	-0.015* (0.008)	-0.0993 (0.068)	-0.001 (0.001)	-0.001 (0.001)
ACindep	-0.017 (0.019)	-0.002* (0.001)	-0.017 (0.019)	-0.001** (0.000)	0.001** (0.000)
ACexpertise	-2.567** (1.012)	0.085 (0.101)	-2.556** (1.013)	-0.001 (0.001)	-0.001 (0.001)
BoardSize	-0.232* (0.122)	-0.025*** (0.008)	-0.232* (0.122)	0.000 (0.000)	0.000 (0.000)
BoardActivity	0.142* (0.078)	0.002 (0.005)	0.142* (0.078)	-0.001** (0.000)	-0.001 (0.000)
BoardIndep	-0.038*** (0.010)	0.001 (0.001)	-0.038*** (0.010)	-0.001 (0.001)	-0.001 (0.001)
CEOduality	0.523 (0.768)	0.116** (0.051)	0.513 (0.769)	-0.001** (0.000)	-0.001*** (0.000)
BoardDiversity	-0.093*** (0.032)	0.008* (0.005)	-0.09*** (0.032)	0.001*** (0.000)	0.001*** (0.000)

CSRCommittee	-4.191*** (1.422)	0.265 (0.188)	-4.205*** (1.423)	-0.001 (0.001)	-0.001** (0.000)
BoardTenure	0.030 (0.130)	-0.003 (0.008)	0.033 (0.131)	0.001*** (0.000)	0.001*** (0.000)
LogAge	-0.813* (0.424)	-0.102*** (0.029)	-0.821* (0.425)	-0.001 (0.001)	-0.001 (0.001)
Size	-7.394*** (0.283)	-0.159 (0.109)	-7.401*** (0.284)	-0.001** (0.000)	-0.001 (0.001)
ROA	-0.115** (0.049)	-0.002 (0.003)	-0.115** (0.049)	0.001*** (0.000)	0.001*** (0.000)
Leverage	-0.005 (0.004)	0.001* (0.005)	-0.005 (0.004)	-0.001 (0.001)	0.001*** (0.000)
WorkCap	-0.001** (0.000)	0.000 (0.000)	-0.001** (0.000)	0.000 (0.000)	-0.001** (0.000)
R&D	-0.001 (0.001)	0.000 (0.000)	-0.001 (0.000)	0.000 (0.000)	-0.001** (0.000)
Advertising	-0.001 (0.001)	-0.001*** (0.000)	-0.000 (0.000)	0.001** (0.000)	0.001*** (0.000)
CAPEX	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.001** (0.000)
Dividend	0.001** (0.000)	0.000 (0.000)	0.001** (0.000)	0.000 (0.000)	0.001** (0.000)
StkOrientation	-0.145 (0.147)	-0.141*** (0.044)	-0.143 (0.148)	0.000 (0.000)	0.001*** (0.000)
EUDirective	2.463*** (0.272)	0.050 (0.040)	2.453*** (0.275)	-0.001** (0.000)	0.000 (0.000)
LogLikelihood	-29615.833	-29585.874	-30806.456		
R-square				0.390	0.099
Instrument test					
AR	4.49***	71.12***	68.23***		
Wald	10.73***	5941.84***	5652.46***		

LR statistic 12.560\*\*\* 11.594\*\*\*

**Panel B. CChRisk instrument**

	Model 1		Model 3		
	DAssurance	StkEng	Reputation	Qtobin	MtoB
	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)	coef. (std.error)
DAssurance		0.093*** (0.016)	0.053** (0.014)	0.001** (0.000)	0.001** (0.000)
Controversies	-0.026*** (0.005)	-0.031*** (0.003)	-0.035*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)
ESGreporting	0.006* (0.003)	0.001 (0.004)	0.007*** (0.002)	0.001*** (0.000)	0.001 (0.001)
ESGperformance	0.011*** (0.004)	0.008* (0.004)	0.014*** (0.003)	0.001* (0.000)	0.001* (0.000)
CSRgap	-0.505*** (0.107)	-0.302** (0.160)	-0.615*** (0.231)	-0.001*** (0.000)	-0.001 (0.001)
ACindep	0.002* (0.001)	-0.002* (0.000)	0.001 (0.001)	-0.001 (0.001)	0.001** (0.000)
ACexpertise	0.001 (0.067)	0.008 (0.055)	0.082** (0.040)	0.001 (0.001)	-0.001 (0.001)
BoardSize	0.021*** (0.007)	-0.020*** (0.006)	0.015*** (0.005)	0.001 (0.001)	0.001** (0.000)
BoardActivity	-0.005 (0.004)	0.004 (0.004)	-0.0031 (0.003)	-0.001*** (0.000)	-0.001* (0.000)
BoardIndep	0.001 (0.001)	0.001 (0.001)	0.002*** (0.000)	0.001 (0.001)	0.001 (0.001)
CEOduality	0.143*** (0.052)	0.092** (0.039)	-0.151*** (0.040)	-0.001** (0.000)	-0.001*** (0.000)
BoardDiversity	0.008*** (0.002)	0.004* (0.002)	-0.001 (0.002)	0.001*** (0.000)	0.001*** (0.000)

CSRCommittee	0.236*** (0.069)	0.106 (0.091)	0.126** (0.057)	-0.001 (0.001)	-0.001 (0.001)
BoardTenure	-0.032*** (0.009)	-0.002 (0.006)	0.004 (0.005)	0.001*** (0.000)	0.001*** (0.000)
LogAge	0.118*** (0.026)	-0.082*** (0.023)	-0.005 (0.018)	0.001 (0.001)	-0.001 (0.001)
Size	0.279*** (0.028)	-0.237*** (0.026)	0.286*** (0.012)	-0.001 (0.001)	0.000 (0.001)
ROA	0.007*** (0.002)	-0.004 (0.002)	0.006*** (0.002)	0.001*** (0.000)	0.001*** (0.000)
Leverage	0.004** (0.002)	0.001* (0.000)	0.001*** (0.000)	-0.001 (0.001)	0.001*** (0.000)
WorkCap	-0.001** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.001* (0.000)
R&D	0.001* (0.000)	0.000 (0.000)	0.001** (0.000)	0.000 (0.000)	-0.001*** (0.000)
Advertising	0.000 (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.001** (0.000)	0.001*** (0.000)
CAPEX	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.001*** (0.000)
Dividend	0.001** (0.000)	0.001* (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.001** (0.000)
StkOrientation	-0.015* (0.009)	-0.096*** (0.022)	-0.009 (0.006)	0.001 (0.001)	0.001*** (0.000)
EUDirective	0.080* (0.044)	0.076*** (0.015)	-0.120*** (0.012)	-0.001*** (0.000)	-0.001 (0.001)
LogLikelihood	-29603.645	-29570.715	-30759.703		
R-square				0.378	0.306
Instrument test					
AR	7.78***	13.42***	79.82***		
Wald	21.65***	99.83***	1109.45***		

LR statistic	25.903***	25.903***
Group 1 sample (firms=1,149; observations= 10,366; period: 2010-2019)		
Coefficients and standard errors include three decimal places		
The statistics reported are based on two tailed tests		
*** p-value<0.01. ** p-value<0.05. * p-value<0.1		
This table is available in the article as Table 10		