Market reactions around voluntarily disclosed ongoing enforcement reviews

Master Thesis MSc Accounting and Control

Student name: Theo van Es

Student ID: 575760te

Student e-mail address: 575760te@eur.nl

University: Erasmus University Rotterdam – Erasmus School of Economics

Supervisor: dr. N. Lehmann

Second assessor: dr. P.Y.E. Leung

Date: 10/11/2021

Abstract

In this research, I investigate whether voluntary disclosure about ongoing enforcement reviews lowers the magnitude of the market reaction to an accounting restatement. I find some evidence that firms can mitigate the market reaction by voluntarily disclosing about enforcement reviews. Through cross-sectional variation I am able to find some weak evidence that the magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about ongoing enforcement reviews, is not the client of a Big 4 auditor, or is followed by fewer analysts. I find interesting evidence that the magnitude of the market reaction is lower, instead of higher, for firms that voluntarily disclose and have fewer independent directors. Overall, I provide insights into the market perception of voluntary disclosure.

Keywords: voluntary disclosure, market reaction, market perception, enforcement review, accounting restatement, event study.

Table of Contents

1. Introduction

Brown et al. (2014), state that accounting enforcement are the activities independent enforcement institution undertake to promote the compliance of firms with the accounting standards in their financial statements. These activities include activities such as monitoring and sanctioning. Through these activities enforcement plays an important part in achieving the goals of accounting standards. When an enforcement institution, such as the SEC in the United States, concludes an enforcement review of a firms financial statements and find the statements being material inaccurate, the firm has to mandatory disclose about the concluded review and the upcoming restatement. Dechow et al. (1996) show that the stock prices of a firm that restates their financial statements fall, on average, by somewhere between 6 and 10 percent. The fall of these stock prices happen when the restatement is first made public.

Knowing the negative market reaction to restatements and enforcement releases, information about ongoing enforcement reviews can be of interest to the market. This would make it relevant for firms to voluntarily disclose about ongoing enforcement reviews. It is also possible that this information about ongoing enforcement reviews is not of interest to the market, market participants may not regard the voluntarily disclosed information as useful. If the market does not price disclosures about ongoing enforcement reviews, then these disclosures will not influence the market valuation.

Firms can have various incentives to voluntarily disclose about ongoing enforcement reviews. Informing the market about ongoing enforcement reviews can show the firms commitment to transparency. Lambert et al. (2007) argue that stakeholders may value this commitment to transparency, which reduces the information risk. Trueman (1986) argues that firms can use voluntary disclosure as signaling, voluntarily disclosing about ongoing enforcement reviews can signal the firms beliefs of a positive outcome. Firms can also use voluntary disclosure in an attempt to manage market expectations. Building on the theory of Skinner (1994), voluntarily disclosing about ongoing enforcement reviews would prepare the market for a negative outcome, which would lead to a softer market impact at the moment the restatement gets announced.

This thesis will look into the latter incentive and will empirically investigate whether voluntary disclosure about ongoing enforcement reviews lowers the magnitude of the market reaction to an accounting restatement (H1). Further cross-sectional analyses are set up to look into the variation in the market reaction of the voluntary disclosure component. The first cross-section looks into if the magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about ongoing enforcement reviews is not the client of a Big 4 auditor (H2). Eshleman and Guo (2014) find evidence in their research which suggests that Big 4 auditors perform higher quality audits than other auditors. Teoh and Wong (1993) add to this by showing that investors view earnings that have been audited by a Big 4 auditor as being of higher quality than earnings that have been audited by other auditors. Building on the theory of Skinner (1994) this would lead to the market perception of the voluntary disclosure that non-Big 4 audited firms produce to be less credible than the voluntary disclosure that Big 4 audited firms produce. Secondly, the cross-sections look into if the magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about

ongoing enforcement reviews is followed by fewer analysts (H3). Lang et al. (2004) find in their study that analysts are less likely to follow firms with incentives to withhold or manipulate information. Dechow et al. (1996) add to this by showing that the number of analysts following a firm declines significantly after an accounting restatement is announced. This suggests that analysts are more likely to follow firms that are transparent and of high quality. Building on Skinner (1994) this would lead to the market perception of the voluntary disclosure that firms with fewer analyst following produce to be less credible than the voluntary disclosure that firms with more analyst following produce. The last cross section looks into if the magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about ongoing enforcement reviews has less independent directors (H4). Dey (2005) shows in her paper that the number of independent directors a board has, is significantly associated with the quality of reported earnings. Gunasekarage and Reed (2008) add to this by showing that the market responds positive to the appointment of independent directors. Fama and Jensen (1983) show in their paper that investors are seriously interested in the role of independent directors in conflicts between shareholders and managers. This all suggests that the market values independent directors. Building on Skinner (1994) this would lead to the market perception of the voluntary disclosure that firms with fewer independent directors produce to be less credible than the voluntary disclosure that firms with more independent directors produce. For this research, enforcement related accounting restatement data between 2007 and 2020 is obtained from Audit Analytics, while other necessary data is obtained from Compustat North America, BoardEx, IBES Academic and the SEC EDGAR Company Filings database.

I test hypothesis 1 using a univariate test and a regression test, while testing hypotheses 2-4 by using a multiple regression analysis. For hypothesis 1, I can only provide some evidence that the magnitude of the market reaction is lower for firms that voluntarily disclosed about ongoing enforcement reviews. For the cross-sections I find an insignificant association between the magnitude of the market reaction being higher for firms that voluntarily disclose and are not the client of a Big 4 auditor. However, the effect size is rather high which shows some very weak evidence. I find some evidence, in the form of some significant results at the 10% level and again a rather high effect size, that the magnitude of the market reaction is higher for firms that voluntarily disclose and are followed by fewer analysts. For the last hypothesis I find interesting evidence that the magnitude of the market reaction is lower, instead of higher, for firms that voluntarily disclose and have fewer independent directors. Additional analyses show the same results.

This research contributes to the literature by being one of the first studies that looks into voluntary disclosure of enforcement activities. With prior research showing the negative market reaction to enforcement releases and the role enforcement institutions have in influencing financial reporting outcomes, it is interesting to look into the effect of voluntary disclosure of enforcement activities. This research also extends the study of Hitz and Schnack (2019) which conducted a similar study that looked at voluntary disclosure about ongoing enforcement reviews for the German market. This research extends their study by conducting a study in the more developed, on the topics of enforcement and participants, U.S. market. Another area in which this research will extend the study of Hitz and Schnack is by providing cross-sectional variation.

The remainder of this research is organized as follows: Section 2 looks into prior related literature, the research gap and the hypotheses development. Section 3 describes the research design. Section 4 contains the main results and additional analyses. Section 5 presents the conclusion.

2. Literature and Theory
2.1 Prior research

According to Brown et al. (2014), accounting enforcement are the activities independent enforcement bodies undertake in order to promote the compliance of firms with the accounting standards in their financial statements. These activities are activities such as reviewing, monitoring, educating and sanctioning. Enforcement plays an important part in achieving the goals of accounting standards, Sunder (1997) even argues that the extent to which accounting standards are enforced and violations of these standards are prosecuted is as important as the accounting standards themselves. Hope (2003) adds to this by stating that the quality of financial information is a function of both the quality of the accounting standards and the regulatory enforcement of corporate application of the accounting standards. Holthausen (2009) shows the importance of enforcement by drawing a parallel between law and accounting standards. He concludes that financial reporting outcomes are shaped by incentives, and that these outcomes are thus influenced by economic and institutional factors. Christensen et al. (2013) also look into the role and importance of enforcement, they show the importance of enforcement in their research by finding that the introduction of IFRS in Europe resulted in significant positive capital market effects. The finding of these effects is consistent with increased transparency, or increased quality of disclosure. This complements the conclusion of Holthausen (2009) by showing that with these enforcement institutions in place the incentives for managers to provide financial statements that are compliant and of high quality may have increased.

When looking into the market reactions to enforcement releases, Dechow et al. (1996) show the consequences of earnings manipulation when firms are targeted by the SEC for overstating earnings. They show that after an enforcement related restatement firms experience a significant increase in their costs of capital. Karpoff et al. (2009) add to this by looking into the penalties that are imposed on firms which are targeted by SEC enforcement actions for financial misrepresentation. They find that the largest monetary penalties are not imposed by regulators or courts, but by the market. Karpoff et al. (2009) show that the loss in reputation exceeds the legal penalty by over 7.5 times. This reputational penalty is defined as the expected loss in the present value of the future cash flows following lower sales and higher financing and contracting costs. Hitz et al. (2012) investigate market reactions to error announcements which are established by the German enforcement mechanism. They find significant negative investor reactions around the disclosure of the error findings. In addition to this, investors appear to process both the content of the error findings as the characteristics of the misstating firms and their managers in their new valuations of the firm. Lastly Hitz et al. (2012) find some weak evidence that the magnitude of the market reaction is positively

associated with the severity of the error findings, with the threat of litigation and with cases where firms disagreed with the error findings.

2.2 Research gap

With prior research showing the negative market reactions to enforcement releases and the role enforcement institutions have in influencing financial reporting outcomes, it is interesting that there has been little to no research regarding voluntary disclosure of enforcement activities. Knowing the negative market reactions to enforcement releases, information about ongoing enforcement reviews can be of interest to the market, this would make it relevant for firms to voluntarily disclose about ongoing enforcement reviews. By voluntarily disclosing about ongoing enforcement reviews they could prepare the market for a negative outcome. As stated earlier there is little to no research regarding this topic, there is just one paper from Hitz and Schnack (2019) that looks at enforcement related restatements. In this paper Hitz and Schnack (2019) find some weak evidence for the German market that the negative market response to accounting restatements is mitigated when the firm voluntary disclosed about the ongoing enforcement reviews. Apart from this evidence being weak and insignificant the research of Hitz and Schnack (2019) also had sample power issues, the subsample with firms that voluntary disclosed about the ongoing enforcement review only included 21 firms at best. Lastly, it is noteworthy that the study was conducted in Germany, the majority of prior research classifies Germany as relatively weak in terms of enforcement quality. For example, La Porta et al. (2006) and Hope (2003) classify Germany consistently as far below average in terms of liability standards and public enforcement of accounting standards.

This paper will extend the research of Hitz and Schnack by conducting a study in the United States. The United States has the largest stock market in the world and more participants than any other market. Rapach et al. (2013) argue that because the U.S. market is the world's largest, investors focus more intently on this market so that fundamentals relevant for markets worldwide diffuses gradually from the U.S. market to other countries' markets. Bollerslev et al. (2013) and Dahlquist and Hasseltoft (2013) find more evidence of the leading role of the U.S. market by showing that the United States also plays a leading role in terms of variance premia and in the global bond market. Next to this, the U.S. market is also more developed in terms of information intermediary because this business only evolved in the European markets more recently. When looking at enforcement and audit quality, Brown et al. (2014) measure in their paper the differences between countries in relation to the auditing of financial statements and the enforcement of compliance with the accounting standards. In their results they show that the United States, together with Canada, scores the highest on both these points. This leads to believe that conducting a study regarding market expectations in the U.S. market environment should work better. Another area in which this paper will extend the research of Hitz and Schnack is by providing cross-sectional variation.

2.3 Enforcement of accounting standards in the United States

The American enforcement division, part of the U.S. Securities and Exchange Commission (SEC), was created in August 1972 to consolidate all enforcement activities that previously had been handled by various divisions of the SEC. The division was established as an advisory committee on enforcement policies and practices. The enforcement staff conducts investigations into possible violations of the federal securities laws, and litigates the enforcement proceedings in the federal courts (SEC, 2007).

The SEC's mandate is to protect investors, this by maintaining fair, orderly, and efficient markets and facilitating capital formation. The investigations and enforcement actions of the SEC play a critical role in carrying out these objectives. An important feature of the investigative process is that all investigations of the enforcement division are conducted privately, as the SEC explicitly seeks to protect the identity of those that are under investigation. This means that the investigations are conducted without notification of the public. The enforcement division develops their facts to the fullest extent possible through informal inquiry, interviewing witnesses, reviewing trading data, and other methods. The enforcement staff can also compel witnesses to testify and produce book, records, or other relevant documents with a formal order of investigation. When the investigation is over the enforcement staff present their findings to the Commission for its review, the Commission can authorize the enforcement staff to file a case in federal court or to bring an administrative action. In many cases, the SEC and the party charged decide to settle a matter without trial. (SEC, 2017).

Since 1982, the SEC has issued Accounting and Auditing Enforcement Releases (AAERs) at the conclusion of an investigation against a firm, an auditor, or an officer of a firm for accounting and/or auditing misconduct. Since 1999, the SEC has issued over 2700 of these releases involving over 800 firms and more than 2500 individuals, with the amount of releases declining per year.

2.3 Hypotheses development
2.3.1 Voluntary disclosure theories

According to Meek et al. (1995) and Depeors (2000) voluntary disclosure is a manager's release of information extra to the mandatory information that the manager has to release, this represents a firms choice rather than institutional changes. The motivation behind a firms choice of increasing or decreasing voluntary disclosures are the firm-level costs and benefits. When there would be no costs involved with voluntarily disclosing information, firms would increase their voluntary disclosure to reduce the economic uncertainty and therefore lower the information asymmetry.

When looking at the benefits of voluntary disclosure, Diamond (1985) explains voluntary disclosure through information cost savings. He provides a model whereby firms pre-commit to a certain policy regarding disclosure based on information cost savings. When there is no information disclosed, each investor has to invest in getting information prior to a trading period to possibly gain a trading advantage. Hereby, the potential information cost savings are equal to the total sum of the investors information production costs. The solution

for bringing down the information cost savings is to have the firm preempt this private production of information by investors through guaranteeing to produce the information itself. Because the information is collected only one, cost savings arise. The level of voluntary disclosure of a firm should increase in the level of information production by investors that would take place if the firm would not voluntarily disclose. This also works the other way around, if no investors would produce information, there would be no potential information cost savings and there would be no voluntary disclosure. Scott (1994) finds some evidence for the information cost savings model in his study. His findings show that the information cost savings hypothesis is consistent, however, there is an observed association between the size of the company and the level of disclosure. Because larger firms have generally more investors the potential information cost savings are generally also greater.

Other benefits of voluntary disclosure can be found for the capital market. Leuz and Wysocki (2016) show in their paper that there has been excessive research on two economic consequences of voluntary disclosure on the capital market, namely market liquidity and the cost of capital. Verrecchia (2001) states in his paper that the economic consequences of market liquidity relate to the concept that less informed investors have to worry about trading with better informed investors, this results in less informed investors price protecting or leaving the market to minimize their possible losses from trading with better informed investors. Because these less informed investors price protect or leave the market the liquidity of the market gets reduced. By increasing voluntary disclosure this adverse-selection problem can be mitigated which will lead to an increase in market liquidity. Healy et al. (1999) find evidence for this theory by showing that firms which expand their voluntary disclosure experience significant increases in stock prices that are unrelated to the current earnings performance. Welker (1995) shows in his study that bid-ask spreads for firms with a low amount of disclosure are approximately 50 percent higher than bid-ask spreads for firms with a high amount of disclosure. Welker (1995) finds a significant negative relation between the disclosure policy of a firm and the bid-ask spread of its stock price. These findings are in line with the theory that increasing voluntary disclosure leads to a decrease in information asymmetry and an increase in market liquidity. Next to this, Graham et al. (2005) find survey evidence that managers believe that these market liquidity benefits exist. Graham et al. (2005) find that 44 percent of their sample of financial executives strongly agree with the statement that voluntary disclosing information increases the market liquidity of their stock. Healy and Palepu (2001) argue in their research that boards of directors and investors hold the managers of the firm accountable for the current stock performance. Poor stock performance is associated with CEO turnover, next to this poor stock performance is also associated with the probability of hostile takeovers, which also results in high CEO turnover. Morck et al. (1990) show this in their study by finding that firms with bad managers, which is identified by poor firm performance relative to the industry, have a much higher chance of a hostile takeover. Morck et al. (1990) argue that part of the gain in the hostile takeover is the improvement in the firm under a more talented or a better motivated management team. To avoid losing their jobs due to poor stock and earnings performance, managers use voluntary disclosure to reduce the likelihood of undervaluation and to explain the poor performances. Brennan (1999) finds some evidence of this theory by showing that the disclosure of good news forecasts was significantly more likely during contested takeover bids.

Related to this is another benefit Healy and Palepu (2001) mention, which is based on the stock compensation rewards managers get for the performance of the firm. Managers are directly rewarded through multiple stock-based compensation plans, such as stock option grants, and stock appreciation rights. These stock-based compensation plans provide several incentives for managers to engage in voluntary disclosure. First, managers have incentives to disclose private information to meet restrictions that are imposed by insider trading rules and to increase liquidity of the firm's stock. Providing voluntary disclosure will also correct any perceived undervaluation of the stock. Second, managers that act in the interests of the existing shareholders have voluntary disclosure incentives to reduce contracting costs associated with stock compensation for new employees. Stock compensation is more likely to be an efficient compensation method if the stock prices are a precise estimate of firm values, this makes managers more likely to provide voluntary disclosure with the goal of reducing the risk of misvaluation of the stock. Miller and Piotroski (2000) find evidence for this theory by finding that managers are more likely to voluntarily provide earnings forecasts if they have a bigger stock option compensation at risk. Next to this Aboody and Kasznik (2000) show that managers make disclosure decisions to increase stock based compensation, this by delaying disclosure of good news and accelerating disclosure of bad news prior to stock option award periods.

The other capital market benefit of voluntary disclosure Leuz and Wysocki (2016) show is the decrease of a firms' cost of capital. Diamond and Verrecchia (1991) show in their paper that revealing private information to the public through voluntary disclosure to reduce information asymmetry can reduce a firm's cost of capital. This by attracting increased demand from large investors due to the increased liquidity of its securities. Diamond and Verrecchia (1991) show here that because the market liquidity increases the cost of capital decreases. Healy and Palepu (2001) argue that economic uncertainty is related with more information asymmetry. The perceptions that investors have of a firm are important to managers that are expecting to issue public debt or equity or that are expecting to acquire another company through a stock transaction. Managers that are expecting to make capital market transactions have incentives to lower the information asymmetry between insiders and outsiders, by providing voluntary disclosure the information asymmetry gets reduced, which thereby reduces the firm's cost of external financing. Healy and Palepu (2001) call this information problem the lemons problem, when investors receive more information about the performances of a firm they will be less likely to undervalue the business investment opportunity which will lead to a lower cost of capital. Barry and Brown (1985) make a similar argument, they argue that when the disclosure of a firm is imperfect, investors bear risks in forecasting their future payoff from their investment. Investors will demand a return for bearing this information risk. This results in firms that have high levels of disclosure, and thus low information risk, being more likely to have a lower cost of capital than firms that have low levels of disclosure and high information risk. Botosan (1997) finds evidence that for firms with a low analyst following, greater disclosure is associated with a lower cost of equity capital. She shows a negative relation between the cost of equity capital and the extent of the voluntary disclosures for these firms with a low analyst following. However, Botosan (1997) fails to find this evidence for firms with a high analyst following. Core et al. (2015) and Urquiza et al. (2012) complement this research by additionally showing that a higher amount, and a better quality, of voluntary disclosure is

associated with a lower cost of capital. Francis et al. (2008) show different results, they do find evidence that more voluntary disclosure is associated with a lower cost of capital but show that when they condition on earnings quality the disclosure effect on cost of capital is heavily reduced or even disappears completely. Lang and Lundholm (1997) find in their study that there is a significant increase in disclosure for firms that make equity offerings, beginning six months before the offering. Healy et al. (1999) find in their study that firms with increased analyst ratings of disclosures have a very high amount of public debt offers.

Another capital market benefit of voluntary disclosure Healy and Palepu (2001) show in their paper is an increased information intermediation. Lang and Lundholm (1996) argue that voluntary disclosure lowers the cost of information acquisition for analyst that follow the firm, which leads to an increase in their information supply. However, the effect of increasing the information supply for analysts is ambiguous. On the one side enables more voluntary disclosure financial analysts to make better forecasts and buy/sell recommendations of the firm and its stock. On the other side pre-empts the public availability of this information also the analysts' ability to distribute managers' private information, which leads to a decline in demand for their services. Lang and Lundholm (1996) show evidence in their study that firms with more informative disclosure policies have a larger analyst following, less volatility in forecast revisions, more accurate analyst earnings forecasts and less dispersion among analyst forecasts. Healy et al. (1999) complement this by showing that analyst coverage increases when firms increase their voluntary disclosure.

Healy and Palepu (2001) mention in their study that voluntary disclosure also can have benefits regarding litigation costs. They state that increasing voluntary disclosure can decrease legal actions taken against managers for inadequate or untimely disclosures. Managers increasing voluntary disclosure as a reaction to the threat of shareholder litigation can decrease this threat. Skinner (1994) argues in his study that there is an asymmetric loss function on managers, large negative earnings surprises increase the likelihood of litigation costs while large positive earnings surprises do not generate such effects. This gives managers of firms with bad earnings news an incentive to voluntarily disclose the bad earnings information early to reduce the cost of litigation. By voluntarily disclosing the bad earnings information firms manage the market expectations which leads to a reduce of litigation costs. Lambert et al. (2007) argue that stakeholders may value a commitment to transparency, this because increased transparency reduces information risk, which is priced. This could mean that voluntarily disclosing bad earnings information would be valued by stakeholders and could lower the negative impact of this news. Skinner (1994, 1997) finds evidence for his theory by showing that firms with bad earnings news are more than twice as likely to pre-disclose these poor performances than firms with good earnings news. Next to this he finds some weak evidence that firms which pre-disclose earnings have lower litigation costs than firms which do not pre-disclose earnings. Kasznik and Lev (1995) also find evidence that firms with bad earnings news are more likely to pre-disclose this bad earnings news. The worse the earnings news, the more likely managers are to pre-disclose this news. However, Healy and Palepu (2001) also argue that the threat of shareholder litigation can have a different effect on the voluntary disclosure choices of managers and that this litigation can reduce the voluntary disclosure. This happens if managers don't trust the legal system to

effectively distinguish between forecast errors due to chance and those due to bad management. Cazier and Pfeiffer (2017) find in their study that firms with higher litigation risks and lower performance reduce information quality of disclosures and report less transparently through repetitious disclosure in the 10-K files of the SEC. This is evidence that litigation risks lead to less voluntary disclosure.

Lastly, a benefit of voluntary disclosure can be showing the management talent of the manager. Trueman (1986) argues that managers that are talented want to show how talented they are, this gives them an incentive to voluntary disclose information to show outsiders their talent. The market value of a firm is a function of the perception investors have of the managers' ability to anticipate and respond to future changes in the economic environment of the firm. When investors see a manager as capable to well anticipate future changes, the higher the firm's market value will be. This means that showing investors how talented the manager is through voluntary disclosure will lead to a higher market value for the firm.

When looking at the costs of voluntary disclosure there is a difference between direct costs and indirect costs. Direct costs are the costs that have a direct and measurable connection with the voluntary disclosure, these costs change with the amount of voluntary disclosure a firm provides. Indirect costs are costs that do not have a direct and measurable connection with the voluntary disclosure, these are costs that the market puts on the firm following the voluntary disclosure of information.

Direct costs for voluntarily disclosing information are costs related to the information production, the information gathering and the information dissemination. When looking at indirect costs, Verrecchia (1983) was the first to model the impact of proprietary costs on the level of disclosure. He shows in his paper that disclosure related costs lead to mangers exercising discretion in disclosing information to the public. The decision to disclose or withhold information from the public depends on the effect this information has on the asset's market price. When a manager does not disclose certain information, the market will interpret this as bad news and the stock price will tumble. This would make it in the manager's interest to disclose all information to keep the stock price from tumbling. However, the firms competitors are likely to use the disclosed information of the firm to change their plans. This could lead to a reduction in future cash flows for the disclosing firm, which is attributable to the disclosure. Verrecchia (1983) suggests that the competition is important in determining the level of disclosure, he states that firms that are active in less competitive industries could see less to no costs associated with disclosing information. Darrough and Stoughton (1990) build on this by stating that proprietary costs can be measured by barriers to enter the market. The potential entry of new firms into the market has an influence on the future cash flows of firms that are already in the market. When firms are protected in their industry with heavy barriers to enter the market the firms are much more likely to voluntarily disclose more information than firms that are less protected with heavy barriers. Clarkson et al. (1994) support this by finding a significant relation between the height of the barriers to entry and the voluntary inclusion of forecasts in the annual reports of Canadian firms. Hereby they measured the barriers to entry by gross fixed assets on gross total assets. Scott (1994) adds to the theory of Verrecchia by demonstrating the proprietary cost implications of disclosures in a pension disclosure setting.

He finds that proprietary costs mitigate the adverse selection argument in favor of disclosure, and that disclosures are conditioned by the favorableness of the news. These findings support the proprietary cost model of Verrecchia.

Another indirect cost that arises with voluntary disclosure are political costs. Watts and Zimmerman (1978) talk about the existence of costs which are generated by government intervention and may have important effects on the firm's decisions. When firms report high incomes, regulators will be more likely to place constraint on the operations of these firms. Watts and Zimmerman (1978) argue that large firms are more politically visible and that therefore political costs are higher for larger firms, because regulators tend to obtain the greatest political benefits by focusing on these large recognizable firms. A firm disclosing more information than mandatory through voluntary disclosure could lead to greater government scrutiny and intervention, and therefore more political costs.

2.3.2 Market reaction to voluntary disclosure

When looking at the market reaction to accounting restatements, Dechow et al. (1996) show that the stock prices of a firm that restates their financial reports fall, on average, by somewhere between 6 and 10 percent. Karpoff et al. (2009) complement this by showing that the fall of these stock prices happens when the restatement is first made public. The stock price decline is most significant when the firm has to restate because of accounting irregularities or fraud. In the United States the SEC has an important role in the detection and investigation of misstatements, The SEC has its own enforcement division which conducts enforcement reviews. When an enforcement review of a firms financial statements is concluded and the financial statements have been found to be material inaccurate, the firm has to mandatory disclose about the concluded review and the upcoming restatement. Firms do not have to disclose about the enforcement review when it is still going on, in this case firms can choose to voluntary disclose about the enforcement review.

With prior research showing the negative market reactions to restatements and enforcement releases, information about ongoing enforcement reviews can be of interest to the market. This would make it relevant for firms to voluntarily disclose about ongoing enforcement reviews. It is also possible that this information about ongoing enforcement reviews is not of interest to the market, market participants may not regard the voluntarily disclosed information as useful. If the market does not price disclosures about ongoing enforcement reviews, then these disclosures will not influence the market valuation

There are various incentives for firms to voluntary disclose, or to not voluntary disclose, about ongoing enforcement reviews. Firms can choose to inform the market about ongoing enforcement reviews to show their commitment to transparency. Lambert et al. (2007) argue that stakeholders may value this commitment to transparency, which reduces the information risk. Trueman (1986) mentions that voluntary disclosure can be used as signaling, firms can use the disclosure about the ongoing enforcement reviews to signal their beliefs of a positive outcome of the enforcement review. Firms can also use voluntary disclosure in an attempt to manage market expectations. Building on the theory of Skinner (1994), voluntarily disclosing

about the ongoing enforcement reviews would prepare the market for a negative outcome, which would lead to a softer market impact at the moment the restatement gets announced. This research will look into the latter incentive and will study if voluntarily disclosing about the ongoing enforcement reviews will offset the negative market consequences a firm encounters at the moment a restatement is first made public. This leads to the first hypothesis:

Hypothesis 1: The magnitude of the market reaction to an accounting restatement is lower when the firm voluntary disclosed about ongoing enforcement reviews.

2.3.3 Cross-sectional variation

These cross-sections will specifically look into the variation in the market reaction of this voluntary disclosure component. One of the earliest theories regarding Big 4 auditors is the theory of DeAngelo (1981). DeAngelo argues that Big 4 auditors provide higher audit quality than other auditors, due to their larger size and their better training programs. Larger audit firms, like the Big 4 firms, have more reputation to lose by sacrificing their independence and have more resources to invest in training programs, which results in better trained auditors. Eshleman and Guo (2014) use restatements as a measure of audit quality while controlling for the choice of auditor. They find evidence which suggests that Big 4 auditors do perform higher quality audits than other auditors. Teoh and Wong (1993) add to these studies by finding evidence that investors place more weight on earnings of a firm that has been audited by a Big 4 auditor, and that investors view these earnings as being of higher quality than earnings that have been audited by other auditors. With evidence showing that investors view earnings that have been audited by a Big 4 auditor as being of higher quality than earnings that have been audited by other auditors, the market perception of firms that are not the client of a Big 4 auditor would be worse than the market perception of firms that are the client of a Big 4 auditor. Building on Skinner (1994), this would lead to the market perception of the voluntary disclosure that non-Big 4 audited firms produce to prepare the market for a negative outcome to be less credible than the voluntary disclosure that Big 4 audited firms produce. This poorer market perception for firms that are not the client of a Big 4 auditor would lead to a higher market impact at the moment of restatement compared to the market impact for firms that are the client of a Big 4 auditor. This leads to the following hypothesis:

Hypothesis 2: The magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about ongoing enforcement reviews is not the client of a Big 4 auditor.

Another interesting corporate governance mechanism is analyst following. Lang and Lundholm (1996) suggest in their research that analysts are less likely to follow firms with poor disclosure. Lang et al. (2004) add to this by finding that analysts are less likely to follow firms with incentives to withhold or manipulate information. Boubaker and Labégorre (2008) find in their study for French listed firms that analysts are more likely to follow firms with a high discrepancy level between ownership and control, and firms that are controlled through pyramiding. Lastly, when looking at analyst following and accounting restatements Dechow et

al. (1996) show that the number of analysts following a firm declines significantly in the year an accounting restatement is announced. All this evidence suggests that analysts are more likely to follow firms that are transparent and of high quality. Building on this, the market perception of firms with fewer analyst following would be worse than the market perception of firms with more analyst following. When firms with fewer analyst following voluntarily disclose about ongoing enforcement reviews to prepare the market for a negative outcome, the market perception would lead to a less credible perception towards the voluntary disclosure compared to firms with more analyst following. This research will study if this poorer market perception of firms with fewer analysts following would lead to a higher market impact at the moment of restatement compared to the market impact for firms with more analyst following. This leads to the following hypothesis:

Hypothesis 3: The magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about ongoing enforcement reviews is followed by fewer analysts.

Fama and Jensen (1983) argue that the board of the directors is the highest internal control mechanism that is responsible for monitoring the actions of the top management. They state that independent directors have the incentives to fulfill their monitoring tasks and not to plot with the top management to extract stockholder wealth. The inclusion of independent directors increases the ability of the board to monitor the top management. Fama and Jensen (1983) also show that investors are seriously interested in the role of independent directors in conflicts between shareholders and managers. Beasley (1996) finds evidence that including larger proportions of independent members on the board of directors significantly reduces the likelihood of accounting fraud. Building on this, Dey (2005) shows in her paper evidence that the composition of the board of directors, related with the number of independent directors, is significantly associated with the quality of reported earnings for firms. More recent research shows that independent board members exercise insufficient controls on top management and do not affect the likelihood of fraud commission (Avci et al., 2018; Kuang and Lee, 2017). However, Gunasekarage and Reed (2008) show in their study that the market responds positive to the appointment of independent directors. This evidence suggests that the market perception of firms with fewer independent directors would be worse than the market perception of firms with more independent directors. This would lead to the market perception of the voluntary disclosure that firms with fewer independent directors produce to prepare the market for a negative outcome to be less credible than the voluntary disclosure that firms with more independent directors produce. This poorer market perception would lead to a higher market impact at the moment of restatement compared to the market impact for firms with more independent directors. This leads to the following hypothesis:

Hypotheses 4: The magnitude of the market reaction to an accounting restatement is higher when a firm that voluntarily disclosed about ongoing enforcement reviews has fewer independent directors.

3. Research design

3.1 Sample

The data that is used in in this thesis is obtained from different databases. The initial sample of enforcement related restatements is obtained through Audit Analytics. Audit Analytics specifically identifies enforcement related restatements in their database. The voluntary disclosures about the enforcement reviews are identified through hand collection and added to the sample. This hand collection is done in the SEC EDGAR Company Filings database. In this database I will use the Lookup option to look into the current reports (8-K), the annual reports (10-K) and the quarterly reports (10-Q) of the companies undergoing enforcement reviews to find out if a company voluntarily disclosed about ongoing enforcement reviews. To identify these voluntary disclosures key-search words are used to search the annual reports and the regulatory filings during the enforcement review period in a consistent matter. The key-search words related to enforcement reviews that are used are the following: 'enforcement', 'review', 'investigation', 'restatement', 'restate', 'misstatement', 'SEC', 'comment' and 'error'. To easily search the reports the Google Chrome add-on 'Multiple Search and Highlight' is used. The daily security prices of Compustat will determine the stock prices that will be used for the cumulative abnormal returns. The stock prices of all the days that fall into the event windows will hereby be obtained, this means that stock prices from 2 days prior to the restatement announcement to 2 days after the restatement announcement will be obtained, along with other stock prices which are relevant for calculating the cumulative abnormal returns. The restating firms will be used for the sample if the data of the firm contains daily stock prices, annual financial information, and the firm code (the CIK code). The annual data for the prior year of the restatement announcement will be used for control variables. The data regarding if a firm is the client of a Big 4 auditor is also obtained through Audit Analytics. The IBES database is used to determine the number of analysts following a firm, this number is defined as the number of IBES analysts that report estimates for each firm. The number of independent directors a firm has is identified through BoardEx, and when this is not possible through hand collection in the SEC EDGAR Company Filings database. The SEC requires firms to yearly disclose information about the directors in Schedule 14A. The number of independent directors is identified for a firm in the latest year prior to the enforcement review period. The sample period will start in 2007 and will end in 2020 and will cover U.S. firms.

Panel A of Table 1 shows the total sample used in this thesis. There are a total of 412 firms which restated their financial statements following an enforcement review of the SEC in the period between 2007 and 2020. From this sample 152 firms are removed because they had no data available regarding the daily stock prices around the restatement or data regarding the annual financials, which is used for the control variables. This leads to a final sample of 260 firms. Panel B and C respectively show the number of firms which voluntary disclosed about the ongoing enforcement reviews categorized by year and industry. There is a total of 41 firms which voluntary disclosed about the ongoing enforcement reviews, which is 15.77% of the sample. Panel D shows the composition of the Big4 variable which is used to test hypothesis 2, 7 of the 41 firms that voluntary disclosed about ongoing enforcement reviews are audited by a Big 4 auditor, which is 17.07% of this subsample.

Table 1: Sample structure

Table 1 presents the final sample that I use for empirical testing. Panel A presents the total sample and Panel B and C respectively show the subsample of voluntary disclosing firms categorized by year and industry. Panel D shows the composition of the Big4 variable which is used to test hypothesis 2.

Panel A: Total sample

	No. of firms
All firms that restated their financial statements following an enforcement review of the SEC between 2007 and 2020	412
Less: firms with missing values from Compustat North America	(152)
Final Sample	260

Panel B: Subsample of voluntary disclosing firms by year

Year	No. of firms	Voluntary Disclosing firms	Percentage
2007	47	11	23.40%
2008	26	3	11.54%
2009	25	5	20.00%
2010	27	0	0.00%
2011	27	6	22.22%
2012	23	2	8.70%
2013	20	2	10.00%
2014	22	3	13.64%
2015	11	1	9.09%
2016	11	3	27.27%
2017	4	0	0.00%
2018	8	2	25.00%
2019	7	3	42.86%
2020	2	0	0.00%
Final Sample	260	41	15.77%

Panel C: Subsample of voluntary disclosing firms by industry

Industry	No. of firms	Voluntary Disclosing firms	Percentage
Agriculture, Forestry, Fishing and Hunting	2	0	0.00%
Mining	27	4	14.81%
Utilities	3	0	0.00%
Construction	10	1	10.00%
Manufacturing	111	19	17.12%
Wholesale Trade	10	1	10.00%
Retail Trade	8	1	12.50%
Transportation and Warehousing	2	0	0.00%
Information	16	1	6.25%
Finance and Insurance	19	2	10.53%
Real Estate Rental and Leasing	13	3	23.01%
Professional, Scientific, and Technical Services	13	1	7.69%
Administrative and Support and Waste Management and Remediation Services	3	1	33.33%
Educational Services	3	1	33.33%
Health Care and Social Assistance	5	1	20.00%
Arts, Entertainment, and Recreation	3	1	33.33%
Accommodation and Food Services	2	0	0.00%
Other Services (except Public Administration)	1	0	0.00%
Non classifiable	9	4	0.00%
Final Sample	260	41	15.77%

Panel D: Composition BIG4 variable hypothesis 2

	No. of firms	Firms audited by a Big 4 auditor	Percentage
Firms that voluntary disclose and are audited by a Big 4 auditor	41	7	17.07%

3.2 Methodology

This thesis will look at the relation between the voluntary disclosure of ongoing enforcement reviews prior to an accounting restatement and the market reaction, to do this an event study will be conducted. The market reactions will be explored for two subsamples of restating firms, firms that did provide voluntary disclosure about the ongoing enforcement reviews and firms that did not. It will be tested whether prior disclosures about the ongoing enforcement reviews are factored into market expectations and thereby, effectively confound disclosures of accounting restatements. For this short-window analysis, the market reaction will be measured by using cumulative abnormal returns (CARs). CARs are measured by summing the daily abnormal returns over the whole event window, the daily abnormal return is hereby defined as the stock's realized daily return minus the corresponding expected return. These short-window market reactions will be estimated around the error announcement date, this follows the methodology of Hitz et al. (2012) which is based on MacKinlay (1997), whereby the expected daily return is calculated using a stock-specific market model. This model builds on the firms daily stock returns and the daily returns of the NYSE market, which is used as the reference market, over an estimation window of 120 days prior to the beginning of the event window. The abnormal return on a day within the event window will represent the difference between the actual stock return and the normal return. This normal return is predicted based on the relationship between the firms stock and the market, and the actual market return. Three different event windows will be set up around the restatement announcement date: a one day window (0), a three day window (-1;1), and a five day window (-2;2). The event of the error announcement is identified as the date when the company, required by the SEC to disclose, files an 8-K item 4.02 Non-Reliance Form regarding an upcoming restatement. This event is a stand-alone event mitigating the concern of confounding events.

To test whether there is a difference in market reactions for firms that voluntarily disclosed and for firms that did not two tests will be conducted. The first test is a univariate test which will compare the mean values of the different groups to see if they are significantly different. The second test is a regression test whereby the dependent variable is the cumulative abnormal return (CAR) for the one day window (0), the three day window (-1;1), and the five day window (-2;2). I expect the coefficient of interest to be positive. This leads to the following model:

(1) $CAR = \beta 0 + \beta 1 VOLUNTARY + SIZE + LEVERAGE + ROA + e$

Hypotheses 2, 3 and 4 are investigated using a multiple regression analysis. For the dependent variable the cumulative abnormal return (CAR) for the one day window (0), the three day window (-1;1), and the five day window (-2;2) are used. The variables regarding H2 to H4 are added as interaction terms of the variable indicating voluntary disclosure. I expect the coefficients of interest to be negative. This leads to the following model:

(2) $CAR = \beta 0 + \beta 1 VOLUNTARY + \beta 2 NON\_BIG4 +$
$\beta 3 VOLUNTARY \ x \ NON\_BIG4 + \beta 4 LOW\_AF + \beta 5 VOLUNTARY \ x \ LOW\_AF +$
$\beta 6 LOW\_INDPB + B7 VOLUNTARY \ x \ LOW\_INDPB + SIZE \ + \ LEVERAGE +$
$ROA + e$

3.3 Variable definition

3.3.1 Independent variables

There are multiple independent variables used in this research. Firstly, for H1 to H4 the independent variable VOLUNTARY is used. This variable takes the value of one when the firm voluntarily disclosed about ongoing enforcement reviews and the value zero when the firm did not. To address H2 the binary variable NON_BIG4 is used. This variable is the inverse of the variable BIG4, the variable BIG4 takes the value of one when the restating firm is the client of a Big 4 auditor, and zero otherwise. The variable NON_BIG4 takes the value of zero when the restating firm is the client of a Big 4 auditor, and one otherwise. To test if the magnitude of the market reaction is higher when a firm is followed by fewer analysts the variable LOW_AF is used, this variable is the inverse of the variable AF, which takes the value of one when the firm is followed by more analysts than the mean value of analysts following of the whole sample, and takes the value zero otherwise. The variable LOW_AF takes the value of zero when the firm is followed by more analysts than the mean value of analysts following of the sample. To address H4 the variable LOW_INDPB is added, which is the inverse of the variable INDPB. The variable LOW_INDPB takes the value of zero when the firm has more independent directors than the mean value of independent directors of the sample, and one otherwise. To test H2 to H4 the independent variables are inversed variables. This because inversed variables give the opportunity to test a stronger effect on the dependent variable. The larger the proxy on these inversed variables, the weaker the original variable and the larger the CAR. By using the inversed variables the signs of the CAR are clearer and significant coefficient estimates are expected.

3.3.2 Dependent variable

The dependent variable in this research is the CAR variable. The CAR shows the cumulative abnormal return within a specific time window. The CAR variable is divided into three different variables based on the different event windows. The one day window (0) is represented by the variable CAR0, the three day window (-1;1) is represented by the variable CAR3, and the five day window (-2;2) is represented by the variable CAR5.

3.3.3 Control variables

To control for other factors that can shape market reactions to enforcement actions control variables are added, these control variables are common controls based on prior literature of Hitz et al. (2012). All control variables are winsorized at both tails at the 1% level, expect for log-transformed variables. Because of the relative small sample size industry fixed effects to account for differences between industries, and year fixed effects to account for time trends are not included. To control for firm size, the natural logarithm of the total assets is included (SIZE). The control variable financial leverage (LEVERAGE) is included to account for financial distress. This control variable is measured as the sum of the long term debt and the debt in current liabilities divided by the total assets. To control for firm performance the control variable return on assets (ROA) is added, which is measured as the net income divided by the total assets. Appendix A gives a summary of the used variables and their definitions.

4. Results
4.1 Descriptive statistics

In Table 2 the descriptive statistics for all the variables that are used for the analyses are shown. Panel A shows the descriptive statistics for the total sample and Panel B shows the descriptive statistics for the subsamples of voluntary and non-voluntary disclosing firms. For all the variables in Panel A the number of observations (N), the mean, the standard deviation, the minimum value, the 25th percentile, the 75th percentile and the maximum value are shown. In Panel B only the number of observations (N), the mean and the standard deviation are shown. Adding to this there is a t-test provided to test for the differences in means between the voluntary and non-voluntary disclosing sample. This last column of Panel B shows the endogenous nature of the variable VOLUNTARY. This t-test provides descriptive evidence at the 5% level that firms that are audited by a Big 4 auditor voluntarily disclose less and that firms with more analyst following voluntarily disclose more. The minimum values of the variables LEVERAGE and ROA can respectively be explained by negative stockholders equity and negative net income.

Table 2: Descriptive statistics

Table 2 presents the descriptive statistics on all variables that are included in the final sample. Panel A presents the descriptive statistics of the total sample and Panel B presents the mean, median and the number of observations (N) for the two subsamples. The last column of Panel B presents a t-test to test for the differences in means between the two subsamples.

Panel A: Total sample

Variable	N	Mean	St. Dev	Min	Pctl(25)	Pctl(75)	Max
VOLUNTARY	260	0.16	0.37	0.00	0.00	0.00	1.00
CAR0	260	-0.28	2.18	-24.56	-0.10	0.02	2.69
CAR3	260	-0.48	4.78	-33.37	-0.10	0.03	44.13
CAR5	260	-0.70	4.51	-35.02	-0.12	0.03	22.31
BIG4	260	0.31	0.46	0.00	0.00	1.00	1.00
NON_BIG4	260	0.69	0.46	0.00	0.00	1.00	1.00
AF	260	0.20	0.40	0.00	0.00	0.00	1.00
LOW_AF	260	0.80	0.40	0.00	1.00	1.00	1.00
CONT_LOW_AF	260	21.66	4.34	0.00	21.00	24.00	24.00
INDPB	260	0.59	0.49	0.00	0.00	1.00	1.00
LOW_INDPB	260	0.41	0.49	0.00	0.00	1.00	1.00
CONT_LOW_INDPB	260	0.38	0.32	0.00	0.10	0.50	1.00
SIZE	260	4.78	1.67	0.00	3.96	6.02	8.90
LEVERAGE	260	0.36	0.44	0.00	0.03	0.51	3.06
ROA	260	0.03	0.13	-0.62	-0.02	0.03	0.88

Panel B: Subsamples

Variable	N	Mean	St. Dev	N	Mean	St. Dev	Mean difference
		Voluntary disclosing firms:			*Non-voluntary disclosing firms:*		
VOLUNTARY	41	1.00	0.00	219	0.00	0.00	X
CAR0	41	-0.70	3.90	219	-0.21	1.69	0.49 (0.79)
CAR3	41	-0.35	9.05	219	-0.51	3.48	-0.16 (-0.11)
CAR5	41	-0.71	6.95	219	-0.70	3.91	0.01 (0.01)
BIG4	41	0.17	0.38	219	0.33	0.47	0.16** (2.41)
NON_BIG4	41	0.83	0.38	219	0.67	0.47	-0.16** (-2.41)
AF	41	0.34	4.75	219	0.17	4.21	-0.17** (-2.18)
LOW_AF	41	0.66	0.48	219	0.83	0.38	0.17** (2.18)
CONT_LOW_AF	41	20.20	4.75	219	21.93	4.21	1.73** (2.37)
INDPB	41	0.54	0.50	219	0.60	0.49	0.06 (0.77)
LOW_INDPB	41	0.46	0.50	219	0.40	0.49	-0.06 (-0.77)
CONT_LOW_INDPB	41	0.41	0.31	219	0.37	0.32	-0.04 (-0.74)
SIZE	41	4.59	1.70	219	4.81	1.67	0.22 (0.77)
LEVERAGE	41	0.36	0.43	219	0.36	0.44	0.00 (0.03)
ROA	41	0.02	0.13	219	0.03	0.12	0.01 (0.48)

The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).

4.2 Baseline results

Table 3 presents the market reaction to the error announcements. Panel A shows the market reaction for the whole sample of error announcements. The mean of the CARs are negative and significant for all three event windows, with the level of significance varying among the different event windows. These findings are consistent with the negative average market reaction to the publication of error announcements as shown by Hitz and Schnack (2019) and Hitz et al. (2012).

Panel B shows the market reaction for the subsamples of error announcements. Here the total sample is split up in two subsamples, a sample with firms that did voluntarily disclose about ongoing enforcement reviews and a sample with firms that did not voluntarily disclose about ongoing enforcement reviews. The prediction is that the magnitude of the market reaction is lower for the sample with firms that did voluntarily disclose about ongoing enforcement reviews. The findings in Panel B show that the negative mean of the CARs are only significant for the no disclosure sample, with the level of significance varying among the different event windows. This is in line with the expectation that the market values voluntary disclosure about ongoing enforcement reviews, and that firms can mitigate the market reaction to an error announcement by voluntarily disclosing about these ongoing enforcement reviews. However, the mean difference between the two samples is not significant. In addition, it is important to note that although the mean values for the disclosure subsample are insignificant the economic magnitude is rather high, with some mean values of the disclosing subsample even being higher than the values of the non-disclosing subsample. These mean values being insignificant looks rather like a power of test issue because of the small disclosing subsample.

Panel C presents the regression results. It is expected that the coefficient of interest is positive. Columns 1 to 3 show mixed coefficients for the three different event windows of the CAR, all three coefficients are not significant. After adding control variables in Columns 4 to 6 the coefficients are still mixed and insignificant. This means that based on this regression test I cannot conclude that the magnitude of the market reaction is lower for firms that voluntary disclosed about ongoing enforcement reviews.

Table 3: Market reaction results

Panel A: Total sample of error announcements

	Cumulative abnormal returns (in %)		
Event window	[0]	[-1;1]	[-2;2]
Mean	-0.282	-0.481	-0.701
(t-statistic)	(-2.09)**	(-1.68)*	(-2.51)**
N	260	260	260

The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).

Panel B: Subsamples of error announcements with and without ex-ante disclosure

		Cumulative abnormal returns (in %)		
	Event window	[0]	[-1;1]	[-2;2]
Disclosure	Mean	-0.696	-0.346	-0.711
	(t-statistic)	(-1.14)	(-0.24)	(-0.66)
	N	41	41	41
No Disclosure	Mean	-0.205	-0.506	-0.699
	(t-statistic)	(-1.80)*	(-2.15)**	(-2.65)***
	N	219	219	219
Mean difference		0.491	-0.160	0.012
(t-statistic)		(0.79)	(-0.11)	(0.01)

The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).

Panel C: Regression test

			Dependent variable:			
	CAR0	CAR3	CAR5	CAR0	CAR3	CAR5
VOLUNTARY	-0.491	0.161	-0.012	-0.533	0.199	-0.140
	(-1.32)	(0.20)	(-0.02)	(-1.41)	(0.24)	(-0.18)
SIZE				0.069	0.084	0.307*
				(0.83)	(0.47)	(1.85)
LEVERAGE				0.041	0.333	-0.131
				(0.13)	(0.50)	(-0.21)
ROA				0.851	6.858***	7.763***
				(0.80)	(2.98)	(3.63)
Constant	-0.205	-0.506	-0.699**	-0.544	-1.052	-2.120**
	(-1.39)	(-1.57)	(-2.29)	(-1.28)	(-1.15)	(-2.48)
Observations	260	260	260	260	260	260
R2	0.007	0.000	0.000	0.012	0.035	0.062
Adjusted R2	0.003	-0.004	-0.004	-0.003	0.020	0.048
Residual Std. Error	2.180 (df = 258)	4.786 (df = 258)	4.517 (df = 258)	2.187 (df = 255)	4.729 (df = 255)	4.400 (df = 255)
F Statistic	1.750 (df = 258)	0.039 (df = 258)	0.000 (df = 258)	0.775 (df = 255)	2.320* (df = 255)	4.231*** (df = 255)

Table 3 presents the market reaction results of hypothesis 1. Panel A presents the market reaction for the whole sample and presents a t-test to test if the mean differs from 0. and Panel B presents the market reaction for the two subsamples and presents a t-test to test for the difference in means between the two subsamples. Panel C presents the regression results. For this regression the effect of VOLUNTARY on CAR is of main interest. VOLUNTARY is a dummy variable that equals 1 for firms that voluntary disclosed about ongoing enforcement reviews and 0 otherwise. The different CAR variables are variables that show the cumulative abnormal return in percentage for the different event windows, CAR0 for the one day event window, CAR3 for the three day event window, and CAR5 for the five day event window. The other three variables included in columns 4 to 6 are included as control variables. SIZE is computed as the natural logarithm of the total assets. LEVERAGE is computed as the long term debt and debt in current liabilities divided by the total assets. ROA is computed as the net income divided by the total assets. All control variables are winsorized, except for log-transformed variables, at both tails at the 1% level. The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).

4.3 Cross-sectional test

Table 4 presents the multiple regression results of hypotheses 2, 3 and 4. It is expected that the coefficients of interest are negative. Columns 1 to 3 show the variable VOLUNTARY and the interaction with respectively the three variables of hypotheses 2 to 4 for the dependent variable CAR3. Columns 4 to 6 show the variable VOLUNTARY and all three interactions for the three different event windows of the CAR.

The prediction for hypothesis 2 is that the magnitude of the market reaction will be higher for firms that are not the client of a Big 4 auditor. The interaction coefficients of the variable VOLUNTARY and NON_BIG4 are all negative, however these coefficients are not significant. While the coefficients are not significant the effect size is rather high with values in columns 4 to 6 between -1 and -1.5. With the effect size being this high the coefficients being insignificant could be because of the small voluntary disclosure sample of only 41. This means there is some very weak evidence that the magnitude of the market reaction is higher for firms that voluntarily disclose and are not the client of a Big 4 auditor.

The prediction for hypothesis 3 is that the magnitude of the market reaction will be higher for firms that are followed by fewer analysts. The interaction coefficients of the variable VOLUNTARY and LOW_AF are all negative, with the coefficient for the one day event window of the CAR being significant at the 10%. The other coefficients are not significant. With the significant coefficient for the one day event window and the effect size being high at around -1, there is some weak evidence that the magnitude of the market reaction is higher for firms that voluntarily disclose and are followed by a fewer analysts.

The prediction for hypothesis 4 is that the magnitude of the market reaction will be higher for firms with fewer independent directors. The interaction coefficients of the variable VOLUNTARY and LOW_INDPB are all positive and significant at varying levels. This gives surprising evidence that the magnitude of the market reaction of firms with fewer independent directors that voluntarily disclose is lower.

Table 4: Multiple regression results

	CAR3 [1]	CAR3 [1]	CAR3 [1]	CAR0	CAR3	CAR5
			Dependent variable:			
VOLUNTARY	0.269	-0.031	-1.515	0.451	-0.021	-0.012
	(0.14)	(-0.03)	(-1.42)	(0.48)	(-0.01)	(-0.01)
NON_BIG4	-0.194			0.170	-0.147	-0.024
	(-0.24)			(0.42)	(-0.17)	(-0.03)
VOLUNTARY x NON_BIG4	**-0.019**			**-1.289**	**-1.427**	**-1.049**
	(-0.01)			**(-1.27)**	**(-0.65)**	**(-0.51)**
LOW_AF		-0.135		0.215	-0.077	0.227
		(-0.16)		(0.52)	(-0.07)	(0.27)
VOLUNTARY x LOW_AF		**-0.162**		**-1.416***	**-0.827**	**-0.831**
		(-0.10)		**(-1.68)**	**(-0.45)**	**(-0.49)**
LOW_INDPB			-0.059	-0.275	-0.048	-0.476
			(-0.09)	(-0.88)	(-0.07)	(-0.75)
VOLUNTARY x LOW_INDPB			**3.911****	**2.170*****	**4.464****	**3.009***
			(2.39)	**(2.68)**	**(2.54)**	**(1.83)**
SIZE	0.055	0.072	0.102	0.099	0.054	0.321
	(0.26)	(0.36)	(0.58)	(0.99)	(0.25)	(1.58)
LEVERAGE	0.353	0.339	0.301	0.082	0.362	-0.065
	(0.52)	(0.50)	(0.45)	(0.26)	(0.53)	(-0.10)
ROA	6.845***	6.904***	7.747***	1.095	7.668***	8.294***
	(2.96)	(2.97)	(3.35)	(1.02)	(3.29)	(3.79)
Constant	-0.798	-0.900	-1.110	-0.877	-0.758	-2.198
	(-0.58)	(-0.66)	(-1.18)	(-1.25)	(-0.50)	(-1.54)
Observations	260	260	260	260	260	260
R2	0.035	0.035	0.060	0.049	0.064	0.075
Adjusted R2	0.012	0.012	0.038	0.010	0.026	0.038
Residual Std. Error	4.747 (df = 253)	4.747 (df = 253)	4.686 (df = 253)	2.172 (df = 249)	4.714 (df = 249)	4.422 (df = 249)
F Statistic	1.546 (df = 253)	1.543 (df = 253)	2.685** (df = 253)	1.274 (df = 249)	1.693* (df = 249)	2.018* (df = 249)

The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).

_____

[1] For columns 1 to 3 only the dependent variable CAR3 is included, the results for the dependent variables CAR0 and CAR5 for these columns are very similar.

Table 4 presents the multiple regression results of hypotheses 2, 3 and 4. For this regression the interactions between VOLUNTARY and NON_BIG4, LOW_AF and LOW_INDPB are of main interest. VOLUNTARY is a dummy variable that equals 1 for firms that voluntary disclosed about ongoing enforcement reviews and 0 otherwise. NON_BIG4 is a dummy variable that equals 1 for firms that are not the client of a Big 4 auditor and 0 otherwise. LOW_AF is a dummy variable that equals 1 for firms that are followed by fewer analysts than the mean value of analysts following of the sample and 0 otherwise. LOW_INDPB is a dummy variable that equals 1 for firms that have fewer independent directors than the mean value of independent directors of the sample and 0 otherwise. The different CAR variables are variables that show the cumulative abnormal return in percentage for the different event windows, CAR0 for the one day event window, CAR3 for the three day event window, and CAR5 for the five day event window. The other three variables are included as control variables. SIZE is computed as the natural logarithm of the total assets. LEVERAGE is computed as the long term debt and debt in current liabilities divided by the total assets. ROA is computed as the net income divided by the total assets. All control variables are winsorized, except for log-transformed variables, at both tails at the 1% level.

4.4 Robustness tests

To gauge the robustness of the findings of this research, I conduct additional analyses. To extend the analysis of the different market reaction for firms that did and did not voluntarily disclose about ongoing enforcement reviews, I add fixed effects to regression model 1. To extend the cross-sections, I repeat the multiple regression with continuous variables and conduct a multiple regression over the subsample voluntarily disclosing firms. The results of these robustness tests, tables 5, 6 and 7, are included in the appendix.

Table 5 shows the results of regression model 1 after industry and year fixed effects are added. It is expected that the coefficients of interest are positive. The results are very similar to the regression model without fixed effects, showed in Table 3. The coefficients of interest for dependent variables CAR0 and CAR3 got slightly better while the coefficients of interest for CAR5 got slightly worse, still all coefficients are insignificant. [2]

Table 6 shows the results of the multiple regression with continuous variables. It is expected that the coefficients of interest are negative. The results with continuous variables are similar to the results with dummy variables, showed in Table 4. The difference is in the interaction coefficients of the variable VOLUNTARY and CONT_LOW_AF. All the coefficients became insignificant and the effect size also dropped to around -0.2.

Table 7 shows the results of the multiple regression over the subsample voluntarily disclosing firms. It is expected that the coefficients of interest are negative. Row 1 shows the coefficients of interest for the non-Big 4 audited firms. All three CAR variables are negative, this is in line with the prediction. While the coefficients are not significant the economic magnitude is rather high with values around -1 and -2. Row 2 shows the coefficients of interest for firms with low analyst following. There are mixed results between the different CAR variables, next to this the coefficients are also all insignificant. Row 3 shows the coefficients of interest for firms with a low number of independent directors. All three CAR variables are positive and significant at the 5% and 10% level. These results are in line with the results of the multiple regression over the whole sample, showed in Table 4.

---

[2] When also replicating the multiple regression model with fixed effects the results stay the same.

5. Conclusion

This thesis looks into if the magnitude of the market reaction at the moment of an enforcement related accounting restatement is lower for firms that voluntarily disclosed about ongoing enforcement reviews opposed to firms that did not. Based on a sample of 260 enforcement related accounting restatements, of which 41 firms voluntarily disclosed about the ongoing enforcement reviews, I can only provide some weak evidence that the magnitude of the market reaction is lower for firms that voluntarily disclosed about ongoing enforcement reviews. These results stay the same after adding industry and year fixed effects to the regression model.

Cross-sectional analyses are set up to specifically look into the variation in the market reaction of the voluntary disclosure component. Firstly, these cross-sections show an insignificant association between the magnitude of the market reaction being higher for firms that voluntarily disclose and are not the client of a Big 4 auditor. While the coefficients are not significant the effect size is rather high, which means there is some very weak evidence supporting this hypothesis. When looking into the relation between the market reaction and low analyst following, I can provide some evidence, in the form of some significant results at the 10% level and a rather high effect size, that the magnitude of the market reaction is higher for firms that voluntarily disclose and are followed by fewer analysts. Lastly these cross-sections show a surprising positive significant association between the magnitude of the market reaction being lower for firms that voluntarily disclose and have fewer independent directors. Additional analyses using continuous variables instead of dummy variables and only using the voluntarily disclosing subsample show the same results.

The results reported in this research should be considered in light of some limitations. The first limitation concerns the sample size. With a sample of 260 enforcement related accounting restatements and only 41 firms voluntarily disclosing about ongoing enforcement reviews there is a power of test issue. This results in insignificant coefficients even when the effect size is rather high. Future research should look into acquiring a bigger sample to limit the possibility of a power of test issue. The second limitation concerns an endogeneity issue of the variable VOLUNTARY. It is important to not overinterpret this variable because of its endogenous nature, as can be seen in Panel B of Table 2 where descriptive evidence is showed that firms that are audited by a Big 4 auditor voluntarily disclose less and that firms with more analyst following disclose more. The third limitation concerns a possible selection problem which is based on the theory of Skinner (1994, 1997). Firms that voluntarily disclose about ongoing enforcement reviews might have an idea that the outcome of these reviews will be bad, which will lead them to voluntarily disclosing about them, this could lead to possible higher market reactions because of the magnitude of the restatement. The fourth limitation relates to this research only looking into the market reaction at the moment of the restatement announcement. It is possible that there is already a preemptive difference in market reactions because of a possible market reaction to the voluntary disclosure. For future research it would be interesting to also take into account the market reaction at the moment of the voluntary disclosure.

References:

Aboody, D., Kasznik, R. (2000). CEO stock options awards and the timing of corporate voluntary disclosures. *Journal of Accounting and Economics 29*, 73–100.

Avci, S. B., Schipani, C. A., Seyhun, H. N. (2018). Do independent directors curb financial fraud: the evidence and proposals for further reform. *Ind. LJ*, *93*, 757.

Barry, C. B., Brown, S. J. (1985). Differential information and security market equilibrium. *Journal of financial and quantitative analysis, 20* (4), 407-422.

Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *Accounting review*, 443-465.

Bollerslev, T., Marrone, J., Xu, L., Zhou, H. (2013). Stock return predictability and variance risk premia: Statistical inference and international evidence, *Journal of Financial and Quantitative Analysis.*

Botosan, C. A. (1997). Disclosure level and the cost of equity capital. *Accounting review,* 323-349.

Boubaker, S., Labégorre, F. (2008). Ownership structure, corporate governance and analyst following: A study of French listed firms. *Journal of Banking & Finance*, *32* (6), 961 976.

Brennan, N. (1999). Voluntary disclosure of profit forecasts by target companies in takeover bids. *Journal of Business Finance and Accounting 26*, 883–918.

Brown, P., Preaito, J. & Targa, A., (2014). Measuring Country Differences in Enforcement of Accounting Standards : An Audit and Enforcement Proxy. *Journal of Business Finance & Accounting, 41* (February), pp.1–52

Cazier, R. A., Pfeiffer, R. J. (2017). 10-k disclosure repetition and managerial reporting incentives. *Journal of Financial Reporting, 2* (1), 107–131.

Christensen, H. B., Hail, L., & Leuz, C. (2013). Mandatory IFRS reporting and changes in enforcement. *Journal of Accounting and Economics, 56* (2), 147–177

Clarkson, P. M., Kao, J. L., Richardson, G. D. (1994). The voluntary inclusion of forecasts in the MD&A section of annual reports. *Contemporary Accounting Research, Fall:* 423 50.

Core, J. E., Hail, L., Verdi, R. S. (2015). Mandatory disclosure quality, inside ownership, and cost of capital. *European Accounting Review, 24* (1), 1-29.

Dahlquist, M., Hasseltoft, H. (2013). International bond risk premia, *Journal of International Economics 90,* 19–32.

Darrough, M. N., Stoughton, N. M. (1990). Financial disclosure policy in an entry game. *Journal of Accounting and Economics 12:* 219-3.

DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics 3* (3): 183– 199.

Dechow, P.M., Sloan, R.G., Sweeney, A.P. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research 13* (1), 1–36.

Depoers, F. (2000). A cost benefit study of voluntary disclosure: some empirical evidence from French listed companies. *European Accounting Review, 9* (2), 245-263.

Dey, A. (2005). Corporate governance and financial reporting credibility. *Northwestern University.*

Diamond, D. W., Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The journal of Finance, 46* (4), 1325-1359.

Diamond, D. W. (1985). Optimal release of information by firms. *Journal of Finance 40*: 1071-94.

Eshleman, J. D., Guo, P. (2014). Do Big 4 auditors provide higher audit quality after controlling for the endogenous choice of auditor? *Auditing: A Journal of Practice & Theory*, *33* (4), 197-219.

Fama, E. F., Jensen, M. C. (1983). Separation of ownership and control. *The journal of law and Economics*, *26* (2), 301-325.

Francis, J., Nanda, D., Olsson, P. (2008). Voluntary Disclosure, Earnings Quality, and Cost of Capital. *Journal of Accounting Research, 46*, 53-99.

Graham, J. R., Harvey, C. R., Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of accounting and economics, 40* (1-3), 3-73.

Gunasekarage, A., Reed, D. K. (2008). The market reaction to the appointment of outside directors: An analysis of the interaction between the agency problem and the affiliation of directors. *International Journal of Managerial Finance.*

Healy, P., Hutton, A., Palepu, K. (1999). Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research 16*, 485– 520.

Healy, P., Palepu, K. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics, 31*, 405-440.

Hitz, J. M., Ernstberger, J., Stich, M. (2012). Enforcement of accounting standards in Europe: Capital-market-based evidence for the two-tier mechanism in Germany. *European accounting review*, *21*(2), 253-281.

Hitz, J.-M., Schnack, H. (2019). Firm Disclosures about Enforcement Reviews. *Accounting in Europe 16:1*, 82-105.

Holthausen, R.W., (2009). Accounting Standards, Financial Reporting Outcomes, and Enforcement. *Journal of Accounting Research, 47* (2), pp.447–458

Hope, O.-C. (2003). Disclosure practice, enforcement of accounting standards and analysts' forecast accuracy: an international study*, Journal of Accounting Research, 41,* 235 272.

Karpoff, J. M., D. S. Lee, and G. S. Martin. (2009). The cost to firms of cooking the books. *University of Washington and Texas A&M Uni.*

Kasznik, R., Lev, B., (1995). To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review 70*, 113-134.

Kuang, Y. F., Lee, G. (2017). Corporate fraud and external social connectedness of independent directors. *Journal of Corporate Finance*, *45*, 401-427.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (2006). What works in securities laws?, *Journal of Finance, 61,* 1–31.

Lambert, R., Leuz, C., Verrecchia, R. E. (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research, 45* (2), 385–420.

Lang, M., Lundholm, R. (1997). Voluntary disclosure during equity offerings: reducing information asymmetry or hyping the stock? *Working Paper, University of Michigan, Ann Arbor, MI.*

Lang, M. H., Lins, K. V., Miller, D. P. (2004). Concentrated control, analyst following, and valuation: do analysts matter most when investors are protected least? *Journal of Accounting Research 42*, 589–623.

Lang, M., Lundholm, R., (1996). Corporate disclosure policy and analyst behavior. *The Accounting Review 71,* 467–493

Leuz, C., Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of accounting research, 54* (2), 525-622.

MacKinlay, A. G. (1997). Event studies in economics and finance, *Journal of Economic Literature, 35*, pp. 13–39.

Meek, G., Roberts, C., Gray, S. (1995). Factors Influencing Voluntary Annual Report Disclosures By U.S., U.K. and Continental European Multinational Corporations. *J Int Bus Stud 26*, 555–572.

Miller, G., Piotroski, J. (2000). The role of disclosure for high book-to-market firms. *Unpublished working paper, Harvard University.*

Morck, R., Shleifer, A., Vishny, R. (1990). Do managerial objectives drive bad acquisitions? *Journal of Finance 45*, 31–50

Rapach, D. E., Strauss, J. K., Zhou, G. (2013). International stock return predictability: what is the role of the United States? *The Journal of Finance*, *68* (4), 1633-1662.

Scott, T. W. (1994). Incentives and disincentives for financial disclosure: Voluntary disclosure of defined benefit pension plan information by Canadian firms. *Accounting review*, 26-43.

SEC. (2007). About the Division of Enforcement. https://www.sec.gov/enforce/Article/enforce-about.html

SEC. (2017). How Investigations Work. https://www.sec.gov/enforce/how-investigations-work.html

Sunder, S. (1997). Theory of accounting and control. *South-Western College Pub.*

Skinner, D. (1997). Earnings disclosures and stockholder lawsuits. *Journal of Accounting and Economics 23*, 249–283.

Skinner, D. (1994). Why firms voluntarily disclose bad news. *Journal of Accounting Research 32,* 38–61.

Teoh, S. H., T. J. Wong. (1993). Perceived auditor quality and the earnings response coefficient. *The Accounting Review 68* (2): 346–366.

Trueman, B. (1986). Why do managers voluntarily release earnings forecasts? *Journal of Accounting and Economics 8*, 53–72.

Urquiza, F.B., Navarro, M.C.A., Trombetta, M. (2012). Disclosure Strategies and Cost of Capital. *Managerial and Decision Economics, 33*, 501-509.

Verrecchia, R. E. (2001). Essays on Disclosure. *Journal of Accounting and Economics 32,* 97-180.

Verrecchia, R. E. (1983). Discretionary disclosure. *Journal of Accounting and Economics 5:* 179.

Watts, R. L., Zimmerman, J. L. (1978). Towards a positive theory of the determination of accounting standards. *Accounting review*, 112-134.

Welker, M. (1995). Disclosure Policy, Information Asymmetry, and Liquidity in Equity Markets. *Contemporary Accounting Research 11*: 801-27.

Appendix

Appendix A: Variable definition

This appendix reports the names, descriptions and data sources of the variables that are used in this research.

Variable	Description	Data source
VOLUNTARY	VOLUNTARY is a dummy variable that equals 1 for firms that voluntary disclosed about ongoing enforcement reviews and 0 otherwise.	SEC EDGAR Company Filings database
CAR0	CAR0 is a variable that shows the cumulative abnormal return in percentage for a one day event window around the restatement announcement.	Compustat North America
CAR3	CAR3 is a variable that shows the cumulative abnormal return in percentage for a three day event window around the restatement announcement.	Compustat North America
CAR5	CAR5 is a variable that shows the cumulative abnormal return in percentage for a five day event window around the restatement announcement.	Compustat North America
SIZE	SIZE is an empirical proxy of firm size. It is measured as the natural logarithm of the total assets.	Compustat North America
LEVERAGE	LEVERAGE is an empirical proxy of financial distress. It is measured as the sum of the long term debt and the debt in current liabilities divided by the total assets.	Compustat North America
ROA	ROA is an empirical proxy of firm performance. It is measured as the net income divided by the total assets.	Compustat North America
BIG4	BIG4 is a dummy variable that equals 1 for firms that are the client of a Big 4 auditor and 0 otherwise.	Audit Analytics
NON_BIG4	NON_BIG4 is a dummy variable that equals 0 for firms that are the client of a Big 4 auditor and 1 otherwise.	Audit Analytics
AF	AF is a dummy variable that equals 1 for firms that are followed by more analysts than the mean value of analysts following of the sample and 0 otherwise.	IBES Academic

Appendix A: Variable definition – Continued

Variable	Description	Data source
LOW_AF	LOW_AF is a dummy variable that equals 0 for firms that are followed by more analysts than the mean value of analysts following of the sample and 1 otherwise.	IBES Academic
CONT_LOW_AF	CONT_LOW_AF is a continuous variable that shows the inversed number of analysts that follow the firm, it is measured as the value of the highest analyst following in the sample, 24, minus the actual analyst following a firm has.	IBES Academic
INDPB	INDPB is a dummy variable that equals 1 for firms that have more independent directors than the mean value of independent directors of the sample and 0 otherwise.	BoardEx / SEC EDGAR Company Filings database
LOW_INDPB	LOW_INDPB is a dummy variable that equals 0 for firms that have more independent directors than the mean value of independent directors of the sample and 1 otherwise.	BoardEx / SEC EDGAR Company Filings database
CONT_LOW_INDPB	CONT_LOW_INDPB is a continuous variable that shows the inversed percentage of independent directors a firm has, it is measured as the value of the highest percentage of independent directors in the sample, 100%, minus the actual percentage of independent directors a firm has.	BoardEx / SEC EDGAR Company Filings database

Appendix B: Regression model 1 with fixed effects
Table 5: Regression results market reaction with fixed effects

	CAR0	CAR3	CAR5	CAR0	CAR3	CAR5

	Dependent variable:					
	CAR0	CAR3	CAR5	CAR0	CAR3	CAR5
VOLUNTARY	-0.413	0.197	-0.111	-0.396	0.355	-0.200
	(-1.03)	(0.23)	(-0.14)	(-0.96)	(0.42)	(-0.25)
SIZE				-0.002	-0.037	0.215
				(-0.03)	(-0.20)	(1.23)
LEVERAGE				0.064	0.536	-0.239
				(0.19)	(0.75)	(-0.36)
ROA				0.897	7.496***	8.274***
				(0.79)	(3.14)	(3.70)
Constant	0.251	-1.173	-0.040	0.231	-1.252	-0.850
	(0.28)	(-0.66)	(-0.02)	(0.24)	(-0.63)	(-0.46)
Observations	260	260	260	260	260	260
R2	0.093	0.151	0.146	0.096	0.188	0.202
Adjusted R2	-0.049	0.019	-0.012	-0.060	0.049	0.064
Residual Std. Error	2.236 (df = 224)	4.732 (df = 224)	4.481 (df = 224)	2.248 (df = 221)	4.659 (df = 221)	4.361 (df = 221)
F Statistic	0.656 (df = 224)	1.140 (df = 224)	1.090 (df = 224)	0.614 (df = 221)	1.348* (df = 221)	1.468** (df = 221)
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 5 presents the regression results market reaction of hypothesis 1 with fixed effects. For this regression the effect of VOLUNTARY on CAR is of main interest. VOLUNTARY is a dummy variable that equals 1 for firms that voluntary disclosed about ongoing enforcement reviews and 0 otherwise. The different CAR variables are variables that show the cumulative abnormal return in percentage for the different event windows, CAR0 for the one day event window, CAR3 for the three day event window, and CAR5 for the five day event window. The other three variables included in columns 4 to 6 are included as control variables. SIZE is computed as the natural logarithm of the total assets. LEVERAGE is computed as the long term debt and debt in current liabilities divided by the total assets. ROA is computed as the net income divided by the total assets. All control variables are winsorized, except for log-transformed variables, at both tails at the 1% level. The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).

Appendix C: Multiple regression with continuous variables
Table 6: Multiple regression results with continuous variables

	Dependent variable:					
	CAR3 [3]	CAR3 [3]	CAR3 [3]	CAR0	CAR3	CAR5
VOLUNTARY	0.269	-0.301	-2.022	1.699	1.836	1.432
	(0.14)	(-0.08)	(-1.65)	(0.95)	(0.48)	(0.40)
NON_BIG4	-0.194			0.196	-0.246	-0.117
	(-0.24)			(0.51)	(-0.29)	(-0.15)
VOLUNTARY x NON_BIG4	**-0.019**			**-0.926**	**-0.352**	**-0.400**
	(-0.01)			**(-0.93)**	**(-0.16)**	**(-0.20)**
CONT_LOW_AF		0.035		0.035	0.033	0.061
		(0.90)		(0.85)	(0.37)	(0.73)
VOLUNTARY x CONT_LOW_AF		**-0.071**		**-0.143**	**-0.225**	**-0.146**
		(-0.87)		**(-1.55)**	**(-1.13)**	**(-0.78)**
CONT_LOW_INDPB			0.277	-0.638	0.250	-0.336
			(0.28)	(-1.35)	(0.25)	(-0.35)
VOLUNTARY x CONT_LOW_INDPB			**6.629****	**3.518*****	**8.097*****	**4.445**
			(2.56)	**(2.62)**	**(2.80)**	**(1.63)**
SIZE	0.055	0.114	0.121	0.118	0.097	0.353*
	(0.26)	(0.57)	(0.68)	(1.17)	(0.45)	(1.72)
LEVERAGE	0.353	0.304	0.099	0.046	0.127	-0.202
	(0.52)	(0.45)	(0.15)	(0.14)	(0.19)	(-0.31)
ROA	6.845***	6.908***	7.677***	1.151	7.638***	8.200***
	(2.96)	(2.98)	(3.35)	(1.08)	(3.31)	(3.77)
Constant	-0.798	-1.711	-1.248	-0.926	-1.692	-3.44
	(-0.58)	(-0.70)	(-1.26)	(-0.93)	(-0.69)	(-1.50)
Observations	260	260	260	260	260	260
R2	0.035	0.036	0.066	0.046	0.072	0.074
Adjusted R2	0.012	0.013	0.044	0.008	0.034	0.037
Residual Std. Error	4.747	4.746	4.672	2.175	4.694	4.424
	(df = 253)	(df = 253)	(df = 253)	(df = 249)	(df = 249)	(df = 249)
F Statistic	1.546	1.563	2.970**	1.199	1.920**	2.000**
	(df = 253)	(df = 253)	(df = 253)	(df = 249)	(df = 249)	(df = 249)

The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels.
The reported values are coefficients (t-values).

---

[3] For columns 1 to 3 only the dependent variable CAR3 is included, the results for the dependent variables CAR0 and CAR5 for these columns are very similar.

Table 6 presents the multiple regression results of hypotheses 2, 3 and 4 with continuous variables. For this regression the interactions between VOLUNTARY and NON_BIG4, CONT_LOW_AF and CONT_LOW_INDPB are of main interest. VOLUNTARY is a dummy variable that equals 1 for firms that voluntary disclosed about ongoing enforcement reviews and 0 otherwise. NON_BIG4 is a dummy variable that equals 1 for firms that are not the client of a Big 4 auditor and 0 otherwise. CONT_LOW_AF is a continuous variable that shows the inversed number of analysts that follow the firm, it is measured as the value of the highest analyst following in the sample, 24, minus the actual analyst following a firm has. CONT_LOW_INDPB is a continuous variable that shows the inversed percentage of independent directors a firm has, it is measured as the value of the highest percentage of independent directors in the sample, 100%, minus the actual percentage of independent directors a firm has. The different CAR variables are variables that show the cumulative abnormal return in percentage for the different event windows, CAR0 for the one day event window, CAR3 for the three day event window, and CAR5 for the five day event window. The other three variables are included as control variables. SIZE is computed as the natural logarithm of the total assets. LEVERAGE is computed as the long term debt and debt in current liabilities divided by the total assets. ROA is computed as the net income divided by the total assets. All control variables are winsorized, except for log-transformed variables, at both tails at the 1% level.

Appendix D: Multiple regression over subsample
Table 7: Multiple regression results over subsample voluntarily disclosing firms

	Dependent variable:		
	CAR0	CAR3	CAR5
NON_BIG4	-0.979	-2.022	-1.310
	(-0.58)	(-0.78)	(-0.49)
LOW_AF	-0.417	-0.498	0.656
	(-0.30)	(-0.23)	(0.30)
LOW_INDPB	2.249*	4.535**	3.782*
	(1.69)	(2.22)	(1.82)
SIZE	0.872	0.516	1.144
	(1.46)	(0.56)	(1.23)
LEVERAGE	1.757	2.700	3.226
	(1.07)	(1.07)	(1.26)
ROA	5.846	21.909***	24.008***
	(1.58)	(3.84)	(4.14)
Constant	-5.947	-4.460	-8.845
	(-1.42)	(-0.69)	(-1.35)
Observations	41	41	41
R2	0.192	0.351	0.380
Adjusted R2	0.050	0.237	0.270
Residual Std. Error	3.799 (df = 34)	5.836 (df = 34)	5.940 (df = 34)
F Statistic	1.348 (df = 34)	3.070** (df = 34)	3.468*** (df = 34)

Table 7 presents the multiple regression results of hypotheses 2, 3 and 4 on the subsample voluntary disclosing firms. For this regression the interactions between CAR and NON_BIG4, LOW_AF and LOW_INDPB are of main interest. NON_BIG4 is a dummy variable that equals 1 for firms that are not the client of a Big 4 auditor and 0 otherwise. LOW_AF is a dummy variable that equals 1 for firms that are followed by fewer analysts than the mean value of analysts following of the sample and 0 otherwise. LOW_INDPB is a dummy variable that equals 1 for firms that have fewer independent directors than the mean value of independent directors of the sample and 0 otherwise. The different CAR variables are variables that show the cumulative abnormal return in percentage for the different event windows, CAR0 for the one day event window, CAR3 for the three day event window, and CAR5 for the five day event window. The other three variables are included as control variables. SIZE is computed as the natural logarithm of the total assets. LEVERAGE is computed as the long term debt and debt in current liabilities divided by the total assets. ROA is computed as the net income divided by the total assets. All control variables are winsorized, except for log-transformed variables, at both tails at the 1% level. The signs *, **, and *** respectively indicate statistical significance at the 10 %, 5%, and 1% levels. The reported values are coefficients (t-values).