

Table 1. Financial characteristics of scope 3 discloser firms

Financial characteristic	Sales-to-assets		Net profit-to-sales		Liabs.-to-comm. equity		Price-to-earnings		Intangibles-to-assets		Market capitalization		Price Per share		
	Mea	Media	Media	Media	Media	Media	Media	Media	Media	Media	Mean	Median	Mean	Median	
	N	n	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n
<u>Panel A. S&amp;P 500 2021 scope 3 disclosers</u>															
Communication Services	30	0.43	0.21	0.19	3.42	3.90	11.83	10.32	0.49	0.40	10,574	12,845	26	22	
Consumer Discretionary	40	0.57	-0.14	0.10	2.38	2.28	18.95	18.95	0.15	0.13	18,315	12,153	48	41	
Consumer Staples	40	0.96	0.20	0.14	5.45	3.17	26.65	24.57	0.41	0.45	28,486	25,517	109	66	
Energy	70	0.84	0.12	0.13	1.24	1.00	27.70	14.66	0.10	0.04	94,101	42,031	72	78	
Financials	20	0.17	0.16	0.16	5.77	5.77	21.40	21.40	0.29	0.29	32,370	32,370	130	130	
Health Care	10	0.46	0.34	0.34	1.77	1.77	18.81	18.81	0.42	0.42	193,716	193,716	91	91	
Industrials	60	0.88	0.27	0.29	1.77	1.45	28.40	22.24	0.26	0.21	40,127	30,946	198	181	
Information Technology	20	0.45	0.26	0.26	3.37	3.37	21.71	21.71	0.36	0.36	164,820	164,820	111	111	
Materials	30	0.39	0.17	0.16	1.19	0.94	35.34	35.95	0.04	0.05	55,541	56,702	150	75	
Real Estate	30	0.27	0.26	0.24	4.87	1.99	53.91	53.66	0.25	0.25	57,371	30,774	132	51	
Utilities	40	0.22	0.04	0.02	3.11	3.07	31.76	31.76	0.06	0.05	32,965	28,867	42	43	
All	390	0.59	0.16	0.17	2.86	1.77	28.02	21.08	0.24	0.12	57,575	31,756	102	68	
<u>Panel B. S&amp;P 500 2021 scope 3 non-disclosers</u>															
Communication Services	30	0.46	0.11	0.08	1.84	1.59	32.89	33.49	0.49	0.41	12,076	14,943	52	28	
Consumer Discretionary	41	1.50	0.42	0.44	2.70	3.04	19.56	21.34	0.10	0.08	45,836	37,473	204	240	
Consumer Staples	41	1.74	0.19	0.19	1.50	1.69	28.61	31.84	0.27	0.29	81,203	47,377	175	91	
Energy	70	0.71	0.15	0.21	1.76	1.25	21.90	21.04	0.07	0.02	26,752	30,735	53	36	
Financials	20	0.20	0.10	0.10	3.60	3.60	31.91	31.91	0.27	0.27	48,420	48,420	134	134	
Health Care	10	0.42	0.19	0.19	2.04	2.04	22.36	22.36	0.58	0.58	135,674	135,674	70	70	
Industrials	60	0.68	0.29	0.25	2.30	2.03	33.16	30.01	0.42	0.38	55,440	56,192	269	239	
Information Technology	20	0.39	0.14	0.14	1.00	1.00	22.26	22.26	0.47	0.47	231,202	231,202	184	184	
Materials	30	0.65	0.19	0.08	0.76	0.80	56.87	22.25	0.31	0.15	34,418	33,807	104	129	
Real Estate	30	0.17	0.24	0.09	5.75	0.82	37.61	35.41	0.14	0.02	58,340	35,300	159	170	
Utilities	40	0.18	0.10	0.10	2.76	2.66	26.66	25.80	0.07	0.08	49,570	47,484	86	87	
All	390	0.72	0.21	0.20	2.31	1.76	30.23	25.11	0.25	0.15	57,327	36,975	141	93	
<u>Panel C. Non-US scope 3 disclosers</u>															
Communication Services	20	0.29	0.31	0.31	1.47	1.47	12.96	12.96	0.38	0.38	27,786	27,786	30	30	
Consumer Discretionary	30	0.61	0.79	0.79	5.10	5.10	90.51	90.51	0.52	0.52	27,810	27,810	308	308	
Consumer Staples	51	1.10	0.25	0.25	2.20	2.05	23.08	23.08	0.21	0.19	3,578	3,298	129	187	
Energy	190	0.67	0.01	0.12	3.26	2.10	11.19	9.90	0.06	0.05	16,174	3,170	52	51	
Financials	90	0.06	0.13	0.12	12.35	12.46	20.50	13.80	0.01	0.01	30,651	28,660	24	18	
Health Care	30	0.34	-0.01	0.00	1.92	1.68	na	na	0.40	0.59	4,297	4,297	64	64	

Industrials	6	0.68	0.86	0.13	0.09	2.13	1.61	32.95	35.55	0.23	0.28	19,327	8,477	97	72
Information Technology	5	0.58	0.62	0.41	0.58	1.50	1.98	42.03	54.93	0.30	0.18	9,454	9,454	584	896
Materials	19	0.62	0.63	0.28	0.30	1.87	0.90	12.83	7.41	0.06	0.03	11,061	4,871	67	82
Real Estate	1	0.07	0.07	-0.10	-0.10	1.99	1.99	na	na	0.00	0.00	1,672	1,672	20	20
Utilities	2	0.29	0.29	-0.84	-0.84	10.36	10.36	na	na	0.08	0.08	3,808	3,808	15	15
All	74	0.56	0.55	0.17	0.14	3.91	1.98	22.64	13.66	0.14	0.05	16,138	4,415	96	53
Panel D. Differences (t-stat., signif.)															
S&P 500 disclosers vs. S&P 500 non-disclosers (A-B)	-0.9														
S&P 500 disclosers vs. non-U.S. disclosers (A-C)	8		-1.07		0.88		-0.43		-0.21		0.02				-1.55
							2.86*								
	0.45		-0.30		-1.54		**		2.13**		3.39***				0.20

This table summarizes key 2021 financial characteristics of firms that mention scope 3 emissions in their SEC filings in 2021. Panel A summarizes S&P 500 scope 3 disclosers. Panel C summarizes a matched sample of S&P 500 non-scope 3 disclosers. Panel C summarizes non-U.S. scope 3 non-disclosers. Panel D shows the t-stat. and significance levels of the difference of S&P 500 disclosers less a matched sample of S&P 500 non-disclosers (Panel A – Panel B) and S&P 500 disclosers less non-U.S. disclosers (Panel A – Panel C). \*\*\*, \*\*, and \* denote two-tail significance at the 1%, 5%, and 10% level, respectively.

Table 2. Studies on the financial market effects of carbon emissions

Study	Year of study	Google Citations 7/19/2022	Citations per year	Scope 3 mentioned Yes=1, No=0	Scope 3 analyzed Yes=1, No=0	Study period years	Firm-years	Nat. log of firm-years per year
Hart and Ahuja (1996)	1996	2,614	97	0	0	2	127	4.15
Hughes (2000)	2000	422	18	0	0	8	90	2.42
Johnston et al. (2008)	2008	172	11	0	0	6	71	2.47
Chapple et al. (2013)	2013	278	28	0	0	1	58	4.06
Clarkson et al. (2013)	2013	584	58	0	0	4	195	3.89
Matsumura et al. (2014)	2014	815	91	0	0	3	584	5.27
Clarkson et al. (2015)	2015	223	28	0	0	4	843	5.35
Griffin et al. (2017)	2017	278	46	0	0	7	1677	5.48
Broadstock et al. (2018)	2018	96	19	1	0	16	2147	4.90
Ilhan et al. (2020)	2020	247	82	1	0	8	1963	5.50
Bolton and Kacperczyk (2021)	2021	462	231	1	1	13	189187	9.59
Downar et al. (2021)	2021	36	18	0	0	10	1257	4.83
Griffin et al. (2021)	2021	6	3	0	0	13	673	3.95
Jouvenot and Krueger (2021)*	2021	26	13	1	0	8	552	4.23
Yang et al. (2021)*	2021	5	3	0	0	15	744	3.90
Bolton and Kacperczyk (2022)*	2022	67	67	1	1	14	887429	11.06
Dai et al. (2022)*	2022	13	13	1	1	13	76356	8.68
Aswani et al. (2022)*	2022	14	14	1	1	15	17,852	7.08
Percentage "Yes"				39%	22%			

\* Unpublished as of 7/19/2022

This table summarizes 18 studies that examine the relation between carbon emissions and their pricing effects in financial markets. Of the 18 studies that examine emission pricing effects, seven (39%) mention scope 3 emissions and four (22%) analyze firm-level scope 3 emissions.