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Corporate giving and the case of tax avoidance

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A B S T R A C T

Prior studies suggest that the association between corporate social responsibility (CSR) and tax avoidance is nuanced. Corporate giving, a CSR strength, is a discretionary activity primarily driven by management values. We propose that corporate giving promotes community-mindedness. Paying a fair share of tax is consistent with this value. We hypothesize that corporate giving and tax avoidance are negatively associated. Our findings support this hypothesis, suggesting that firms that generously contribute to charitable causes are less aggressive in avoiding tax. The association holds when tax avoidance is measured over a multi-year period, is more pronounced in a good economy, and is evident among highly profitable firms, firms subject to low political costs, and domestic firms.

1. Introduction

Corporate giving is often referred to as "strategic philanthropy." Corporations engage in charitable activities with the expectation of gains in strategic advantage (Saiia, Carroll, & Buchholtz, 2003). Researchers report evidence consistent with this view. For instance, extant literature finds that corporations use philanthropy to mitigate negative publicity (Williams & Barrett, 2000), to serve as a marketing tool (Graham, 1995; Saiia et al., 2003), to reduce training time for new employees (Ricks Jr. & Williams, 2005), and to garner political favors (Sa'nchez, C., 2000). Given these findings, some researchers believe philanthropy is heavily tainted by self-serving purposes and, thus, wonder whether the idea of being socially responsible is lost (Moir & Taffler, 2004; Saiia et al., 2003).

Fortunately, management values, not profit, dominate the philanthropy decision (Buchholtz, Amason, & Rutherford, 1999; Lerner & Fryxell, 1994; Miller, 1996). Corporate giving also reflects an altruistic motive (Campbell, Gulas, & Gruca, 1999; Carroll & Joulfaian, 2005; Gan, 2006). A majority of companies (214 out of 218) in a survey argue that philanthropy is the right thing to do and should be carried out (BusinessWeek Online, 2003). Stakeholders appreciate genuine gestures for the greater good (Godfrey, 2005; Lichtenstein, Drumwright, & Braig, 2004; Patten, 2008). Employees are better motivated to work for firms that behave ethically, and they are more devoted to companies that support the community (Balakrishnan, Sprinklw, & Williamson, 2011; Greening & Turban, 2000; Moritz, 2014). Extending this line of research,

we explore whether corporate giving is negatively associated with tax avoidance.

Tax avoidance is a complicated topic. Many tax avoidance methods are explicitly allowed by tax laws. Tax credits and accelerated depreciation are examples of these methods. Many corporate executives believe that paying the least amount of tax is their fiduciary duty (Sikka, 2010). However, the extent to which they minimize tax payments is affected by how the executives view tax. At one extreme, some believe paying tax to the government is wasting resources—which, if kept within corporations, could help them innovate—while others agree that tax is a corporation's social responsibility and contributes to the greater good (Davis, Guenther, Krull, & Williams, 2016).

The association between tax avoidance and corporate social responsibility (CSR) is widely examined. Two schools of thought stand out in the literature. One stream of research reports that corporate culture guides both CSR activities and tax practices. Firms with poor CSR performance are more aggressive in tax avoidance (e.g., Hermalin, 2001; Hoi, Wu, & Zhang, 2013; Kim, Park, & Wier, 2012; Kreps, 1990). The other stream of research argues that CSR is a risk management tool. Firms engaging in aggressive tax practices either increase CSR activities or claim stronger CSR performance (e.g., Col & Patel, 2019; Davis et al., 2016; Preuss, 2010). Overall, these studies mainly document the link between CSR concerns and tax avoidance. They find a weak association between CSR strengths and tax avoidance (e.g., Hoi et al., 2013; Huseynov & Klamm, 2012; Watson, 2015). The relation between CSR and tax avoidance warrants further investigation.

Table 1
Descriptive statistics.

Panel A: Descriptive statistics						
Variables	N	Mean	Std. Dev.	Q1	Median	Q3
CETR	6027	−0.2559	0.1405	−0.3414	−0.2605	−0.1579
BTD	5940	0.0267	0.0336	0.0041	0.0226	0.0450
DDBTD	5301	0.0131	0.0564	−0.0185	0.0079	0.0374
SHELTER	5733	0.7420	0.2452	0.5843	0.8330	0.9443
GIVING	6027	0.0367	0.1880	0	0	0
CGIVING	252	16.7490	1.3263	15.9637	16.8612	17.7962
ROA	6027	0.1417	0.0943	0.0750	0.1222	0.1857
LEV	6027	0.1723	0.1748	0.0047	0.1387	0.2742
NOL	6027	0.5348	0.4988	0	1	1
CNOL	6027	0.0001	0.0442	−0.0011	0	0.0007
PPE	6027	0.3066	0.2540	0.1200	0.2329	0.4202
INTAN	6027	0.2071	0.2245	0.0252	0.1260	0.3252
EI	6027	0.0013	0.0043	0	0	0
FI	6027	0.5691	0.4952	0	1	1
SIZE	6027	7.4666	1.5250	6.3082	7.3238	8.4631
MTB	6027	3.6416	3.1334	1.8631	2.7461	4.1895
RD	6027	0.0287	0.0478	0	0	0.0387
INST	6027	0.7225	0.2121	0.5917	0.7468	0.8750
STR	6027	0.1445	0.4329	0	0	0
CON	6027	0.0629	0.2554	0	0	0

Panel B: Comparisons of mean values between giving firms and non-giving firms			
	GIVING = 1	GIVING = 0	Diff.
CETR	−0.2842	−0.2549	***
BTD	0.0239	0.0268	*
DDBTD	0.0080	0.0133	*
SHELTER	0.7382	0.8265	***
ROA	0.1554	0.1412	**
LEV	0.1844	0.1719	
NOL	0.5346	0.5385	
CNOL	0.0025	0.0001	
PPE	0.3425	0.3053	**
INTAN	0.2081	0.2070	
EI	0.0018	0.0013	*
FI	0.6833	0.5648	***
SIZE	8.3690	7.4323	***
MTB	4.2110	3.6199	***
RD	0.0239	0.0289	*
INST	0.6977	0.7235	*
STR	0.5973	0.1273	***
CON	0.1041	0.0613	**

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

We propose that firms engaging in corporate giving (a CSR strength) likely have lower levels of tax avoidance. This is because corporate giving and tax payments are both tied to community-mindedness. Prior literature finds that the thought of giving back to the community could affect tax strategies (Law & Mills, 2017). Through corporate giving, management exhibits that they care about the community (Buchholtz et al., 1999; Lerner & Fryxell, 1994; Miller, 1996). Paying a fair share of tax is also consistent with this value, because tax supports the public and those in need (Weisbach, 2002). Tax avoidance, on the other hand, directly reduces support to the community. Being aggressive in tax avoidance is viewed negatively as being irresponsible (Davis et al., 2016; Hoi et al., 2013). Tax executives at both public and private companies rank this as a top factor in their decision not to engage in a proposed tax avoidance strategy (Graham, Hanlon, Shevlin, & Shroff, 2014).

The results of our analyses support this hypothesis. Namely, firms that engage in corporate giving are less aggressive in avoiding tax than their peers. The association holds when tax avoidance is measured over multiple years, is more pronounced in a good economy, and is evident among highly profitable firms, firms subject to low political costs, and domestic companies. These findings are robust to using alternative measures of tax avoidance and corporate giving or using a propensity

score matching approach.

Our study contributes to the literature on CSR and tax avoidance. Prior studies suggest that the relation between the two is nuanced (e.g., Col & Patel, 2019; Davis et al., 2016; Hoi et al., 2013; Huseynov & Klamm, 2012; Watson, 2015). Lanis and Richardson (2015) call for further investigation on specific CSR activities and tax avoidance. We add to the literature by showing that corporate giving, a discretionary activity in Carroll (1979) model of corporate responsibility, is important. Unlike other CSR activities (i.e., diversity, environment, and human rights), corporate giving is less likely used to provide insurance for aggressive tax practices (Col & Patel, 2019). Firms engaging in this activity are more likely to promote community-mindedness, which is consistent with the idea of paying a fair share of tax. Firms engaging in corporate giving are less aggressive in tax avoidance.

This paper proceeds as follows. Section 2 discusses relevant literature and develops the hypothesis. Section 3 describes the research design. Section 4 introduces our sample and the associated descriptive statistics. Section 5 presents the primary analysis, robustness checks, and additional analyses. Section 6 concludes.

2. Relevant literature and hypothesis development

2.1. Corporate giving

Extant literature suggests that corporate giving is self-serving. Philanthropic activities serve as a substitute for marketing expenses (Graham, 1995; Navarro, 1988). Firms donate to targeted consumer segments when traditional mass marketing becomes less effective among diversified consumers (Graham, 1995). In addition to using charity work for marketing purposes, firms also engage in corporate giving activities to reduce costs. For example, it is documented that a corporate-sponsored educational program significantly lowers the training time associated with new hires (Ricks Jr. & Williams, 2005). Firms use giving as a public relations tool as well. Williams and Barrett (2000) find firms that violate regulations experience a decline in firm reputation, but charitable giving mitigates the negative relation between regulation violations and firm reputation. In a similar vein, Koehn and Ueng (2010) finds that firms engage in giving to mitigate negative publicity. Firms restating earnings due to violations of Generally Accepted Accounting Principles (GAAP) are more likely to be listed as top philanthropic givers than non-restaters. The accumulated evidence seems to support the view of self-serving philanthropy.

On the other hand, some research suggests that corporate giving has roots in altruism. Carroll and Joulfaian (2005) analyze tax return data to determine whether firms make charitable contributions for the purpose of receiving a tax deduction. They find that S corporations give more frequently and more generously than C corporations, even though they do not need to pay corporate tax. C corporations also make charitable contributions even though those contributions lower after-tax profits. They give because they enjoy the "warm glow" from this activity. Gan (2006) studies the motives of corporate giving and finds that companies give more not only under strong public pressure but also when there is a greater need for charitable donations. Altruism is part of the reason why corporations give.

An outstanding corporate citizen keeps society's interests at heart (Freeman, 1984). Evidence shows that the public acknowledges the possibility of corporate giving being altruistic. The market tries to identify actions with a genuine intention to help the community, and it rewards these activities accordingly (Godfrey, 2005; Patten, 2008). Nevertheless, the effect of corporate giving merits further study.

2.2. Tax avoidance

Prior research reveals that corporate executives contribute to tax avoidance behavior. If CEOs are compensated with high after-tax incentive pay, their firms are more likely to be aggressive in tax

Table 2
Correlation table.

Variable		CETR	BTD	DDBTD	SHELTER	GIVING	ROA	LEV	NOL	CNOL	PPE	INTAN
CETR	1					−0.0392	−0.0955	0.1175	0.2516	−0.0456	0.0614	0.0622
BTD	2					−0.0093	0.2149	0.0085	0.1337	−0.0960	0.0502	0.0137
DDBTD	3					−0.0178	0.0669	−0.0115	0.1396	−0.0689	−0.0299	0.0894
SHELTER	4					−0.0865	0.02488	0.0458	0.1185	0.0274	−0.0002	−0.0069
GIVING	5	−0.0407	−0.0162	−0.0115	−0.0938		0.0283	0.0134	0.0015	0.0104	0.0277	0.0009
ROA	6	−0.1642	0.2195	0.0498	0.0479	0.0272		−0.2856	−0.2569	−0.0277	0.0488	−0.1407
LEV	7	0.1105	0.0188	−0.0185	0.1366	0.0302	−0.2856		0.1260	0.0608	0.2472	0.2577
NOL	8	0.2845	0.1369	0.1207	0.1264	0.0015	−0.2569	0.1260		−0.1007	−0.2132	0.2805
CNOL	9	−0.0852	−0.1009	−0.0743	0.0713	0.0062	−0.0277	0.0608	−0.1007		0.0395	0.0311
PPE	10	−0.0127	0.0855	−0.0540	0.0383	0.0633	0.0488	0.2472	−0.2132	0.0395		−0.3844
INTAN	11	0.0860	0.0074	0.0741	0.0714	0.0013	−0.1407	0.2577	0.2805	0.0311	−0.3844	
EI	12	−0.0016	0.0536	−0.0528	0.2066	0.0348	−0.0395	0.1408	0.0216	0.0407	0.09977	0.0764
FI	13	0.0994	0.0054	0.0426	0.6378	0.0450	−0.1113	0.0217	0.3001	0.0557	−0.1940	0.1830
SIZE	14	0.0164	0.0485	−0.0488	0.6838	0.1066	0.1293	0.2000	0.0467	0.0840	0.1177	0.0941
MTB	15	−0.0215	0.1345	0.0298	0.1032	0.0501	0.5443	−0.0712	−0.0528	0.0119	−0.0135	0.0092
RD	16	0.2065	0.1166	0.1039	0.1398	0.0022	0.0072	−0.1763	0.1991	−0.0275	−0.3087	0.1185
INST	17	0.1089	0.0439	0.0386	0.0395	−0.0355	−0.0548	0.0815	0.2292	−0.0343	−0.2006	0.2229
STR	18	0.0127	0.0237	0.0031	0.2639	0.2184	0.0407	0.0561	0.0223	0.0360	0.0462	0.0211
CON	19	0.0480	0.0559	−0.0118	0.1868	0.0362	−0.0338	0.0974	0.0341	0.0163	0.0737	−0.0017

Variable		EI	FI	SIZE	MTB	RD	OWNERSHIP	STRENGTH	CONCERN
CETR	1	−0.0046	0.0730	0.0233	0.0280	0.2020	0.0968	0.0115	0.0334
BTD	2	0.0415	0.0157	0.0478	0.1237	0.0831	0.0447	0.0219	0.0650
DDBTD	3	−0.0499	0.0311	−0.0578	0.0717	0.1862	0.0341	−0.0004	−0.0275
SHELTER	4	0.1094	0.6113	0.6760	0.0641	0.0299	0.0765	0.2532	0.1762
GIVING	5	0.0238	0.0450	0.1155	0.0355	−0.0197	−0.0229	0.2041	0.0315
ROA	6	−0.0010	−0.1179	0.0941	0.4697	0.1004	−0.0586	0.0286	−0.0370
LEV	7	0.0435	−0.0179	0.0941	0.4697	0.1004	−0.0586	0.0143	0.0601
NOL	8	0.0007	0.3001	0.0339	−0.0117	0.1719	0.2155	0.0194	0.0291
CNOL	9	0.0177	0.0421	0.0539	0.0332	−0.0111	−0.0300	0.0196	0.0073
PPE	10	0.0506	−0.2435	0.0900	−0.0449	−0.2930	−0.1310	0.0059	0.0720
INTAN	11	−0.0161	0.0891	0.0369	−0.0243	0.0184	0.2015	0.0075	−0.0181
EI	12		0.0603	0.1557	0.0198	−0.0570	−0.0779	0.0921	0.1140
FI	13	0.0966		0.2529	0.0373	0.2587	0.0855	0.1179	0.0804
SIZE	14	0.1939	0.2568		0.2953	0.0192	0.0571	0.4054	0.2439
MTB	15	−0.0101	0.0363	0.3824		0.1923	−0.0254	0.1341	0.0073
RD	16	−0.0323	0.3959	0.0635	0.1941		0.0435	0.0376	−0.0622
INST	17	−0.0613	0.0731	0.0421	−0.0238	0.0220		−0.0691	−0.0179
STR	18	0.0852	0.1206	0.3711	0.1311	0.0634	−0.0846		0.1264
CON	19	0.0977	0.0822	0.2324	0.0023	−0.0307	−0.0257	0.1154	

Pearson (Spearman) correlations are below (above) the diagonal. All correlations in bold are significant at 5% level. All variables are defined in Appendix A.

practice (Gaertner, 2014). A CEO's view on the nature of tax may play a role in its effect on tax practice. Firms show a higher level of tax avoidance if their executives favor personal tax sheltering (Chyz, 2013). Even if a CEO is not directly involved in tax, the CEO can direct the firm to be more or less aggressive in tax practice, and the influence follows the CEO to their new firms (Dyreng, Hanlon, & Maydew, 2010). Additionally, tax avoidance may be affected by a firm's culture. Firms engaging in aggressive financial reporting are also more aggressive in tax reporting (Frank, Lynch, & Rego, 2009).

Improving corporate governance is proposed to reduce tax avoidance. Lanis and Richardson (2018) documents that increasing the percentage of independent members on the board of directors lowers the possibility of being tax aggressive. The effects of ownership structure on tax avoidance, however, are somewhat ambiguous. Some studies (Badertscher, Katz, & Rego, 2013; Khurana & Moser, 2013) provide evidence that institutional ownership is negatively associated with tax avoidance. Other studies, such as Khan, Srinivasan, and Tan (2017), document the opposite—that the two are positively associated. Armstrong, Blouin, Jagolinzer, and Larcker (2015) reports no association between various corporate governance mechanisms and tax avoidance unless the tax avoidance level is at the two extremes. Jiménez-Angueira (2018) suggests that the relation between corporate governance and tax avoidance could be affected by the external regulatory environment. Overall, corporate governance could go either way—increase tax avoidance to be more profitable or curtail tax avoidance to control risk

(Kovermann & Velte, 2019).

Another line of research examines the effect of law enforcement on tax practice. Firms are found to reduce tax avoidance activities when they receive a tax-related comment letter from the Securities and Exchange Commission (SEC), or after multiple such letters to their peers in the same industry are publicized (Kubick, Lynch, Mayberry, & Omer, 2016). Firms also tend to limit their tax avoidance when the probability of an Internal Revenue Service (IRS) audit increases (Hoopes, Mescall, & Pittman, 2012). However, firms become increasingly aggressive in the years after an actual IRS audit (DeBacker, Heim, Tran, & Yuskavage, 2015). These studies suggest that firms may alter their tax avoidance behavior in response to tax law enforcement.

2.3. Corporate social responsibility and tax aggressiveness

The association between tax behavior and CSR is complicated. Anecdotal evidence suggests that firms view tax quite differently. Davis et al. (2016) reports that sustainability reporting guidelines (such as the GRI guidelines or UN Global Compact) explicitly encourage companies to generate tax revenue, aligning higher tax payments with being socially responsible. Some firms agree with this view. Others either avoid this topic in their sustainability report or argue that tax is a barrier to innovation or economic activity.

Researchers do not hold a unanimous view on the association between CSR and tax behavior either. Two schools of thought stand out,

Table 3
The association between corporate giving and tax avoidance.

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	−0.3856***	−0.0151***	0.0050	0.0133
	(<0.0001)	(0.0017)	(0.7705)	(0.8406)
GIVING	**−0.0190****	**−0.0046****	**−0.0087****	**−0.0234****
	(0.0263)	**(0.0492)**	**(0.0226)**	**(0.0266)**
ROA	0.1343***	0.1307***	0.0523***	0.1160***
	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)
LEV	0.0621***	0.0129***	0.0206***	0.0293
	(<0.0001)	(<0.0001)	(0.0002)	(0.7279)
NOL	0.0463***	0.0101***	0.0061***	0.0125***
	(<0.0001)	(<0.0001)	(0.0005)	(<0.0001)
CNOL	−0.3556***	−0.1063***	−0.2219***	−0.0633*
	(<0.0001)	(<0.0001)	(<0.0001)	(0.0692)
PPE	0.0806***	0.0200***	0.0052	0.0345***
	(<0.0001)	(<0.0001)	(0.2805)	(0.0073)
INTAN	0.0146	0.0005	1.1606	0.0145
	(0.1308)	(0.8551)	(0.5005)	(0.1807)
EI	0.0355	0.3179***	0.3925*	0.8518***
	(0.9429)	(0.0073)	(0.0513)	(0.0023)
FI	−0.0100**	−0.0031***	−0.2855	0.2772***
	(0.0120)	(0.0039)	(0.2735)	(<0.0001)
SIZE	−0.0031**	−0.0004	−0.0024***	0.0812***
	(0.0299)	(0.4233)	(0.0008)	(<0.0001)
MTB	0.0029***	−0.0001	−0.0003	−0.0085***
	(0.0009)	(0.6632)	(0.5644)	(<0.0001)
RD	0.6117***	0.0607***	0.1592***	0.1385***
	(<0.0001)	(<0.0001)	(<0.0001)	(0.0019)
INST	0.0331***	0.0032	0.0010	0.0523***
	(0.0002)	(0.1847)	(0.8160)	(<0.0001)
STR	0.0055	0.0013	0.0002	0.0170***
	(0.1769)	(0.2586)	(0.9036)	(0.0009)
CON	0.0116*	0.0044**	0.0010	0.0100
	(0.0719)	(0.0124)	(0.7687)	(0.2297)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R^2	19.88%	20.23%	9.39%	66.20%
No. of obs.	6027	5940	5301	5733
No. of unique firms	1438	1387	1265	1290

This table reports the results from the regression model (1) examining the association between tax avoidance and corporate giving. The regression model (1) is $TaxAvoid_{i,t} = \beta_0 + \beta_1 GIVING_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 NOL_{i,t} + \beta_5 CNOL_{i,t} + \beta_6 PPE_{i,t} + \beta_7 INTAN_{i,t} + \beta_8 EI_{i,t} + \beta_9 FI_{i,t} + \beta_{10} SIZE_{i,t-1} + \beta_{11} MTB_{i,t-1} + \beta_{12} RD_{i,t} + \beta_{13} INST_{i,t} + \beta_{14} STR_{i,t} + \beta_{15} CON_{i,t} + IND_i + YEAR_i + \varepsilon_{i,t}.$
Dependent variables, CETR, BTD, DDBTD and SHELTER, are used in columns (1) to (4). Robust standard errors are clustered at the firm level. All *p*-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

both supported by prior studies. One emphasizes the role of corporate culture in business decisions. It argues that tax practice would behave similarly to other CSR activities because corporate culture, the shared beliefs within the organization on "right" vs. "wrong," systematically affects corporate behavior (Hermalin, 2001; Hoi et al., 2013; Kim et al., 2012; Kreps, 1990). The other view emphasizes the idea of risk management. It argues that CSR is mainly used to build credit with society and to provide some degree of insurance when negative corporate events such as aggressive tax practices arise (Preuss, 2010; Sikka, 2010; Williams & Barrett, 2000).

Empirical studies support the corporate culture argument. For example, Hoi et al. (2013) finds that firms engaging in highly socially irresponsible activities are more likely to engage in aggressive tax practices. Lanis and Richardson (2012) uses firm self-disclosed CSR as a proxy for CSR performance, and finds higher CSR levels are associated with lower levels of tax aggressiveness in Australia. Using U.S. data, Lanis and Richardson (2015) again finds that firms with better CSR performance are linked to less tax avoidance. Watson (2015) notes that firm profitability moderates the relation between CSR and tax avoidance, but the overall theme is that socially irresponsible firms avoid tax

Table 4
Robustness check: the association between tax avoidance and corporate cash giving.

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	0.1019	0.0288	0.1478	1.0809***
	(0.5973)	(0.5832)	(0.1269)	(<0.0001)
CGIVING	**−0.0222***	**−0.0041***	**−0.0005**	**−0.0039**
	(0.0569)	**(0.0635)**	**(0.9224)**	**(0.5291)**
ROA	−0.2593*	0.2751***	0.2920***	0.1949***
	(0.0577)	(<0.0001)	(<0.0001)	(0.0192)
LEV	0.2770***	0.0748***	0.0322	−0.0218
	(0.0008)	(0.0010)	(0.4305)	(0.6561)
NOL	−0.0088	0.0117*	−0.0030	0.0041
	(0.7033)	(0.0819)	(0.7967)	(0.7597)
CNOL	−0.4843*	0.0289	0.0835	−0.2672**
	(0.0570)	(0.6452)	(0.4393)	(0.0294)
PPE	−0.0257	0.0436**	0.0138	0.1184***
	(0.7066)	(0.0298)	(0.6961)	(0.0016)
INTAN	−0.1372**	−0.0262*	1.4120	0.0110
	(0.0103)	(0.0658)	(0.9943)	(0.7150)
EI	−0.2638	−0.2530	−0.9483*	0.0884
	(0.1511)	(0.3459)	(0.0513)	(0.8518)
FI	0.0064	−0.0035	−0.0109	0.0530***
	(0.8169)	(0.6378)	(0.4224)	(0.0012)
SIZE	−0.0019	0.0006	−0.0188**	0.0007
	(0.9085)	(0.8845)	(0.0166)	(0.9475)
MTB	−0.0009	−0.0009	−0.0008	−0.0024
	(0.7319)	(0.2651)	(0.6076)	(0.1982)
RD	0.4527***	0.0521	0.4973***	−0.0160
	(0.0919)	(0.4887)	(0.0023)	(0.9108)
INST	−0.0885	0.0014	−0.0185	−0.0886*
	(0.2449)	(0.9557)	(0.6743)	(0.0711)
STR	0.0216*	0.0012	0.0056	−0.0008
	(0.0739)	(0.7268)	(0.3099)	(0.9056)
CON	0.0009	0.0029	0.0092	0.0019
	(0.9606)	(0.5522)	(0.2827)	(0.8467)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R^2	32.72%	33.12%	13.30%	49.27%
No. of obs.	252	237	237	237

This table reports the results from our regression examining the association between tax avoidance and corporate cash giving. The regression is: $TaxAvoid_{i,t} = \beta_0 + \beta_1 CGIVING_{i,t} + Controls$ from Model (1).
Dependent variables, CETR, BTD, DDBTD and SHELTER, are used in columns (1) to (4). Robust standard errors are clustered at the firm level. All p-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

to a greater extent than socially responsible firms.

Conversely, other studies find evidence consistent with the risk management theory. Preuss (2010) compares firms headquartered in tax havens with those in the United States and finds that the former makes stronger claims of social responsibility. Similarly, Sikka (2010) reports that firms publicize themselves as being socially responsible in an effort to cover their tax avoidance and evasion. Davis et al. (2016) observes that the relation between CSR and tax avoidance is an empirical question. The findings in Davis et al. are consistent with the risk management argument. The paper finds that better CSR is associated with lower tax payments and higher tax lobbying expenditures. Col and Patel (2019) study the behavior of multinational corporations, and finds that these firms substantially increase their CSR activities after establishing affiliates in tax havens, suggesting that firms use CSR to temper potential damage from aggressive tax avoidance practices.

However, the interplay between CSR and tax practice is more nuanced. When studying the relation between CSR and tax avoidance, the most popular CSR performance measure is from the KLD database, which reports CSR strengths and concerns along multiple dimensions. Many studies net the strengths and concerns as the measure of CSR performance (e.g., Col & Patel, 2019; Davis et al., 2016; Lanis & Richardson, 2015), and investigate its association with tax avoidance.

Table 5

Robustness check: corporate giving and tax avoidance - propensity score matching.

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	−0.2710***	−0.0298**	0.0496**	−0.0549
	(<0.0001)	(0.0285)	(0.0170)	(0.2536)
GIVING	**−0.0256****	**−0.0101*****	**−0.0283****	**−0.0299****
	(0.0402)	**(0.0051)**	**(0.0255)**	**(0.0271)**
ROA	−0.1413*	0.1335***	−0.0498	0.1554*
	(0.0928)	(<0.0001)	(0.2217)	(0.0884)
LEV	0.0741	0.0441***	0.0834***	0.0528
	(0.1284)	(0.0010)	(0.0001)	(0.3502)
NOL	0.0262*	00066	−0.0017	−0.0234
	(0.0729)	(0.1251)	(0.7800)	(0.1760)
CNOL	0.1793	0.0818	−0.0988	−0.0259
	(0.4473)	(0.1734)	(0.3745)	(0.9179)
PPE	0.0497	0.0137	−0.0007	0.0393
	(0.1547)	(0.2162)	(0.9648)	(0.3351)
INTAN	0.0450	0.0270***	0.9652***	0.0007
	(0.2156)	(0.0020)	(0.0012)	(0.9844)
EI	3.0791**	0.8115*	−0.1949	1.2506
	(0.0200)	(0.0633)	(0.7803)	(0.3491)
FI	0.0089	0.0024	0.0054	0.2079***
	(0.5908)	(0.5946)	(0.3891)	(<0.0001)
SIZE	−0.0096**	−0.0005	−0.0027	0.0925***
	(0.0446)	(0.6941)	(0.1665)	(<0.0001)
MTB	0.0042	−0.0012	−0.0069***	−0.0068***
	(0.1444)	(0.1025)	(<0.0001)	(0.0246)
RD	1.0117***	0.1425**	−0.1028	−0.1170
	(<0.0001)	(0.0134)	(0.1644)	(0.5587)
INST	−0.0213	0.0109	−0.0019	0.1226***
	(0.5951)	(0.2759)	(0.9165)	(0.0058)
STR	−0.0091	0.0057**	0.0079**	0.0290**
	(0.3313)	(0.0442)	(0.0263)	(0.0118)
CON	0.0169	0.0095	0.0049	0.0452**
	(0.3824)	(0.1015)	(0.5706)	(0.0418)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R²	16.44%	29.54%	30.40%	66.02%
No. of obs.	442	440	348	426

This table reports the results from the regression model (1) examining the association between corporate giving and tax avoidance using the propensity score matched sample. The dependent variable is *CETR, BTD, DDBTD* or *SHELTER*. The variable of interest is *GIVING*. Robust standard errors are clustered at the firm level. All p-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

When breaking down CSR performance into strengths and concerns, prior studies generally find that CSR concerns and irresponsible CSR have a strong relation with tax avoidance (e.g., Hoi et al., 2013), while CSR strengths show a weak or no relation (e.g., Huseynov & Klamm, 2012; Watson, 2015). The results beg the question of whether positive CSR really matters in corporate tax practice.

2.4. Corporate giving and low tax avoidance: a common tie to community-mindedness

Several studies examine different aspects of CSR and suggest that the association between different CSR activities and tax avoidance varies. Col and Patel (2019) finds that firms use CSR to offset potential backlash from setting up affiliates in tax havens. Specifically, these firms boost CSR efforts in more visible aspects, that is, diversity, environment, and human rights. The paper finds no change in community activities after the aggressive tax avoidance practices, suggesting that management is less likely to treat community activities, including corporate giving, as a risk management tool for rebuilding corporate image.

Indeed, from the risk control perspective, shying away from the community is a great policy. Dyreng, Hanlon, and Maydew (2008) finds firms that pay lower taxes get involved in the community to a lesser extent (measured by advertising expense). The rationale is that

involvement in the community may attract more public scrutiny/punishment, and low involvement can reduce this risk.

Prior studies find that corporate giving could be driven by both strategic and altruistic reasons (Gan, 2006; Koehn & Ueng, 2010). If strategic motivations dominate the corporate giving decision, for example, if it is used to mitigate reputational loss due to adverse corporate events (e.g., Williams & Barrett, 2000), then corporate giving is likely primarily used as a risk management tool. In this case, we expect to observe a positive association between corporate giving and tax avoidance, on average. However, adverse corporate events may not be as prevalent as one thinks. Gan (2006) studies 40 of the largest 150 firms on the Fortune 500 and suggests that many of the largest companies received no public scrutiny (p. 226). This raises the possibility that in general, giving, a proactive community activity occurring throughout the year, is dominated by altruistic motivation.

Moreover, corporate giving falls under the discretionary category of Carroll (1979) model, which classifies a firm's responsibilities into four categories: economic, legal, ethical, and discretionary responsibilities. Carroll (1979) suggests that discretionary activities are special because shareholders do not demand them from a business, and laws do not require them. If a firm does not engage in discretionary activities such as corporate giving, the firm is not viewed as unethical. It gives firms considerable freedom to decide whether and how much to engage in corporate giving.

The giving decision is not entirely driven by self-interest (Campbell et al., 1999; Carroll & Joulfaian, 2005; Gan, 2006). Prior research finds that managerial values and discretion dominate firm size and the resources available in corporate giving decisions (Buchholtz et al., 1999). Management values are a significant driving force behind philanthropic activity (Lerner & Fryxell, 1994). For example, baby boomers believe that firms have the responsibility to give back to society, and firms managed by baby boomers tend to do so (Miller, 1996). Management sets a tone in the corporate culture that being a good corporate citizen is highly regarded. We argue that corporate giving promotes community-mindedness in the firm, as values embedded in discretionary activities are most powerful (Finkelstein & Hambrick, 1996).

Consistent with the idea of community-mindedness, paying a fair share of tax is a firm's responsibility to society (Weisbach, 2002). Tax money supports the public and those in need (Curran, 1985). A decrease in tax revenue leads to fewer public goods and services, or increased government borrowing, which will burden future generations. Tax avoidance directly reduces tax revenue. Given the purpose of tax money, we expect aggressive tax avoidance is less likely supported by management in firms engaging in corporate giving. These firms will be more willing to reduce tax avoidance because they are guided by the same belief in community support. The management of these firms is more likely to view aggressive tax strategies as irresponsible. Following this logic, we expect a negative link between corporate giving and tax avoidance. Our hypothesis is stated in the alternative form.

H1. Corporate giving and tax avoidance are negatively associated.

3. Methodology

In this section, we introduce measures of tax avoidance and the measure of corporate giving. Following that, we present the empirical model used to test the hypothesis. Testing using an alternative measure of corporate giving and using the approach of propensity score matching is discussed in Section 5.2.

3.1. Measures of tax avoidance

Following Dyreng et al. (2008), Hope, Ma, and Thomas (2013), Davis et al. (2016), and other studies, we first calculate the annual cash effective tax rate as the sum of a firm's income taxes paid in cash in year *t* scaled by its total pretax income net of the effects of special items in year

Table 6
Additional test: long-run tax avoidance.

Variables	(1) CETR3			(2) CETR5		
	Coeff.	P-value	VIF	Coeff.	P-value	VIF
INTERCEPT	−0.3676***	<0.0001	0.0000	−0.3299	<0.0001	*0.0000*
GIVING	**−0.0170****	**0.0487**	**1.8653**	**−0.0112***	**0.0714**	**1.1127**
ROA	−0.0860***	<0.0001	1.7924	−0.1027***	<0.0001	1.9004
LEV	0.0330***	0.0011	1.7280	0.0215**	0.0263	1.7400
NOL	0.0442***	<0.0001	1.5191	0.0458***	<0.0001	1.5216
CNOL	−0.0705***	<0.0001	1.0252	−0.0974***	<0.0001	1.0193
PPE	0.0598***	<0.0001	2.5141	0.0702***	<0.0001	2.2152
INTAN	0.0189**	0.0160	1.7852	0.0178**	0.0167	1.7582
EI	−0.0826	0.6749	1.0679	−0.0580	0.7526	1.0637
FI	−0.0144***	<0.0001	1.7295	−0.0139***	<0.0001	1.7241
SIZE	0.0001***	0.0094	1.8735	0.0025**	0.0207	1.8782
MTB	0.0037***	<0.0001	2.0484	0.0031***	<0.0001	2.0857
RD	0.5672***	<0.0001	1.9078	0.6211***	<0.0001	1.9402
INST	0.0308***	<0.0001	1.3964	0.0353***	<0.0001	1.4583
STR	0.0019	0.5803	1.5176	0.0009	0.7632	1.3572
CON	0.0016	0.7625	1.2666	0.0079*	0.0999	1.1728
Industry Dummy	Yes			Yes		
Year Fixed Effect	Yes			Yes		
Adj. R^2	26.99%			27.97%		
No. of Obs.	5694			5521		
No. Unique Firms	1342			1283		

This table reports the results from the regression model (1) examining the association between corporate giving and long-term tax avoidance. Dependent variables, *CETR3* and *CETR5* are used in columns (1) and (2), respectively. Robust standard errors are clustered at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

t. This rate captures the income taxes actually paid by a firm. Then, we multiply the annual cash effective tax rate by negative one and use this as our primary measure of tax avoidance (*CETR*), such that higher values of *CETR* suggest higher levels of tax avoidance. A negative annual cash tax rate indicates that a firm received an income tax refund in that particular year, in which case *CETR* is set as missing (Dyreng et al., 2008).

Previous research normally does not rely on one single measure of tax avoidance because each measure has its own limitations (e.g., Chen, Chen, Cheng, & Shevlin, 2010; Hoi et al., 2013; Wilson, 2009). Therefore, we employ three alternative measures of tax avoidance (*BTD, DDBTD,* and *SHELTER*) to improve the robustness of our results. The total book-tax difference (*BTD*) is the most commonly used measure of book-tax difference, computed using book income less taxable income, scaled by lagged total assets. Previous research (e.g., Desai, 2003; Desai & Dharmapala, 2006; Heltzer, 2009) suggests that large positive *BTD* signals aggressive tax practice. Some studies (e.g., Hanlon, 2005) argue that *BTD* captures not only some elements of tax avoidance but also firms' earnings management activities. Thus, following Desai and Dharmapala (2006, 2009), we compute a measure of abnormal book-tax differences by regressing total book-tax differences on total accruals to isolate the component of the difference due to earnings management. The residual value (*DDBTD*) is used as a proxy for tax avoidance. Last, we measure the most extreme part of the tax avoidance continuum, tax sheltering (*SHELTER*). *SHELTER* represents the estimated probability that a firm engages in tax sheltering and is calculated using Wilson (2009) model. A higher value of *SHELTER* indicates a greater probability of engaging in tax sheltering activity.

In summary, higher values of all four measures (*CETR, BTD, DDBTD,* and *SHELTER)* represent greater tax avoidance (i.e., paying less tax). These measures capture a broad range of practices along the tax avoidance continuum, from the more common and less aggressive forms (*CETR*) to the more aggressive forms (i.e., *SHELTER*). Details on how we calculate these four measures of tax avoidance are discussed in Appendix A.

3.2. Measure of corporate giving

Kinder, Lydenberg, and Domini (KLD) Research & Analytics, Inc., rates the CSR of S&P 1500 firms on seven primary dimensions: corporate governance, community relations, diversity, employee relations, environment, human rights, and product. This database has been employed by a large number of prior studies, such as Johnson and Greening (1999), Hillman and Keim (2001), and Servaes and Tamayo (2013). In the community relations dimension, *Charitable Giving* equals one if the company has given 1% or more of its trailing three-year net earnings before taxes to charity or has otherwise been notably generous in its giving, and zero otherwise. In our study, we use *Charitable Giving* (*GIVING*) in the KLD data as our primary measure of corporate giving.

3.3. Model specification

To investigate the association between corporate giving and tax avoidance, we estimate the following model:

$$\begin{aligned} TaxAvoid_{i,t} = &\beta_0 + \beta_1 GIVING_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 NOL_{i,t} + \beta_5 CNOL_{i,t} \\ &+ \beta_6 PPE_{i,t} + \beta_7 INTAN_{i,t} + \beta_8 EI_{i,t} + \beta_9 FI_{i,t} + \beta_{10} SIZE_{i,t-1} \\ &+ \beta_{11} MTB_{i,t-1} + \beta_{12} RD_{i,t} + \beta_{13} INST_{i,t} + \beta_{14} STR_{i,t} + \beta_{15} CON_{i,t} \\ &+ IND_i + YEAR_i + \varepsilon_{i,t} \end{aligned} \tag{1}$$

The dependent variable *TaxAvoid* is one of the four tax avoidance measures (*CETR, BTD, DDBTD,* or *SHELTER*). *GIVING* is the variable of interest in our analyses. We expect the coefficient on *GIVING*, β_1, to be negative, suggesting a negative association between corporate giving and tax avoidance.

Following prior literature (Chen et al., 2010; Dyreng et al., 2010; Frank et al., 2009; Law & Mills, 2017), we control for firm-level characteristics that have been linked to tax avoidance. Specifically, we control for firm operations and profitability by including return on assets (*ROA*), corporate leverage (*LEV*), net operating loss (*NOL*), and changes in loss carryforward (*CNOL*). The differences between the

Table 7
Additional test: bad vs. good economies.

Panel A: Bad economies

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	−0.3523***	−0.0177**	0.0332**	−0.0020
	(<0.0001)	(0.0324)	(0.0365)	(0.9566)
GIVING	**−0.0144**	**−0.0029**	**−0.0112**	**−0.0415**
	(0.5290)	**(0.6255)**	**(0.2478)**	**(0.1262)**
ROA	−0.1898***	0.1099***	−0.0137***	0.0888
	(0.0002)	(<0.0001)	(<0.0001)	(0.1054)
LEV	0.0143	0.0159**	0.0172	0.0261
	(0.5920)	(0.0178)	(0.1672)	(0.3838)
NOL	0.0429***	0.0091***	0.0015	0.0163
	(<0.0001)	(<0.0001)	(0.6934)	(0.1131)
CNOL	−0.4247***	−0.1207***	−0.3941***	−0.0642
	(<0.0001)	(<0.0001)	(<0.0001)	(0.3745)
PPE	0.1038***	0.0217***	0.0052***	0.0966***
	(<0.0001)	(0.0005)	(0.0046)	(0.0007)
INTAN	−0.1039	−0.0026	0.7843	−0.0076
	(0.5449)	(0.6342)	(0.3129)	(0.7368)
EI	−1.1944	0.2080	−0.4437	0.8529
	(0.3311)	(0.4456)	(0.4908)	(0.1396)
FI	−0.0089	−0.0024	0.0034	0.2934***
	(0.3130)	(0.3050)	(0.3940)	(<0.0001)
SIZE	0.0020	0.0003	−0.0038**	0.0790***
	(0.5509)	(0.7094)	(0.0224)	(<0.0001)
MTB	0.0006	−0.0002	0.0001	−0.0085***
	(0.7391)	(0.9564)	(0.3580)	(<0.0001)
RD	0.5045***	0.0477*	0.0036***	0.1680*
	(<0.0001)	(0.0594)	(<0.0001)	(0.0759)
INST	0.0413**	0.0001	0.0011	0.0305
	(0.0294)	(0.9971)	(0.9132)	(0.1661)
STR	0.0049	0.0061**	0.0053	−0.0031
	(0.6570)	(0.0400)	(0.2755)	(0.8094)
CON	0.0166	0.0112***	0.0022	0.0046
	(0.2091)	(0.0029)	(0.7597)	(0.7863)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R^2	14.23%	17.83%	8.40%	66.12%
No. of obs.	1396	1408	1137	1326
No. of unique firms	950	937	772	873

Panel B: Good economies

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	−0.3883***	−0.0125**	−0.0095	−0.0133
	(<0.0001)	(0.0187)	(0.5987)	(0.8406)
GIVING	**−0.0250***	**−0.0068**	**−0.0081***	**−0.0230**
	(0.0065)	**(0.0367)**	**(0.0523)**	**(0.0435)**
ROA	−0.1135***	0.1366***	0.0671***	0.1567***
	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)
LEV	0.0741***	0.0121***	0.0214***	0.0432**
	(<0.0001)	(0.0014)	(0.0006)	(0.0104)
NOL	0.0476***	0.0104***	0.0069***	0.0105**
	(<0.0001)	(<0.0001)	(0.0004)	(0.0477)
CNOL	−0.3383***	−0.1024***	−0.1778***	−0.0810
	(<0.0001)	(<0.0001)	(<0.0001)	(0.1220)
PPE	0.0730***	0.0182***	0.0073	−0.0217
	(<0.0001)	(<0.0001)	(0.1751)	(0.1440)
INTAN	0.0236**	0.0009	0.2140	0.0434***
	(0.0309)	(0.7738)	(0.2554)	(<0.0001)
EI	0.2281	0.3688***	−0.2004	0.0199
	(0.6721)	(0.0053)	(0.4828)	(0.1285)
FI	−0.0101**	−0.0032***	0.0015	0.2721***
	(0.0238)	(0.0009)	(0.4606)	(<0.0001)
SIZE	−0.0042***	−0.0005	−0.0020**	0.0850***
	(0.0068)	(0.2803)	(0.0118)	(<0.0001)
MTB	0.0035***	−0.0002	−0.0005	−0.0118***
	(0.0003)	(0.5233)	(0.3835)	(<0.0001)
RD	0.6373***	0.0639***	0.2043***	0.1521***
	(<0.0001)	(<0.0001)	(<0.0001)	(0.0028)
INST	0.0290***	0.0041	−0.0007	0.0593***
	(0.0036)	(0.1339)	(0.8895)	(<0.0001)
STR	0.0052	0.0005	−0.0005	0.0156***
	(0.2324)	(0.6947)	(0.8895)	(0.0048)
CON	0.093	0.0018	0.0003	0.0174**
	(0.2111)	(0.3851)	(0.9464)	(0.0696)

Table 7 (*continued*)

Panel A: Bad economies

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R^2	22.14%	20.83%	10.22%	66.67%
No. of obs.	4631	4532	4164	4407
No. of unique firms	1319	1288	1181	1198

This table reports the results from the regression model (1) examining the association between corporate giving and tax avoidance during bad and good economies. The bad economies include the years 2001, and 2007 to 2009, according to the NBER. The good economies include the rest of the sample years. Robust standard errors are clustered at the firm level. All p-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

financial and tax reporting environments that could influence tax avoidance are controlled by including property, plant, and equipment (*PPE*), intangible assets (*INTAN*), equity income (*EI*), foreign income (*FI*), and R&D expenditure (*RD*). To control for firm size and growth opportunities, we include firm size at the beginning of year *t* (*SIZE*) and the market-to-book ratio at the beginning of year *t* (*MTB*). Chen et al. (2010) demonstrates that these two variables correlate with firms' tax avoidance contemporaneously. Therefore, *SIZE* and *MTB* are lagged measures in year *t* − *1*, whereas all the other firm-level variables are measured in year *t*. Prior research finds that institutional ownership is associated with tax avoidance. Badertscher et al. (2013) and Khurana and Moser (2013) document a negative association, but Khan et al. (2017) find a positive association. Although the results are mixed (Kovermann & Velte, 2019), we include institutional ownership (*INST*) in the model as a control variable.

Additionally, prior literature finds that social and community engagement is key to the association between CSR and tax avoidance (e. g., Davis et al., 2016; Lanis & Richardson, 2012). We also control for the effect of other community activities on tax avoidance by including total community concerns (*CON*) and the difference between total community strengths and charitable giving strength (*STR*).

Finally, *IND* and *YEAR* dummy variables are also included as controls. Prior studies (e.g., Dyreng et al., 2008) find that tax aggressiveness fluctuates across industry sectors. *IND* is coded one if the firm is represented in the specific two-digit Global Industry Classification Standard code category, and zero otherwise. Year fixed effects (*YEAR*) are included to account for annual changes in the tax code. Since firms' tax avoidance is likely to be correlated within firms, we cluster all robust standard errors at the firm level. Definitions and calculations of these variables are detailed in Appendix A.

4. Sample and descriptive statistics

4.1. Sample

We start with all available firm-year observations of the S&P 1500 firms on the *COMPUSTAT* and KLD databases from year 1990 to 2013. We eliminate firm-year observations with negative sales, total assets, or *ROA*. Consistent with most tax research (e.g., Hanlon, 2005; Mills & Newberry, 2005), we exclude firms incorporated outside the United States, firms in the utility industry (SIC codes 4900–4999), and financial institutions (SIC codes 6000–6999). Our primary sample comprises 6027 firm-year observations representing 1438 unique firms. The actual number of firm-year observations used varies based on the analysis and the measures of tax avoidance. We winsorize all of the variables, excluding the dummy variables at the 1st and 99th percentiles to minimize the effect of outliers.

Table 8
Additional test: profitability effect on the association between corporate giving and tax avoidance.

Panel A: Most profitable

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	−0.3268***	0.0031	−0.0012	−0.1620
	(<0.0001)	(0.8572)	(0.9671)	(0.1003)
GIVING	**−0.0531***	**−0.0027**	**−0.0024**	**−0.0549****
	(0.0018)	**(0.7459)**	**(0.8680)**	**(0.0304)**
ROA	0.0893***	0.0364**	−0.0022	−0.1237
	(0.0018)	(0.0358)	(0.9356)	(0.4804)
LEV	0.0103	0.0063	0.2143	0.0915
	(0.5787)	(0.6705)	(0.3398)	(0.1588)
NOL	0.0404***	0.0082*	0.0242***	−0.0182
	(<0.0001)	(0.0604)	(0.0011)	(0.6503)
CNOL	−0.0162	−0.2740***	−0.0165**	−0.0141
	(0.1120)	(0.0006)	(0.0386)	(0.4743)
PPE	0.0661***	0.0165	0.0457***	0.0353
	(<0.0001)	(0.1213)	(0.0017)	(0.4942)
INTAN	0.0073	−0.0010	0.1560***	0.0066
	(0.6201)	(0.9247)	(0.0056)	(0.8944)
EI	0.5042	0.4939	−0.3332	1.1681
	(0.1530)	(0.1222)	(0.4494)	(0.5502)
FI	−0.0207**	0.0052	0.0047	0.2255***
	(0.0193)	(0.2913)	(0.5424)	(<0.0001)
SIZE	−0.0021***	−0.0017	−0.0054**	0.0971***
	(0.0094)	(0.2834)	(0.0425)	(<0.0001)
MTB	0.0001	−0.0001	0.0001	−0.0056**
	(0.8788)	(0.9142)	(0.8754)	(0.0199)
RD	0.6280***	0.1602***	0.4335***	0.4375**
	(<0.0001)	(0.0002)	(<0.0001)	(0.0109)
INST	0.0069***	0.0168*	0.288*	0.0042
	(<0.0001)	(0.0637)	(0.0545)	(0.9121)
STR	0.0126	0.0095**	0.0218***	−0.0230
	(0.1923)	(0.0430)	(0.0084)	(0.3058)
CON	0.0375**	0.0257***	0.0097	0.0773
	(0.0318)	(0.0033)	(0.5689)	(0.0455)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R²	32.85%	19.00%	26.54%	62.53%
No. of obs.	602	594	530	573
No. of unique firms	276	258	249	260

Panel B: Least profitable

INTEPT	−0.5300***	0.0470	0.0309	0.0138
	(<0.0001)	(0.1723)	(0.1472)	(0.9149)
GIVING	**−0.0303**	**−0.0039**	**−0.0106**	**−0.0086**
	(0.6313)	**(0.7085)**	**(0.4974)**	**(0.8288)**
ROA	0.8229**	0.1919	0.0166	0.0290
	(0.0205)	(0.3526)	(0.9463)	(0.9704)
LEV	0.0708	0.0124	0.0075	−0.0506
	(0.2739)	(0.3434)	(0.6237)	(0.3781)
NOL	0.0974***	0.0087**	0.0071	−0.0155
	(<0.0001)	(0.0138)	(0.2816)	(0.2580)
CNOL	−0.0169	−0.1651***	0.0515	−0.0244*
	(0.8463)	(0.0001)	(0.2172)	(0.0954)
PPE	0.0933*	0.0200**	−0.0185	0.1148**
	(0.0711)	(0.0298)	(0.1735)	(0.0112)
INTAN	−0.0358	0.0254***	0.4845	0.0232
	(0.4723)	(0.0078)	(0.2125)	(0.5662)
EI	0.8787	0.9936**	−0.9548	1.6938
	(0.6085)	(0.0346)	(0.1956)	(0.3928)
FI	−0.0499**	0.0074*	−0.0039	0.2511***
	(0.0298)	(0.0587)	(0.5069)	(<0.0001)
SIZE	−0.0047	−0.0028**	−0.0049**	0.0835***
	(0.5912)	(0.0483)	(0.0480)	(<0.0001)
MTB	0.0062	0.0015	0.0035*	−0.0103***
	(0.2460)	(0.1154)	(0.0992)	(0.0048)
RD	0.6062***	0.1539***	0.2785***	0.1116
	(0.0085)	(0.0001)	(<0.0001)	(0.4659)
INST	0.0546	0.0080	−0.0002	0.0686**
	(0.2470)	(0.3580)	(0.9862)	(0.0469)
STR	0.0063	0.0025	−0.0046	−0.0278
	(0.8223)	(0.5374)	(0.5215)	(0.1051)
CON				

Table 8 (*continued*)

Panel A: Most profitable

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
	0.0156	0.0009	−0.0045	0.0377
	(0.6640)	(0.9013)	(0.6616)	(0.1983)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R²	11.18%	21.15%	10.48%	64.46%
No. of obs.	603	594	530	573
No. of unique firms	376	372	355	344

This table reports the results from the regression model (1) examining the association between corporate giving and tax avoidance, separately for the most and least profitable firms. The sample is partitioned into deciles based on profitability measured by return-on-assets (ROA). Robust standard errors are clustered at the firm level. All p-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

4.2. Descriptive statistics

Table 1 Panel A presents the descriptive statistics on our measures of tax avoidance, the indicator for corporate giving, and control variables. The mean (median) values of *CETR, BTD, DDBTD, and SHELTER* are −0.2559 (−0.2605), 0.0267 (0.0226), 0.0131 (0.0079), and 0.7420 (0.8330), respectively, indicating that these measures of tax avoidance are not skewed. The mean (median) value of *GIVING* is 0.0367 (0). Table 1 Panel B reports the comparisons of tax avoidance measures and control variables between giving firms (*GIVING* = 1) and non-giving firms (*GIVING* = 0). The means of tax avoidance measures of giving firms are significantly lower than those of non-giving firms, indicating that companies with corporate giving are less aggressive in tax practice. This comparison provides some initial evidence on the negative association between tax avoidance and corporate giving.

Table 2 presents correlations between variables used for the analyses. All four measures of tax avoidance are negatively associated with *GIVING*, providing initial support for our hypothesis. Several correlations between independent variables are above 0.3. These correlations are between *FI* and *SHELTER*, between *STR* and *SIZE*, between *MTB* and *LEV*, and between *SIZE* and *STRENGTH*. The correlations around 0.3 include *LEV* and *INTAN*, and *NOL* and *FI*. These results raise the question of multicollinearity. We examine the variance inflation factors (VIFs) for our regression models and find all of them well below four (untabulated). Therefore, multicollinearity is not of concern.

5. Empirical results

Section 5.1 presents the primary tests of our hypothesis. In Section 5.2, we check the robustness of the results by using a cash-based measure for corporate giving and by applying the propensity score matching method. Following that, we explore the association between corporate giving and long-run tax avoidance, how the macro environment affects the association, whether profitability has an impact on the association, the association for firms facing different levels of political costs, and whether the association is different for multinational and domestic firms.

5.1. Primary analysis: Corporate giving and tax avoidance

Table 3 reports our primary results of the regression analysis on the association between corporate giving and tax avoidance. When *CETR* is used as the dependent variable in column 1, the coefficient on the variable of interest, *GIVING,* is negative and statistically significant (*coeff.* = −0.0190, *p* = 0.0263). The difference in cash effective tax rate between giving firms and non-giving firms is 1.90 percentage points. With the

Table 9
Additional test: political cost effect on the association between corporate giving and tax avoidance.

Panel A: High political costs

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
INTERCEPT	−0.3472***	0.0115	−0.0184	0.7609***
	(<0.0001)	(0.3427)	(0.2771)	(<0.0001)
GIVING	**−0.0186***	**−0.0002**	**−0.0050**	**−0.0041**
	(0.0908)	**(0.7952)**	**(0.2361)**	**(0.4590)**
ROA	0.1097***	0.0866***	0.1528***	0.1266***
	(0.0084)	(<0.0001)	(<0.0001)	(<0.0001)
LEV	0.0618***	−0.0054	0.0169*	0.0740***
	(0.0126)	(0.5517)	(0.0620)	(<0.0001)
NOL	0.0263***	0.0135***	−0.0008	0.0073*
	(0.0004)	(<0.0001)	(0.7725)	(0.0512)
CNOL	−0.0469	−0.1256***	−0.0064	0.0788
	(0.5297)	(<0.0001)	(0.8830)	(0.3311)
PPE	0.0594***	0.0181***	0.0147**	0.0286***
	(<0.0001)	(0.0023)	(0.0231)	(0.0030)
INTAN	−0.0141	0.0199***	0.4518	−0.0196**
	(0.2634)	(0.0007)	(0.2469)	(0.0365)
EI	0.0938	0.3772	−0.4403**	0.0112
	(0.8421)	(0.5870)	(0.0258)	(0.9740)
FI	−0.0001	−0.0039*	0.0025	0.0991***
	(0.9913)	(0.0991)	(0.4119)	(<0.0001)
SIZE	−0.0052	−0.0036*	−0.0025*	0.0133***
	(0.1454)	(0.0672)	(0.0952)	(<0.0001)
MTB	−0.0002	−0.0013**	0.0010	−0.0016**
	(0.3388)	(0.036)	(0.0246)	(0.0258)
RD	0.6972***	0.0512**	0.1014**	0.2075***
	(<0.0001)	(0.0122)	(0.0133)	(0.0001)
INST	0.0266	0.0036	0.0162	−0.0102
	(0.2223)	(0.4609)	(0.0629)	(0.3819)
STR	−0.0005	0.0033	0.0030	0.0009
	(0.9131)	(0.5439)	(0.1144)	(0.7253)
CON	0.0077	0.0106	0.0006	0.0010
	(0.2894)	(0.1866)	(0.8346)	(0.7815)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R^2	17.43%	13.55%	10.43%	48.67%
No. of obs.	1506	1513	1325	1433
No. of unique firms	315	301	281	291

Panel B: Low political costs

INTEPT	−0.3465***	−0.0428***	0.0121	−0.1773***
	(<0.0001)	(0.0003)	(0.5660)	(0.0029)
GIVING	**−0.0805***	**−0.0058***	**−0.0028**	**−0.0562***
	(0.0017)	**(0.0580)**	**(0.8042)**	**(0.0837)**
ROA	0.1394***	0.1944***	0.0327*	0.3780***
	(0.0005)	(<0.0001)	(0.0869)	(<0.0001)
LEV	0.00025	0.0095	−0.0172	0.0870*
	(0.9383)	(0.1546)	(0.2275)	(0.0722)
NOL	0.0688***	0.0089***	0.0172***	0.0308***
	(<0.0001)	(<0.0001)	(<0.0001)	(0.0084)
CNOL	−0.1493***	0.0057	−0.0608***	0.0120
	(0.0078)	(0.8565)	(0.0107)	(0.8980)
PPE	0.0323	0.0172***	0.0124	0.0350
	(0.1109)	(0.0002)	(0.2039)	(0.2703)
INTAN	0.0291	0.0034	−0.1918	0.0056
	(0.1405)	(0.4658)	(0.8388)	(0.8456)
EI	1.9109	0.2894**	−0.6689	0.1657**
	(0.1578)	(0.0423)	(0.3402)	(0.0187)
FI	−0.0208**	−0.0026	−0.0046	0.3128***
	(0.0210)	(0.2243)	(0.2740)	(<0.0001)
SIZE	−0.0127*	0.0009	−0.0041	0.0929***
	(0.0584)	(0.3573)	(0.2111)	(<0.0001)
MTB	0.0039**	−0.0007**	0.0004	−0.0151***
	(0.0320)	(0.0219)	(0.6141)	(<0.0001)
RD	0.4655***	0.1150***	0.2404***	0.1726*
	(<0.0001)	(<0.0001)	(<0.0001)	(0.0639)
INST	0.0250	0.0108*	−0.0056	0.0209
	(0.1431)	(0.0742)	(0.5121)	(0.3744)
STR	0.0385*	0.0001	0.0210**	0.0496*
	(0.0641)	(0.9687)	(0.0312)	(0.0983)
CON				

Table 9 (*continued*)

Panel A: High political costs

Variables	(1) CETR	(2) BTD	(3) DDBTD	(4) SHELTER
	0.0199	0.0017	−0.0148	0.0336
	(0.5153)	(0.3956)	(0.4044)	(0.4060)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R^2	19.60%	29.41%	9.64%	52.84%
No. of obs.	1507	1513	1325	1433
No. of unique firms	578	566	538	527

This table reports the results from the regression model (1) examining the association between tax avoidance and corporate giving, separately for high and low political-cost firms. The sample is partitioned into quartiles based on firm size measured by total assets. Robust standard errors are clustered at the firm level. All p-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

mean (median) pre-tax income of $533.429 ($128.037) million, the 1.90 percentage points translate into an additional tax payment of $10.135 ($2.433) million for an average firm.

The coefficient on *GIVING* remains negative and statistically significant when the three alternative measures *BTD*, *DDBTD*, and *SHELTER* are used as the dependent variable in columns 2 (*coeff. = − 0.0046, p = 0.0492*), 3 (*coeff. = − 0.0087, p = 0.0226*) and 4 (*coeff. = − 0.0234, p = 0.0266*), respectively. The findings are consistent with our prediction and suggest firms that engage in more corporate giving are less aggressive in tax avoidance. Together, the analyses in Table 3 provide strong evidence of the negative association between corporate giving and tax avoidance, supporting our hypothesis.

The results for the control variables indicate that profitable firms (*ROA*), firms with net operating losses (*NOL*), and firms with a higher proportion of property, plant and equipment (*PPE*) to assets exhibit higher levels of tax avoidance, consistent with Khurana and Moser (2013). In addition, the coefficients on *LEV* and *RD* are positive and significantly associated with tax aggressiveness, consistent with prior research (Chen et al., 2010; Lanis & Richardson, 2018).

5.2. Robustness check

5.2.1. Corporate cash giving and tax avoidance

In our primary analysis, the independent variable of interest, charitable giving (*GIVING*), is a dichotomous variable, coded as one if a firm has donated 1% or more of its trailing three-year net earnings before taxes to charity, or has otherwise been notably generous in its giving. Giving items vary from assets to services. Certain donations may produce discrepancies between the value claimed by a firm and the benefits received by charities, which could undermine the firm's commitment to the community. To avoid the impact of this potential issue on our analyses, we use a very conservative measure of giving, *CGIVING*, in this test. *CGIVING* is the natural logarithm of the grants awarded by company foundations and money donated by the companies to charities in the United States. Cash giving data are obtained from the Chronicle of Philanthropy, which surveyed the top 300 of the Fortune 500 companies and published their cash donations. The cash-giving data obtained from this source are from the years 1998 to 2016.[1]

The results of using *CGIVING* as an alternative measure of charitable giving are reported in Table 4. The coefficient on *CGIVING* loads

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[1] The Chronicle of Philanthropy collects cash-giving information on approximately 300 of the Fortune 500 companies. The list of Fortune 500 companies, however, includes both private and publicly traded companies. Matching the cash-giving data with the financial information from COMPUSTAT significantly reduces the sample size to 252 observations.

Table 10
Additional test: multinational firms vs. domestic firms.

Panel A: Domestic firms				
	(1)	(2)	(3)	(4)
Variables	CETR	BTD	DDBTD	SHELTER
INTERCEPT	−0.3169***	0.0058	0.0004	−0.3158***
	(<0.0001)	(0.4122)	(0.9555)	(0.0031)
GIVING	**−0.0502***	**−0.0093**	**−0.0086**	**−0.0736***
	(0.0015)	**(0.0247)**	**(0.0226)**	**(0.0002)**
ROA	−0.1650***	0.1044***	0.0488***	0.2759***
	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)
LEV	0.0569***	0.0077	0.0227***	−0.0069
	(0.0012)	(0.1063)	(<0.0001)	(0.7615)
NOL	0.0520***	0.0115***	0.0066***	0.0237***
	(<0.0001)	(<0.0001)	(<0.0001)	(0.0016)
CNOL	−0.4684***	−0.1307***	−0.2182***	−0.0936
	(<0.0001)	(<0.0001)	(<0.0001)	(0.1199)
PPE	0.0678***	0.0203***	0.0012	0.0099
	(<0.0001)	(<0.0001)	(0.7725)	(0.6026)
INTAN	0.0252*	0.0010**	0.9812	0.0026
	(0.0875)	(0.0107)	(0.5623)	(0.8833)
EI	−0.1353	0.1677	−0.2103	0.9563
	(0.8695)	(0.3818)	(0.4143)	(0.2227)
SIZE	−0.0093***	−0.0026***	−0.0021***	−0.1237***
	(<0.0001)	(<0.0001)	(0.0033)	(<0.0001)
MTB	0.0013	0.0001	−0.0003	−0.0140***
	(0.3371)	(0.7880)	(0.5521)	(<0.0001)
RD	0.4777***	0.0285	0.1614***	0.3191***
	(<0.0001)	(0.2382)	(<0.0001)	(0.0002)
INST	0.0207*	0.0063*	0.0016	−0.0002
	(0.0994)	(0.0614)	(0.7089)	(0.9989)
STR	0.0168**	0.0057***	0.0005	0.0056
	(0.0403)	(0.0074)	(0.8008)	(0.6162)
CON	0.0504***	0.0068*	0.0014	−0.0065
	(<0.0001)	(0.0590)	(0.6599)	(0.7316)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R²	26.52%	24.98%	9.03%	62.22%
No. of obs.	2597	2582	2095	2273
No. of unique firms	759	730	616	652
Panel B: Multinational firms				
INTERCEPT	−0.4659***	−0.0360***	0.0087	0.5886***
	(<0.0001)	(<0.0001)	(0.4789)	(<0.0001)
GIVING	**−0.0083**	**−0.0027**	**−0.0174**	**−0.0088**
	(0.4196)	**(0.3507)**	**(0.2225)**	**(0.4519)**
ROA	−0.1088***	0.1632***	0.0195	0.0852***
	(<0.0009)	(<0.0001)	(0.3172)	(0.0090)
LEV	0.0496***	0.0180***	0.0114	0.0561***
	(0.0033)	(<0.0001)	(0.2134)	(0.0012)
NOL	0.0379***	0.0086***	−0.0001	0.0123**
	(<0.0001)	(<0.0001)	(0.9994)	(0.0337)
CNOL	−0.3018***	−0.0942***	−0.3505***	−0.0536
	(<0.0001)	(<0.0001)	(<0.0001)	(0.1751)
PPE	0.0931***	0.0141***	−0.0040	0.1251***
	(<0.0001)	(0.0021)	(0.5198)	(<0.0001)
INTAN	0.0028	−0.0095***	0.2346	0.0303**
	(0.8271)	(0.0067)	(0.6326)	(0.0188)
EI	0.2408	0.4868***	−0.2792	0.5264
	(0.7018)	(0.0015)	(0.5305)	(0.1366)
SIZE	0.0004	0.0011**	−0.0019	0.0582***
	(0.8270)	(0.0295)	(0.1289)	(<0.0001)
MTB	0.0042***	−0.0005*	−0.0005	−0.0056***
	(0.0003)	(0.0939)	(0.5507)	(<0.0001)
RD	0.6201***	0.0751***	0.2048***	0.0767
	(<0.0001)	(<0.0001)	(0.0003)	(0.1210)
INST	0.0639***	0.0059*	0.0069	0.0516***
	(<0.0001)	(0.0931)	(0.3269)	(0.0002)
STR	0.0016	0.0001	0.0037	0.0091*
	(0.7292)	(0.9981)	(0.3675)	(0.0948)
CON	−0.0016	0.0048***	0.0029	−0.0028
	(0.8323)	(0.0229)	(0.6738)	(0.7479)
Industry dummy	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Adj. R²	16.38%	20.31%	11.54%	37.98%
No. of obs.	3430	3358	3025	3460
No. of unique firms	833	814	712	785

This table reports the results from the regression model (1) examining the association between tax avoidance and corporate giving, comparing multinational firms versus domestic firms. A company is defined as a domestic firm if it has no foreign income, and a multinational firm, otherwise. Robust standard errors are clustered at the firm level. All p-values are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively, for two-tailed tests. All variables are defined in Appendix A.

negatively and is marginally significant (*coeff.* = −0.0222, *p* = 0.0569) when *CETR* is used as a measure of tax avoidance. The marginally significant negative association also holds when *BTD* is the proxy for tax avoidance. Both support our hypothesis that corporate giving and tax avoidance are negatively associated. We do not find an association between cash giving and *DDBTD* or *SHELTER*. These results should be interpreted cautiously due to the small sample sizes.

5.2.2. Propensity score matching

Corporate giving can be endogenous and correlated to other firm characteristics. To the extent that certain firm characteristics drive a firm's donation decision and are omitted from prior analyses, the relation between corporate giving and tax avoidance could be spurious. To mitigate this concern and also minimize the concern that the variations in corporate giving and tax avoidance are caused by cross-sectional factors affecting them both, we adopt the nearest-neighbor logit propensity score matching technique developed by Rosenbaum and Rubin (1983). First, we construct a logistic regression model to generate the propensity score. In this model, the dependent variable is *GIVING,* and the matching variables are the other independent variables in model (1). With *CETR* as a proxy for tax avoidance, we use a panel of 221 observations with *GIVING* equal to one as the treatment group and the remainder as the control group. Next, we calculate the propensity scores using predicted probabilities from the logistic regression model and then use the scores to perform a nearest-neighbor match. This procedure produces 221 matched pairs. We then run model (1) using the matched sample and report the results in column 1 of Table 5. The coefficient on *GIVING* (*coeff.* = −0.0256, *p* = 0.0402) is statistically significant and negative. The propensity score matching is also applied using *BTD, DDBTD,* and *SHELTER* as the dependent variables and produce consistent results. This evidence confirms a negative association between corporate giving and tax avoidance.

5.3. Additional analyses

5.3.1. Long-term tax avoidance

Dyreng et al. (2008) finds that annual cash effective tax rates may not reflect long-run tax avoidance. To test whether the association between corporate giving and tax avoidance still holds over a longer period, we use two alternative measures of tax avoidance, *CETR3* and *CETR5*, which are calculated over a 3- and 5-year period, respectively. The variable *CETR3* (*CETR5*) is the three-year (five-year) average cash effective tax rate. As with CETR, we multiply these two raw variables by negative one so that greater values of these measures represent greater tax avoidance. Table 6 reports the results of using these variables as the dependent variables. The coefficients on *GIVING* are negative and at least marginally significant in both columns, providing additional evidence for the negative association between corporate giving and tax avoidance.

5.3.2. Bad vs. good economies

Next, we investigate whether the association between corporate giving and tax avoidance is affected by the macroeconomic environment. We define bad economic years as the years surrounding the trough

of the business cycle as defined by the National Bureau of Economic Research (NBER).[2] The rest of the years are considered good economic years. We observe corporate giving regardless of the overall economy. Philanthropy is less likely in bad economic years (2.51% vs. 4.29% in a good economy) but does not totally disappear in difficult times, consistent with Gan (2006). Examining the effect of the macroeconomic environment on the association, we run our regression using sample firms in these two separate time periods. The results are reported in Table 7. The coefficient on *GIVING* is not significant during the bad economic years across the four proxies as presented in Panel A. We speculate that tax payments are already low during these years. The strength of the association between corporate giving and tax avoidance is, therefore, weakened during financially stressed times. In contrast, the coefficients are negative and at least marginally significant across all four proxies, as presented in Panel B, indicating a negative association between corporate giving and tax avoidance during good economic years.

5.3.3. Profitability effect

Watson (2015) finds that pretax earnings affect the association between CSR and tax avoidance, reporting that the association is strongest when earnings are low and either diminishes or disappears when earnings are high. It is worth exploring whether the relation between corporate giving and tax avoidance presents a similar pattern in the face of profitability. We partition the sample into deciles based on profitability measured by *ROA* (Watson, 2015) and run the regression models for the most and the least profitable firms. Table 8 presents the results. The coefficient on *GIVING* is significantly negative when the dependent variable is *CETR* for the most profitable firms, and not significant for the least profitable firms. We find this is also true when the dependent variable is *SHELTER*. *GIVING* is not significant when *BTD* or *DDBED* is the dependent variable. The results suggest that the negative association between corporate giving and tax avoidance is more obvious among highly profitable firms. These highly profitable, corporate-giving firms pay higher taxes, and they are less likely to establish tax-sheltering affiliates to avoid tax. The association is not significant among the least profitable firms, consistent with Watson (2015) finding that firms are more aggressive in tax avoidance when performance is poor.

5.3.4. High vs. low political costs

Prior literature suggests that corporate giving could be motivated by reputational concerns (e.g., Koehn & Ueng, 2010). These motivations may run contrary to community-mindedness. As such, the association between corporate giving and tax avoidance could differ for firms facing different levels of political costs. Following prior literature (e.g., Zimmerman, 1983), we use firm size as a proxy for political costs. The sample is partitioned into quartiles based on firm size. We run the model separately for the high- (the highest quartile of total assets) and low- (the lowest quartile of total assets) political-cost samples. The results are reported in Table 9. All coefficients on *GIVING* are negative, as predicted. For the high political-cost group, only *CETR* is significant, and then only marginally so. For the low political-cost group, *CETR* is highly significant, and *BTD* and *SHELTER* are marginally significant. These findings suggest that community-mindedness could be obscured by

strategic reasons or other factors in a high-political-cost environment. Possibly, corporate giving is driven more by altruistic motivations for smaller firms than larger firms.

5.3.5. Multinational firms vs. domestic firms

In Table 3, we observe that firms with foreign income are more likely to engage in tax sheltering. It is worth exploring whether the association between corporate giving and tax avoidance differs between multinational and domestic firms. We expect the negative association is more pronounced among domestic firms compared to multinational firms. Multinational firms have access to low-tax-rate territories/countries. The intention or temptation to take advantage of this access may weaken the association between corporate giving and tax avoidance. Moreover, similar to home-bias investment, where investors pay more attention to what they are familiar with (Van Nieuwerburgh & Veldkamp, 2009), the effect of giving may be stronger when it is closer to home. We define a firm as a domestic firm if it has no foreign income, and a multinational firm, otherwise.[3] As reported in Table 10, the coefficients on *GIVING* are significant and negative for domestic firms but not significant for multinational firms.

6. Conclusion

In this study, we examine the association between corporate giving and tax avoidance. After controlling for other factors linked to tax avoidance, we find that firms engaging in corporate giving are less aggressive in tax practice. They pay more tax, report lower book-tax differences, and have a lower probability of using tax shelters to avoid tax. The negative association between corporate giving and tax avoidance holds when we use an alternative corporate giving measure, alternative tax avoidance measures, or a sample matched by propensity scores. The results are consistent with the finding that community engagement is less likely used to paint a picture of good corporate citizenship after aggressive tax practices (Col & Patel, 2019). Corporate giving is a discretionary activity that shows an underlying commitment to the community, and firms engaging in this activity may also view tax payments as contributing to society.

This study has several limitations. First, we could not establish a causal relationship between corporate giving and tax avoidance. Future research can help with this issue by using an experimental design or case studies. Second, we study corporate giving in general in this paper. Future research may dissect this concept and evaluate whether there is a particular type of corporate giving that is most closely related to tax-related behaviors. Finally, we do not differentiate the different types of tax avoidance. We capture only the overall extent of tax avoidance and the probability of using tax shelters. Future research could identify specific tax avoidance schemes and study their association with charitable giving.

Data availability

The data source is identified in the paper. Data can be purchased from the vendors.

Appendix A. Variable definitions

Dependent variable	
TaxAvoid	*CETR, BTD, DDBTD* and *SHELTER* in the primary tests; and *CETR3* and *CETR5* in robustness checks.
CETR	The annual cash effective tax rate multiplied by negative one. The annual cash effective tax rate is calculated as total cash taxes paid (TXPD) in year *t* scaled by the pretax income net of the effects of special items (PI-SPI) in year *t*; *CETR* is set as missing when TXPD is 0 or negative.
BTD	The total difference between book and taxable income, calculated by book income less taxable income scaled by lagged assets. BTD = (PIDOM - XFED/Statutory tax rate - TXS - TXO - ESUB)/AT_{t-1}. Following prior literature (e.g., Desai & Dharmapala, 2006), we include only firm-years with positive TXFED.
DDBTD	Desai and Dharmapala (2006) abnormal total book-tax difference, which is a residual from the following fixed effects model, $BTD_{i,t} = \beta_1 TA_{i,t} + \mu_i + \varepsilon_{i,t}$, where *BTD* is the total book-tax difference scaled by lagged total assets (described above); *TA* is the total accruals scaled by lagged total assets. μ_i is the average value of the residual for firm *i* over the sample period; and $\varepsilon_{i,t}$ is the deviation of the residual in year *t* from firm *i*'s average residual.
SHELTER	Predicted probability that a firm engages in a tax shelter, which is calculated as follows, $SHELTER = e^{(PSHELTER)}/(1 + e^{PSHELTER})$, where *PSHELTER* is computed based on the regression model reported in Wilson (2009), Table 5, Column 3), $PSHELTER = -4.86 + 5.20 \times BTD + 4.08 \times DA - 1.41 LEV + 0.76 \times AT + 3.51 \times ROA + 1.72 \times FINCOME + 2.43 \times RD$, where *BTD* is the total book-tax difference; *DA* is the absolute value of discretionary accruals estimated using the modified cross-sectional Jones (1991) model; *LEV* is the long-term leverage, calculated as long-term debt divided by total assets; *AT* is the natural logarithm of the total assets; *ROA* is the return on assets, measured as operating income divided by lagged assets; *FINCOME* is a dummy variable equal to 1 for firm observations reporting foreign income, and 0 otherwise; and *RD* is R&D expense (XRD) divided by lagged total assets.
CETR3	The 3-year average cash effective tax rate, calculated as the sum of a firm's total income tax expense from year *t-2* to *t* scaled by the sum of its pre-tax book income before special items in the same 3-year period, multiplied by −1, and truncated between −1 and 0.
CETR5	The 5-year average cash effective tax rate, calculated as the sum of a firm's total income tax expense from year *t-4* to *t* scaled by the sum of its pre-tax book income before special items in the same 5-year period, multiplied by −1, and truncated between −1 and 0.

Independent Variable of Interest	
GIVING	Charitable giving as described in the KLD data, equals 1 if the company has given 1% or more of trailing three-year net earnings before taxes to charity, or has otherwise been notably generous in its giving, and 0 otherwise.
CGIVING	Natural logarithm of the grants awarded by company foundations and money donated by the corporations themselves to charities in the United States

Control variable	
ROA	Return on assets in year *t*, measured as operating income (PI-XI) scaled by lagged total assets (AT).
LEV	Long-term debt in year *t*, measured as long-term debt (DLTT) scaled by lagged total assets (AT).
NOL	a dummy variable coded as 1 if loss carryforward (TLCF) is positive as of the beginning of the year *t*, and 0 otherwise.
CNOL	Change in loss carryforward (TLCF) from year *t-1* to *t*, scaled by lagged total assets (AT).
PPE	Property, plant, and equipment (PPENT) in year *t*, scaled by lagged total assets (AT).
INTAN	Intangible assets (INTAN) in year *t*, scaled by lagged total assets (AT).
EI	Equity income in earnings (ESUB) in year *t*, scaled by lagged total assets (AT).
FI	1 for firms with non-zero foreign income (multinational firms), and 0 otherwise (domestic firms).
SIZE	Natural logarithm of the market value of equity (PRCC_F × CSHO) at the beginning of year *t*.
MTB	Market-to-book ratio at the beginning of year *t*, measured as market value of equity (PRCC_F × CSHO), scaled by book value of equity (CEQ).
RD	Research and development expenditures (XRD) in year *t*, scaled by lagged total assets (AT). Missing values are replaced with zeros.
INST	The percentage of shares outstanding held by institutional investors as reported on the SEC's Form 13-F filings.
STR	Total community strengths minus charitable giving strength
CON	Total community concerns

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