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# PCAOB Inspections and Market Repercussions; Is There A Relationship?

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# **PCAOB Inspection Reports and Market Repercussions; Is There a Relationship?**

Honors Thesis

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ADMN 799H  
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## **I. Introduction:**

Until the establishment of the Public Company Accounting Oversight Board (PCAOB) in 2002, public accounting in the United States was self-regulated, relying on a peer review system. The review system required firms that practiced before the Securities and Exchange Commission (SEC) to undergo periodic peer-review, sponsored by the American Institute of Certified Public Accountants AICPA (Church & Shefchik, 2012). This system allowed firms to choose their reviewer amongst their peers, potentially giving rise to independence issues. The system lacked punitive repercussions for audit firms that had quality issues as reviewed by their peers but, those quality issues discovered were publicly released; a punitive gesture in and of itself.

In the midst of the widely-publicized financial scandals of the early 2000's, a call for reform was made and Congress announced plans for a major overhaul and regulation of public accounting firms. Congress passed the Sarbanes-Oxley Act (SOX) in 2002, establishing the Public Company Accounting Oversight Board (PCAOB). The act placed the PCAOB as regulator of public accounting regulation and inspection, and by 2003, those inspections began (Church & Shefchik, 2012). Section 101 of SOX discloses the PCAOB's four principle duties of, (1); to register public accounting firms, (2); establish and/or adopt auditing standards and standards of quality control, ethics, and independence, (3); conduct inspections, and (4); provide enforcement (PCAOB, 2004).

The pre-PCAOB atmosphere of public accounting came with criticisms of pressure and incentives of new business over quality; a general lack of independence from audit clients including non-audit services (consulting, tax, financial due-diligence) provided to audit clients,

using limited scrutiny in audits, and the de-emphasis of the concept materiality (Glover, Prawit, Taylor, 2009). There are some indications however, that the pre-PCAOB atmosphere of public accounting was healthy and that the Sarbanes-Oxley act in fact hinders and complicates auditing. Kinney (2005) believes that auditors should focus on the auditing aspect of SOX, and not the regulatory and compliance aspects that are so heavily scrutinized. Regardless, the introduction of SOX in 2002 and the institutionalization of the PCAOB as a centralized and independent regulator has aimed at enhancing credibility of the capital markets of the United States. This study serves as preliminary analysis to the effectiveness of the inspection processes and their perceived importance and relevance to external parties, primarily investors.

Discussed in this study will be an overview of the current PCAOB inspection processes, including options for firm responses and final publication details. The study will examine current deficiency trends among annually inspected firms from 2009-2012, illustrating graphically the improvements or deterioration of firms as portrayed in their report. The study examines all firms that were inspected in 2012 and matches their clients and report stamp dates to examine abnormal changes in stock returns on time intervals surrounding the report stamp date. Although investors react differently when categorized by industry, the study finds that investors respond favorably to PCAOB inspection reports and that investors recognize these reports as value-relevant, and consequently use them to make informed investment decisions.

## **II. Inspection Processes:**

Inspection reports of public accounting firms that audit public companies are meant to highlight audit deficiencies which translate to overall audit quality of the firm. One of the many goals of the PCAOB inspection reports is to identify these deficiencies so that the respective

accounting firm can make meaningful, calculated steps to enhance its effectiveness in the areas of audit quality that the firm lacks.

Approximately 2500 accounting firms are registered with the PCAOB, and all are subject to inspection (Center for Audit Quality, 2012). Firms that audit more than 100 issuers per year are inspected on an annual basis, and all other firms are inspected on a triennial basis. Firms that audit more than 100 issuers per year audit publicly traded companies that are attributable to almost 99% of U.S. based market capitalization (Church & Shefchik, 2012). The PCAOB inspects between 50 and 75 of the audit firm engagements per inspection cycle, and it publishes portions of their findings via web publication. Firms are given a chance to publicly respond to the PCAOB's findings. Most frequently, audit firms respond with one of the four following scenarios: (1); the firm acknowledges the PCAOB findings, but does not make plain mention of a disagreement with said findings, (2); the firm acknowledges differences in professional judgment between the firm and inspectors of the PCAOB, without identifying specific disagreements with the findings, (3); the firm disagrees with some of the PCAOB findings, but does not specifically provide defense to disclaim findings, and (4); the firm disagrees with some of the PCAOB findings and adds arguments to defend quality and disclaim findings. Between 2005 and 2009, 62.5% of firms have opted for option (3), disagreeing with PCAOB findings (Church & Shefchik, 2012).

With annually inspected audit firms, the PCAOB takes a risk-based target approach in scoping its reviews, selecting the riskiest engagements and processes. Factors of risk attributable to the company are related to the nature and market of the company, complexities in accounting (i.e. heavy use of derivatives), exposure to emerging markets, and audit issues that may be encountered. Additionally, the PCAOB considers risk factors that are specific to the audit firm

including prior PCAOB inspections, history of the partners and principals on the engagement, and previous findings of the firms overall internal risk assessments. (Center for Audit Quality, 2012). Usually for firms with small numbers of public company clients, the PCAOB may choose to inspect all audits. It is important to note that on average, triennial firms are more likely to be dismissed when they have GAAP deficiencies disclosed in an inspection report (Zhang and Gunny, 2013)

Zhang and Gunny (2013) also suggest that inspection findings do not always inform external users about audit quality. Wainberg et al. (2013) suggest that findings of inspection reports as a result of the current approach of risk-based targeting can lead to misconceptions about overall audit quality. They suggest that the deficiencies per audit cannot be perceived as an average measurement of quality across all areas. Due to the fact that the sample inspected by the PCAOB is not representative of all audits, inspection results should be looked at with perspective, considering this risk-based approach. Additionally, the PCAOB's relative use of the term "audit failure" coincides with potential misperceptions of external users. PCAOB member Jay Hanson remarked on the term at a conference in Philadelphia in March 2014 saying, "I don't believe it is necessary or appropriate for us to deviate from this more commonly understood definition of 'audit failure' by using the term to refer to our inspection findings-- which are deficiencies in the firm's work but not necessarily representative of problems in the audit client's financial statements or internal controls" (Tysiac,2014). Wainberg et al. (2013) also suggest that lack of statistical data in inspection reports can diffuse relevant information, making it difficult to assess deficiencies.

The inspections include an evaluation of the firm's overall quality control, and an examination of elements related to selected issuer engagements. Key goals of the inspection are

to determine whether the firm followed PCAOB auditing standards, whether the firm successfully identified areas where the financial statements did not conform to Generally Accepted Accounting Principles (GAAP) in a material manner, whether the firm handled adjustments to financial statements correctly, and whether there were any issues involving firm independence (Center for Audit Quality, 2012).

Before the reports become available to the public, the firm will have an opportunity to work with the PCAOB to describe undocumented work, as well as resolve deficiencies identified during the inspection process. This provides the firm an opportunity to respond to a ‘comment form’ where the firm is to respond to PCAOB concerns in writing. This allows the firm to further explain their views on areas scrutinized by the inspection. The PCAOB reviews the responses on the ‘comment form’ and determines if the concern has been addressed and if the deficiency generates enough concern to be placed in the inspection report. (Center for Audit Quality, 2012). Once the PCAOB Board approves the final report, it is sent to the firm. The report contains Part I, discussing solely significant audit deficiencies found during the inspection, and Part II, discussing quality control criticisms. These quality control criticisms illustrate PCAOB concerns over potential quality issues firm-wide. Only Part I is made publicly available, as a gesture of good faith from the PCAOB that the firm will take sizeable steps at remediating issues related to overall quality (Church & Shefchik, 2012). It is important to note that audit deficiencies contained in Part I do not mean there was a material misstatement in the audited financial statements. The deficiencies contained in part one are identified only by ‘Issuer A, B, C, etc’ and thus do not specifically identify the company for which the audit contained a deficiency.

Common deficiencies disclosed by the PCAOB related to specific audits include failures to perform proper audit procedures in planning and during the audit, as well as misapplications

of GAAP relating to testing of revenues, fair value measurements, estimates related to deferred tax assets and allowances for bad debts, and testing related to internal controls, specifically an inappropriate reliance on internal controls due to lack of sufficient testing (Church & Shefchik, 2012).

For methods of remediation, the firm may expand audit procedures and fieldwork and provide additional documentation. Additionally, PCAOB inspections may require re-visitation of certain audits to modify the firm's audit opinion. (Center for Audit Quality, 2012). As mentioned above, the PCAOB may choose audits where it had previously found significant audit deficiencies to inspect in the future as part of its risk based inspection selection strategy. For quality control criticism, highlighted in the non-public Part II, the firm has twelve months to address said criticisms. Failure to adequately address such concerns results in the publication of Part II to the investing public. The Center for Audit Quality (2012) marks this as a significant link between the inspection process and improving steps in quality control of future audits.

Additionally, the PCAOB has the power to impose punitive charges including fines for unintentional violations (up to \$100,000 per individual and \$2,000,000 per firm) and intentional violations (up to \$750,000 per individual and \$15,000,000 per firm). A recent instance of penalties arising from a PCAOB inspection at Deloitte & Touche involved an audit partner who intentionally issued a clean opinion with known, unadjusted material misstatements on a client's financial statements. The PCAOB levied a \$2 million fine on Deloitte & Touche, and a \$25,000 fine on the partner. Additionally, the PCAOB barred the partner from practicing in an audit role (Whitehouse, 2013).



### III. Deficiency Trends of Annually Inspected Firms

PCAOB inspections are usually published 1-2 years after the inspection occurred. Abbott et al. (2013) provide preliminary evidence of auditor dismissals over audit quality. Their results showed that auditor dismissals increase as the severity of the deficiency increases. The sample studied showed that more triennially inspected firms were dismissed after a GAAP-deficient report was issued and that GAAS-deficient reports are uninformative to external parties. Their research is complementary to Lennox and Pitman (2010), who examined changes in auditor dismissals from the 'old' peer review system to the 'new' PCAOB process. They concluded that there was there did not appear to be an increase of auditor dismissals resulting from the current process. The study suggested that there is no relation with deficiencies and changes in market share of audit firms. Since Abbott et al (2013) investigated only triennially inspected firms, more research can examine annually inspected firms. Acito et al. (2013), in their study of 'Big Four' audit firms, conversely suggests that auditors with deficient audits found in inspection reports are positively related to auditor changes, but not changes in audit fees.

To begin my analysis, I first examine deficiency percentages during the period 2009 - 2012. In recent years, there has been a trend of audit deficiency percentages increasing across Big Four and national, but annually inspected firms. I calculate the deficiency percentages as the ratio of audits that had one or more deficiency over total audits inspected by PCAOB inspectors. **Table 1.1** depicts individual Big Four firms' deficiency rates compared to Big Four and national firms<sup>1</sup> averages. **Table 1.2** depicts individual national firms deficiency rates compared to Big Four and regional firm averages.

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<sup>1</sup> Annual firms are non-Big 4 firms that are inspected annually. Additionally, it is important to note that MaloneBailey, which is now annually inspected, was triennially inspected prior to 2012.

## Objectives and Basis for Research

The issue of audit quality continues to be a topic of great importance to audit firms, the PCAOB and financial statement users. However, little is known concerning the reactions of external users, including audit clients, shareholders, and general investors to inspection reports. Therefore, the intention of this research is to perform an event study, tracking inspection reports for firms while analyzing market reactions in conjunction with PCAOB inspection report release. I also separately analyze market reactions for Big-4 and national auditing firms. Finally, I will analyze market reactions using Standardized Industrial Classification (SIC) coding to interpret and better understand PCAOB inspection reports across twelve separate industries as defined by Fama & French (1997). My goal is to develop informative links between PCAOB inspections and perceived of audit quality by investors.

In theory, the PCAOB's inspections lend further credibility to the attestation of the audit firm, but also the financial position of the client. I chose to measure investor perception on using abnormal stock returns to easier identify these market reactions. To enhance my underlying theory, it would seem likely that if an investor felt that they could not trust the work of an auditor based on the deficiencies shown in a PCAOB inspection report, that investor could potentially sell their investment in publicly traded companies affiliated with said auditor. This assumption is similar to Offermanns and Peak (2013) as well as Dee et al (2011).

Chaney and Philipich (2002) provide evidence that audit firm reputation is a deciding factor in many investment decisions, particularly Initial Public Offerings (IPO). Another study conducted by Weber et al. (2008) confirm that clients of KPMG had cumulative negative abnormal returns of 3% during events in 2002 when the firm was implicated with accounting fraud at ComROAD AG, a German company. Collectively, this evidence suggests that audit

quality, especially instances of auditor infractions, can influence investors' perceptions of financial statement quality because negative events with auditors are associated with negative stock returns of the auditors' client portfolio.

## Research Method

I quantify investor reaction by conducting an event study based around the inspection report stamp date of reports made public in 2013. Reports made public in 2013 consist of findings from 2012 audit inspections by the PCAOB<sup>2</sup>. The first objective was to obtain a list of inspection reports published in 2013, particularly inspections of annually inspected firms. **Table 2.1** contains a summary of my sample. Next, I obtained a list of the publicly traded companies and their auditors from Audit Analytics. I assigned the event date of each company to correspond with the date that the auditor's PCAOB inspection report was released. Using company tickers, I obtained each companies' PERMNO, identifying the companies for the event study. Next I assigned the Standardized Industrial Classification (SIC), using the method developed by Fama and French (1997). **Table 2.2** contains a summary of the respective industries within my sample. This allows the event study to test mean abnormal returns by industry. I then pulled the third layer of Center for Research in Security Prices (CRSP) codes, matching each company with its respective TICKER. The fourth layer was assorted PCAOB inspection report stamp date for each respective auditor for 2013. Companies that had not been inspected were omitted.

I conducted three tests; (1) All, (2) "Big 4" versus non "Big 4" (**Tables 2.3 and 2.4**) that were annually inspected, and (3) tests of each of the twelve SIC Industries. This provides evidence about investors' reactions to PCAOB inspections, and the design allows for

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<sup>2</sup> The reports are available at the PCAOB's website ([http://pcaobus.org/Inspections/Public\\_Reports/index.aspx](http://pcaobus.org/Inspections/Public_Reports/index.aspx))

investigation of moderating effects of auditor type and industry classification. Using company CRSPs matched with inspection report dates of each company's auditor's inspection report, I conduct my tests of market reactions using Eventus. The event study used PERMNO's as our lead identifier, CRSP value weighted market indices while adding Market Adjusted Returns (MAR) as an additional benchmark for measurement. Our estimation period was the standard Eventus Basic Event Study parameters of -45 days before event date, with minimum estimation length of 3 days and maximum estimation length of 255 days. For the event windows, I used the time intervals (-1,1), which is consistent Offermanns (2013). I also consider the following windows, which is consistent with Dee et al. (2011): (0,0), (0,1), (0,2). The release of the PCAOB inspection reports is day 0, and the consideration of multiple event windows enables me to make inferences about length of time that is necessary for investors to incorporate the information related to the content of the inspection reports.

#### **IV. Results:**

For Test 1, shown at **Table 3.1**, we sampled all companies, totaling to 4,806 issuers in 2012. We noted significant positive mean cumulative abnormal returns on the inspection report stamp date (0,0) and days surrounding the stamp date (-1,1), (0,1), and (0,2). With this time period, I examine the effects of abnormal returns on the day before, day of, and one and two days after the stamp date. A graphical representation of this set up is also seen at **Table 3.4**. This research design is consistent with Offermanns and Peak (2013) and Dee et al. (2011).

In Test 2, examining only 'Big Four' firms I observe a similar result to Test 1. This is likely because of all the firms tested, 3,890 issuers of the 4,900 (81%) issuers we tested were audited by a 'Big Four' firm. Consequently, this test also showed significant changes in positive

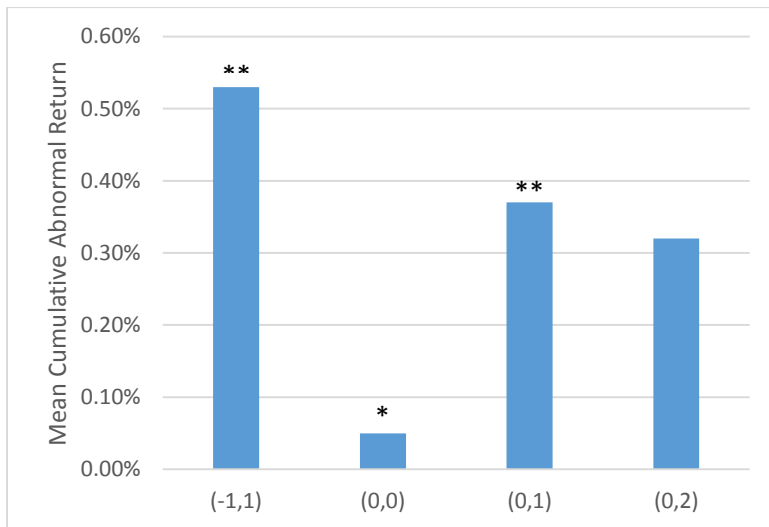
mean cumulative abnormal returns on the inspection report stamp date (0,0) and days surrounding the stamp date (-1,1), (0,1), and (0,2). This is shown at **Table 3.2**. As an additional test, I analyze non 'Big Four' firms, but annually inspected audit firms' issuers. This test used data from 609 issuers, and found that positive cumulative abnormal returns were lower on the inspection report stamp date (0,0) but were higher on (0,1) and (0,2), respectively. This is presented in **Table 3.3**. Regardless of the relative magnitude, the returns for each of the windows are positive and significant.

The results for Test 2 suggest that investors react on the day of the report release (0,0), but it take a few days additionally to interpret the results and implications of the inspection report. Returns that include at least one day often appear greater than (0,0) which indicates a delay in investor reaction. Another interpretation of Test 2 results suggest that investors react positively to results of inspection reports because they potentially signify PCAOB inspections as adding value to their investments. Additionally, these findings coincide with Offermanns and Peek (2013) who suggest investor reactions are generally positive due to audit firms doing better than expected in respective PCAOB inspections, as in investors were expecting worse results than what was published. **Table 3.4** graphically depicts the results from Test 1 and 2.

Test 3, broken down by industry at was where each analysis was segmented by industry classification (Fama and French, 1997). These results aggregated each issuer to its specific industry to gain a better picture of affects and implications of investor sentiment within that industry. The results are broken down by industry and shown in Table 3.3. Although the result of each respective industry varies greatly, we note that there are significant cumulative abnormal returns for many industries, specifically the Business Computers and Utilities Industries.

The Business Computers Industry follows the pattern of Test 2, showing a dip in positive abnormal cumulative return on the stamp date (0,0) and an increase on (0,1) and (0,2), respectively. This is shown below:

Test 4: Biz Equipment: Computers, Software, Electronics						
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)	
(-1,1)	660	0.53%	4.188	1.314	4.774	***
(0,0)	660	0.05%	1.996	0.226	2.670	**
(0,1)	660	0.37%	3.340	1.121	2.826	**
(0,2)	660	0.32%	2.810	0.797	0.800	

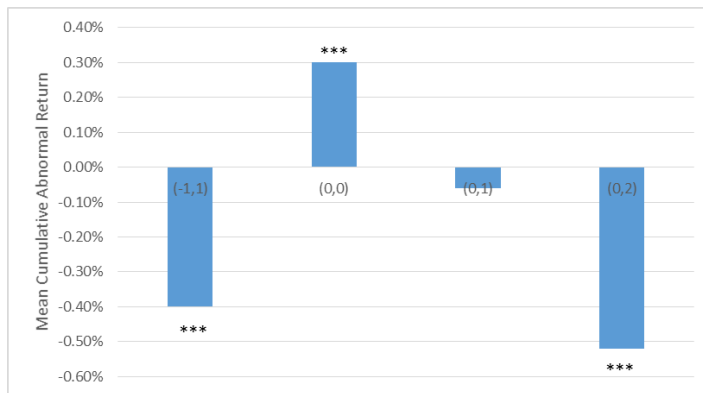


The Business Computers Industry may be less sensitive than the Utilities industry, discussed below, because investors of this industry may enjoy consistent, more predictable stock returns. Fornell et al. (2006) conclude that companies in this industry may enjoy large returns due to their low strategized risk and high customer satisfaction and retention. Additionally these

investors may regard inspection reports as further assurance that their investments are being accurately audited.

For the Utility Industry, which includes public utilities, natural gas providers, as well as land, sea, and air transportation, we see (-1,1) showing a negative abnormal cumulative return. However on (0,0) we see a significant positive abnormal cumulative return, followed by a return to significantly negative abnormal cumulative returns on (0,1) and (0,2), respectively. This is shown below:

Test3: Utilities						
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)	
(-1,1)	137	-0.40%	-4.104	-0.808	-2.901	**
(0,0)	137	0.30%	3.516	1.054	3.764	***
(0,1)	137	-0.06%	-1.366	-0.144	-2.046	*
(0,2)	137	-0.52%	-4.752	-1.047	-3.413	***



This may be due to the extreme sensitivity in the Utility Industry compared to other industries. This sensitivity may be due to heavy regulation, the threat of collusion, an abundance of mergers and acquisitions, and a general level of inherent risk (Becher et al., 2008).

The results in Test 3 suggest that investors may react differently with issuers in different industries. This is clearly illustrated with the Business Equipment versus the Utility Industry. There could be a number of factors as to why investors of each industry react differently with the release of inspection reports. Also, investors may regard inspection report results with different, varying degrees of importance in each industry. This may be due to certain issuers in these respective industries, coinciding with the sensitivities of investors of each industry.

Conclusion:

This study provides statistical evidence that investors respond to PCAOB inspection reports. These responses are, on average, in a positive manner as demonstrated by an examination of cumulative abnormal returns for issuers tested. Further, this also suggests that investors recognize these reports as value-relevant, and consequently use them to make informed investment decisions. It is important to note, however, that there may be a delay in investor reaction possibly to the time needed to understand and interpret the value-adding information from these reports.

The results may serve as an important benchmark for measuring the PCAOB's intentions of establishing standards of auditing and quality control. Investor reactions to these inspection reports signify that they understand the PCAOB's aims to increase auditor quality and responsibility to accuracy through inspection and enforcement. These reactions also imply that they are being used as a reliable tool for judgment of the financial health of publicly traded companies.

As mentioned in the findings of Offermann's and Peak (2013), further research could aim at discovering which aspects of these reports are most important to investors (i.e. GAAP



departure, GAAS departure, or other deficiencies). This report serves as an event study for inspection reports released in 2013. It could potentially be insightful to examine market reactions for multiple years, and comparing these results to view changes in investor sentiment.

Additionally, surveying seasoned investors about their personal perceptions of these reports may aid in identifying the portions of the inspection reports they find most relevant. Further research may also want to consider not just investor reactions, but also the influence of these reports on creditors, analysts, suppliers, or any other external user of financial statements on their various financial decisions.

Table 1.1

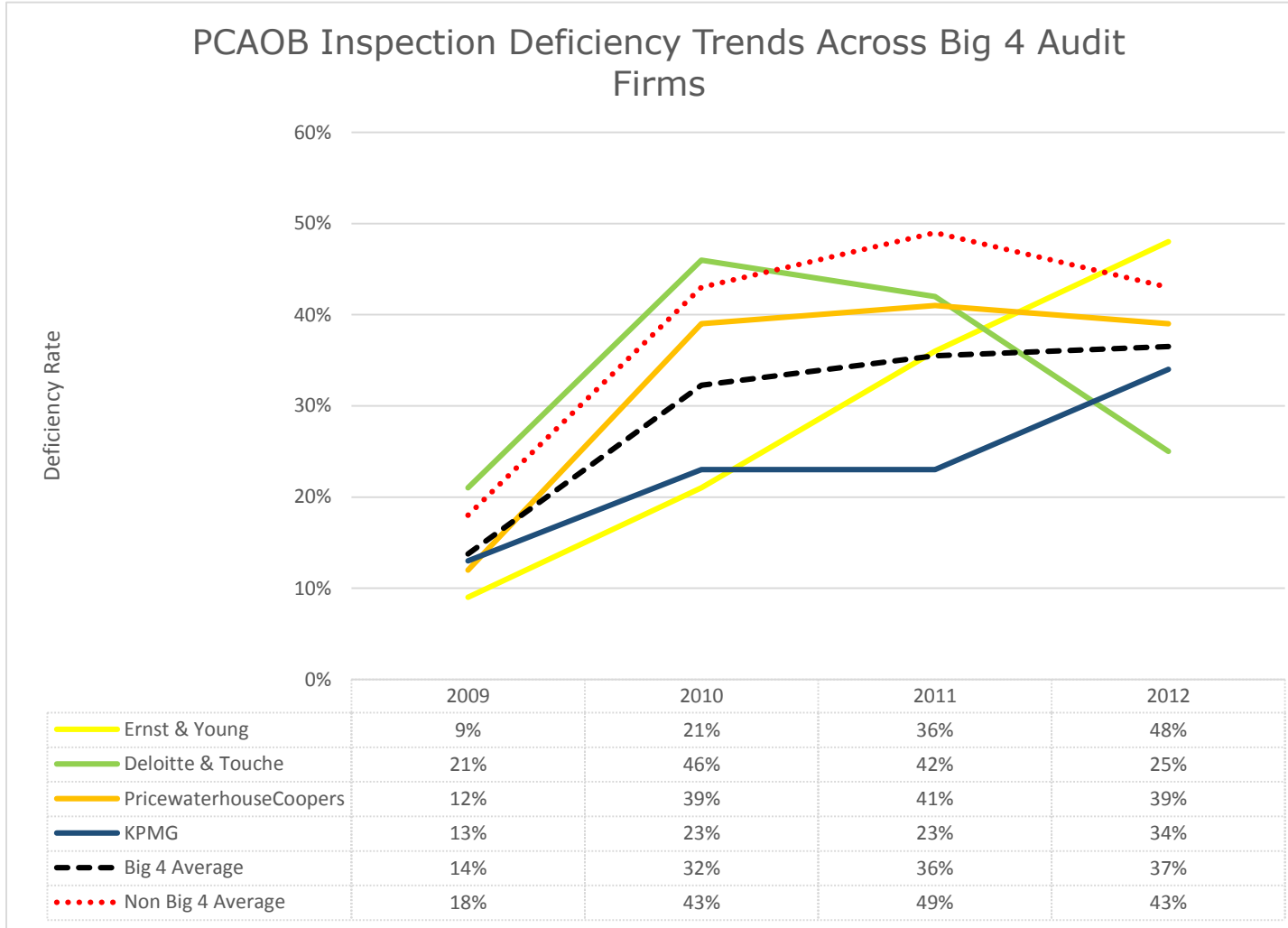
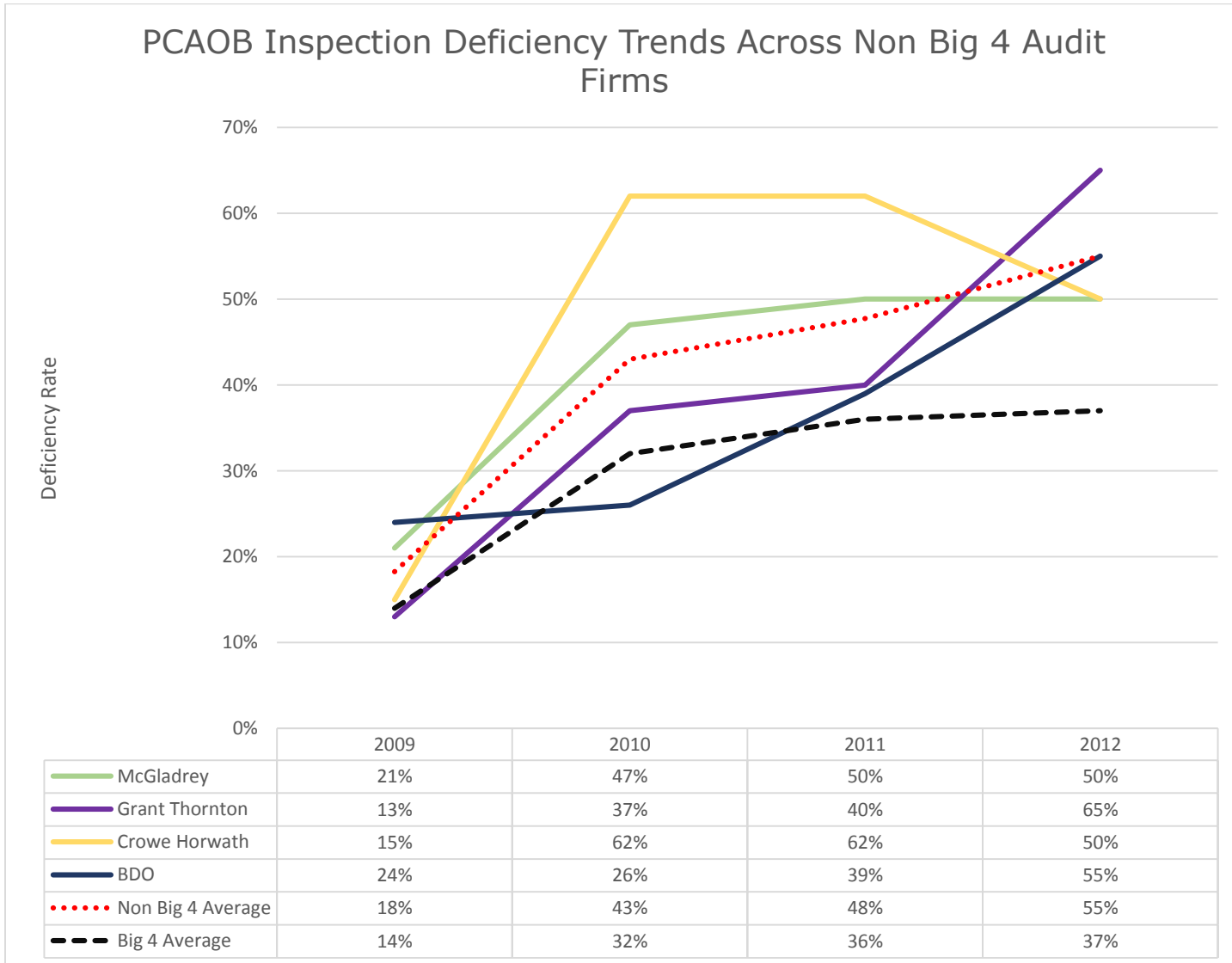


Table 1.2



**Table 2.1**

Test	N Value
Test 1 “All” <sup>3</sup>	4806
Test 2 “Big Four”	3891
Test 2 non “Big Four” annual	614
Test 3 ALL Industries	4611

**Table 2.2**

<i>Standard Industrial Classification (SIC) Industries</i>		
#	SAMPLED	DESCRIPTION
#1	169	Consumer Nondurables: Food, Tabacco, Textiles, Apparel, Leather, Toys
#2	94	Consumer Durables: Cars, TV's, Furniture, Household Appliances
#3	350	Manufacturing: Machinery, Trucks, Planes, Office Furniture, Paper, Printing
#4	226	Energy: Oil, Gas and Coal Extraction and Products
#5	94	Chemicals: Chemicals and Allied Products
#6	660	Business Equipment: Computers, Software, and Electronic Equipment
#7	127	Telecommunications: Telephone and Television Transmission
#8	137	Utilities
#9	342	Shops: Wholesale, Retail, and Some Services
#10	433	Health: Healthcare, Medical Equipment, and Drugs
#11	1349	Money: Finance
#12	630	Other: Mines, Construction, Transport, Hotels, Entertainment
<b>TOTAL</b>	<b>4611</b>	

<sup>3</sup> Test 1 includes all firms inspected in 2012, including annual and triennial firms. Test 2 includes all Big-Four firms, and T non-Big-Four annually inspected firms. Therefore, the sum of observations in Test 2 will not sum and agree with the observations from Test 1.

**Table 2.3***"Big Four" Firms*

<b>FIRM</b>	<b>SAMPLED</b>	<b>INSPECTION REPORT STAMP DATE</b>
Deloitte & Touche	871	6/28/2013
Ernst & Young LLP	1239	6/28/2013
KPMG LLP	809	7/30/2013
PricewaterhouseCoopers LLP	972	8/20/2013
<b>TOTAL BIG 4</b>	<b>3891</b>	

**Table 2.4***Non "Big Four" Firms Inspected Annually*

<b>FIRM</b>	<b>SAMPLED</b>	<b>INSPECTION REPORT STAMP DATE</b>
BDO, USA LLP	212	10/22/2013
Crowe Horwath LLP	84	5/23/2013
Grant Thornton LLP	225	11/21/2013
MaloneBailey LLP	8	10/1/2013
McGladrey LLP	85	4/23/2013
<b>TOTAL NON BIG 4</b>	<b>614</b>	

**Table 3.1**

Test 1: ALL								
Days	N	Mean Cumulative Abnormal Return	Patell (z)		Portfolio Time-Series (t)		Generalized Sign (z)	
(-1, +1)	4806	0.40%	6.323	***	2.491	**	5.476	***
(0,0)	4805	0.16%	4.794	***	1.707	*	2.432	**
(0, +1)	4806	0.29%	5.087	***	2.200	*	4.207	***
(0, +2)	4806	0.28%	3.667	***	1.769	*	2.158	*

**Table 3.2**

Test 2: Big 4								
Days	N	Mean Cumulative Abnormal Return	Patell (z)		Portfolio Time-Series (t)		Generalized Sign (z)	
(-1, +1)	3891	0.43%	6.054	***	2.326	*	6.015	***
(0,0)	3890	0.17%	5.056	***	1.626	\$	3.081	***
(0, +1)	3891	0.27%	4.339	***	1.816	*	4.508	***
(0, +2)	3891	0.24%	2.217	*	1.293	\$	1.942	*

**Table 3.3**

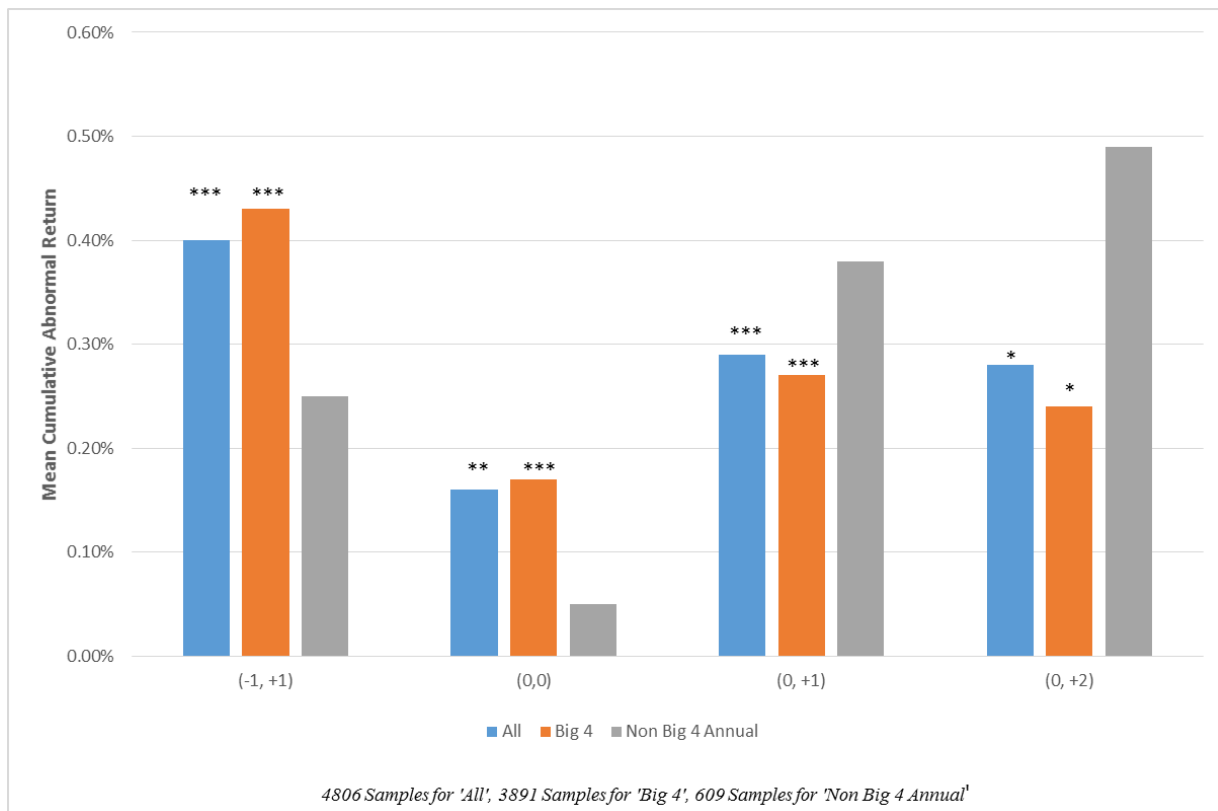
Test 2: Non Big 4 Annual								
Days	N	Mean Cumulative Abnormal Return	Patell (z)		Portfolio Time-Series (t)		Generalized Sign (z)	
(-1, +1)	609	0.25%	1.544	\$	0.712		0.36	
(0,0)	609	0.05%	-0.107		0.231		-0.775	
(0, +1)	609	0.38%	2.480	**	1.334	\$	0.603	
(0, +2)	609	0.49%	3.256	***	1.387	\$	0.684	

NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

**Table 3.4**

Days	N	Mean Cumulative Abnormal Return (ALL)	Mean Cumulative Abnormal Return (Big 4)	Mean Cumulative Abnormal Return (Non)
(-1, +1)	4805	0.40%	0.43%	0.25%
(0,0)	4806	0.16%	0.17%	0.05%
(0, +1)	4806	0.29%	0.27%	0.38%
(0, +2)	4806	0.28%	0.24%	0.49%



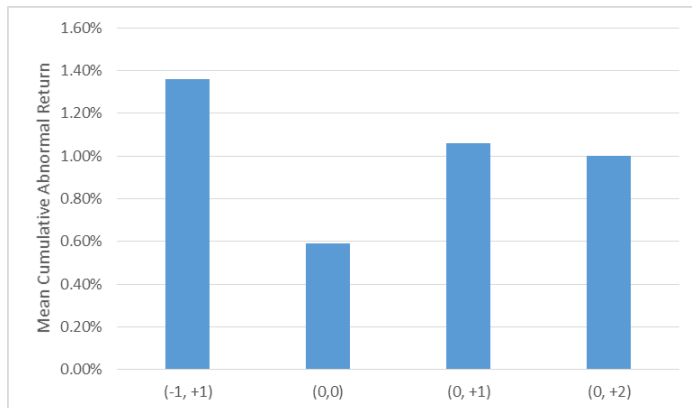
NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

**Table 3.5**

Industry 1:

Test 3: Food, Tobacco, Textiles, Apparel, Leather, Toys					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1, +1)	169	1.36%	3.120	3.757	2.770
(0,0)	169	0.59%	2.083	2.819	1.846
(0, +1)	169	1.06%	2.996	3.580	2.616
(0, +2)	169	1.00%	2.070	2.752	1.692



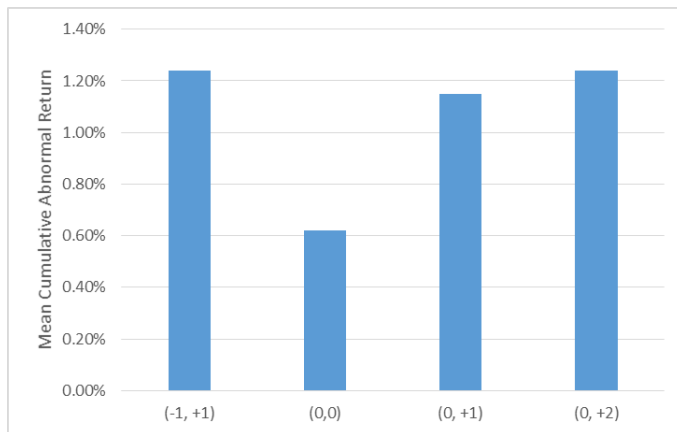
NOTE:

The returns for this industry were not significant at conventional levels.



Industry 2:

Test 3: Cars, TV's, Furniture, Household Appliances					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1, +1)	94	1.24%	3.217	1.954	3.823
(0,0)	94	0.62%	2.862	1.698	2.379
(0, +1)	94	1.15%	3.493	2.219	3.616
(0, +2)	94	1.24%	3.239	1.949	2.997

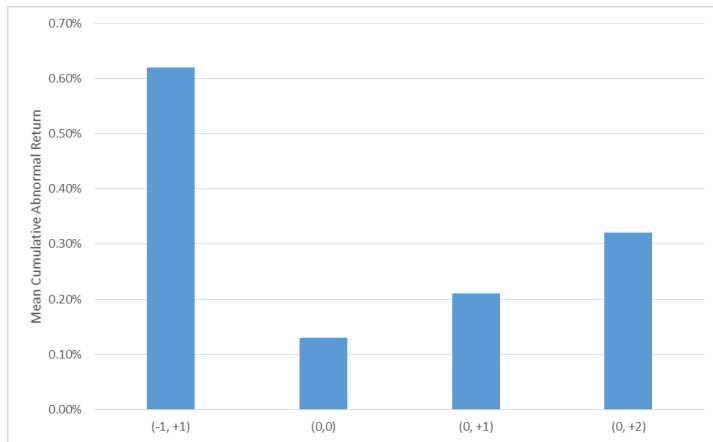


NOTE:

The returns for this industry were not significant at conventional levels.

Industry 3:

Test 3: Machinery, Trucks, Planes, Office Furniture, Paper					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1, +1)	350	0.62%	3.609	1.423	2.539
(0,0)	350	0.13%	1.232	0.507	1.149
(0, +1)	350	0.21%	2.211	0.583	1.684
(0, +2)	350	0.32%	3.113	0.721	2.539

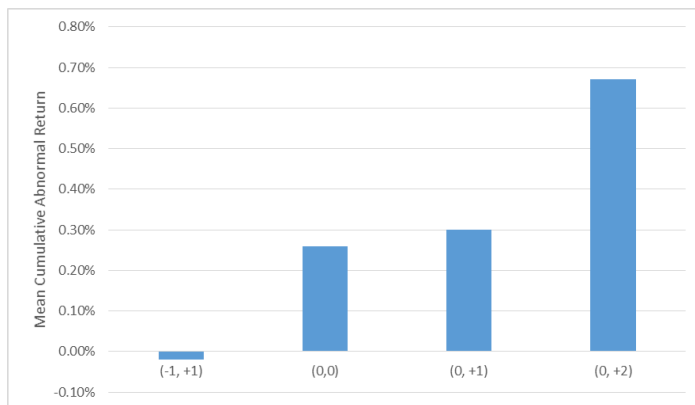


NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 4:

Test 3: Energy, Oil, Gas, and Coal Extraction and Products					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1, +1)	227	-0.02%	-0.498	-0.028	-0.498
(0,0)	226	0.26%	1.283	0.706	-0.169
(0, +1)	227	0.30%	0.836	0.574	1.326
(0, +2)	227	0.67%	1.756	1.044	2.690

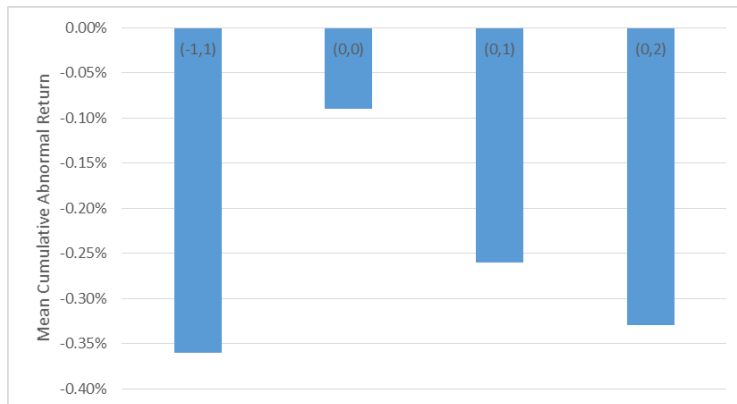


NOTE:

The returns for this industry were not significant at conventional levels.

Industry 5:

Test 3: Chemical and Allied Products					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1,1)	94	-0.36%	-0.134	-0.677	-0.312
(0,0)	94	-0.09%	-1.223	-0.293	-0.312
(0,1)	94	-0.26%	-0.988	-0.609	0.513
(0,2)	94	-0.33%	-1.462	-0.623	-0.106

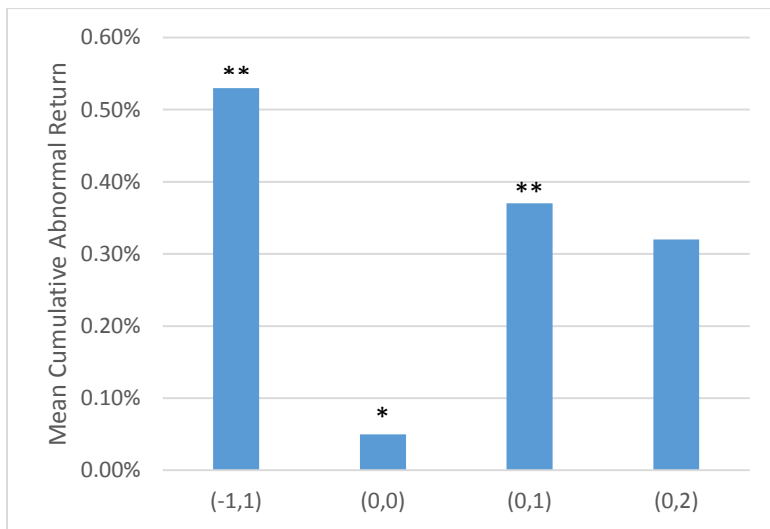


NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 6:

Test 4: Biz Equipment: Computers, Software, Electronics						
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)	
(-1,1)	660	0.53%	4.188	1.314	4.774	***
(0,0)	660	0.05%	1.996	0.226	2.670	**
(0,1)	660	0.37%	3.340	1.121	2.826	**
(0,2)	660	0.32%	2.810	0.797	0.800	

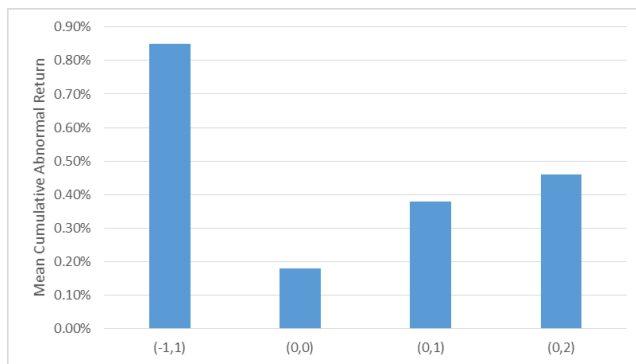


NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 7:

Test 3: Telecommunications, Telephone, and TV Transmission					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1,1)	127	0.85%	2.601	1.649	1.164
(0,0)	127	0.18%	1.422	0.597	-0.611
(0,1)	127	0.38%	1.496	0.910	0.809
(0,2)	127	0.46%	1.205	0.906	-0.434

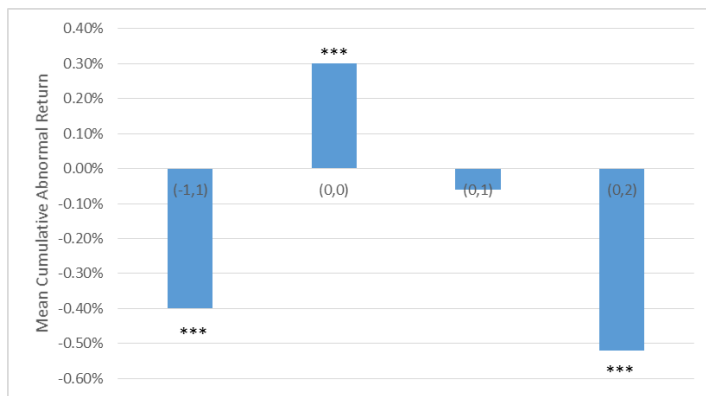


NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 8:

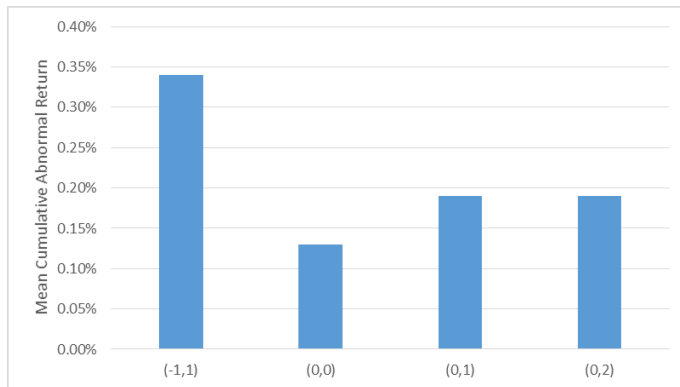
Test3: Utilities						
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)	
(-1,1)	137	-0.40%	-4.104	-0.808	-2.901	**
(0,0)	137	0.30%	3.516	1.054	3.764	***
(0,1)	137	-0.06%	-1.366	-0.144	-2.046	*
(0,2)	137	-0.52%	-4.752	-1.047	-3.413	***



The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 9:

Test 3: Shops, Wholesale, Retail, and Some Services					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1,1)	342	0.34%	2.468	0.974	0.630
(0,0)	342	0.13%	1.217	0.644	0.954
(0,1)	342	0.19%	1.787	0.669	0.954
(0,2)	342	0.19%	1.627	0.531	1.062



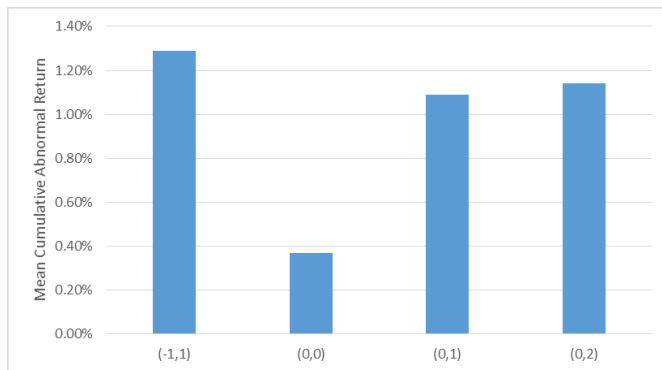
NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.



Industry 10:

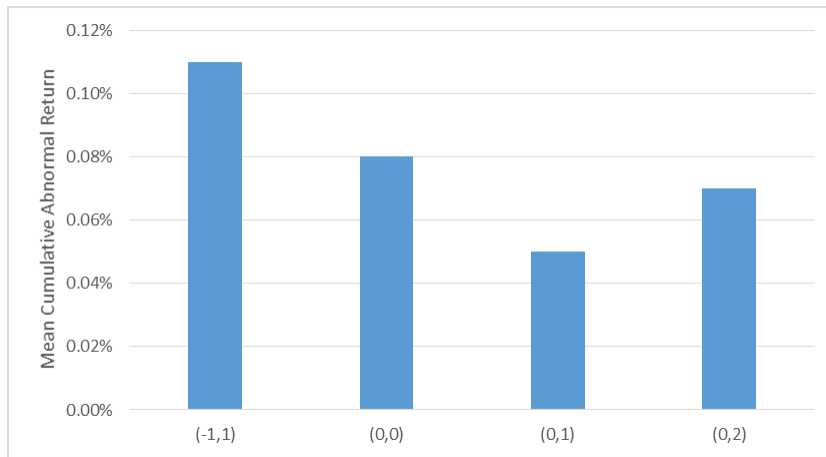
Test 3: Health, Healthcare, Medical Equipment, Drugs						
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)	
(-1,1)	433	1.29%	5.078	2.712	5.720	***
(0,0)	433	0.37%	1.951	1.339	1.585	\$
(0,1)	433	1.09%	4.972	2.805	4.374	***
(0,2)	433	1.14%	4.172	2.395	4.182	***



The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 11:

Test 3: Money, Finance					
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)
(-1,1)	1349	0.11%	0.886	0.437	0.047
(0,0)	1349	0.08%	0.897	0.543	-1.642 \$
(0,1)	1349	0.05%	-0.665	0.213	-1.260
(0,2)	1349	0.07%	-0.532	0.257	-1.914 *

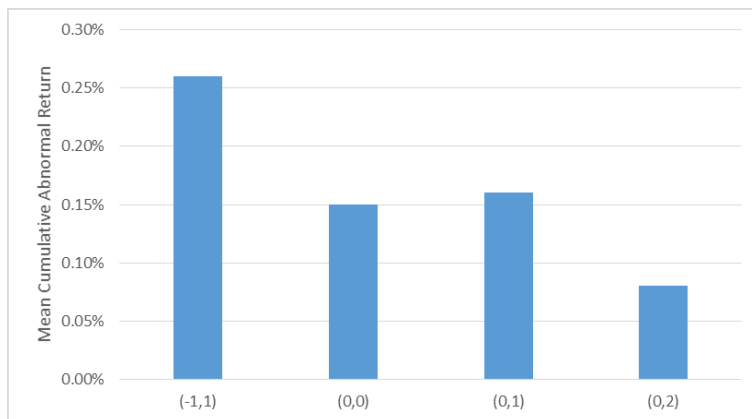


NOTE:

The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

Industry 12:

Test 3: Other - Mines, Construction, Transportation						
Days	N	Mean Cumulative Abnormal Return	Patell (z)	Portfolio Time-Series (t)	Generalized Sign (z)	
(-1,1)	630	0.26%	1.481	0.762	1.656	*
(0,0)	630	0.15%	1.421	0.731	0.540	
(0,1)	630	0.16%	1.453	0.570	1.736	*
(0,2)	630	0.08%	0.961	0.226	1.337	\$



The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 intervals respectively, using a generic one-tail test.

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