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Corporate Culture, Special Items, and Firm Performance

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Abstract: This study analyzes the relationship between corporate culture, the likelihood of reporting special items, and firm performance. We find a significant negative relation between corporate culture and special items using more than 55,000 firm-year observations from 6931 U.S. corporations between 2002 and 2021. The result suggests that firms with strong corporate cultures are less likely to use and report special items. Firms with lower performance mainly drive the negative relation; the pattern indicates that firms with weaker corporate cultures are prone to manage earnings using special items.

Keywords: corporate culture; special items; earnings management

JEL Classification: M40; M49; M54

1. Introduction

Recent studies identify that corporate culture, a qualitative item, affects the quantitative aspects of a firm. Stronger corporate culture leads to higher firm performance (Denison 1990; Gordon and DiTomaso 1992; Sorensen 2002; O'Reilly et al. 2014; Guiso et al. 2015), easier access to external finance (Jiang et al. 2019), higher operational efficiency (Li et al. 2021), and lower bank debt (Hasan 2022). According to O'Reilly and Chatman (1996), corporate culture is a set of norms and values that are widely held throughout the organization. Benabou and Tirole (2002, 2011) define it as a wide variety of implicit and explicit agreements that govern how individuals act within companies. Graham et al. (2022) find that practitioners also believe corporate culture plays a crucial role in their companies' financial performance. More than 90% of the 1348 North American CEOs surveyed in the study believe that there is a positive relation between company culture and firm value, highlighting the importance of corporate culture.

Despite the importance of knowing how and why culture matters, there is not enough understanding of corporate culture and its consequences. Accurately quantifying corporate culture is the first challenge (O'Reilly and Chatman 1996; Zaingales 2015; Graham et al. 2022). Recently, Li et al. (2021) applied a machine learning technique to analyze corporate culture, which employs computers to discern cultural values communicated by top executives to financial analysts during the Q&A section of earnings calls. Li et al. (2021) constructed a comprehensive measure to capture corporate culture for a wide variety of publicly traded organizations in the United States based on the most frequently and generally publicized corporate culture principles of the S&P 500 firms, including innovation, integrity, quality, respect, and collaboration. In our study, we use the comprehensive measure of corporate culture developed by Li et al. (2021) to assess the strength of culture inside a company and how the culture is associated with other aspects of a firm.

Li et al. (2021) mentioned that strong-culture firms are less likely to use discretionary accruals to manipulate earnings. This paper investigates the issue more thoroughly by examining the role of special items. Special items are uncommon or unusual in nature and of significant scale in accounting, and firms may use the item to manipulate earnings. For example, McVay (2006) presents empirical data indicating that companies deliberately

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redirect expenses from core expenses to special items. This practice does not change net income (i.e., GAAP earnings) but overstates core earnings. Barua et al. (2010) suggest that classification shifting is a less costly tool for earnings management and may be more appealing to managers.

Although both are major avenues of earnings management, special items and discretionary accruals may not have the same effects on firm performance. First, a framing bias exists, as the same message generates different market reactions when the item changes. Bartov and Mohanram (2014) show that the market response to gains/losses is associated with their placement in the income statement. Second, empirical studies show that special items do not mirror the accruals in earnings management. Dechow and Ge (2006) document that special items play a major role in earnings quality for low-accrual firms. They also show that special items predict future returns after controlling the accruals. Marquardt and Wiedman (2004) find that firms try to maintain earnings by setting special items positive, contrary to a common notion in earnings management that managers classify losses as special items. Moreover, several studies emphasize the different roles of special items after the passage of the Sarbanes–Oxley Act. Fan et al. (2010) show that special items become a more important method of earnings management when the accruals management is constrained. Barua et al. (2010) present that the frequency of reporting special items increased after the Sarbanes–Oxley Act. This paper studies whether corporate culture has a similar or different effect on special items compared to accruals.

Using a large panel sample with 55,623 firm-year observations (representing 6931 unique firms) from 2002 to 2021 in the United States, we find a significant and negative relation between corporate culture and the likelihood of reporting special items, implying that companies with stronger culture are less likely to use special items to manipulate earnings. We perform several robustness checks. For example, we re-estimate the baseline regression model using an alternative measure of culture and different time periods and still find a significant negative relation, consistent with the hypothesis. We perform additional tests, such as using lagged measures of corporate culture and conducting a two-stage regression analysis (2SLS) to mitigate concerns about endogeneity. Our primary findings appear robust and are not subject to major endogeneity issues.

Firm performance influences the relationship between corporate culture and special items. We find that firms with lower earnings performance mainly drive the negative relation. Furthermore, we uncover that the negative relation between culture and special items strengthens in the high-tech industry, where the value of intangible assets (i.e., technological innovation) is most important. These results suggest that firms with weak corporate cultures may let poorly performing managers engage in earnings management.

Our research provides several contributions. First, corporate culture in management literature and special items in the literature are two distinct study fields to which our findings connect. Prior studies have focused on determining whether and how managers utilize special items to manipulate earnings. Our study contributes to the body of knowledge about the factors that induce managers to employ special items in classification shifting by demonstrating a strong negative influence of company culture on the likelihood of reporting special items. Second, our findings suggest that corporate culture can indicate corporate governance. Our findings imply that corporate managers are less likely to be honest about their performance in a weak corporate culture.

2. Literature Review and Hypothesis Development

2.1. Information on Special Items

Prior to the 1990s, special items accounting was generally governed by a relatively old standard, namely Accounting Principles Board Opinion No. 30—Reporting the Results of Operations—Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual, and Infrequently Occurring Events and Transactions. In the mid-1990s, the FASB's Emerging Issues Task Force (EITF) observed that corporations used a wide range of various methodologies to account for special items (Alciatore et al. 2000). This concern

has heightened interest in special items, resulting in a number of relatively new accounting standards dealing with special items accounting. Two significant standards are SFAS 144 Accounting for the Impairment or Disposal of Long-Lived Assets and SFAS 146 Accounting for Costs Associated with Exit or Disposal Activities.

The enactment of the Sarbanes–Oxley Act of 2002 (SOX) was another regulatory shift brought about by the scandals of the early 2000s. By restricting earnings management (Cohen et al. 2008) and enhancing manager accountability (Collins et al. 2009), SOX aimed to restore financial statement integrity. In particular, because special items might be used to manage earnings (e.g., McVay 2006), the SOX may govern the reporting of special items. In other words, the accounting standard-setting body is aware of the use of special items in the context of classification shifting, a less expensive type of earning management.

2.2. Special Items

Early studies have concentrated on the market's reaction to the announcement of special item information. For example, Elliott and Shaw (1988) discovered considerable negative stock returns when special items are announced. Prior research has examined the effect of special items on earnings (e.g., McVay 2006; Fairfield et al. 2009; Cready et al. 2012) and the information content of earnings (e.g., Burgstahler et al. 2002; Riedl and Srinivasan 2010). For example, Burgstahler et al. (2002) found that stock returns reflect more of the effects of special items than other earnings components. Other studies examine the impact of special items on CEO compensation. For instance, Gaver and Gaver (1998) found that income-increasing special items can influence CEO compensation, while income-decreasing special items have no impact on CEO compensation.

Johnson et al. (2011) found that in the last 30 years, there has been an increase in interest in special items. Johnson et al. (2011) investigated the characteristics of special items, as well as the companies that report special items, and discovered that the reporting frequency and magnitude of special items have increased dramatically over the last 30 years. In particular, the abovementioned increases are primarily driven by negative special items (i.e., income-decreasing special items). According to McVay (2006), special items can be employed in classification shifting as an appealing earnings management strategy. Managers, for example, might transfer items on an income statement from core company expenditures (i.e., cost of goods sold) to special items to mislead investors since investors place less importance on nonrecurring items (i.e., special items) than recurring things. McVay (2006) found a significant and positive relation between unexpected core earnings (core earnings less projected core earnings) and special items, implying that managers have incentives to participate in classification shifting using special items.

While special items and accruals are two major earnings management tools, they do not exhibit the same pattern. Bartov and Mohanram (2014) showed that the market reacts differently to the same gain when the item changes. Sometimes, special items work as a substitutional good of accruals in earnings management. Fan et al. (2010) documented that special items become the major tool of earnings management for firms with limited ability to alter accruals. On the other hand, Marquardt and Wiedman (2004) showed that the relationship between special items and accruals varies by management's objective function. A firm trying to boost current earnings uses both items in the same direction, while a firm attempting to smooth earnings tends to offset one item with the other. Special items can contain additional information compared to accruals, as Dechow and Ge (2006) documented that special items can predict future firm performance after controlling for accruals.

2.3. Corporate Culture

Corporate culture can be defined in various ways. We follow O'Reilly and Chatman (1996), Kreps (1990), and Sorensen (2002) in describing corporate culture as a system of shared values and norms within a business. Corporate culture acts as an internal governance system that outlines suitable attitudes and behaviors for the firm's members. A strong

culture means values and norms are extensively shared within the company (Denison 1984; O'Reilly and Chatman 1996).

Survey-based studies find positive relationships between strong culture and firm performance (Denison 1984; Gordon and DiTomaso 1992; Guiso et al. 2015). Denison (1990) claimed that agreement on company values increases business success. Kotter and Heskett (1992) argued that strong cultures are more likely to achieve their goals and create stronger employee loyalty. Interestingly, the positive effect of a strong culture diminishes in relatively volatile markets (Sorensen 2002).

Recent studies employ different methods other than surveying to capture corporate culture. Liu (2016) developed a proxy for corporate culture based on insiders' country of origin and discovered increased opportunism in organizations with a high corruption culture. Jiang et al. (2019) focused on a single component of culture and relied on textual analysis of Chinese business disclosures to identify corporate culture. They found that companies with a high-integrity culture are less vulnerable to investment–cash flow sensitivity. Bhandari et al. (2022) used the Competing Values Framework (CVF) to define four types of corporate culture. They showed that the earnings quality differs by the type.

Li et al. (2021) adopted a machine-learning technique to assess corporate culture through earnings calls. They evaluated culture based on the five characteristics—innovation, integrity, quality, respect, and teamwork. Li et al. (2021) found that a strong corporate culture is associated with a better executive compensation design. The compensation structure promotes long-term orientation, greater operational efficiency, greater corporate risk-taking, less earnings management, and higher firm value.

2.4. Hypothesis Development

The aforementioned research suggests a positive relation between strong corporate culture and beneficial outcomes such as stronger company performance, which may be due to strong-culture firms' enhanced operational efficiency (Li et al. 2021). If this is the case, we posit that strong-culture companies are less likely to shift sales or expenses to special items to inflate their core earnings. On the other hand, Li et al. (2021) suggested that strong-culture firms are less likely to engage in earnings management activities. We argue that such firms are less likely to use special items in the context of earnings management because prior research (e.g., McVay 2006) has documented empirical evidence to show that firms have incentives to use special items to manipulate earnings. Collectively, we propose the following hypothesis.

H1. *Firms with strong cultures are less likely to report special items.*

3. Research Design

3.1. Measuring Corporate Culture

We rely on the strong-culture hypothesis literature (e.g., Denison 1984; O'Reilly and Chatman 1996; Sorensen 2002) and the established and validated corporate culture measure by Li et al. (2021) in our analysis since corporate culture is complicated and difficult to describe. We use the corporate culture measure from Li et al. (2021) because it accurately captures the value components of corporate culture, namely innovation, integrity, quality, respect, and teamwork. Li et al. (2021) measured the strength of each value dimension using a semi-supervised machine-learning approach for textual analysis. Specifically, this approach uses a particular neural network word-embedding model that can learn the meaning of words and phrases from the Q&A section of earnings call transcripts, allowing for the usage of synonyms to create a dictionary of keywords and phrases associated with corporate culture. There are five sets of words and phrases in the dictionary, one for each of the five value dimensions. The culture of a firm is then evaluated via earnings calls using a weighted-frequency count of dictionary terms and phrases. The integrity strength score, for example, is derived as the weighted-frequency count of integrity-related words and phrases, including "accountability", "ethic", "transparency", "moral", "trustworthy", "hold account-

able", "corporate governance", "honesty", "fiduciary responsibility", "decency", "diligent", "careful", "compliance", "responsibility", and "safety". Following Graham et al. (2022), we created our main corporate culture measure (CULTURE) in this study by aggregating the five value dimensions. Specifically, we utilized the following equation:

$$\begin{aligned} \text{CULTURE} = \text{Innovation Strength} + \text{Integrity Strength} + \text{Quality Strength} + \\ \text{Respect Strength} + \text{Teamwork Strength} \end{aligned} \quad (1)$$

3.2. Empirical Specification

To test our hypothesis, we construct a baseline regression model to investigate the impact of corporate culture on special items, measured as the likelihood of reporting special items. The model is as follows:

$$\begin{aligned} \text{D\_SPI} = \alpha_0 + \alpha_1\text{CULTURE} + \alpha_2\text{SIZE} + \alpha_3\text{MTB} + \alpha_4\text{LEV} + \alpha_5\text{ROA} + \alpha_6\text{OCF} + \\ \alpha_7\text{ZSCORE} + \alpha_8\text{TACCRUAL} + \alpha_9\text{WDP} + \alpha_{10}\text{RCP} + \alpha_{11}\text{LOSS} + \alpha_{12}\text{BIG4} + \\ \alpha_{13}\text{AGE} + \text{Year Indicators} + \text{Industry Indicators} + \varepsilon \end{aligned} \quad (2)$$

The dependent variable, D_SPI, reflects the likelihood of reporting special items. It is an indicator variable with a value of 1 if a company reports special items in a particular year and 0 otherwise. The primary independent variable, CULTURE, is the total corporate culture score (see Equation (1)). If our hypothesis is valid, we expect that firms with strong cultures are less likely to report special items, implying a significant negative coefficient (α_1) on CULTURE in Equation (2).

Because firms with poor performance are more prone to employ special items, we control for regularly used firm performance indicators. Specifically, we take into consideration a firm's total assets (SIZE), growth opportunity (MTB), leverage ratio (LEV), profitability (ROA), operating cash flow (OCF), and overall financial health (ZSCORE), as well as the age of a corporation in the Compustat database (AGE). Prior research (e.g., McVay 2006) shows that managers have incentives to manage earnings through the use of special items. As a result, we control for total accruals (TACCRUALS), which represents the level of earnings management activities. Darrough et al. (2014) suggest that nonrecurring items on an income statement, such as special items and fixed asset write-downs, may be highly connected. As a result, in Equation (2), we control for long-term asset write-downs (WDP) and restructuring expenses (RCP).[1] Finally, an indicator variable (BIG4) is included in Equation (2) to control for the use of a Big 4 auditor.

In Equation (2), we additionally include year and industry indicator variables. The Fama-French 48 Industry Classifications are used to arrange the industry variables. Because the dependent variable is an indicator variable, we employ logistic regression to estimate Equation (2). We winsorize the continuous variables (at the 1st and 99th percentiles) to mitigate the influence of outliers. Appendix A has a detailed explanation of the variables in Equation (2).

3.3. Sample Selection

Our sample begins with Professor Kai Li's initial corporate culture dataset, which comprises 74,391 firm-year observations from 2002 to 2021.[2] Following that, we merge the cultural dataset with the Compustat database, which results in the loss of 4688 observations. We also lost 14,080 observations due to insufficient data to create variables in Equation (2). Our final sample comprises 55,623 firm-year data from 2002 to 2021, representing 6931 publicly listed firms in the United States. Panel A of Table 1 displays our sample selection process.

Table 1. Corporate culture, special items, and firm performance: sample selection and distribution.

Panel A: Sample Distribution by Industry.

		Full Sample		SI Sample		Non-SI Sample				Full Sample		SI Sample		Non-SI Sample	
SIC	**Description**	**Obs.**	**%**	**Obs.**	**%**	**Obs.**	**%**	**SIC**	**Description**	**Obs.**	**%**	**Obs.**	**%**	**Obs.**	**%**
1	Agricultural Crops	91	0.16%	79	0.19%	12	0.08%	46	Pipelines	23	0.04%	13	0.03%	10	0.07%
7	Agricultural Services	19	0.03%	17	0.04%	2	0.01%	47	Transportation Services	185	0.33%	150	0.36%	35	0.24%
10	Metal Mining	887	1.59%	588	1.43%	299	2.08%	48	Communications	2307	4.15%	1891	4.58%	416	2.90%
12	Coal Mining	157	0.28%	119	0.29%	38	0.26%	49	Electric Gas and Sanitary Services	2156	3.88%	1387	3.36%	769	5.35%
13	Oil and Gas Extraction	2288	4.11%	1586	3.84%	702	4.89%	50	Durable Goods Wholesale	1107	1.99%	792	1.92%	315	2.19%
14	Mining	156	0.28%	126	0.31%	30	0.21%	51	Nondurable Goods Wholesale	557	1.00%	459	1.11%	98	0.68%
15	Building Construction	43	0.08%	30	0.07%	13	0.09%	52	Building Materials	106	0.19%	67	0.16%	39	0.27%
16	Heavy Construction	307	0.55%	243	0.59%	64	0.45%	53	General Merchandise Stores	309	0.56%	203	0.49%	106	0.74%
17	Special Construction	133	0.24%	106	0.26%	27	0.19%	54	Food Stores	286	0.51%	195	0.47%	91	0.63%
20	Food	1323	2.38%	1079	2.62%	244	1.70%	55	Automotive Dealers	397	0.71%	263	0.64%	134	0.93%
21	Tobacco	84	0.15%	74	0.18%	10	0.07%	56	Apparel Stores	658	1.18%	387	0.94%	271	1.89%
22	Textile Mill	139	0.25%	118	0.29%	21	0.15%	57	Furniture Stores	171	0.31%	121	0.29%	50	0.35%
23	Apparel	453	0.81%	328	0.80%	125	0.87%	58	Eating and Drinking Places	836	1.50%	593	1.44%	243	1.69%
24	Lumber	307	0.55%	223	0.54%	84	0.58%	59	Miscellaneous Retail	1021	1.84%	662	1.60%	359	2.50%
25	Furniture	350	0.63%	307	0.74%	43	0.30%	60	Depository Institutions	95	0.17%	80	0.19%	15	0.10%
26	Paper	592	1.06%	532	1.29%	60	0.42%	61	Nondepository Credit Institutions	86	0.15%	50	0.12%	36	0.25%
27	Printing	456	0.82%	387	0.94%	69	0.48%	62	Security and Commodity Brokers	410	0.74%	309	0.75%	101	0.70%
28	Chemicals	6219	11.18%	4280	10.37%	1939	13.50%	63	Insurance Carriers	158	0.28%	101	0.24%	57	0.40%
29	Petroleum Refining	486	0.87%	333	0.81%	153	1.06%	64	Insurance Agents Brokers	216	0.39%	161	0.39%	55	0.38%
30	Rubber	346	0.62%	284	0.69%	62	0.43%	65	Real Estate	263	0.47%	202	0.49%	61	0.42%
31	Leather	137	0.25%	102	0.25%	35	0.24%	67	Investment Offices	695	1.25%	524	1.27%	171	1.19%
32	Stone Clay Glass	330	0.59%	261	0.63%	69	0.48%	70	Hotels	165	0.30%	137	0.33%	28	0.19%
33	Primary Metal	692	1.24%	542	1.31%	150	1.04%	72	Personal Services	209	0.38%	160	0.39%	49	0.34%
34	Fabricated Metal	667	1.20%	562	1.36%	105	0.73%	73	Business Services	7952	14.30%	5921	14.35%	2031	14.14%
35	Industrial Machinery	3042	5.47%	2478	6.01%	564	3.93%	75	Auto Repair Services	88	0.16%	73	0.18%	15	0.10%
36	Electronic Equipment	4994	8.98%	3762	9.12%	1232	8.58%	78	Motion Pictures	187	0.34%	149	0.36%	38	0.26%
37	Transportation Equipment	1482	2.66%	1158	2.81%	324	2.26%	79	Amusement	488	0.88%	406	0.98%	82	0.57%
38	Measuring Instruments	3605	6.48%	2618	6.35%	987	6.87%	80	Health Services	1042	1.87%	820	1.99%	222	1.55%
39	Miscellaneous Manufacturing	384	0.69%	294	0.71%	90	0.63%	81	Legal Services	35	0.06%	23	0.06%	12	0.08%
40	Railroad Transportation	149	0.27%	101	0.24%	48	0.33%	82	Educational Services	406	0.73%	261	0.63%	145	1.01%
41	Local/Suburban Transit	36	0.06%	29	0.07%	7	0.05%	83	Social Services	60	0.11%	45	0.11%	15	0.10%
42	Motor Freight Transportation	329	0.59%	210	0.51%	119	0.83%	87	Engineering and Accounting	1036	1.86%	802	1.94%	234	1.63%
44	Water Transportation	519	0.93%	337	0.82%	182	1.27%	89	Miscellaneous Services	1	0.00%	0	0.00%	1	0.01%
45	Transportation By Air	502	0.90%	378	0.92%	124	0.86%	99	Nonclassified Establishments	208	0.37%	178	0.43%	30	0.21%

In this table, We report the sample distribution by industry for the full sample, the SI sample, and the Non-SI sample. We classify industries using the first two digits of the SIC code.

The distribution of observations by year for the full sample of 55,623 observations is provided in Panel B of Table 1. For 2002, there are 1889 observations, and for 2021, there are 2592 observations. The number of observations peaks in 2008 at 3081 observations. We also show the distribution by year for two subsamples: the SI sample (observations with special items) and the non-SI sample (observations with no special items). The number of SI sample observations increases from 2002 to 2009, then fluctuates between 1900 and 2400 each year from 2010 through 2021. In the non-SI Sample, the number of observations peaks in 2007 at 1016 observations.

Following that, we report sample distribution by industry for both the full sample and the two subsamples, namely the SI and non-SI samples. For reporting purposes, we provide these distributions based on the first two digits of the SIC code. The top four industries in the full sample are Business Services (SIC = 73; 7952 observations; 14.30%), Chemicals (SIC = 28; 6219 observations; 11.18%), Electronic Equipment (SIC = 36; 4994 observations; 8.98%), and Measuring Instruments (SIC = 38; 3605 observations; 6.48%), as shown in Panel C of Table 1. In the SI Sample, the most heavily represented industry is Business Services (SIC = 73; 5921 observations; 14.35%), followed by Chemicals (SIC = 28; 4280 observations; 10.37%) and Electronic Equipment (SIC = 36; 3762 observations; 9.12%).

3.4. Sample Descriptive Statistics

In Table 2, Panel A, we present the descriptive statistics for the important variables in Equation (2) for the full sample. The mean (median) values of SIZE, MTB, LEV, ROA, and ZSCORE in the full sample are 6.904 (6.857), 3.221 (2.182), 0.208 (0.168), −0.031 (0.030), and 3.391 (2.650), respectively, indicating that the overall performance of the sample in our study appears to be typical. D_SPI has a mean value of 0.742, suggesting that nearly 74% of firms report special items. In Panel B of Table 2, we present the descriptive statistics for the SI sample (41,256 observations) and the non-SI sample (14,367 observations), as well as the difference between these means.

The differences in these means between the SI and non-SI samples are all statistically significant, as shown in Panel B of Table 2. In particular, the mean value of CULTURE for the SI sample (the non-SI sample) is 15.407 (15.743), and the difference in corporate culture (CULTURE) between these two subsamples is 0.538, with a *p*-value less than 0.0001. This result suggests that the corporate culture of the SI sample is weaker than that of the non-SI sample, which is consistent with our prediction that strong-culture firms are less likely to report special items.

Table 2. Corporate culture, special items, and firm performance: sample descriptive statistics.

Panel A: Full Sample.						
Variable	**Observations**	**Mean**	**Std Dev**	**25th Pctl**	**Median**	**75th Pctl**
D_SPI	55,623	0.742	0.438	0.000	1.000	1.000
CULTURE	55,623	15.546	5.954	11.150	14.482	18.836
SIZE	55,623	6.904	2.048	5.471	6.857	8.288
MTB	55,623	3.221	6.822	1.264	2.182	3.875
LEV	55,623	0.208	0.210	0.008	0.168	0.325
ROA	55,623	−0.031	0.228	−0.037	0.030	0.072
OCF	55,623	0.046	0.178	0.027	0.079	0.130
ZSCORE	55,623	3.391	6.122	1.176	2.650	4.754
TACCRUAL	55,623	−0.246	1.031	−0.167	−0.071	−0.024
WDP	55,623	0.182	0.386	0.000	0.000	0.000
RCP	55,623	0.366	0.482	0.000	0.000	1.000
LOSS	55,623	0.339	0.473	0.000	0.000	1.000
BIG4	55,623	0.828	0.377	1.000	1.000	1.000
AGE	55,623	2.798	0.769	2.197	2.833	3.332

Table 2. *Cont.*

Panel B: Special Items Sample vs. Non-Special Items Sample.							
	SI Sample			Non-SI Sample			Difference in Mean
Variable	**Obs.**	**Mean**	**50th Pctl**	**Obs.**	**Mean**	**Median**	***p*-Value**
CULTURE	41,256	15.407	14.363	14,367	15.945	14.86	<0.0001
SIZE	41,256	7.149	7.129	14,367	6.199	6.017	<0.0001
MTB	41,256	3.04	2.101	14,367	3.743	2.465	<0.0001
LEV	41,256	0.229	0.198	14,367	0.146	0.067	<0.0001
ROA	41,256	−0.031	0.027	14,367	−0.033	0.041	<0.0001
OCF	41,256	0.051	0.078	14,367	0.032	0.085	<0.0001
ZSCORE	41,256	2.891	2.449	14,367	4.826	3.547	<0.0001
TACCRUAL	41,256	−0.221	−0.073	14,367	−0.317	−0.064	<0.0001
WDP	41,256	0.243	0.000	14,367	0.009	0.000	<0.0001
RCP	41,256	0.488	0.000	14,367	0.017	0.000	<0.0001
LOSS	41,256	0.351	0.000	14,367	0.304	0.000	<0.0001
BIG4	41,256	0.848	1.000	14,367	0.77	1.000	<0.0001
AGE	41,256	2.848	2.833	14,367	2.653	2.639	<0.0001

In Panel A, we report the sample descriptive statistics, including the number of observations, mean value, standard deviation, 25th percentile value, median value, and 75th percentile value of the variables in the baseline model for the full sample with 55,623 firm-year observations from 2002 to 2021. In Panel B, we show the sample descriptive statistics for the special items sample (SI sample) with 41,256 firm-year observations and for the non-special items sample (Non-SI sample) with 14,367 firm-year observations. We also report the difference in mean and the statistical significance, measured by *p*-value. The detailed variable definitions are provided in Appendix A.

3.5. Correlation Matrices

Table 3 displays correlation matrices of key variables in our study. We specifically show Pearson (below the diagonal) and Spearman (above the diagonal) correlations for the full sample in Table 3. As illustrated in Table 3, the Pearson (Spearman) correlation matrix demonstrates that the correlation coefficient for the pair of D_SPI and CULTURE is −0.040 (−0.034) with a *p*-value less than 0.0001, showing a significant and negative correlation. In other words, corporate culture is significantly and negatively correlated with the likelihood of reporting special items, providing preliminary support to our hypothesis. Many of the correlation coefficients in both Panels are fairly small yet statistically significant. This implies that our study is not subject to multicollinearity and that hypothesis testing must be performed in a multivariate setting.

Table 3. Corporate culture, special items, and firm performance: correlations.

	D_SPI	CULTURE	SIZE	MTB	LEV	ROA	OCF	ZSCORE	TACCRUAL	WDP	RCP	LOSS	BIG4	AGE
D_SPI		−0.034 <0.0001	0.208 <0.0001	−0.083 <0.0001	0.199 <0.0001	−0.077 <0.0001	−0.026 <0.0001	−0.152 <0.0001	−0.039 <0.0001	0.266 <0.0001	0.428 <0.0001	0.044 <0.0001	0.091 <0.0001	0.109 <0.0001
CULTURE	−0.040 <0.0001	1.000	−0.275 <0.0001	0.164 <0.0001	−0.189 <0.0001	−0.183 <0.0001	−0.166 <0.0001	0.019 <0.0001	−0.097 <0.0001	−0.014 0.001	−0.048 <0.0001	0.220 <0.0001	−0.148 <0.0001	−0.192 <0.0001
SIZE	0.203 <0.0001	−0.255 <0.0001		0.026 <0.0001	0.444 <0.0001	0.316 <0.0001	0.296 <0.0001	−0.044 <0.0001	0.021 <0.0001	0.065 <0.0001	0.209 <0.0001	−0.371 <0.0001	0.437 <0.0001	0.374 <0.0001
MTB	−0.045 <0.0001	0.116 <0.0001	0.002 0.690	1.000	−0.081 <0.0001	0.276 <0.0001	0.226 <0.0001	0.392 <0.0001	0.061 <0.0001	−0.089 <0.0001	−0.066 <0.0001	−0.158 <0.0001	0.073 <0.0001	−0.041 <0.0001
LEV	0.174 <0.0001	−0.133 <0.0001	0.304 <0.0001	−0.062 <0.0001		−0.059 <0.0001	0.001 0.872	−0.464 <0.0001	−0.100 <0.0001	0.056 <0.0001	0.132 <0.0001	−0.034 <0.0001	0.152 <0.0001	0.157 <0.0001
ROA	0.005 0.279	−0.230 <0.0001	0.415 <0.0001	0.032 <0.0001	−0.025 <0.0001	1.000	0.703 <0.0001	0.564 <0.0001	0.476 <0.0001	−0.121 <0.0001	−0.062 <0.0001	−0.820 <0.0001	0.153 <0.0001	0.214 <0.0001
OCF	0.048 <0.0001	−0.232 <0.0001	0.406 <0.0001	0.024 <0.0001	0.012 0.005	0.812 <0.0001		0.422 <0.0001	−0.040 <0.0001	−0.046 <0.0001	−0.031 <0.0001	−0.559 <0.0001	0.157 <0.0001	0.159 <0.0001
ZSCORE	−0.138 <0.0001	0.013 0.003	0.041 <0.0001	0.180 <0.0001	−0.330 <0.0001	0.466 <0.0001	0.401 <0.0001	1.000	0.315 <0.0001	−0.106 <0.0001	−0.128 <0.0001	−0.402 <0.0001	0.065 <0.0001	0.014 0.001
TACCRUAL	0.041 <0.0001	−0.104 <0.0001	0.138 <0.0001	−0.013 0.003	0.007 0.080	0.433 <0.0001	0.305 <0.0001	0.080 <0.0001		−0.106 <0.0001	0.014 0.001	−0.418 <0.0001	0.003 0.448	0.151 <0.0001
WDP	0.266 <0.0001	−0.018 <0.0001	0.066 <0.0001	−0.031 <0.0001	0.048 <0.0001	−0.080 <0.0001	−0.015 0.000	−0.081 <0.0001	−0.014 0.001	1.000	0.133 <0.0001	0.106 <0.0001	0.032 <0.0001	0.031 <0.0001
RCP	0.428 <0.0001	−0.057 <0.0001	0.206 <0.0001	−0.041 <0.0001	0.107 <0.0001	0.001 0.725	0.027 <0.0001	−0.131 <0.0001	0.048 <0.0001	0.133 <0.0001		0.033 <0.0001	0.123 <0.0001	0.175 <0.0001
LOSS	0.044 <0.0001	0.225 <0.0001	−0.373 <0.0001	−0.019 <0.0001	0.030 <0.0001	−0.624 <0.0001	−0.511 <0.0001	−0.272 <0.0001	−0.248 <0.0001	0.106 <0.0001	0.033 <0.0001	1.000	−0.168 <0.0001	−0.247 <0.0001
BIG4	0.091 <0.0001	−0.147 <0.0001	0.443 <0.0001	0.030 <0.0001	0.119 <0.0001	0.182 <0.0001	0.177 <0.0001	0.073 <0.0001	0.054 <0.0001	0.032 <0.0001	0.123 <0.0001	−0.168 <0.0001		0.058 <0.0001
AGE	0.111 <0.0001	−0.203 <0.0001	0.372 <0.0001	−0.042 <0.0001	0.087 <0.0001	0.210 <0.0001	0.187 <0.0001	−0.059 <0.0001	0.122 <0.0001	0.035 <0.0001	0.179 <0.0001	−0.246 <0.0001	0.066 <0.0001	

This table displays the Pearson (below the diagonal) and Spearman (above the diagonal) correlations of the variables employed in the baseline regression model for the full sample. Correlation coefficients and their related *p*-values are reported in both panels. We provide detailed definitions of variables in Appendix A.

4. Primary Findings

Table 4, Panel A presents our primary results of testing the hypothesis. Column 1 reports that the coefficient on CULTURE is −0.009 with a chi-square value of 12.85, suggesting a significant negative relation between corporate culture and special items. We re-estimate the baseline regression model after excluding firms in the highly regulated industries (i.e., SIC 4000-4999 and 6000-6999) and report results in Column 2. The coefficient on CULTURE is still negative and significant. The findings suggest that firms with stronger corporate culture are less likely to report special items. As a result, the empirical findings strongly support our hypothesis.

The economic significance may be difficult to determine in these regressions because the variable CULTURE is an index instead of a real unit. The size of the coefficient will change when the index calculation method changes. Still, based on the standard deviation of CULTURE (5.954), we can calculate that one std dev change in CULTURE maps into a 0.065 (−0.011 * 5.954) change in D_SPI in non-regulated firms. This number is approximately 9% of the D_SPI's mean value (0.742). Investors, auditors, and researchers can use statistical significance to estimate the tendency of earnings management, which managers try to conceal.

In Column 1 of Panel A, the dependent variable (D_SPI) is significantly and positively related to the following control variables: SIZE, LEV, OCF, TACCRUAL, WDP, RCP, and LOSS. D_SPI is significantly and negatively related to MTB, ROA, and ZSCORE. The above relations are fairly consistent with past studies and general predictions. For example, the positive relation between LOSS and D_SPI and the negative relation between ROA and D_SPI suggest that financially successful firms are less prone to report special items, which is consistent with conventional wisdom.

For completeness, we re-estimate the baseline regression model using each unique cultural component as the primary independent variable of interest and present the findings in Panel B of Table 4. We find that the coefficients on QUALITY, RESPECT, and TEAMWORK are significant and negative, implying that these three components of the culture measure have a major role in determining a firm's decision to employ special items.

Table 4. Corporate culture, special items, and firm performance: primary results and regression analysis.

Panel A: Main Findings.						
			Logistic Regression			
			Dependent Variable = D_SPI			
		Column 1			**Column 2**	
		Full Sample			**Excluding Obs. in Regulated Industries**	
Parameter	**Estimate**	**Chi-Square**	**Pr > ChiSq**	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	−0.472 ***	13.36	0.000	−0.446 ***	9.48	0.002
CULTURE	**−0.009 *** **	12.85	0.000	**−0.011 *** **	18.98	<0.0001
SIZE	0.177 ***	397.78	<0.0001	0.181 ***	336.73	<0.0001
MTB	−0.010 ***	26.91	<0.0001	−0.010 ***	27.31	<0.0001
LEV	1.256 ***	300.69	<0.0001	1.250 ***	238.28	<0.0001
ROA	−0.410 ***	11.63	0.001	−0.418 ***	10.79	0.001
OCF	1.005 ***	62.01	<0.0001	1.034 ***	59.11	<0.0001
ZSCORE	−0.017 ***	55.81	<0.0001	−0.018 ***	59.36	<0.0001
TACCRUAL	0.039 ***	10.67	0.001	0.043 ***	11.91	0.001
WDP	3.586 ***	1516.22	<0.0001	3.625 ***	1216.57	<0.0001
RCP	3.774 ***	3183.23	<0.0001	3.849 ***	2805.32	<0.0001
LOSS	0.391 ***	119.00	<0.0001	0.354 ***	83.48	<0.0001
BIG4	−0.010	0.09	0.764	0.010	0.08	0.778
AGE	0.020	1.25	0.264	0.021	1.11	0.293
Year Indicator		Yes			Yes	
Industry Indicator		Yes			Yes	
Observations		55,623			47,494	
Pseudo R^2		0.4642			0.4767	

Table 4. *Cont.*

Panel B: Individual Components of Corporate Culture.										
	Dependent Variable = D_SPI									
	Column 1		Column 2		Column 3		Column 4		Column 5	
Parameter	**Estimate**	**Chi-Square**	**Estimate**	**Chi-Square**	**Estimate**	**Chi-Square**	**Estimate**	**Chi-Square**	**Estimate**	**Chi-Square**
Intercept	−0.701 ***	32.18	−0.640 ***	27.86	−0.568 ***	21.47	−0.583 ***	22.63	−0.455 ***	14.01
INNOVATION	0.007	2.06								
INTEGRITY			−0.005	0.32						
QUALITY					**−0.024 *****	8.23				
RESPECT							**−0.015 ****	5.75		
TEAMWORK									**−0.056 *****	63.08
SIZE	0.178 ***	403.24	0.179 ***	406.35	0.177 ***	396.32	0.177 ***	390.93	0.177 ***	400.13
MTB	−0.010 ***	30.83	−0.010 ***	29.75	−0.010 ***	28.60	−0.010 ***	28.61	−0.010 ***	28.26
LEV	1.290 ***	317.32	1.280 ***	314.72	1.271 ***	309.73	1.278 ***	314.11	1.219 ***	283.04
ROA	−0.379 ***	9.91	−0.390 ***	10.54	−0.395 ***	10.78	−0.397 ***	10.91	−0.395 ***	10.79
OCF	1.018 ***	63.87	1.019 ***	63.91	1.016 ***	63.57	1.020 ***	64.03	0.928 ***	52.49
ZSCORE	−0.017 ***	59.05	−0.017 ***	58.18	−0.017 ***	57.08	−0.017 ***	56.45	−0.017 ***	59.61
TACCRUAL	0.038 ***	10.22	0.038 ***	10.38	0.039 ***	10.63	0.039 ***	10.95	0.035 ***	8.65
WDP	3.585 ***	1515.88	3.585 ***	1515.91	3.586 ***	1516.25	3.584 ***	1515.31	3.591 ***	1519.75
RCP	3.774 ***	3182.18	3.775 ***	3183.64	3.775 ***	3184.14	3.774 ***	3181.64	3.771 ***	3175.88
LOSS	0.377 ***	111.08	0.381 ***	114.01	0.384 ***	115.44	0.383 ***	114.80	0.402 ***	125.66
BIG4	−0.007	0.05	−0.008	0.06	−0.007	0.04	−0.010	0.09	−0.005	0.02
AGE	0.025	1.95	0.024	1.79	0.021	1.42	0.023	1.73	0.012	0.44
Year Indicator	Yes		Yes		Yes		Yes		Yes	
Industry Indicator	Yes		Yes		Yes		Yes		Yes	
Observations	55,623		55,623		55,623		55,623		55,623	
Pseudo R^2	0.4640		0.4639		0.4641		0.4640		0.4651	

In Panel A, based on the full sample with 55,623 firm-year observations from 2002 to 2021, we report the results of estimating our baseline regression model using logistic regression. Panel B reports the results of estimating our baseline regression model using the five individual components of corporate culture. *, **, and *** denote significance at the 10, 5, and 1 percent (two-tailed) confidence levels, respectively. We winsorize the continuous variables in the baseline regression model at the 1% and 99% percentiles. Detailed variable definitions are provided in Appendix A.

5. Robustness Tests

5.1. Alternative Corporate Culture Measure

In this test, we re-estimate Equation (2) using an alternative measure of corporate culture, H_CULTURE, which equals 1 if a firm's total culture score is greater than the median and 0 otherwise. The use of this indicator variable may aid in reducing measuring errors caused by CULTURE. Table 5 shows that the H_CULTURE coefficient is −0.037 with a chi-square value of 5.82, indicating that there is still a significant negative relation between corporate culture and the likelihood of reporting special items, and hence, our primary findings are robust to this alternative measure of corporate culture.

Table 5. Corporate culture, special items, and firm performance: alternative measure of corporate culture.

	Dependent Variable = D_SPI		
	Logistic Regression		
Parameter	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	−0.621 ***	26.27	<0.0001
H_CULTURE	**−0.037 ** **	5.82	0.016
SIZE	0.178 ***	401.07	<0.0001
MTB	−0.010 ***	29.12	<0.0001
LEV	1.275 ***	311.11	<0.0001
ROA	−0.392 ***	10.65	0.001
OCF	1.017 ***	63.62	<0.0001
ZSCORE	−0.017 ***	57.42	<0.0001
TACCRUAL	0.038 ***	10.51	0.001
WDP	3.585 ***	1516.02	<0.0001
RCP	3.776 ***	3185.20	<0.0001
LOSS	0.384 ***	115.10	<0.0001
BIG4	−0.008	0.05	0.825
AGE	0.023	1.63	0.201
Year Indicator		Yes	
Industry Indicator		Yes	
Observations		55,623	
Pseudo R^2		0.464	

In this table, we report the results of estimating our baseline regression model using an alternative measure of corporate culture. *, **, and *** denote significance at the 10, 5, and 1 percent (two-tailed) confidence levels, respectively. We winsorize the continuous variables in the baseline regression model at the 1% and 99% percentiles. Detailed variable definitions are provided in Appendix A.

5.2. Alternative Sample Periods

To determine if our primary findings hold true throughout time, we divide our sample period evenly into two periods (2002–2011 and 2012–2021), re-estimate Equation (2), and display results in Panel A of Table 6. Columns 1 and 2 reveal that the coefficient on CULTURE is −0.010 with a chi-square value of 7.22 in the 2002–2011 period and −0.009 with a chi-square value of 8.54 in the 2012–2021 period. Table 6 shows that our primary findings are robust across diverse time periods.

Table 6. Corporate culture, special items, and firm performance: alternative sample periods.

	Dependent Variable = D_SPI					
	Column 1			Column 2		
	2002–2011			2012–2021		
Parameter	**Estimate**	**Chi-Square**	**Pr > ChiSq**	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	−1.119 ***	51.96	<0.0001	−0.116	0.40	0.529
CULTURE	**−0.010 *** **	7.22	0.007	**−0.009 *** **	8.54	0.004
SIZE	0.174 ***	197.79	<0.0001	0.181 ***	191.35	<0.0001
MTB	−0.012 ***	8.52	0.004	−0.009 ***	19.04	<0.0001
LEV	1.123 ***	115.79	<0.0001	1.344 ***	173.83	<0.0001
ROA	−0.837 ***	19.31	<0.0001	−0.135	0.70	0.403
OCF	1.318 ***	47.32	<0.0001	0.804 ***	20.95	<0.0001
ZSCORE	−0.019 ***	28.87	<0.0001	−0.016 ***	28.88	<0.0001
TACCRUAL	0.107 ***	8.33	0.004	0.018	2.01	0.156
WDP1	3.617 ***	968.20	<0.0001	3.510 ***	542.15	<0.0001
RCP1	3.815 ***	1806.98	<0.0001	3.714 ***	1364.83	<0.0001
LOSS	0.500 ***	92.98	<0.0001	0.258 ***	26.32	<0.0001
BIG4	0.109 **	4.98	0.026	−0.121 **	6.28	0.012
AGE	0.056 **	4.78	0.029	−0.034	1.82	0.177
Year Indicator		Yes			Yes	
Industry Indicator		Yes			Yes	
Observations		27,635			27,988	
Pseudo R^2		0.484			0.4317	

In this table, we report the results of estimating our baseline regression model for two different time periods, 2002–2011 and 2012–2021. *, **, and *** denote significance at the 10, 5, and 1 percent (two-tailed) confidence levels, respectively. We winsorize the continuous variables in the baseline regression model at the 1% and 99% percentiles. Detailed variable definitions are provided in Appendix A.

5.3. Lagged Measures of Corporate Culture

In our study, endogeneity issues such as reverse causality might arise. For example, companies that are more prone to use special items may already have a strong culture. To address the endogeneity issue, we re-estimate Equation (2) using three lagged corporate culture variables, namely LAG_CULTURE1, LAG_CULTURE2, and LAG_CULTURE3, and report the findings in Table 7. Specifically, LAG_CULTURE1 (LAG_CULTURE2) is CULTURE in year t − 1 (year t − 2). LAG_CULTURE3 represents CULTURE in year t − 3. The coefficients on these three lagged measures are all significant and negative, as shown in Panel A of Table 7. As an example, the coefficient for LAG_CULTURE1 is −0.008 with a chi-square value of 8.26.

In addition, we perform a two-stage regression analysis (2SLS). We estimate the individual culture score (CULTURE_Instrumental) in Stage 1 using the mean corporate culture score of companies in the same industry (CULTURE_Mean), which is based on the first two digits of the SIC code. Column 1 of Panel B shows the results of the first stage, in which we estimate CULTURE_Instrumental using CULTURE_Mean. CULTURE_Mean has a coefficient of 0.695 and a t-value of 35.69, indicating that it is significantly related to CULTURE_Instrumental. Additionally, the Cragg–Donald F-stat. is 41.09, which is greater than the critical value of 16.38 in Stock and Yogo (2005), indicating that our instrumental variable is strong and relevant in the first stage. The results of Stage 2 of 2SLS are presented in Column 2 of Panel B, where we estimate our baseline regression model utilizing the instrumental variable from Stage 1 (CULTURE_Instrumental) as the primary independent variable. The CULTURE_Instrumental coefficient is −0.006 with a chi-square value of −6.99, indicating a significant negative relation between corporate culture and the likelihood of reporting special items. Taken together, the results of Table 7 suggest that corporate culture influences the likelihood of using special items, which alleviates concerns about reverse causality in our study.

Table 7. Corporate culture, special items, and firm performance: reverse causality.

Panel A: Using Lagged CULTURE Measures.									
Dependent Variable = D_SPI									
	Column 1			**Column 2**			**Column 3**		
Parameter	**Estimate**	**Chi-Square**	**Pr > ChiSq**	**Estimate**	**Chi-Square**	**Pr > ChiSq**	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	−0.489 ***	11.93	0.001	−0.365 **	5.55	0.018	−0.297 *	3.02	0.082
LAG_CULTURE1	**−0.008 *** **	8.26	0.004						
LAG_CULTURE2				**−0.009 *** **	9.71	0.002			
LAG_CULTURE3							**−0.011 *** **	10.70	0.001
SIZE	0.179 ***	349.27	<0.0001	0.177 ***	291.93	<0.0001	0.175 ***	241.92	<0.0001
MTB	−0.010 ***	25.25	<0.0001	−0.011 **	25.35	<0.0001	−0.012 ***	24.78	<0.0001
LEV	1.264 ***	257.79	<0.0001	1.259 ***	216.37	<0.0001	1.247 ***	178.07	<0.0001
ROA	−0.348 **	6.48	0.011	−0.287 *	3.54	0.060	−0.209	1.53	0.216
OCF	0.931 ***	42.21	<0.0001	0.926 ***	33.67	<0.0001	0.903 ***	25.82	<0.0001
ZSCORE	−0.016 ***	39.72	<0.0001	−0.018 ***	38.68	<0.0001	−0.017 ***	30.50	<0.0001
TACCRUAL	0.045 ***	9.96	0.002	0.045 ***	7.26	0.007	0.047 **	6.07	0.014
WDP1	3.592 ***	1212.06	<0.0001	3.545 ***	1001.95	<0.0001	3.549 ***	814.44	<0.0001
RCP1	3.770 ***	2794.66	<0.0001	3.760 ***	2447.30	<0.0001	3.784 ***	2110.10	<0.0001
LOSS	0.373 ***	89.61	<0.0001	0.363 ***	70.23	<0.0001	0.362 ***	58.06	<0.0001
BIG4	−0.019	0.27	0.607	−0.029	0.53	0.465	−0.018	0.16	0.687
AGE	0.035 *	2.85	0.091	0.018	0.58	0.448	0.013	0.23	0.630
Year Indicator		Yes			Yes			Yes	
Industry Indicator		Yes			Yes			Yes	
Observations		55,623			42,555			37,117	
Pseudo R^2		0.4585			0.4542			0.4532	

Table 7. *Cont.*

Panel B: Two-Stage Regression Analysis (2SLS).						
	Column 1			Column 2		
	Dep. Var. = CULTURE_Instrumental			Dep. Var. = D_SPI		
Parameter	**Estimate**	**t-stat.**	***p*-value**	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	10.643 ***	30.69	<0.0001	−1.109 ***	160.94	<0.0001
CULTURE_Mean	0.695 ***	35.69	<0.0001			
CULTURE_Instrumental				**−0.006 *** **	6.99	0.008
SIZE	−0.153 ***	−10.48	<0.0001	0.176 ***	403.19	<0.0001
MTB	0.039 ***	12.87	<0.0001	−0.009 ***	24.10	<0.0001
LEV	−2.241 ***	−19.49	<0.0001	1.301 ***	331.72	<0.0001
ROA	−1.755 ***	−9.32	<0.0001	−0.347 ***	8.45	0.004
OCF	−3.287 ***	−15.65	<0.0001	0.923 ***	53.59	<0.0001
ZSCORE	0.045 ***	10.59	<0.0001	−0.015 ***	46.39	<0.0001
TACCRUAL	0.016	0.71	0.476	0.034 ***	8.20	0.004
WDP	−0.074	−1.38	0.167	3.589 ***	1519.96	<0.0001
RCP	−0.117 **	−2.52	0.012	3.785 ***	3213.33	<0.0001
LOSS	0.831 ***	14.61	<0.0001	0.399 ***	124.95	<0.0001
BIG4	−0.512 ***	−8.27	<0.0001	−0.031	0.82	0.366
AGE	−0.329 ***	−10.85	<0.0001	0.026	2.12	0.145
Year Indicator		Yes			Yes	
Industry Indicator		Yes			Yes	
Observations		55,623			55,623	
Adjusted R^2/Pseudo R^2		0.365			0.462	
Cragg–Donald F statistics		41.09				

In Panel A of this table, we report the results of estimating our baseline regression model using three lagged measures of corporate culture. In Panel B, we present the results of two-stage regression analysis (2SLS). *, **, and *** denote significance at the 10, 5, and 1 percent (two-tailed) confidence levels, respectively. We winsorize the continuous variables in the baseline regression model at the 1% and 99% percentiles. Detailed variable definitions are provided in Appendix A.

6. Firm Performance

6.1. Higher Performance vs. Lower Performance

Firms with great financial resources or superior performance are thought to be less prone to use and report special items. We expect corporate culture in firms with lower earnings performance to be more negatively associated with the likelihood of reporting special items than culture in firms with higher earnings performance, implying that our primary findings may be driven by firms with lower earnings performance.

In accordance with Watson (2015), we consider higher earnings performance if the firm's pretax income, scaled by total assets, is greater than 10%. Next, we divide our sample into two subsamples, namely observations with higher earnings performance and observations with lower earnings performance, re-estimate Equation (2) for each subsample, and display the findings in Table 8. Column 1 reports that the coefficient on CULTURE is 0.002 with a chi-square value of 0.13 for the former subsample. Column 2 shows that the coefficient on CULTURE is −0.010 with a chi-square value of 12.78 for the latter subsample, implying that the significant and negative relation between CULTURE and D_SPI only exists in firms with lower earnings performance. Taken together, the results of Table 8 suggest that our primary findings are largely driven by firms with lower earnings performance.

Table 8. Corporate culture, special items, and firm performance: higher earnings performance vs. lower earnings performance.

	Dependent Variable = D_SPI					
	Column 1			**Column 2**		
	Higher Earnings Performance			**Lower Earnings Performance**		
Parameter	**Estimate**	**Chi-Square**	**Pr > ChiSq**	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	−0.327	1.89	0.170	−0.456 ***	7.83	0.005
CULTURE	0.002	0.13	0.719	**−0.010 *** **	12.78	0.000
SIZE	0.121 ***	58.82	<0.0001	0.198 ***	315.53	<0.0001
MTB	−0.007 *	3.48	0.062	−0.007 ***	8.98	0.003
LEV	1.322 ***	71.03	<0.0001	1.182 ***	202.79	<0.0001
ROA	−0.365	0.52	0.473	−0.779 ***	34.28	<0.0001
OCF	−1.147 ***	11.81	0.001	1.489 ***	104.88	<0.0001
ZSCORE	−0.018 ***	15.44	<0.0001	−0.012 ***	21.19	<0.0001
TACCRUAL	0.024	0.03	0.852	0.030 **	6.35	0.012
WDP	3.719 ***	353.81	<0.0001	3.539 ***	1151.06	<0.0001
RCP	3.886 ***	761.96	<0.0001	3.703 ***	2358.22	<0.0001
LOSS	−0.269	0.12	0.728	0.360 ***	89.59	<0.0001
BIG4	0.147 **	4.55	0.033	−0.024	0.36	0.546
AGE	−0.033	0.94	0.333	0.062 ***	8.23	0.004
Year Indicator		Yes			Yes	
Industry Indicator		Yes			Yes	
Observations		13,583			42,040	
Pseudo R^2		0.4461			0.4691	

In this table, we report the results of estimating our baseline regression model for two subsamples: observations with higher earnings performance and observations with lower earnings performance. *, **, and *** denote significance at the 10, 5, and 1 percent (two-tailed) confidence levels, respectively. We winsorize the continuous variables in the baseline regression model at the 1% and 99% percentiles. Detailed variable definitions are provided in Appendix A.

6.2. High-Tech Firms vs. Low-Tech Firms

A large component of the Li et al. (2021) culture measure is related to innovation (see the culture calculation equation). CEOs would like to use the keyword "Innovation" in

earnings calls because it can give a nuance that managers are driving positive changes to the company. However, the word innovation may have different meanings in the high-tech industry because the industry is armed with methods to gauge technological innovations, such as the 10-nano process versus the 7-nano process in CPU manufacturing. In this test, we investigate whether the relationship between corporate culture and unique products differs across organizations in high-tech and low-tech industries.

We use the Kile and Phillips (2009) definition of high-tech companies. A high-tech company is a company in one of the following industries: 283 (drugs), 357 (computer equipment), 366 (communication equipment), 367 (electronic components), 382 (laboratory instruments), 384 (surgical instruments), 481 (telephone communications), 482 (miscellaneous communication services), 489 (communication services), 737 (computer programming), or 873 (research and development services).

Next, we partition our sample into two subsamples, namely high-tech and low-tech observations, re-estimate Equation (2), and present the results in Table 9. Column 1 reveals that for the former subsample, the coefficient on CULTURE is −0.011 with a chi-square value of 9.68. Column 2 shows that the coefficient on CULTURE for the later subsample is −0.004 with a chi-square value of 4.87. The coefficient comparison test demonstrates that the difference between −0.011 and −0.004 is statistically significant with a *p*-value less than 0.01, showing that the negative relation between CULTURE and D_SPI becomes stronger for high-tech firms in our study.

Table 9. Corporate culture, special items, and firm performance: high-tech firms vs. low-tech firms.

	Dependent Variable = D_SPI					
	Column 1			**Column 2**		
	High-Tech Firms			**Low-Tech Firms**		
Parameter	**Estimate**	**Chi-Square**	**Pr > ChiSq**	**Estimate**	**Chi-Square**	**Pr > ChiSq**
Intercept	−0.677 ***	12.15	0.001	−0.338 **	4.60	0.032
CULTURE	**−0.011 *** **	9.68	0.002	**−0.004 ** **	4.87	0.027
SIZE	0.205 ***	193.26	<0.0001	0.159 ***	193.47	<0.0001
MTB	−0.005 **	4.35	0.037	−0.012 ***	18.80	<0.0001
LEV	0.917 ***	66.49	<0.0001	1.439 ***	218.88	<0.0001
ROA	−0.432 **	6.61	0.010	−0.482 **	6.39	0.012
OCF	1.044 ***	33.21	<0.0001	0.611 ***	9.94	0.002
ZSCORE	−0.015 ***	28.29	<0.0001	−0.025 ***	35.98	<0.0001
TACCRUAL	0.042 ***	9.77	0.002	0.006	0.04	0.836
WDP	3.868 ***	568.81	<0.0001	3.404 ***	923.71	<0.0001
RCP	4.692 ***	913.90	<0.0001	3.367 ***	2018.42	<0.0001
LOSS	0.250 ***	20.91	<0.0001	0.448 ***	81.08	<0.0001
BIG4	−0.082	2.44	0.119	0.083 *	3.30	0.069
AGE	0.094 ***	8.40	0.004	−0.001	0.00	0.954
Year Indicator		Yes			Yes	
Industry Indicator		Yes			Yes	
Observations		20,808			34,815	
Pseudo R^2		0.5047			0.4452	
	Coefficient Comparison Test					
	Coefficient on CULTURE of High-Tech Firms vs. Coefficient of CULTURE of Low-Tech Firms F-Stat. = 11.88; *p*-value = 0.0006					

In this table, we report the results of estimating our baseline regression model for two subsamples, namely high-tech firms and low-tech firms. *, **, and *** denote significance at the 10, 5, and 1 percent (two-tailed) confidence levels, respectively. We winsorize the continuous variables in the baseline regression model at the 1% and 99% percentiles. Detailed variable definitions are provided in Appendix A.

7. Conclusions

This study expands on previous research on special items by investigating the influence of corporate culture on the likelihood of special items. We discover that firms with a stronger corporate culture are less likely to report special items. A series of robustness and endogeneity tests back up our main conclusions. Furthermore, we find that firms with lower earnings performance mostly drive our findings, and the negative relation between corporate culture and special items becomes stronger for firms in high-tech industries. Our study contributes to a more comprehensive understanding of corporate culture, especially about the role of corporate culture on unethical corporate actions.

Our research has several shortcomings. Our sample firms, for example, are publicly traded. When generalizing our findings, we need to apply caution because Guiso et al. (2015) suggest that it is difficult for public companies to preserve their culture over time. Following that, corporate culture may be analyzed using numerous methodologies, such as interviews and questionnaires. Other components may also be utilized to analyze corporate culture. According to Graham et al. (2022), corporate culture may be examined via the following lenses: flexibility, cooperation, community, customer orientation, detail orientation, integrity, and result orientation. In addition, regarding special items, our study employs an indicator variable of special items. Separating special items by type or size may yield additional insights into this topic. The above issues can be explored by future studies.

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Appendix A. Variable Definitions

Variable Name		Definition
D_SPI	=	an indicator variable that equals one if a firm reports a special item (SPI) in a given year;
CULTURE	=	total culture score, calculated as the sum of the five culture values of innovation, integrity, quality, respect, and teamwork;
INNOVATION	=	weighted-frequency count of innovation-related words in the Q&A section of earnings calls averaged over a three-year window;
INTEGRITY	=	weighted-frequency count of integrity-related words in the Q&A section of earnings calls averaged over a three-year window;
QUALITY	=	weighted-frequency count of quality-related words in the Q&A section of earnings calls averaged over a three-year window;
RESPECT	=	weighted-frequency count of respect-related words in the Q&A section of earnings calls averaged over a three-year window;
TEAMWORK	=	weighted-frequency count of teamwork-related words in the Q&A section of earnings calls averaged over a three-year window;
SIZE	=	natural logarithm of total assets (AT);
MTB	=	market to book ratio, measured as market value of common shares [Outstanding common shares (CSHO) × price at fiscal year-end (PRCC_F)] divided by total book value of common shares (CEQ);

Variable Name		Definition
LEV	=	leverage ratio, measured as long-term liabilities (DLTT), scaled by total assets (AT);
ROA	=	return on assets, measured as income before extraordinary items (IB), scaled by total assets (AT);
SPI	=	an indicator variable that equals 1 if a firm reports a non-zero special items (SPI) and 0 otherwise;
WDP	=	an indicator variable that equals 1 if a firm reports a non-zero long-term assets write-down (WDP) and 0 otherwise;
RCP	=	an indicator variable that equals 1 if a firm reports a non-zero restructuring charge (RCP) and 0 otherwise;
OCF	=	cash flows from operating activities (OANCF), scaled by total assets (AT);
ZSCORE	=	Altman's Z-Score, calculated as 3.3 × [Net Income (NI)/Assets (AT)] + Sales (SALE)/Assets (AT) + 0.6 × {market value of common shares [(CSHO) × (PRCC_F)]/Total Liabilities (LT)} + 1.2 × Working Capital [Current Assets (ACT) − Current Liabilities (LCT)]/Assets (AT) + 1.4 × Retained Earnings (RE)/Assets (AT);
TACCRUAL	=	total operating accruals, calculated as [net income before extraordinary items (IBC) − Cash from operating activities (OANCF − XIDOC)]/Sales (SALE);
BIG4	=	an indicator variable that equals 1 if a firm uses a Big 4 auditor and 0 otherwise;
AGE	=	natural logarithm of the number of years in Compustat database;
H_CULTURE	=	an indicator variable that equals 1 if the value of CULTURE is greater than median and 0 otherwise;
LAG_CULTURE1	=	CULTURE in year t − 1;
LAG_CULTURE2	=	CULTURE in year t − 2;
LAG_CULTURE3	=	CULTURE in year t − 3;

Notes

[1] Regression results without the WDP and RCP control variables are qualitatively similar to the reported results.

[2] https://www.fengmai.net/, accessed on 1 May 2024.

References

Alciatore, Mimi, Peter Easton, and Nasser Spear. 2000. Accounting for the impairment of long-lived assets: Evidence from the petroleum industry. *Journal of Accounting and Economics* 29: 151–72. [CrossRef]

Bartov, Eli, and Partha S. Mohanram. 2014. Does Income Statement Placement Matter to Investors? The Case of Gains/Losses from Early Debt Extinguishment. *The Accounting Review* 89: 2021–55. [CrossRef]

Barua, Abhijit, Steve Lin, and Andrew M. Sbaraglia. 2010. Earnings management using discontinued operations. *The Accounting Review* 85: 1485–509. [CrossRef]

Benabou, Roland, and Jean Tirole. 2002. Self-confidence and personal motivation. *The Quarterly Journal of Economics* 117: 871–915. [CrossRef]

Benabou, Roland, and Jean Tirole. 2011. Identity, morals, and taboos: Beliefs as assets. *The Quarterly Journal of Economics* 126: 805–55. [CrossRef]

Bhandari, Avishek, Babak Mammadov, Maya Thevenot, and Hamid Vakilzadeh. 2022. Corporate Culture and Financial Reporting Quality. *Accounting Horizons* 36: 1–24. [CrossRef]

Burgstahler, David, James Jiambalvo, and Terry Shevlin. 2002. Do stock price fully reflect the implications of special items for future earnings. *Journal of Accounting Research* 40: 585–612. [CrossRef]

Cohen, Daniel A., Aiyesha Dey, and Thomas Z. Lys. 2008. Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes Oxley Periods. *The Accounting Review* 83: 757–87. [CrossRef]

Collins, Denton, A. D. I. Masli, Austin L. Reitenga, and Juan Manuel Sanchez. 2009. Earnings Restatements, the Sarbanes-Oxley Act and the Disciplining of Chief Financial Officers. *Journal of Accounting, Auditing and Finance* 24: 1–34. [CrossRef]
Cready, William M., Thomas J. Lopez, and Craig A. Sisneros. 2012. Negative special items and future earnings: Expense transfer or real improvements? *The Accounting Review* 87: 1165–95. [CrossRef]
Darrough, Masako N., Lale Guler, and Ping Wang. 2014. Goodwill impairment losses and CEO compensation. *Journal of Accounting, Auditing and Finance* 29: 435–63. [CrossRef]
Dechow, Patricia M., and Weili Ge. 2006. The persistence of earnings and cash flows and the role of special items: Implications for the accrual anomaly. *Review of Accounting Studies* 11: 253–96. [CrossRef]
Denison, Daniel R. 1984. Bringing corporate culture to the bottom line. *Organizational Dynamics* 13: 4–22. [CrossRef] [PubMed]
Denison, Daniel R. 1990. *Corporate Culture and Organizational Effectiveness*. Hoboken: John Wiley & Sons.
Elliott, John A., and Wayne H. Shaw. 1988. Write-offs as accounting procedures to manage perception. *Journal of Accounting Research* 26: 91–119. [CrossRef]
Fairfield, Patricia M., Karen A. Kitching, and Vicki Wei Tang. 2009. Are special items informative about future profit margins? *Review of Accounting Studies* 14: 204–36. [CrossRef]
Fan, Yun, Abhijit Barua, William M. Cready, and Wayne B. Thomas. 2010. Managing Earnings Using Classification Shifting: Evidence from Quarterly Special Items. *The Accounting Review* 85: 1303–23. [CrossRef]
Gaver, Jennifer J., and Kenneth M. Gaver. 1998. The relation between nonrecurring accounting transactions and CEO cash compensation. *The Accounting Review* 73: 235–53.
Gordon, George G., and Nancy DiTomaso. 1992. Predicting corporate performance from organizational culture. *Journal of Management Studies* 29: 783–98. [CrossRef]
Graham, John R., Jillian Grennan, Campbell R. Harvey, and Shivaram Rajgopal. 2022. Corporate culture: Evidence from the field. *Journal of Financial Economics* 146: 552–94. [CrossRef]
Guiso, Luigi, Paola Sapienza, and Luigi Zingales. 2015. The value of corporate culture. *Journal of Financial Economics* 117: 60–76. [CrossRef]
Hasan, Mostafa Monzur. 2022. Corporate culture and bank debt. *Finance Research Letters* 49: 103152. [CrossRef]
Jiang, Fuxiu, Kenneth A. Kim, Yunbiao Ma, John R. Nofsinger, and Beibei Shi. 2019. Corporate culture and investment-cash flow sensitivity. *Journal of Business Ethics* 154: 425–39. [CrossRef]
Johnson, Peter M., Thomas J. Lopez, and Juan Manuel Sanchez. 2011. Special items: A descriptive analysis. *Accounting Horizons* 25: 511–36. [CrossRef]
Kile, Charles O., and Mary E. Phillips. 2009. Using industry classification codes to sample high-technology firms: Analysis and recommendations. *Journal of Accounting, Auditing and Finance* 24: 35–58. [CrossRef]
Kotter, John P., and James L. Heskett. 1992. *Corporate Culture and Performance*. New York: Free Press.
Kreps, David M. 1990. Corporate culture and economic theory. In *Perspectives on Positive Political Economy*. Cambridge: Cambridge University Press.
Li, Kai, Feng Mai, Rui Shen, and Xinyan Yan. 2021. Measuring corporate culture using machine learnings. *The Review of Financial Studies* 34: 3265–315. [CrossRef]
Liu, Xiaoding. 2016. Corruption culture and corporate misconduct. *Journal of Financial Economics* 122: 307–27. [CrossRef]
Marquardt, CCarol A., and Christine I. Wiedman. 2004. How Are Earnings Managed? An Examination of Specific Accruals. *Contemporary Accounting Research* 21: 461–91. [CrossRef]
McVay, Sarah Elizabeth. 2006. Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review* 81: 501–32. [CrossRef]
O'Reilly, Charles A., and Jennifer A. Chatman. 1996. Culture as social control: Corporations, cults, and commitment. *Research in Organizational Behavior* 18: 157–200.
O'Reilly, Charles A., Jennifer A. Chatman, Bernadette Doerr, and David Caldwell. 2014. The promise and problems of organizational culture: CEO personality, culture, and firm performance. *Group & Organization Management* 39: 595–625.
Riedl, Edward J., and Suraj Srinivasan. 2010. Signaling firm performance through financial presentation: An analysis using special items. *Contemporary Accounting Research* 27: 289–332. [CrossRef]
Sorensen, Jesper. 2002. The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly* 47: 70–91. [CrossRef]
Stock, James H., and Motohiro Yogo. 2005. Testing for weak instruments in linear IV regression. In *Identification and Inference for Econometric Models*. Edited by Donald W. K. Andrews and James H. Stoc. New York: Cambridge University Press.
Watson, Luke. 2015. Corporate social responsibility, tax avoidance, and earnings performance. *Journal of American Taxation Association* 37: 1–21. [CrossRef]
Zaingales, Luigi. 2015. Presidential address: Does finance benefit society? *Journal of Finance* 70: 1327–63. [CrossRef]