THE DETERRENT EFFECT OF WHISTLEBLOWING ON INSIDER TRADING

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Dedication

This dissertation is dedicated to my family. This wouldn't have been possible without their support.

Abstract

An objective of the Dodd-Frank Act was to improve the detection of financial fraud, including insider trading, through the creation of the whistleblower bounty program at the SEC. This program provides for substantial financial rewards and strong anti-retaliation provisions to protect whistleblowers. I test the effectiveness of the whistleblower program in reducing informed trading by corporate insiders. I isolate the effect of the program from that of other concurrent reforms by identifying insiders of firms that are more sensitive to whistleblowing allegations. For a sample of firms that lobbied against the whistleblower provisions of the Act, I find that the profitability of insider purchases significantly reduces post Dodd-Frank relative to that of other insiders. The reduction in abnormal profits is economically meaningful, in the range of 0.05% to 0.10% daily return. I find similar results for insiders of firms with weak internal whistleblower programs who are likely to be more sensitive to the new regulation, and for insiders of firms perceived by market participants as benefiting from the additional oversight provided by the program. I analyze whether the whistleblower program was effective in reducing informed insider sales by examining pre-earnings announcement and pre-M&A settings when insider transactions are more likely to be information-driven. I find that, post Dodd-Frank, insiders are less likely to sell before events that are perceived negatively by investors. The legal literature suggests that insider trading behavior is more difficult to expose and prove than corporate-level fraud. In contrast with the beliefs of the program critics, I find that whistleblowers are effective deterrents of insider trading, suggesting that they are a valuable resource for unravelling this hard-to-detect illegal activity.

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1. INTRODUCTION

The Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) introduced some of the most substantive changes to securities law in recent times. Coming as a response to the recent financial crisis, the law not only reformed our financial system but also had an impact on the non-financial sector by increasing the level of protection for Main Street investors who were perceived as being exploited by more informed market participants. In particular, Dodd-Frank created a whistleblower bounty program within the SEC, enhancing monetary rewards and anti-retaliation provisions. While there is a growing literature investigating the effects of many facets of Dodd-Frank, a question that remains unanswered is whether the whistleblowing provisions of this law affected illegal insider trading – an exploitative activity that the SEC says "*undermines investor confidence in the fairness and integrity of the securities markets*" (SEC 2019). My paper addresses this question by examining the effectiveness of the whistleblowing provisions of Dodd-Frank in reducing informed trading by corporate insiders.

Dodd-Frank's whistleblower bounty program increases the financial reward paid to informants for reporting securities law violations including insider trading and strengthens anti-retaliation provisions that were first established under the Sarbanes-Oxley Act (SOX). By both raising the benefit and lowering the cost of blowing the whistle, the new program is likely to increase the probability of having informants come forward (Dyck, Morse, and Zingales 2010). Whistleblowers have been shown to be a credible and effective governance mechanism. Prior research finds that firms with allegations brought against them by whistleblowers reduce their potentially illegal financial reporting behavior (Wilde 2017;

Berger and Lee 2019; Wiedman and Zhu 2017), and that regulatory actions involving whistleblowers are more effective at punishing wrongdoers (Call, Martin, Sharpe, and Wilde 2017). However, there is no assurance that the SEC whistleblower program will be helpful in detecting insider trading. The large financial reward may "*…incentivize frivolous, misleading, exaggerated or otherwise unreliable tips"* (Ebersole 2011) that fill the SEC's system with unnecessary information, wasting resources that could otherwise have been spent more effectively. Additionally, insider trading is hard to detect and prosecute, with former DOE director Linda Chatman Thomsen saying that cases involving insider trading *"…are unquestionably among the most difficult cases we are called upon to prove, and despite careful and time-consuming investigations, we may not be able to establish all of the facts necessary to support an insider trading charge."*[1] Thus, it is ultimately an empirical question whether the increase in the likelihood of detection by whistleblowers following the passage of Dodd-Frank leads to a reduction in insiders' opportunistic trading activity.

According to SEC reports, the Dodd-Frank whistleblower program has been successful in bringing unlawful behavior to light. Since the program's inception through the end of 2019, the SEC has received over 28,000 tips and has awarded a total of over $326 million to 59 individual whistleblowers. It has collected over $1.7 billion in total monetary sanctions, of which $901 million was disgorgement of ill-gotten gains and interest (SEC 2014, SEC 2018). The former director of the SEC's Division of Enforcement, Andrew Ceresney, said that the whistleblower program has transformed the agency "*…both in terms of the detection of illegal conduct and in moving our investigations forward*

[1] L. Chatman Thomsen, Speech, "Testimony Concerning Insider Trading", September 26, 2006. Retrieved from: https://www.sec.gov/news/testimony/2006/ts092606lct.htm.

quicker and through the use of fewer resources".[2] Specifically in relation to insider trading, the SEC has received 1,670 tips since the start of the program in 2011, making it the fourth-largest specific category for which they have received information, behind "offering fraud," "corporate disclosures and financials," and "manipulation." With the aid of a whistleblower who came forward to claim a whistleblowing reward, the SEC levied a $92.1 million penalty against Raj Rajaratnam for his insider trading scheme in 2011. This was publicized as the largest financial penalty assessed against an individual in the SEC's history.[3] Since Dodd-Frank, significant attention has been focused on the unveiling of illegal activity by whistleblowers through the SEC's website as well as through reports in the business press.[4]

Because Dodd-Frank is a one-time event that changed many aspects of firms' governance and information environment, it is difficult to isolate the effect of the whistleblower bounty program on insider trading. To address this potential endogeneity issue, I identify insiders in firms that are more likely to be sensitive to whistleblowing allegations in two ways. First, as my main identification, I identify firms that lobbied against the Dodd-Frank whistleblower bounty program and define their insiders as being more sensitive to this law (Baloria, Marquardt, and Wiedman 2017). Prior literature finds that firms that lobby against regulation changes are the ones investors perceive as needing

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[2] A. Ceresney, Speech, "The SEC's Whistleblower Program: The Successful Early Years", September 14, 2016.
Retrieved from: https://www.sec.gov/news/speech/ceresney-sec-whistleblower-program.html.

[3] Rajaratnam led the Galleon Group hedge fund and gathered tips from a group of firm insiders to trade on. The whistleblower provided details of conversations he overheard between Rajaratnam and Galleon analysts where Rajaratnam disclosed information he had learned from his tip network (*Business Insider 2011; New York Times 2011)*. Rajaratnam was found guilty of securities fraud and was sentenced to 11 years in prison in addition to the civil penalty levied by the SEC.

[4] For example: *Reuters* (2012), *Reuters* (2014), *Reuters* (2016), *Wall Street Journal* (2018), *Wall Street Journal* (2019).

greater oversight. For example, Lo (2003) finds that investors of firms lobbying against executive compensation reforms react more positively to the passage of those reforms, indicating the perceived benefits of tougher oversight for these firms. Specific to whistleblowing, Baloria et al. (2017) find that firms lobbying against Dodd-Frank's program experience positive market reactions around events that increase the probability of the program's passage, indicating that firms are less likely to lobby against the whistleblower program for protecting shareholder interests but more for preserving their own private benefits.[5]

As an alternative measure I define lobbying exposure at the industry level because lobbying benefits accrue not only to the firm itself but might also spillover to similar firms. The economics literature considers lobbying as an industry-level collective good when developing free-riding models, where the lobbying action of one firm benefits all other firms (Olson 1965; Pecorino 1998; Bombardini 2008). I define an industry as sensitive to whistleblowing when the lobbying firms represent more than 5% of the industry's market capitalization and classify firms belonging to that industry as the treatment sample.[6]

Second, as an alternative identification strategy, I define insiders as being more sensitive to the whistleblower law when their firms have weaker internal whistleblower programs based on the volume of complaints received and the firm's responsiveness to them (Stubben and Welch 2018). Prior to the passage of Dodd-Frank, SOX (2002) required

[5] Firms that lobbied against the whistleblower program did so because they disagreed with the provision that whistleblowers could bypass the firm's internal whistleblowing system and report directly to the SEC. They argued that this provision undermined the firm's own internal program. However, Baloria et al. (2017) find that lobbying firms had weaker internal whistleblower programs and more entrenched management when compared to a size- and industry- matched sample, suggesting that they were ineffective in addressing whistleblowers' complaints.

[6] My results are robust to using cutoffs of 10%, and 25% of the industry's market cap to define lobbying industries.

firms to establish internal programs to address whistleblower complaints. Firms with strong internal programs can effectively address issues raised in whistleblower complaints before they become damaging to the firm or are leaked to outside agencies (Stubben and Welch 2018). However, in the SOX regime, because there was no formal process to report claims externally and internal reporting was encouraged by regulators, firms could potentially delay or silence whistleblowers. Dodd-Frank formalized a process for whistleblowers to report externally, meaning they can bypass their firm's reporting system and complain directly to the SEC. Therefore, firms with weak internal whistleblower programs are likely to be more sensitive to whistleblowing allegations following Dodd-Frank.[7] In additional analyses, I test the complementarity of the two measures of whistleblowing sensitivity by examining the joint setting of lobbying and weak internal programs.

The above measures are based on observing the behavior of the firms themselves and using this behavior to determine how sensitive their insiders are to the Dodd-Frank whistleblower program. However, these firm-level decisions are endogenously chosen, and I cannot fully rule out alternative explanations. To provide further reassurance regarding my results, I use a third measure of sensitivity that does not rely on a potentially endogenous firm decision – the firm's cumulative abnormal return around the passage date of the Dodd-Frank whistleblower program. As mentioned previously, the prior literature uses market reactions to measure a firm's sensitivity to potential regulation changes. A positive market reaction may indicate that market participants believe the firm would

[7] There may be a concern that internal whistleblower programs have become irrelevant after Dodd-Frank created a channel for whistleblowers to report complaints externally. However, even after the implementation of Dodd-Frank, most whistleblowers still report internally. The SEC reports that 83% of whistleblowers who came forward under the program first reported to their company's internal system (SEC 2018). Thus, it appears that whistleblowers are only likely to elevate their complaints to the SEC if the firm's internal compliance system is ineffective at handling the complaint.

benefit from the additional oversight provided by the regulation (Lo 2003; Baloria et al. 2017). Following prior literature, I define insiders at firms that experienced positive abnormal returns around the adoption date of the Dodd-Frank whistleblower program as being more sensitive to the law.

For my main analyses, I focus on insider purchases to measure opportunistic insider trading behavior. Insider purchases are more likely to be information-based, while insider sales are often used for portfolio rebalancing and liquidity reasons thus making it difficult to identify insiders' informed selling behavior (Cohen, Malloy, and Pomorski 2012). Following prior literature, I use the profitability of a trade to assess opportunistic insider behavior under the assumption that a more profitable trade is likely to be based on private information (Huddart and Ke 2007; Jagolinzer, Larcker, and Taylor 2011; Gao, Lisic, and Zhang 2014). Also following prior literature, I use the four-factor adjusted trading profits measured over a 180-day window following each firm-day with an insider purchase.

I find that the profitability of insider purchases is reduced at firms that are more likely to be affected by the whistleblower bounty program. My regression results show that, following the passage of Dodd-Frank, insiders at firms that lobbied against the whistleblower law have their profits reduced by an average of 0.06% per day in the 180-day window following the trade relative to all other insiders in my sample.[8] When I define lobbying based on industry, the average profits of treated insiders reduce by about 0.10% per day. When whistleblowing sensitivity is defined by the strength of the internal

[8] This result is in line with the magnitude found in prior literature, e.g., Jagolinzer et al. (2011) find that insiders at firms whose trades require general counsel approval have a 0.08% reduction in daily trading profits as compared to insiders at firms who can trade without approval; Gao et al. (2014) find that insiders at firms that increase their CSR consciousness have their daily trading profits reduced by 0.047% following the increase in CSR as compared to a matched sample.

whistleblower program, I find that the average profits of insiders with weaker internal programs reduce by 0.03% per day. Finally, I find that insiders at firms that had a positive market reaction around the passage date of the whistleblower bounty program have their profits reduced by 0.06% after Dodd-Frank. These negative and economically meaningful effects provide evidence suggesting that the whistleblower bounty program has served as an effective deterrent to insiders trading on their private information.

I also examine settings with interactions between both of my firm behavior-based sensitivity measures - lobbying firms and firms with weak internal whistleblower systems. I split the lobbying firms into two new treatment samples – insiders at firms that lobbied *and* had weak internal whistleblower programs, and insiders at firms that lobbied *and* had strong internal whistleblower programs. When I rerun my analysis and include both of these treatment samples, I find that insiders at firms that lobbied *and* had weak internal whistleblower systems had their profits reduced by about 0.08% per day following Dodd-Frank as compared to all other insiders. In contrast, firms that lobbied *and* had strong internal whistleblower programs had no statistically significant reduction in their trading profits compared to all other insiders. This suggests that insiders at firms with weak internal whistleblower programs that lobbied against the Dodd-Frank program are the ones that are most affected by the new provisions.

Because my research design centers on differentiating whistleblowing sensitivity across subsets of firms, it is less likely that my results are fully attributable to some uncontrolled-for factors. To provide further assurance regarding endogeneity, I rerun my analysis on lobbying firms in an entropy-balanced sample. I balance my treatment and control firms on both the first and second moments of all the independent variables used in

my regression specification (Hainmueller 2012). My results remain robust using this entropy-balanced sample.

Thus far my analyses focus on insider purchases. In additional analyses, I examine event settings where insider sales (as well as purchases) are more likely to be informed. Specifically, I focus on periods prior to earnings announcements and announcements of M&As. Jagolinzer et al. (2011) show that insiders make use of rule 10b5-1 to trade in restricted periods, namely prior to earnings announcements, and these trades are found to be profitable. Following Jagolinzer et al. (2011), I expect insider sales (purchases) in the pre-announcement period to be information-based if the earnings announcement elicits a negative (positive) market reaction. Whistleblowers may be especially useful in this setting because they can help the SEC separate legitimate 10b5-1 plans from exploitative or deceitful ones by providing information on what the insiders in question knew when setting up their trading plan. Thus, I examine whether there is a post Dodd-Frank reduction in the volume of insider sales (purchases) occurring in the 20 trading days prior to an earnings announcement that elicits a negative (positive) market reaction. Consistent with my expectation, I find that the volume of potentially information-driven insider sales (purchases) in the pre-earnings announcement window significantly reduces following Dodd-Frank. Second, I examine insider sales in the 20 trading days prior to an M&A announcement that is negatively perceived by investors and find less insider selling in that window in the post-Dodd-Frank period.[9]

[9] I focus on volume and not profitability because the profitability of the trade will be driven by the announcement return by construction. Since I split my sample into positive- and negative-return groups, the profitability of the trade is mechanical.

This paper makes several contributions. I contribute to the growing literature on the effects of the non-banking provisions within Dodd-Frank (Baloria, et al. 2017; Wiedman and Zhu 2017; Berger and Lee 2019) and show that the regulation may be an effective step toward deterring and preventing illegal insider trading – an area of interest to regulators given their increased focus on investor protection. While previous studies have focused on firm-level misconduct such as fraud (Wiedman and Zhu 2017; Berger and Lee 2019), I focus on misconduct at the individual level. My results suggest that Dodd-Frank's whistleblower bounty program discouraged insiders from trading on their private information. Thus, Dodd-Frank not only reduced enterprise-level misconduct (Wilde 2017; Wiedman and Zhu 2017; Berger and Lee 2019), but also impacted the potentially illegal behavior of executives. Overall, my results provide some insight into the extensive impact of regulation changes like Dodd-Frank.

I also contribute to the literature on the effectiveness of whistleblowers in preventing illegal activities. The literature on whistleblowers has mainly focused on their ability to help detect financial or tax fraud (Dyck, Morse, and Zingales 2010; Wilde 2017; Heese and Pérez-Cabazos 2019; Berger and Lee 2019). Financial and tax frauds are usually schemes that involve many participants and the falsification of documents, meaning there are potentially numerous opportunities for a whistleblower to obtain information on the alleged wrongdoing. I extend this literature by showing that whistleblowers may also be helpful in deterring crimes that do not leave an obvious paper trail and are hard to prove, such as illegal insider trading. My findings suggest that incentivizing whistleblowers to come forward may be an effective way for regulators to get firsthand knowledge of

potential violations and help separate innocent or coincidental behaviors from exploitative and illegal ones.

Finally, I contribute to the literature on insiders' informed *sales*. In general, informed insider sales are difficult to identify since insiders often sell for portfolio rebalancing and liquidity reasons. Previous literature studying insider trading in general samples (Lakonishok and Lee 2001; Ravina and Sapienza 2010; Gao et al. 2014) either exclude insider sales from their analyses or find weak or non-intuitive results for insider sales.[10] Cohen, Malloy, and Pomorski (2012) develop insider-level criteria to separate informed insiders based on seasonality-based repeat trading; however, their method results in substantial sample attrition due to the longitudinal data requirement.[11] I address the problem faced by prior studies in identifying informed insider sales by developing a transaction-level measure based on ex post information. I identify event-specific settings when insiders who sell are more likely to be informed, specifically, prior to negatively-perceived earnings announcements and M&As, and document that the informed selling behavior before these events is reduced after Dodd-Frank.

The remainder of this paper is organized as follows: Section 2 contains a description of the setting. Section 3 discusses related studies and develops the main hypothesis. Section 4 discusses the research design. Section 5 reports the main analyses. Section 6 reports additional analyses and robustness tests. Section 7 concludes.

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[10] Lakonishok and Lee (2001) find that insider sales have "no predictive ability" for future returns; Jeng, Metrick, and Zeckhauser (2003) find no abnormal trading profits on insider sales; Gao et al. (2014) use only insider purchases for their analyses; Ravina and Sapienza (2010) find that corporate officers and independent directors do not make abnormal trading profits on their sales.

[11] Ali and Hirshleifer (2017) use the setting of earnings announcements to identify profitable insiders as informed traders, by ranking on the profitability of their trades. Motivated by their approach, my method uses ex post information about the direction of the forthcoming earnings news and identifies transaction-level informed trading (both purchases and sales) rather than identifying informed insiders as in Ali and Hirshleifer (2017).

2. BACKGROUND

2.1 The SEC Whistleblower Program

As part of Dodd-Frank, the SEC established the Office of the Whistleblower within their Division of Enforcement. This office oversees the new SEC whistleblower program, which substantially changes the way in which the government handles whistleblowing tips related to securities law violations including insider trading. First, the new provisions allow for whistleblowers to receive more monetary compensation for their tips. Under the Dodd-Frank rules, a whistleblower (WB) is entitled to between 10% and 30% of the monetary sanctions obtained as a result of their whistleblowing action, if the total sanctions are over $1,000,000. Second, the Dodd-Frank provisions allow a whistleblower to blow the whistle directly to the SEC. This differs from the previous law under SOX, which required firms to establish internal whistleblower programs and had no formal process for whistleblowers to report claims regarding securities law violations externally (Archambeault and Webber 2015). Finally, the Dodd-Frank provisions strengthen the anti-retaliation provisions that were established by SOX. The new rules allow a whistleblower to file an anti-retaliation complaint in federal court, rather than pursuing an administrative process run by OSHA (Occupational Safety and Health Administration) which ruled in favor of whistleblowers "only in the strongest cases" (Zuckerman 2017). The anti-retaliation rules also increase the amount of damages a whistleblower can receive if he or she is a victim of retaliation, from back pay to double back pay. In addition, the rules give the SEC the ability to pursue firms who impede or prevent whistleblowers from coming forward.

The new Dodd-Frank program is modeled after the IRS whistleblower program, which provides monetary rewards to whistleblowers reporting tax violations. It is also influenced by the False Claims Act (FCA) of 1863, which provides monetary rewards and anti-retaliation protections to whistleblowers who provide evidence of a false claim submitted to the government, particularly in cases of procurement fraud and Medicare and Medicaid fraud in the defense and healthcare industries (Latham & Watkins 2012). Dodd-Frank expands the scope of whistleblowing provisions in these laws to cover securities law violations including insider trading.

The Dodd-Frank program is an improvement over the previous SEC whistleblower program which, while it was exclusively for insider trading allegations, had many significant weaknesses. Under the old program, the financial motive for whistleblowers to come forward was minimal. A successful whistleblower was only eligible to receive 10% of the insiders' ill-gotten profit and this reward was not guaranteed even in cases where the SEC successfully acted upon the whistleblowers' information. Also, there was not much awareness of the program, with the SEC saying in their 2010 review of the program that it *"… is not widely recognized inside or outside the Commission*" (SEC 2010). Only 35 total claims were brought forward in the program's 20-year life.

As discussed in the introduction, the Dodd-Frank whistleblower program has been successful in bringing in claims to the SEC. Since the program's inception, the SEC has received an unprecedented number of tips on insider trades and has levied a significant number of sanctions against wrongdoers (SEC 2014, SEC 2018). Thus, the whistleblower program has been effective in detecting illegal conduct in a more timely and cost-effective

manner (Ceresney 2016). However, the effectiveness of the program in reducing hard-to-detect illegal activity like informed insider trading remains an unexplored question.

2.2 Insider Trading

Research into insider trading has found that despite the large potential penalties that come with being detected, insiders seem willing to trade on their private information for personal gain at the expense of other market participants. The empirical literature documents positive effects when countries institute regulations to prevent illegal insider trading. Prior studies find that when countries enforce insider trading laws for the first time, firms experience a decline in the cost of equity capital (Bhattacharya and Daouk 2002), an increase in analyst following (Bushman et al 2005), higher stock price informativeness (Fernandes and Ferreira 2009),[12] more timely loss recognition (Jayaraman 2012), and lower reporting opacity (Zhang and Zhang 2018).

Even in countries with relatively strict and well-established insider trading laws like the US, there is still evidence that insiders act opportunistically on their private information. The literature has found many settings where insiders are willing to trade on their information. Prior studies find insider trading before comment letters from the SEC become public (Dechow, Lawrence, and Ryans 2016), before accounting scandals are revealed (Agrawal and Cooper 2015), before GAAP misstatements are disclosed (Thevenot 2012) and before audit reports are released (Arif et al. 2018). More recently,

[12] This result is contrary to that found in the early literature on insider trading (Manne 1966; Carlton and Fischel 1983) which asserts that insider trading leads to more informative stock prices by allowing insiders to incorporate their private information into the price. However, Fishman and Hagerty (1992) develop a model where insider trading may "crowd out" trading by other informed market participants, and lead to less efficient prices.

evidence indicates that executives in politically connected banks profitably traded shares 30 days before their banks received TARP (Troubled Asset Relief Program) infusions (Jagolinzer et al. 2019).

Insiders can also manipulate firm events or conditions to benefit their future trades. Examples of this include managers manipulating the timing of earnings announcements to benefit their preplanned stock transactions (Niessner 2015), and managers strategically placing their preplanned transactions around events that benefit their trade (Jagolinzer 2009). These papers indicate manipulative use of 10b5-1 plans, which allow insiders to pre-plan trades in order to avoid the appearance of illegal insider trading. Insiders are allowed to establish these trading plans only in periods when they do not possess any material private information. However, the findings of the above literature seem to indicate that this is not the case. Therefore, 10b5-1 plans may be a factor contributing to the difficulty in proving illegal insider trading.

The literature has also examined potential factors that may prevent insiders from trading on their private information. Some mitigating influences on insider trading are litigation risk (Jung, Nam, and Shu 2018), firms investing in corporate social responsibility (Gao et al. 2014), and internal governance measures aimed specifically at insider trading, like requiring insiders to have general counsel approval to trade within restricted windows (Jagolinzer et al. 2011). Prior studies show that external monitors, including the media (Dai, Parwada, and Zhang 2015) and institutional owners (Hillegeist and Weng 2018), lead to a reduction in insiders' trading profits.

The results in the literature on the role of regulation changes in the U.S. in deterring illegal insider trading are mixed. Jaffe (1974) examines the effect of three court rulings

during the 1960s that strengthened the SEC's ability to prosecute illegal insider trading cases. His results are inconclusive. He finds a short-term reduction in insider trading profitability around two of the three court cases he examines, but this reduction is short-lived and disappears within eight months following the rulings. Seyhun (1992) examines the deterrent effect of an increase in statutory sanctions during the 1980s and finds no effect on insider trading profitability or trading volume. Garfinkel (1997) looks at the effect of the Insider Trading and Securities Fraud Enforcement Act (ITSFEA) on insider trading behavior. The ITSFEA increased the maximum criminal monetary penalty as well as the maximum prison sentence that can be imposed on insiders who trade illegally.[13] It also established a bounty program where informants were entitled to 10% of the insiders' profits. Garfinkel (1997) finds that, after the enactment of ITSFEA, there is a decrease in the amount of insider selling before an earnings announcement with a negative earnings surprise, consistent with a decrease in informed trading.

Dodd-Frank differs from these previous regulation changes because it deals solely with an increase in the potential detection of insider trading and not an increase in the punishment of lawbreaking insiders. The Dodd-Frank whistleblower program includes both an increased monetary incentive for whistleblowers as well as anti-retaliation provisions, which may make whistleblowers much more likely to come forward and provide a stronger deterrent effect on insiders. As discussed earlier, the Dodd-Frank Whistleblower program differs significantly from the program that was established under the ITSFEA. Under the ITSFEA, informants were only entitled to 10% of the insiders' profits and were not protected against retaliation from their employer. There was also little

[13] Under the ITSFEA, the maximum criminal penalties were increased to a $1 million fine and 10 years in prison for each violation. This is still the current law.

awareness of the ITSFEA bounty program, with the SEC only receiving 35 total claims and paying $159,537 to the 5 successful claimants in the program's 20-year history. This lack of awareness likely suppressed any potential deterrent effect on insider trading caused by whistleblowers under the ITSFEA and led Congress to establish an improved whistleblower program in Dodd-Frank.

In a concurrent working paper, Kacperczyk and Pagnotta (2020) examine the effect of legal risk on illegal insider trading, using Dodd-Frank as a positive shock to legal risk. Using a sample of insider trades prosecuted by the SEC, they find that after Dodd-Frank insiders who trade illegally shift the timing of their trades and are less likely to submit large trades, consistent with them being more cautious following the increase in legal risk. My study differs from theirs in two ways. First, they focus on informed traders who were *detected* by the SEC. These traders may differ substantially from those who were not detected, and it is unclear whether their results would generalize to all informed traders. I instead focus on a broad sample of insider purchases, allowing me to identify a deterrent effect across all firm insiders who are affected by the Dodd-Frank whistleblower program – not just those that were detected by regulators. Second, and most importantly, Kacperczyk and Pagnotta (2020) use the entirety of Dodd-Frank to measure an increase in legal risk. In contrast, my research design allows me to isolate the specific part of the law that is most likely to impact insider trading – the Dodd-Frank whistleblower program. Therefore, I can speak more clearly and specifically on the effect of whistleblowing on insider trading.

3. HYPOTHESIS DEVELOPMENT AND IDENTIFICATION

3.1 Hypothesis Development

Whistleblowing (and the threat of whistleblowing) have been shown in the literature to be a meaningful governance tool for reducing illegal behavior by firms and more effectively punishing wrongdoers. The revelation of a whistleblowing allegation is subject to an immediate negative response by the market and is associated with long-run negative outcomes like shareholder lawsuits (Bowen, Call, and Rajgopal 2010). Thus, prior studies show that whistleblowing allegations are not frivolous or uninformed on average. Call et al. (2017) provide further evidence on the usefulness of whistleblowers, finding that regulatory actions that involve a whistleblower result in higher monetary penalties on the offending firms and longer prison sentences for lawbreaking executives.

Several prior studies document the deterrent effects of the threat of whistleblowing on harmful firm behavior. Wilde (2017) finds that firms that have a whistleblower complaint decrease their tax aggressiveness and are less likely to have accounting irregularities following the allegation. Berger and Lee (2019) show that firms that are exposed to state-level False Claims Act are less likely to commit fraud, as measured by the Dechow, Ge, Larson, and Sloan (2011) F-Score. Stubben and Welch (2018) find that firms that use their internal whistleblower system more actively are less likely to have a material lawsuit filed against them. Their result suggests that firms that are more proactive and address whistleblowing allegations before they escalate can prevent some of the negative consequences associated with whistleblowing allegations. Baloria et al. (2017) find that the market reaction around events that increased the likelihood of Dodd-Frank's passage are

more positive for firms that lobbied against the SEC whistleblower bounty program, suggesting that equity investors perceive the program as net positive for these firms.

However, there may be reasons to believe that the increase in financial rewards and anti-retaliation protections provided by the Dodd-Frank program may not be enough to get whistleblowers to come forward. First, blowing the whistle has both psychological and social costs to the whistleblower. By reporting allegations that can potentially lead to their employer's punishment, ranging from regulatory sanctions to the total dissolution of the company, whistleblowers risk being scorned by their coworkers who may be hurt by these actions. Future employers may also be reluctant to hire a whistleblower if they suspect disloyalty (Rapp 2007). In survey evidence from Dutch whistleblowers, van der Velden, Pecoraro, Houwerzijl, and van der Meulen (2018) find that 85% of whistleblowers suffer from severe mental distress, with symptoms including anxiety, depression, elevated levels of distrust, and sleeping problems.

The structure of the law also might not be conducive to bringing whistleblowers forward to report insider trading violations. In order to be eligible for an award, whistleblowers must disclose their identity either to the SEC directly on the whistleblowing report or retain an attorney to act as an intermediary between the SEC and themselves. If whistleblowers choose to remain completely anonymous to all parties, they are not eligible for the financial reward (Archambeault and Webber 2015). Additionally, the cutoff necessary to achieve a reward is high with the SEC needing to collect at least $1 million in monetary penalties for the whistleblower to receive any financial compensation. Given that insider trading is an executive-level activity and not a firm-wide collaborative effort with

many involved participants, potential whistleblowers may simply never get the evidence they need to come forward with a claim.

These impediments to whistleblowers coming forward may not be that severe, first, because the SEC guarantees the anonymity of whistleblowers to all parties (except for their attorney or the SEC itself), and second, because the average insider trading profit in cases prosecuted by the SEC is sufficiently large to exceed the minimum monetary penalty threshold for award eligibility.[14] Moreover, the large volume of whistleblower tips received by the SEC for illegal insider trading (specifically, 1,670 tips from 2011-2018) indicates that the Dodd-Frank program has been successful in bringing informants forward. In view of the above arguments, I expect the SEC whistleblower bounty program to result in a reduction in insiders' opportunistic trading. I test this hypothesis by identifying firms that are more sensitive to whistleblowing allegations, as measured by (i) their lobbying behavior during the run-up to the passage of Dodd-Frank, (ii) the weakness of their existing internal whistleblower programs, and (iii) their cumulative abnormal return around the passage date of the Dodd-Frank whistleblower program.

3.2 Identifying Sensitivity to the Dodd-Frank Whistleblower Program

Because Dodd-Frank was a one-time shock which changed many aspects of the economy simultaneously, I need to identify firms that were more sensitive to potential whistleblowing allegations in the pre- Dodd-Frank period in order to isolate the effects of the whistleblowing provision from all other changes. I identify sensitive firms in three ways – firms that lobbied against the whistleblowing provision, firms with weak internal

[14] For the 465 cases prosecuted by the SEC from FY 2011 to FY 2015, the average insider trading profit was $992,680 (Perino 2019). Note that the monetary penalties imposed by the SEC typically consist of a significant amount of punitive damages in addition to disgorgement of trading profits.

whistleblower programs, and firms with a positive market reaction around the passage date of the Dodd-Frank whistleblower program.

3.3.1 Lobbying

As my main identification, I follow Baloria et al. (2017) and consider firms that lobbied against the Dodd-Frank whistleblower program directly as being more sensitive to potential whistleblowing allegations. In their paper, Baloria et al. (2017) find that lobbying firms have weaker internal whistleblower programs and a higher degree of managerial entrenchment than matched control firms. Consistent with the idea that lobbying firms would benefit from the additional governance provided by whistleblowers, Baloria et al. (2017) finds that the stock market reaction for lobbying firms around events that increased the probability of the implementation of the whistleblowing provision was positive. Thus, the evidence suggests that firms that lobbied against the whistleblowing provision were not doing so to prevent damage to their shareholders but were doing so in order to maximize the private benefits of their managers. A similar result is found in Lo (2003), who finds that the market reaction for firms that lobbied against executive compensation reforms was more positive around the passage of those reforms as compared to non-lobbying firms, indicating the perceived benefits of tougher oversight on the firms that lobbied.

To identify lobbying firms, I follow Baloria et al. (2017) and gather all comment letters submitted to the SEC in response to their proposed rules for implementing the Dodd-Frank whistleblower program. I code *Lobby* = 1 if the firm lobbied against the SEC whistleblower program. As an alternative measure I define lobbying exposure at the industry level because lobbying benefits accrue not only to the firm itself but might also spillover to similar firms (Olson 1965; Pecorino 1998; Bombardini 2008). I code *Lobby* =

1 when the lobbying firms represent more than 5% of the industry's market capitalization as measured at the end of 2009 and classify insiders in firms belonging to that industry as the treatment sample.[15] [16]

3.3.2 Weak Internal Whistleblower Program

As an alternative identification strategy, I consider firms with weak internal whistleblower programs as being more sensitive to the Dodd-Frank whistleblower program. Although the establishment of an internal whistleblowing system to report financial fraud has been mandatory for all firms since SOX,[17] there is considerable variation in how effectively firms use these programs. Stubben and Welch (2018) find significant differences between industries' whistleblowing systems, with the number of whistleblowing reports per employee varying from 5.55 for the lowest industry (Computers) to 26.01 for the highest industry (Utilities). They also find that firms who more actively utilize their internal whistleblowing systems have fewer material shareholder lawsuits filed against them, and their lawsuits settle for lower amounts. This indicates that firms who effectively use their internal whistleblowing systems can alleviate issues before they become damaging to the firm. Soltes (2019) also finds extensive variance between the quality of firms' internal whistleblowing systems. He finds that 20% of firms have impediments that prevent whistleblowers from being able to anonymously submit a report, with issues including disconnected phone lines and systems allowing emails only from verified company accounts (thus revealing the identity of the "anonymous" whistleblower).

[15] I use SIC 4-digit industries when defining *Lobby* by industry. Results are robust to using SIC 2- and 3-digit industries for this definition.
[16] My results are robust to using cutoffs of 10% and 25% to identify lobbying industries.
[17] §301 of the Sarbanes-Oxley Act requires firms to set up channels that enable whistleblowers to anonymously report financial misconduct. In practice, these internal whistleblower programs have the capability to field many types of complaints ranging from bribery to sexual harassment (Soltes 2019).

To identify firms with weak internal governance systems, I use the *Usage* variable from Stubben and Welch (2018). *Usage* represents the common factor underlying their 3 measures of system effectiveness: the number of reports per employee, the percentage of whistleblower reports that are reviewed by the firm, and the fraction of five key reporting variables that are available within the firm's reporting system.[18] I use values of *Usage* provided by Stubben and Welch (2018), estimated at the industry level and normalized to have a mean of zero and a variance of one. I code insiders at firms within industries that have an average *Usage* score below zero as having weaker internal whistleblowing systems.[19]

I also identify sensitive firms based on the complementarity of my firm behavior-based sensitivity measures – *Lobby* and *Low Usage*. I divide the firms that lobbied against the Dodd-Frank whistleblower program into two groups; those that lobbied *and* had a weak internal whistleblowing system (as measured by a below-zero *Usage* score), and those that lobbied *and* had a strong internal whistleblowing system. I define the former group as *Lobby & Low Usage* and the latter group as *Lobby & High Usage*.

3.3.3 Positive CAR around the Adoption of the Dodd-Frank WB Program

The above two measures are based on firm-level decisions that may be potentially endogenous. Therefore, I develop a third measure of sensitivity to the Dodd-Frank whistleblower program that does not rely on any type of firm decision. I use the market reaction to the adoption of the Dodd-Frank whistleblower program as a proxy for how the

[18] The five key variables are (1) how the individual became aware of the activity (e.g., observed personally, informed by customer, etc.), (2) how long the inappropriate activity has been occurring, (3) whether management was aware of the activity, (4) whether management was involved in the activity, and (5) the outcome of the investigation.

[19] The following industries (as defined by Barth, Beaver, and Landsman 1998) have below-zero *Usage*: 'Food', 'Textiles/Publishing', 'Chemicals', 'Pharmaceuticals', 'Extractive', 'Utilities', 'Retail', and 'Other'.

market perceives each firm's sensitivity to the program. A positive market reaction likely indicates that market participants think the firm would benefit from the additional oversight and governance provided by the regulation (Lo 2003; Baloria et al. 2017). Within the context of the Dodd-Frank whistleblowing law, Baloria et al. (2017) examine the market reactions around events related to the passage and implementation of the program and find that firms that lobbied against it had more positive market reactions relative to a control group. These results provide reassurance that the market reaction around the adoption date is related to my *Lobby* construct, and that both measures can be used to identify firms who are sensitive to the Dodd-Frank whistleblower program.

The Dodd-Frank whistleblower program was adopted by Congress on May 25, 2011. I follow Baloria et al. (2017) and measure the market reaction in the (-1, +3) window around this date and define an indicator variable, *Positive CAR*, that equals one for any firm with a positive market reaction in the event window.[20] I focus on the adoption date when market participants become aware of the program in its finished form and can fully evaluate the impact on each firm.[21]

4. RESEARCH DESIGN

4.1 Sample Selection

I obtain insider trading information from the Thomson Reuters Insider Filing Data (TFN), which contains information reported on SEC Forms 3, 4, and 5. I retain all trades made by C-suite executives as well as other top management such as Presidents and Vice

[20] If a firm is missing return data within this window, I set the value for *Positive CAR* for that firm's insiders as zero. My results are robust to removing insiders at firms with missing values.

[21] The results are robust to defining *Positive CAR* using the combined cumulative abnormal return around the six events identified in Baloria et al. (2017) as being significant to the passage of the Dodd-Frank whistleblowing program.

Presidents. I also retain all trades made by members of the board of directors (Ravina and Sapienza 2010). Following the prior literature (i.e., Frankel and Li 2004; Jagolinzer et al. 2011; Gao et al. 2014), I include only open-market transactions made by insiders and exclude trades with (i) a transaction price below $2, (ii) the total number of shares traded below 100, and (iii) the number of shares traded greater than the CRSP daily volume.

I define the pre-Dodd Frank period as the beginning of 2007 through (calendar) Q2 2010 because President Obama signed Dodd-Frank into law on July 21, 2010 (Wiedman and Zhu 2017). I define the post-Dodd Frank period as Q4 2011 through Q4 2014 because the SEC implemented the whistleblower program on August 12, 2011. I drop the intermediate period between the passage of Dodd-Frank and the official implementation of the program as this was a time of regulatory uncertainty. Following Berger and Lee (2019), I exclude insiders in the financial or healthcare industries.[22] My final sample consists of 19,999 insider purchases over the period 2007-2014. Data for control variables is from Compustat, CRSP, and IBES.

To identify the sample of lobbying firms, I begin with the full sample of 283 firms that lobbied against the Dodd-Frank whistleblower law as identified in Baloria et al. (2017). After eliminating foreign firms, private firms, firms in the healthcare and financial industries, and firms with missing control variables, the final sample consists of 129 firms that lobbied against the Dodd-Frank whistleblower program and had insider purchases during the sample period.

[22] Firms in healthcare industries are likely affected by Medicaid-only False Claims Act laws, which allow whistleblowers to report firms for fraudulently making Medicaid claims. Since this law is like the Dodd-Frank whistleblower program in its structure, firm insiders may have already adapted to the possibility of having the whistle blown on them. Thus, these firms may be unaffected by the implementation of the Dodd-Frank program. Financial firms are excluded because Dodd-Frank includes numerous changes to the regulatory structure for financial firms beyond the whistleblower program. My results are robust to including financial and healthcare firms.

4.2 Measurement of Insider Trading Profits

Following prior literature (Huddart and Ke 2007; Jagolinzer et al. 2011; Gao, et al. 2014), I use the alpha from the following regression as my measure of insider trading profit, measured over 180 days following the day of trade[23]:

$$R_i - R_f = \alpha + \beta_1(R_{mkt} - R_f) + \beta_2 SMB + \beta_3 HML + \beta_4 UMD + \varepsilon \quad (1)$$

where R_i is firm *i*'s daily stock return, R_f is the daily risk-free interest rate, R_{mkt} is the CRSP value-weighted market return, and *SMB*, *HML*, and *UMD* represent the size, book-to-market, and momentum factors.[24] Alpha represents the average daily abnormal trading profit.

For my main analyses, I focus on insider purchases to measure opportunistic insider trading behavior. Insider purchases are more likely to be information-based, while insider sales are often used for portfolio rebalancing and liquidity reasons which makes it difficult to identify insiders' informed selling behavior.[25] I follow Jagolinzer et al. (2011) and count multiple insider purchases on the same firm-day as one observation.[26]

4.3 Main Model

My main analyses are based on the following transaction-day-level model:

$$\begin{aligned} \textit{Trading Profit}_t = \alpha + \boldsymbol{\beta_1[\textit{Dodd-Frank} * \textit{Treatment}]} + \beta_2 \textit{Dodd-Frank} \\ + \beta_3 \textit{Treatment} + \Sigma\beta_k CONTROLS_{k,t-1} + \varepsilon \end{aligned} \quad (2)$$

[23] Prior literature primarily uses or highlights a 180-day window for their main analyses (i.e., Ravina and Sapienza 2010; Jagolinzer, Larcker, and Taylor 2011; Gao, Lisic, and Zhang 2014). The rationale for this window is that Section 16(b) of the Securities and Exchange Act of 1934, or the "short swing rule," penalizes insiders for profits made on transactions that are offset within 6 months.

[24] I thank Kenneth French for providing the data for R_m, R_f, *SMB*, *HML*, and *UMD* on his website. Available at: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

[25] One potential concern with my focus on insider purchases is that regulators may be more concerned with insider sales before negative firm events because the damage to investors is more clearly observable. However, the opposite seems to be true. Of the 5,058 illegal trades identified by the SEC over the 2008-2013 window, 4,220 were insider purchases (Kacperczyk and Pagnotta 2020).

[26] The results are robust to keeping each individual transaction.

where *Trading Profit*$_t$ is the alpha from equation (1), *Dodd-Frank* is an indicator variable that equals one if the trade-day occurs in the post-Dodd-Frank period, and *Treatment* is one of my three treatment conditions - *Lobby*, *Low Usage*, or *Positive CAR*. *Lobby* is an indicator variable that equals one if the insider's firm lobbied against the Dodd-Frank whistleblower program, and *Low Usage* is an indicator variable that equals one if the insider's firm is in an industry with a below-zero *Usage* score for their internal whistleblower program, as reported in Stubben and Welch (2018). *Positive CAR* is an indicator variable that equals one if the insider's firm had a positive cumulative abnormal return in the (-1,+3) window around the adoption of the Dodd-Frank whistleblower program. My hypothesis predicts a negative coefficient on β_1, which would indicate a reduction in profitability of purchases after the Dodd-Frank whistleblower program for insiders at firms that are sensitive to the program relative to insiders of other firms.

I follow Gao et al. (2014) to develop an exhaustive set of controls. Prior studies find that firms with R&D (Aboody and Lev 2000) and firms with losses (Huddart and Ke 2007; Brochet 2010) have higher levels of information asymmetry which gives insiders an advantage when trading in their firm's stock. Thus, I include indictor variables that equal one if the firm had positive R&D expenses ($R\&D_{t-1}$) or reported a loss ($Loss_{t-1}$) for the year-end prior to the transaction date. Ravina and Sapienza (2010) find that stock price volatility is positively related to insider trading profits, so I include a control ($Volatility_{t-1}$) that equals the variance of daily stock returns over the (-380, -20) day window relative to the transaction date. To proxy for the level of investor attention given to the firm, I include the log of one plus the number of analysts following the firm in the year prior to the transaction date ($Analyst_{t-1}$) and the average daily stock turnover in the (-380, -20) day window relative

to the transaction date (*Average Turnover*$_{t-1}$). To control for firm-level governance that can affect insider trading, I include an indicator variable that equals one if the firm has a restricted window for trading (*Restricted Window*$_{t-1}$) in the year prior to the transaction. A firm is considered to have a restricted window if more than 75% of their insider trades within the fiscal year occur in a 30-day window following an earnings announcement. Because insiders tend to be contrarian traders (Lakonishok and Lee 2001), I control for firm characteristics that may be related to insider trading profitability. These controls are the book-to-market ratio (BTM_{t-1}), the earnings-price ratio (EP_{t-1}), and the firm's average sales growth over the prior five years (*Average Sales Growth*$_{t-1}$). I also include a control for past returns (*Buy-and-Hold Return*$_{t-1}$) which is measured as the market-adjusted buy-and-hold return in the (-380, -20) day window prior to the trade. Because large firms are likely to have more investor and regulator attention, I include a variable for firm size ($Size_{t-1}$), measured as the natural log of the market value of equity at the end of the year prior to the transaction. Variable definitions can be found in Appendix A.

Following Wilde (2017), I include fixed effects for industry at the Fama and French (1997) 48-industry level and year fixed effects in my analysis using lobbying firms.[27] When defining *Lobby* by industry and when using *Low Usage* to define treatment, I alter this fixed effects structure to include firm and year fixed effects.[28] All continuous variables are winsorized at the 1% and 99% levels.

[27] These results are robust to using firm fixed effect and firm and year fixed-effect structures.
[28] Since *Lobby* (industry-level) and *Low Usage* do not vary within industry, industry fixed-effects are not appropriate.

4.4 Event-Specific Tests

Next, I extend my analysis to examine insider sales. Because it is difficult to identify information-driven insider sales in broad samples (Lakonishok and Lee 2001; Ravina and Sapienza 2010; Gao et al. 2014), I do not examine insider sales for the full sample, but instead identify settings where insider sales (as well as purchases) are likely to be informed. Insiders have been shown to trade profitably before earnings announcements (Jagolinzer et al. 2011), as well as before M&A announcements (Seyhun 1990; Meulbroek 1992). Therefore, I use both settings to identify informed insider trading.[29] I define an insider sale (purchase) as informed if it is made in the 20-trading-day window before an event that elicits a negative (positive) abnormal market reaction, as measured in the (-1, +1) window around the event. For each event, I collect both the number of informed transactions made within the window as well as the scaled value, which is measured as the value of the insider transactions over the market value of equity at the prior quarter-end. I then test the univariate difference in these variables following the passage of the Dodd-Frank whistleblower program. If the program reduced the level of informed insider trading, I expect a reduction in both the number of transactions and the scaled value traded in the post-period.

I also examine this question using the following regression:

$$\#\ Sells_t = \alpha + \boldsymbol{\beta_1[Dodd\text{-}Frank * Negative\ CAR]} + \beta_2 Dodd\text{-}Frank + \beta_3 Negative\ CAR + \Sigma\beta_k CONTROLS_{k,t-1} + \varepsilon \quad (3)$$

[29] Following Bao and Edmans (2011), I only examine the market reaction for acquirers. I drop all deals in which the acquirer's initial stake exceeded 50% or its final stake was below 50%. I drop deals with a value below $1 million. My results are robust to including targets in the sample as well. M&A data is obtained from SDC Platinum.

where *# Sells* is the number of sales transactions occurring in the 20 trading day window before the event, *Dodd-Frank* is the period after Q4 2011, and *Negative CAR* is an indicator variable that equals one if the cumulative abnormal return in the (-1,1) window around the announcement is negative. Following Huddart, Ke, and Shi (2007), I include controls for firm characteristics that may influence insider behavior within the pre-event window. These controls are firm size and book-to-market ratio, both measured at the closest fiscal quarter-end prior to the event window, and the previous buy-and-hold return in the (-380, -20) window relative to the event. Following my prior tests, I also include year and Fama-French 48-industry fixed effects.

I predict that β_1 will be negative, which would indicate that insiders sell less frequently before events with negative market reactions than they do before events with positive market reactions following the passage of the Dodd-Frank whistleblower program. This would provide evidence in favor of a decrease in informed trading, and not just a decrease in insider trading in general within these pre-event windows.

I examine all firms within this setting, and not just those I identify as sensitive to whistleblowing allegations in my broad sample. As discussed above, I assume that any profitable trade made within the window before an information event is informed. I expect all insiders that trade within the pre-event window to be sensitive to whistleblowing allegations for two reasons. First, firms that allow these profitable trades to occur in the pre-event window are more likely to have weak controls over insider trading (Jagolinzer et al. 2011) and therefore more sensitive to whistleblowing. Second, because the period before an information event is a high-jeopardy period, insiders who trade in this period are exposed to an elevated risk of enforcement for illegal insider trading (Huddart, Ke, and Shi

2007). Insiders who are trading in this window are likely using 10b5-1 plans to provide cover for their informed trading before these information events (Jagolinzer 2009). The increased threat of whistleblowers following Dodd-Frank may make insiders more cautious when using these plans, as whistleblowers can potentially help regulators disentangle legitimate 10b5-1 use from exploitative use. For these two reasons, all insiders who profitably trade within the window are likely sensitive to the increase in the probability of having a whistleblower report their behavior, and I expect an on-average reduction in this behavior for all firms following the enactment of the Dodd-Frank whistleblower program.

5. RESULTS

5.1 Descriptive Statistics

Table 1 presents descriptive statistics for my sample of insider purchases. The average insider purchase is profitable in my sample, earning 0.055% daily abnormal trading profit. This is in line with the profitability on insider purchases found in prior research, with Gao et al. (2014) finding a daily abnormal trading profit of 0.0564% for their control sample and Jagolinzer et al. (2011) finding a daily abnormal trading profit of 0.06%. The mean value of *Lobby* shows that 6% of the trade-days within the sample are by insiders at firms that lobbied against the Dodd-Frank whistleblower bounty program. When *Lobby* is expanded to the industry-level, 33.4% of trade-days are treated. When *Low Usage* is used to define sensitivity to the Dodd-Frank whistleblower bounty program, 43% of trade-days are included in the treatment sample. Finally, when *Positive CAR* is used to define sensitivity, 46.3% of trade-days are treated.

Table 2 presents the correlation table for the variables used in the regression analyses. The three firm behavior-based measures of sensitivity to whistleblowing (*Lobby*, *Lobby*

(Industry), and *Low Usage)* are positively and significantly correlated with each other, which provides reassurance that they capture a similar construct. Additionally, the market-based measure, *Positive CAR*, is significantly correlated with my main firm behavior-based measure *Lobby*. The correlations between many of the control variables and *Trading Profit* are also consistent with their predicted direction. *R&D* and *Loss* are positively correlated with *Trading Profit*, consistent with the idea that these variables capture the degree of information asymmetry between firm insiders and outsiders. *Analyst*, *Average Daily Turnover*, and *Size* are negatively correlated with *Trading Profit*, indicating that more investor attention is associated with less profitable trading. *Volatility* is positively correlated with *Trading Profit*, consistent with Ravina and Sapienza (2010). Finally, *Average Sales Growth* is negatively correlated with *Trading Profit*, consistent with the idea that insiders are contrarians.

5.2 Regression Results

Table 3 reports the main results from using the *Lobby* variable as the measure of sensitivity to the Dodd-Frank whistleblower program. Panel A presents a univariate difference-in-differences analysis to provide an intuitive overview of the effect of the whistleblower program on *Lobby* firms. In the pre-period, insiders at firms who lobbied against the Dodd-Frank whistleblower program had more profitable insider purchases on average (0.063% average daily alpha for treated insiders versus 0.049% for the control group) which is consistent with these insiders trading more effectively on their private information. After Dodd-Frank, this advantage disappears. In fact, insiders at firms that lobbied against the whistleblower program make less profit on their insider purchases, on average, than all other insiders (0.034% average daily alpha for treated insiders versus

0.066% for the control group). Similar results are observed when I alter the *Lobby* variable to be at the industry level, with the difference-in-differences test finding a 0.037% reduction in average daily trading profit relative to the control group following the enactment of the Dodd-Frank whistleblower program. These results provide evidence in favor of my hypothesis that insiders who are more sensitive to potential whistleblowing allegations are less likely to trade on their private information following the enactment of the whistleblower program.

Panel B presents the results from estimating equation (2) with *Lobby* as the measure of sensitivity to the Dodd-Frank whistleblower program. The variable of interest is *Dodd-Frank * Lobby* which indicates the change in profitability of insider purchases following the enactment of the Dodd-Frank whistleblower program for insiders in firms that lobbied against the program, as compared to all other insiders. The first three columns present the results when lobbying is defined at the firm-level. The results show that the profitability of insider purchases is reduced by about 0.06% per day for insiders that are sensitive to the new whistleblower program relative to all other insiders. The negative and significant coefficients across all specifications are once again consistent with my hypothesis that insiders who are sensitive to the Dodd-Frank whistleblower program will be less likely to trade on their private information following its enactment. Most control variables are in the predicted direction, consistent with the prior literature. Insiders at firms with losses (*Loss*) and higher volatility (*Volatility*) have on-average higher trading profits, whereas insiders at firms that are large (*Size*) and with a higher monitoring intensity (*Average Daily Turnover* and *Analyst*) have on-average lower trading profits.

Columns 4 and 5 of Table 3 present results when the *Lobby* treatment is assigned to insiders at the industry-level. The inferences remain unchanged when using this alternative definition of *Lobby*. The profitability of purchases for insiders who are sensitive to potential whistleblowing allegations is reduced by about 0.10% per day in the post-Dodd-Frank period.

To address potential endogeneity concerns, I rerun the analysis from Table 3 in an entropy-balanced sample. Entropy balancing allows me to achieve covariate balance between my treatment and control firms without losing observations or having to specify a selection model, which is required for methods such as propensity score matching and may be sensitive to research design decisions (DeFond, Erkens, and Zhang 2016) . I balance the treatment and control groups on both the first and second moments of all independent variables (aside from the treatment condition) reported in Table 3.[30] Table 4 presents the results from the entropy-balanced sample. The coefficient values for the results using *Lobby* as defined at the firm-level (columns 1 through 3) are slightly lower in the entropy-balanced sample compared to the results from Table 3. However, the coefficients are still significant at least at the 5% level and the magnitudes are fairly sizeable (about equal to 60% of the mean of *Trading Profit*). The results when defining *Lobby* at the industry-level remain virtually unchanged. These results provide assurance that my main findings are not driven by fundamental differences between treatment and control observations.

Table 5 reports the regression results when using the second measure of an insider's sensitivity to whistleblowing allegations: the strength of the firm's internal whistleblower program. The coefficient on *Dodd-Frank * Low Usage* is negative and significant in both

[30] I balance these variables using the entire sample. My results are robust to reweighting observations within each year.

specifications, indicating a reduction in insider trading profits in the post-Dodd-Frank period. The magnitude of the coefficients is lower than for the lobbying firms, with a reduction in trading profits around 0.03% per day. These results provide confirmatory evidence in support of my hypothesis that insiders in firms that are sensitive to whistleblowing allegations reduce their opportunistic behavior following the enactment of the Dodd-Frank whistleblower program.

Table 6 presents the results when treatment is defined as the interaction between lobbying and the strength of the firm's internal whistleblower program. The coefficient on *Dodd-Frank * Lobby & Low Usage* is negative and significant across each of the specifications, while the coefficient on *Dodd-Frank * Lobby & High Usage* is, while negative, not statistically different from zero in all specifications. This result shows that insiders at firms that lobbied *and* had a weak internal whistleblowing system are the ones that saw a reduction in their trading profits, while insiders at firms that lobbied *and* had a strong internal whistleblowing system did not see a statistically significant reduction. The results speak to the complementarity between the two firm-based measures of whistleblowing sensitivity, with insiders at firms that are considered sensitive by both measures being the ones that suffer the largest reduction in abnormal daily trading profit on their purchases.

Table 7 reports the regression results when using the market-based measure of an insider's sensitivity to whistleblowing allegations: whether the firm had a positive market reaction around the passage date of the Dodd-Frank whistleblower program. In columns 1 through 3, I present the results when identifying insiders at all firms with a positive market reaction as sensitive to the law. The coefficient on *Dodd-Frank * Positive CAR* is negative

and significant across all three columns with a reduction of trading profits in the range of 0.072% to 0.08%, consistent with my prior findings. I recognize that firms with positive but near-zero market reactions around my event date may not be that sensitive to the Dodd-Frank whistleblower program. Therefore, in columns 4 and 5, I modify my definition of *Positive CAR* to only include firms that were in the top quartile of market reactions.[31] When using this alternative definition, the coefficient on *Dodd-Frank * Positive CAR* remains negative and significant, while the reduction in trading profits increases to about 0.087%. These results support the hypothesis that insiders at firms perceived by market participants as benefiting from the additional oversight provided by the Dodd-Frank whistleblower program are the ones that experience a reduction in their informed trading following the implementation of the program. Additionally, by finding an effect consistent with my prior results when using a market-based measure as opposed to my previous firm behavior-based measures, these results provide assurance that the results I observe are not solely attributable to endogenously chosen factors.

5.3 Event-Specific Results

Table 8 reports the results from the event-specific analyses. Panels A and B present univariate results. Panel A shows the changes in trading behavior by insiders between the pre- and post-Dodd-Frank period in the 20-trading-day window before earnings announcements (EA). The results show that, in the post-Dodd-Frank period, insiders make a smaller number of purchase transactions before an EA with a positive market response and a smaller number of sale transactions before an EA with a negative market response. The reduction in sales transactions is fairly substantial, with insiders making 39% fewer

[31] My results are robust to using above median, top tercile, and top quintile as the treatment condition.

sales transactions within the EA window in the post-period (6.864 transactions in the pre-period versus 4.187 transactions in the post-period). When examining the value traded, there is a numerical but statistically insignificant reduction in the value of insider purchases and a significant reduction in the value of insider sales within the EA window after Dodd-Frank.

Panel B repeats the analysis using M&A announcements as the event of interest. The results are similar but weaker than those found around earnings announcements. There is a significant decrease in the number of sales transactions before a negatively-perceived M&A, and an insignificant decrease in the number of purchase transactions before a positively-perceived M&A. I find consistent but insignificant results when I examine the value traded for both sales and purchases before M&As. Together, these results provide evidence to support my hypothesis that insiders are less likely to use their private information to sell before a negative information event, and weak evidence to support the idea that they are less likely to purchase before a positive information event following the enactment of the Dodd-Frank whistleblower program. The reduction in informed trading behavior also suggests that insiders use 10b5-1 plans less exploitatively (Jagolinzer 2009).

Panel C presents my results from estimating equation (3) for both the earnings announcement and M&A announcement samples. The variable of interest is *Dodd-Frank * Negative CAR*, which indicates the differential reduction in sales transactions before a negative event as compared to a positive event following the enactment of the Dodd-Frank whistleblower program. Columns 1 and 2 present my results for the EA sample. The coefficient on *Dodd-Frank * Negative CAR* is negative and significant in both specifications, representing a reduction of about 0.6 sales transactions in the pre-earnings

announcement window following Dodd-Frank. This result is also economically significant, representing approximately a 10% differential reduction in sales transactions before negative events relative to the pre-Dodd-Frank mean. These results provide evidence in favor of my hypothesis of reduced insider selling in the high jeopardy period before earnings announcements. Interestingly, the coefficient on *Dodd-Frank* is also significantly negative with a large magnitude of -2.148 in column 2. This indicates that insiders are reducing sales transactions before both positive *and* negative information events. This result could indicate that, because of the increased likelihood of having the whistle blown on them, insiders are more cautious in general before information events regardless of the direction to avoid the appearance of informed trading. It could also reflect better governance over insider trading within these high jeopardy periods.

Columns 3 and 4 present my results for the M&A sample. The coefficient on *Dodd-Frank * Negative CAR* is negative as expected, although statistically insignificant. The coefficient on *Dodd-Frank* remains strongly negative. This result could reflect greater uncertainty about the direction of the information event. While earnings announcements have clear benchmarks to meet or beat and the direction of the insider's information is likely unambiguous, it is less clear whether an insider would be able to accurately anticipate how the market will react to their firm's M&A announcement. Therefore, the effect of an increased overall sense of caution or better governance may overpower any direction-specific effect.

6. ROBUSTNESS

The results have consistently shown that there is a reduction in opportunistic insider trading following the enactment of the Dodd-Frank whistleblower program. However,

there still may be concerns about the validity of the results. One potential concern is that, since the pre-Dodd-Frank period in this paper includes the recessionary period from 2008-2010, this design decision may be responsible for the observed results. To address this issue, I rerun the main analyses in Table 3, while defining the pre-Dodd-Frank period as from 2005-2007 to exclude the recessionary period. The results are reported in Table 9. The conclusions from Table 3 remain fully robust when using this alternative pre-period. Following the enactment of the Dodd-Frank whistleblower program, the average daily abnormal profitability on insider purchases is reduced by 0.030% to 0.041% for insiders at firms that lobbied against the program relative to insiders at firms that did not. When *Lobby* is defined at the industry-level, daily abnormal profits are reduced by .028%.

Another potential concern is that the results are driven by the numerous other changes that were implemented as part of Dodd-Frank. The law contains many changes to firms' corporate governance environment that may indirectly influence the profitability of insider trades. Two such changes are the mandated independence of the firm's compensation committee to be listed on a stock exchange and the required disclosure of an executive pay ratio. Regarding the first rule, if the newly independent compensation committee is better able to monitor the firm executives or design compensation in such a way to discourage them from engaging in reputation-damaging activities, then this change could possibly interfere with the observed results. Similarly, if the disclosure of the executive pay ratio causes outside monitors to pay more attention to the firm and provide better governance over firm executives, this may also interfere with the observed effect.[32]

[32] It is worth noting that these concurrent legislation changes should only confound my results if they also differentially affect my treatment sample in a similar way to the Dodd-Frank whistleblower program. Since my sensitivity measures are specific to the whistleblowing law or the firm's whistleblower program, I feel that this possibility is not very likely.

Because both of these regulation changes become effective in the period after January 1, 2013, I rerun the main *Lobby* analysis and drop all years after 2012 to remove any potentially confounded time periods. Results (untabulated) show that all *Lobby* specifications are robust to this change.

Additionally, if my results were attributable to provisions in Dodd-Frank other than the whistleblower program, then the observed effect should occur in the latter portion of my post-period since these other changes became effective after January 1, 2013. To test this, I perform pseudo-event tests on my *Lobby* industry result in which I move the event date later in time, and thus include some quarters from my original post-period in the pseudo-pre-period.[33] If the observed effect was attributable to changes other than the Dodd-Frank whistleblower program, the coefficient on *Dodd-Frank * Lobby* should remain unchanged (or perhaps become stronger) as the pseudo-post-period incorporates only quarters that occur in the latter portion of my original post-period. The results from this analysis are reported in Table 10. As the pseudo-event date moves later in time, the magnitude of the effect on *Dodd-Frank * Lobby* becomes smaller, and eventually becomes insignificant. This result is consistent with the treatment effect occurring when the Dodd-Frank whistleblower program became effective (Q4 2011), and not at a later date.

I also test the sensitivity of my results to using different time horizons to measure insider trading profitability. The main results rely on a 180-day window following the day of trade to measure daily abnormal profit. I rerun the analysis using windows of 90 and 120 days following the day of trade. Results (untabulated) show that the main *Lobby* results

[33] I focus on the *Lobby* industry treatment effect because it covers a larger portion of my sample as compared to the individual *Lobby* treatment (6% treated for the individual measure versus 33% treated for the industry measure). Because it covers more observations, the industry-level measure is less likely to be affected by influential observations when conducting a quarter-by-quarter analysis in my pseudo-event tests.

from Table 3 remain intact when using either of these alternative windows. When using a 90-day window, the reduction in daily abnormal trading profits for treated insiders relative to all other insiders is about 0.04% for *Lobby* when measured at the firm-level and 0.10% for *Lobby* when measured at the industry-level. When using a 120-day window, the reduction in daily abnormal trading profits for treated insiders relative to all other insiders is about 0.07% for *Lobby* when measured at the firm-level and 0.12% for *Lobby* when measured at the industry-level.

7. CONCLUSION

The Dodd-Frank Act enhanced the ability of the SEC to detect securities law violations through the creation of the whistleblower bounty program which includes substantial financial rewards and strong anti-retaliation provisions. While prior research has shown that the SEC whistleblower program reduced the level of financial fraud committed by firms, whether the program would deter illegal insider trading is unclear. Insider trading is an executive-level activity that is difficult to prove and blowing the whistle on unverifiable behavior may be psychologically or financially harmful to the whistleblower (Rapp 2007). However, whistleblowers have been shown to be effective at bringing wrongdoing to the attention of regulators (Wilde 2017; Berger and Lee 2019), and the involvement of a whistleblower is associated with more severe punishments for wrongdoers (Call et al. 2017). Additionally, the SEC guarantees anonymity to whistleblowers who come forward with information throughout the whistleblowing process, mitigating many of the perceived costs of blowing the whistle. Therefore, I expect that the increase in the threat of whistleblowing as a result of the Dodd-Frank whistleblower program will reduce insiders' opportunistic trading behavior.

I study this question by identifying insiders who are sensitive to whistleblowing allegations and examine the change in their abnormal daily trading profits on purchases. I identify sensitive insiders in three ways. My primary identification defines sensitive insiders as those in firms that lobbied against the Dodd-Frank whistleblower program. As a secondary measure, I identify sensitive insiders based on the strength of their firm's internal whistleblower program. Finally, since the previous two measures rely on firm-level decisions, I use a third market-based measure to identify sensitive insiders. Specifically, I measure the market reaction around the passage date of the Dodd-Frank whistleblower program and identify insiders at firms with a positive market reaction as being sensitive to the law. I find that sensitive insiders' daily abnormal trading profit on purchases is significantly reduced following the enactment of the Dodd-Frank whistleblower program. When sensitivity is identified using lobbying behavior (weak internal programs), the reduction in daily abnormal profitability is 0.057% to 0.103% (0.03%). When sensitivity is defined using the market reaction around the passage date of the Dodd-Frank whistleblower program, the reduction in daily abnormal profitability is around 0.06%. This evidence suggests that the Dodd-Frank whistleblower program reduced opportunistic trading by corporate insiders.

I also study the impact of the Dodd-Frank whistleblower program on informed insider sales in context-specific settings, specifically before earnings announcements and M&A announcements. Prior research has faced difficulty in identifying information-driven insider sales because insider sales are often conducted for liquidity and other reasons. Using an event-specific approach, I define an insider sale as informed if it is made within the 20-trading-day window before an earnings or M&A announcement that elicits a

negative market reaction. I find evidence to support a reduction in informed insider sales in these event-specific settings. I believe this methodology for identifying informed insider sales based on ex post event information can be easily used by researchers addressing related insider trading issues.

Overall, the results suggest that the Dodd-Frank whistleblower program has been successful at deterring illegal insider trading by firm executives. I contribute to the literature along several dimensions. I contribute to the literature on Dodd-Frank by showing that the regulation not only affected firm-wide misconduct, but also reduced executive-level illegal activity, namely insider trading. I also contribute to the literature on the effectiveness of whistleblowers by showing they can be helpful in preventing illegal behavior that does not leave an obvious paper trail. Finally, I contribute to the literature on context-specific insider sales by showing that the threat of whistleblowing can serve as a deterrent to this opportunistic behavior by insiders. This paper should be of interest to researchers and regulators who are searching for deterrent mechanisms to prevent illegal insider trading.

Table 1: Descriptive Statistics

VARIABLES	(1) N	(2) Mean	(3) S.D.	(4) p10	(5) p50	(6) p90
Trading Profit	19,999	0.055	0.400	-0.312	0.041	0.430
Lobby	19,999	0.060	0.237	0	0	0
Lobby (Industry)	19,999	0.334	0.472	0	0	1
Low Usage	19,999	0.430	0.495	0	0	1
Positive CAR	19,999	0.463	0.499	0	0	1
R&D	19,999	0.483	0.500	0	0	1
Loss	19,999	0.308	0.462	0	0	1
Buy-and-Hold Return	19,999	-0.033	0.479	-0.499	-0.113	0.460
Average Daily Turnover	19,999	0.008	0.007	0.001	0.006	0.018
Volatility	19,999	0.001	0.001	0.000	0.001	0.003
Average Sales Growth	19,999	0.130	0.202	-0.044	0.084	0.328
BTM	19,999	0.657	0.497	0.199	0.547	1.199
EP	19,999	-0.010	0.204	-0.180	0.040	0.123
Analyst	19,999	1.484	1.048	0.000	1.609	2.890
Restricted Window	19,999	0.415	0.493	0	0	1
Size	19,999	5.919	1.980	3.495	5.718	8.556

This table presents the summary statistics for the sample of insider purchases over the period 2007-2014. See Appendix A for variable definitions.

Table 2: Correlation Table

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Trading Profit		0.00	0.06	0.00	0.01	0.02	0.06	-0.01	-0.08	0.08	-0.05	0.04	-0.04	-0.07	0.00	-0.09
			0.76	<0.01	0.87	0.29	0.01	<0.01	0.22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.65	<0.01
2	Lobby	0.00		0.05	0.02	0.05	0.01	-0.07	0.01	0.12	-0.09	-0.03	-0.01	0.08	0.18	0.00	0.20
		0.73		<0.01	0.00	<0.01	0.06	<0.01	0.04	<0.01	<0.01	0.00	0.04	<0.01	<0.01	0.54	<0.01
3	Lobby (Industry)	0.04	0.05		0.01	-0.06	0.09	0.12	0.01	0.00	-0.05	0.09	-0.09	-0.10	-0.01	-0.05	0.03
		<0.01	<0.01		0.07	<0.01	<0.01	<0.01	0.15	0.52	<0.01	<0.01	<0.01	<0.01	0.30	<0.01	0.00
4	Low Usage	-0.01	0.02	0.01		0.00	-0.30	-0.08	0.07	0.05	-0.11	0.03	-0.07	0.08	0.06	-0.04	0.18
		0.34	0.00	0.07		0.69	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	<0.01	<0.01	<0.01	<0.01	<0.01
5	Positive CAR	0.01	0.05	-0.06	0.00		0.04	-0.05	-0.02	0.19	0.07	0.10	-0.07	0.04	0.14	0.08	0.15
		0.07	<0.01	<0.01	0.69		<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
6	R&D	0.00	0.01	0.09	-0.30	0.04		0.15	0.00	0.01	0.07	0.07	-0.17	-0.14	-0.02	0.04	-0.06
		0.63	0.06	<0.01	<0.01	<0.01		<0.01	0.84	0.15	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01
7	Loss	0.05	-0.07	0.12	-0.08	-0.05	0.15		-0.05	-0.12	0.28	-0.07	0.10	-0.80	-0.16	-0.04	-0.27
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8	Buy-and-Hold Return	0.00	-0.01	0.00	0.05	0.01	0.01	0.03		-0.09	-0.11	-0.05	-0.07	-0.07	0.01	-0.06	0.19
		0.58	0.16	0.76	<0.01	0.48	0.10	0.00		<0.01	<0.01	<0.01	<0.01	<0.01	0.34	<0.01	<0.01

Table 2 Continued

9	Average Daily Turnover	-0.07	0.09	-0.02	0.04	0.18	-0.02	-0.09	-0.07		0.05	0.27	-0.21	0.17	0.52	0.09	0.59
		<0.01	<0.01	0.00	<0.01	<0.01	0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10	Volatility	0.10	-0.06	-0.06	-0.08	0.04	0.03	0.26	0.08	0.08		0.12	0.17	-0.14	-0.26	0.04	-0.48
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11	Average Sales Growth	-0.02	-0.04	0.14	0.08	0.04	0.07	0.06	-0.02	0.19	0.03		-0.26	0.12	0.14	0.02	0.15
		0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01		<0.01	<0.01	<0.01	0.00	<0.01
12	BTM	0.06	-0.03	-0.08	-0.05	-0.08	-0.16	0.20	0.03	-0.15	0.33	-0.20		-0.06	-0.17	0.04	-0.34
		<0.01	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
13	EP	-0.03	0.07	-0.01	0.07	0.01	-0.03	-0.63	-0.01	0.05	-0.37	0.03	-0.31		0.14	0.05	0.20
		<0.01	<0.01	0.28	<0.01	0.12	<0.01	<0.01	0.43	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01
14	Analyst	-0.06	0.17	0.00	0.05	0.14	-0.01	-0.16	-0.03	0.40	-0.20	0.09	-0.16	0.10		0.05	0.65
		<0.01	<0.01	0.55	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
15	Restricted Window	0.01	0.00	-0.05	-0.04	0.08	0.04	-0.04	-0.04	0.07	0.04	-0.03	0.03	-0.01	0.04		0.01
		0.14	0.54	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	<0.01		0.24
16	Size	-0.08	0.22	0.03	0.17	0.11	-0.06	-0.27	0.11	0.41	-0.38	0.12	-0.33	0.21	0.65	0.00	
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.90	

This table reports Pearson (below diagonal) and Spearman (above-diagonal) correlation coefficients (p-values below) for the sample of insider purchases over the period 2007-2014 (N = 19,999). See Appendix A for variable definitions.

Table 3: Lobbying and Insider Trading Profits

Panel A: Univariate Results

Treatment = Lobby

Treatment	Trading Profit	Standard Error	T-Stat	P-Value
Before Dodd-Frank				
Control (C)	0.049			
Treated (T)	0.063			
Diff (T-C)	0.014	0.016	0.91	0.365
After Dodd-Frank				
Control	0.066			
Treated	0.034			
Diff (T-C)	-0.031	0.019	1.68	0.093*
Diff-in-Diff	**-0.045**	**0.024**	**1.87**	**0.061***

Treatment = Lobby (Industry)

Treatment	Trading Profit	Standard Error	T-Stat	P-Value
Before Dodd-Frank				
Control	0.035			
Treated	0.080			
Diff (T-C)	0.045	0.008	5.84	<.0.001***
After Dodd-Frank				
Control	0.061			
Treated	0.069			
Diff (T-C)	0.008	0.010	0.83	0.404
Diff-in-Diff	**-0.037**	**0.012**	**3.02**	**0.003*** **

Table 3 Continued

Panel B: Lobbying and Insider Trading Profits - Regression Results

	(1)	(2)	(3)	(4)	(5)
				Industry-Level Lobby	
VARIABLES	Trading Profit	Trading Profit	Trading Profit	Trading Profit	Trading Profit
Dodd-Frank * Lobby	-0.063***	-0.059***	-0.057***	-0.098***	-0.103***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Dodd-Frank		0.039***		0.080***	
		(<0.001)		(<0.001)	
Lobby	0.047***	0.044***	0.045***	-0.029	-0.010
	(<0.001)	(<0.001)	(<0.001)	(0.782)	(0.923)
R&D	-0.008	-0.019**	-0.022***	-0.011	-0.006
	(0.166)	(0.028)	(0.008)	(0.696)	(0.845)
Loss	0.031***	0.017*	0.017*	0.027**	0.021
	(0.001)	(0.070)	(0.072)	(0.043)	(0.110)
Buy-and-Hold Return	-0.017***	-0.017***	-0.025***	-0.011	-0.013
	(0.004)	(0.004)	(<0.001)	(0.191)	(0.128)
Average Daily Turnover	-3.357***	-3.135***	-2.663***	-2.612**	-1.901*
	(<0.001)	(<0.001)	(<0.001)	(0.010)	(0.059)
Volatility	29.221***	38.920***	29.686***	5.636	16.588***
	(<0.001)	(<0.001)	(<0.001)	(0.304)	(0.009)
Average Sales Growth	-0.020	-0.007	-0.009	-0.055	-0.004
	(0.192)	(0.652)	(0.559)	(0.138)	(0.915)
BTM	-0.004	0.012	-0.002	0.042***	0.041***
	(0.659)	(0.155)	(0.845)	(0.005)	(0.008)
EP	0.078***	0.079***	0.074***	-0.003	0.016
	(0.001)	(0.001)	(0.002)	(0.927)	(0.582)
Analyst	-0.003	-0.005	-0.006*	-0.016***	-0.017***
	(0.331)	(0.134)	(0.055)	(0.002)	(0.001)
Restricted Window	0.014**	0.011*	0.013**	0.022***	0.022***
	(0.017)	(0.067)	(0.024)	(0.003)	(0.003)
Size	-0.003	0.002	-0.000	-0.145***	-0.163***
	(0.152)	(0.408)	(0.826)	(<0.001)	(<0.001)
Constant	0.060***	0.003	0.052***	0.911***	1.016***
	(0.001)	(0.850)	(0.005)	(<0.001)	(<0.001)
Observations	19,999	19,999	19,999	19,665	19,665
R-squared	0.027	0.037	0.043	0.337	0.342
Fixed Effect	Year	Industry	Industry & Year	Firm	Firm & Year

This table presents results of the effect of the Dodd-Frank whistleblower program on trading profits of insiders of firms that lobbied against the program. Panel A presents the univariate effect on the average daily trading profit measured over the 180-day window following the day of an insider purchase. Panel B presents the results of regression (2) where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Lobby is an indicator variable that equals one if the insider is in a firm that lobbied against the Dodd-Frank whistleblower bounty program. See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

Table 4: Lobbying and Insider Trading Profits (Entropy-Balanced Sample)

	(1)	(2)	(3)	(4)	(5)
				Industry-Level Lobby	
VARIABLES	Trading Profit	Trading Profit	Trading Profit	Trading Profit	Trading Profit
Dodd-Frank * Lobby	-0.031**	-0.032**	-0.032**	-0.094***	-0.096***
	(0.036)	(0.028)	(0.028)	(<0.001)	(<0.001)
Dodd-Frank		-0.006		0.063***	
		(0.277)		(<0.001)	
Lobby	0.029**	0.027**	0.026**	-0.027	-0.022
	(0.015)	(0.019)	(0.023)	(0.806)	(0.843)
R&D	-0.037***	-0.016*	-0.015	0.007	0.016
	(<0.001)	(0.086)	(0.116)	(0.853)	(0.688)
Loss	0.047***	0.031*	0.029*	0.060***	0.048***
	(0.004)	(0.050)	(0.072)	(<0.001)	(0.001)
Buy-and-Hold Return	-0.016	-0.025**	-0.022**	-0.014	-0.016*
	(0.112)	(0.014)	(0.034)	(0.143)	(0.090)
Average Daily Turnover	-4.011***	-3.540***	-3.702***	-1.891	-1.372
	(<0.001)	(<0.001)	(<0.001)	(0.138)	(0.282)
Volatility	24.166***	24.558***	27.009***	-5.601	7.618
	(<0.001)	(<0.001)	(<0.001)	(0.411)	(0.329)
Average Sales Growth	-0.147***	-0.129***	-0.125***	-0.064	-0.031
	(<0.001)	(<0.001)	(<0.001)	(0.119)	(0.457)
BTM	0.009	0.013	0.020*	0.077***	0.084***
	(0.466)	(0.260)	(0.086)	(<0.001)	(<0.001)
EP	0.123	0.144**	0.132*	0.018	0.042
	(0.107)	(0.050)	(0.074)	(0.588)	(0.221)
Analyst	0.024***	0.016***	0.018***	-0.023***	-0.023***
	(<0.001)	(0.002)	(0.001)	(<0.001)	(<0.001)
Restricted Window	-0.008	-0.008	-0.009	0.022**	0.022***
	(0.244)	(0.222)	(0.195)	(0.011)	(0.009)
Size	-0.017***	-0.017***	-0.016***	-0.124***	-0.137***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Constant	0.152***	0.151***	0.133***	0.788***	0.858***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Observations	19,999	19,999	19,999	19,665	19,665
R-squared	0.061	0.101	0.104	0.354	0.358
Fixed Effect	Year	Industry	Industry & Year	Firm	Firm & Year

This table presents the results from an entropy-balanced regression where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Lobby is an indicator variable that equals one if the insider is in a firm that lobbied against the Dodd-Frank whistleblower bounty program. See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

Table 5: Weak Internal Whistleblower Program and Insider Trading Profits

VARIABLES	(1) Trading Profit	(2) Trading Profit
Dodd-Frank * Low Usage	-0.030**	-0.026*
	(0.035)	(0.070)
Dodd-Frank	0.061***	
	(<0.001)	
Low Usage	0.036	0.025
	(0.585)	(0.740)
R&D	-0.000	0.006
	(0.997)	(0.841)
Loss	0.026**	0.021
	(0.047)	(0.121)
Buy-and-Hold Return	-0.010	-0.012
	(0.235)	(0.159)
Average Daily Turnover	-2.576**	-1.898*
	(0.011)	(0.061)
Volatility	5.614	16.456***
	(0.307)	(0.010)
Average Sales Growth	-0.069*	-0.020
	(0.062)	(0.594)
BTM	0.040***	0.039**
	(0.007)	(0.011)
EP	-0.003	0.015
	(0.911)	(0.606)
Analyst	-0.016***	-0.016***
	(0.002)	(0.002)
Restricted Window	0.022***	0.023***
	(0.003)	(0.003)
Size	-0.145***	-0.162***
	(<0.001)	(<0.001)
Constant	0.878***	0.983***
	(<0.001)	(<0.001)
Observations	19,665	19,665
R-squared	0.336	0.340
Fixed Effect	Firm	Firm & Year

This table presents the results from regression (2) where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Low Usage is an indicator variable that equals one if the insider belongs to a firm in an industry with a below zero Usage score for industry-firms' internal whistleblower programs, as defined in Stubben and Welch (2018). See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

Table 6: Interaction between Lobbying and Weak Internal Whistleblower Program

VARIABLES	(1) Trading Profit	(2) Trading Profit	(3) Trading Profit
Dodd-Frank * Lobby & Low Usage	-0.100***	-0.077***	-0.074***
	(<0.001)	(<0.001)	(<0.001)
Dodd-Frank * Lobby & High Usage	-0.026	-0.032	-0.029
	(0.228)	(0.145)	(0.194)
Dodd-Frank		0.039***	
		(<0.001)	
Lobby & Low Usage	0.102***	0.089***	0.085***
	(<0.001)	(<0.001)	(<0.001)
Lobby & High Usage	-0.005	-0.017	-0.015
	(0.750)	(0.334)	(0.403)
R&D	-0.006	-0.024***	-0.027***
	(0.283)	(0.007)	(0.002)
Loss	0.030***	0.023**	0.023**
	(0.001)	(0.015)	(0.016)
Buy-and-Hold Return	-0.018***	-0.018***	-0.025***
	(0.003)	(0.004)	(<0.001)
Average Daily Turnover	-3.374***	-2.743***	-2.275***
	(<0.001)	(<0.001)	(<0.001)
Volatility	29.527***	38.833***	29.695***
	(<0.001)	(<0.001)	(<0.001)
Average Sales Growth	-0.019	0.002	-0.000
	(0.205)	(0.908)	(0.999)
BTM	-0.004	0.008	-0.006
	(0.672)	(0.356)	(0.462)
EP	0.078***	0.074***	0.069***
	(0.001)	(0.002)	(0.004)
Analyst	-0.003	-0.005	-0.007**
	(0.281)	(0.108)	(0.035)
Restricted Window	0.013**	0.008	0.010*
	(0.019)	(0.196)	(0.086)
Size	-0.003	0.003	0.001
	(0.183)	(0.148)	(0.660)
Constant	0.058***	-0.004	0.045**
	(0.001)	(0.848)	(0.014)
Observations	19,999	19,999	19,999
R-squared	0.027	0.039	0.045
Fixed Effect	Year	Industry	Industry & Year

This table presents the results from regression (2) where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Lobby & Low Usage is an indicator variable that equals one if the insider is in a firm that lobbied against the Dodd-Frank whistleblower program and in an industry with a Usage score below zero, as defined in Stubben and Welch (2018). Lobby & High Usage is an indicator variable that equals one if the insider is in a firm that lobbied against the Dodd-Frank whistleblower program and in an industry with a Usage score of zero or greater, as defined in Stubben and Welch (2018). See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

Table 7: Firms with Positive Market Reaction around WB Program Passage Date

	(1)	(2)	(3)	(4)	(5)
				Top CAR Quartile	
VARIABLES	Trading Profit	Trading Profit	Trading Profit	Trading Profit	Trading Profit
Dodd-Frank * Positive CAR	-0.080***	-0.071***	-0.072***	-0.087***	-0.089***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Dodd-Frank		0.066***		0.059***	
		(<0.001)		(<0.001)	
Positive CAR	0.048***	0.058***	0.058***	0.046***	0.049***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
R&D	-0.009	-0.020**	-0.024***	-0.020**	-0.024***
	(0.112)	(0.018)	(0.005)	(0.017)	(0.004)
Loss	0.031***	0.018*	0.019*	0.017*	0.017*
	(0.001)	(0.055)	(0.052)	(0.078)	(0.077)
Buy-and-Hold Return	-0.020***	-0.020***	-0.028***	-0.019***	-0.027***
	(0.001)	(0.001)	(<0.001)	(0.001)	(<0.001)
Average Daily Turnover	-3.590***	-3.467***	-2.993***	-3.185***	-2.710***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Volatility	28.465***	38.145***	28.652***	38.671***	29.138***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Average Sales Growth	-0.026*	-0.012	-0.015	-0.010	-0.012
	(0.086)	(0.438)	(0.357)	(0.548)	(0.462)
BTM	-0.003	0.013	-0.000	0.012	-0.002
	(0.705)	(0.114)	(0.965)	(0.152)	(0.842)
EP	0.078***	0.081***	0.076***	0.080***	0.076***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Analyst	-0.002	-0.005	-0.006*	-0.004	-0.005*
	(0.479)	(0.141)	(0.058)	(0.191)	(0.083)
Restricted Window	0.011**	0.008	0.010*	0.010*	0.012**
	(0.044)	(0.166)	(0.074)	(0.092)	(0.036)
Size	-0.003	0.002	0.000	0.003	0.000
	(0.217)	(0.282)	(0.984)	(0.255)	(0.926)
Constant	0.056***	-0.017	0.042**	-0.008	0.048***
	(0.002)	(0.363)	(0.023)	(0.665)	(0.009)
Observations	19,999	19,999	19,999	19,999	19,999
R-squared	0.029	0.040	0.046	0.039	0.045
Fixed Effect	Year	Industry	Industry & Year	Industry	Industry & Year

This table presents the results from regression (2) where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Positive CAR is an indicator variable that equals one if the insider is in a firm that had a positive cumulative abnormal return in the (-1,+3) window around the passage date of the Dodd-Frank whistleblower program. See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

Table 8: Event-Specific Analyses

Panel A: Earnings Announcement Univariate Results

Purchases Before Positive Event						Sales Before Negative Event					
# of Transactions			% Market Cap Traded			# of Transactions			% Market Cap Traded		
Pre	1.561		Pre	0.019		Pre	6.864		Pre	0.129	
Post	1.385		Post	0.017		Post	4.187		Post	0.075	
Difference	-0.176	***	Difference	-0.002		Difference	-2.677	***	Difference	-0.054	***

Panel B: M&A Announcement Univariate Results

Purchases Before Positive Event						Sales Before Negative Event					
# of Transactions			% Market Cap Traded			# of Transactions			% Market Cap Traded		
Pre	1.842		Pre	0.056		Pre	11.456		Pre	0.131	
Post	1.804		Post	0.023		Post	5.430		Post	0.118	
Difference	-0.038		Difference	-0.033		Difference	-6.026	***	Difference	-0.013	

Table 8 Continued

Panel C: Regression Results

	(1)	(2)	(3)	(4)
	EAs		**M&As**	
VARIABLES	# Sells	# Sells	# Sells	# Sells
Dodd-Frank * Negative CAR	-0.653**	-0.545*	-0.397	-0.044
	(0.022)	(0.052)	(0.772)	(0.974)
Dodd-Frank	-2.148***		-4.959***	
	(<0.001)		(<0.001)	
Negative CAR	0.394	0.287	1.143	0.725
	(0.103)	(0.221)	(0.350)	(0.552)
Size	0.164*	0.204**	0.585**	0.663***
	(0.070)	(0.025)	(0.010)	(0.003)
BTM	-1.583***	-0.907**	-7.396***	-6.054***
	(0.000)	(0.019)	(<0.001)	(<0.001)
Buy-and-Hold Return	0.554***	0.853***	0.333	0.478
	(0.001)	(<0.001)	(0.331)	(0.197)
Constant	5.866***	4.000***	7.884***	4.184**
	(<0.001)	(<0.001)	(<0.001)	(0.033)
Observations	7,699	7,699	1,206	1,206
R-squared	0.067	0.097	0.116	0.136
Fixed Effect	Industry	Industry & Year	Industry	Industry & Year

This table presents analyses of insider trading behavior before and after the passage of Dodd-Frank. Panel A describes the trading behavior around earnings announcements. Panel B describes the trading behavior around M&A announcements. Panel C presents the results from regression (3) where the dependent variable is the number of sales transactions made by insiders in the 20-trading-day window prior to the event. Negative CAR is an indicator variable that equals one if the insider is in a firm that had a negative cumulative abnormal return in the (-1,+1) window around the event. See Appendix A for all other variable definitions. ***, **, and * indicate significant differences in the Pre and Post coefficients at the 1%, 5%, and 10% levels for univariate tests, and significance at the 1%, 5%, and 10% level for regression tests. P-values are in parentheses. Standard errors are clustered by firm.

Table 9: Lobbying Analyses (Pre-period = 2005 through 2007)

	(1)	(2)	(3)	(4)	(5)
				Industry-Level Lobby	
VARIABLES	Trading Profit	Trading Profit	Trading Profit	Trading Profit	Trading Profit
Dodd-Frank * Lobby	-0.041***	-0.031**	-0.030**	-0.028*	-0.028*
	(0.004)	(0.026)	(0.031)	(0.086)	(0.094)
Dodd-Frank		0.008		0.025**	
		(0.184)		(0.019)	
Lobby	0.031***	0.025**	0.025**	0.119	0.103
	(0.003)	(0.016)	(0.017)	(0.390)	(0.458)
R&D	0.015***	0.011	0.008	0.067*	0.067*
	(0.004)	(0.163)	(0.292)	(0.094)	(0.093)
Loss	0.020**	0.004	0.007	0.030*	0.029*
	(0.026)	(0.641)	(0.477)	(0.050)	(0.056)
Buy-and-Hold Return	-0.001	-0.003	-0.007	-0.013*	-0.020**
	(0.800)	(0.634)	(0.256)	(0.087)	(0.011)
Average Daily Turnover	-2.142***	-2.652***	-2.248***	-3.235***	-2.791**
	(<0.001)	(<0.001)	(<0.001)	(0.003)	(0.011)
Volatility	32.662***	34.708***	31.684***	19.208**	21.019**
	(<0.001)	(<0.001)	(<0.001)	(0.043)	(0.031)
Average Sales Growth	-0.026*	-0.038**	-0.046***	0.001	-0.021
	(0.073)	(0.014)	(0.003)	(0.971)	(0.548)
BTM	0.038***	0.039***	0.035***	0.005	0.005
	(<0.001)	(<0.001)	(<0.001)	(0.775)	(0.787)
EP	0.143***	0.130***	0.128***	0.031	0.037
	(<0.001)	(<0.001)	(<0.001)	(0.544)	(0.472)
Analyst	-0.006**	-0.006**	-0.007**	-0.004	-0.003
	(0.024)	(0.034)	(0.021)	(0.517)	(0.584)
Restricted Window	-0.015***	-0.014***	-0.013***	-0.002	-0.002
	(0.002)	(0.006)	(0.008)	(0.818)	(0.808)
Size	-0.008***	-0.010***	-0.010***	-0.146***	-0.142***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Constant	0.076***	0.090***	0.099***	0.860***	0.852***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Observations	16,365	16,365	16,365	15,935	15,935
R-squared	0.033	0.039	0.046	0.352	0.354
Fixed Effect	Year	Industry	Industry & Year	Firm	Firm & Year

This table presents the results from regression (2) where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Lobby is an indicator variable that equals one if the insider is in a firm that lobbied against the Dodd-Frank whistleblower bounty program. See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

Table 10: Pseudo-Events

VARIABLES	(1) Base Results	(2) Post >= Q1 2012	(3) Post >= Q2 2012	(4) Post >= Q3 2012	(5) Post >= Q4 2012	(6) Post >= Q1 2013
Lobby (Ind.) * Dodd-Frank	-0.103***	-0.104***	-0.087***	-0.068***	-0.021	-0.002
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.183)	(0.913)
Dodd-Frank		0.040**	0.097***	0.124***		0.013
		(0.027)	(<0.001)	(<0.001)		(0.474)
Lobby (Ind.)	-0.010	-0.010	-0.017	-0.022	-0.035	-0.041
	(0.922)	(0.924)	(0.876)	(0.836)	(0.739)	(0.697)
R&D	-0.006	-0.008	-0.008	-0.004	0.003	0.005
	(0.844)	(0.790)	(0.787)	(0.883)	(0.925)	(0.867)
Loss	0.021	0.021	0.022*	0.022	0.021	0.020
	(0.110)	(0.108)	(0.093)	(0.104)	(0.117)	(0.122)
Buy-and-Hold Return	-0.013	-0.013	-0.013	-0.012	-0.012	-0.012
	(0.129)	(0.134)	(0.133)	(0.146)	(0.162)	(0.157)
Average Daily Turnover	-1.901*	-1.881*	-1.699*	-1.717*	-1.913*	-1.950*
	(0.059)	(0.062)	(0.092)	(0.089)	(0.058)	(0.053)
Volatility	16.591***	16.648***	17.030***	17.432***	16.231**	16.154**
	(0.009)	(0.009)	(0.007)	(0.006)	(0.011)	(0.011)
Average Sales Growth	-0.004	-0.002	-0.007	-0.010	-0.017	-0.019
	(0.911)	(0.967)	(0.849)	(0.791)	(0.652)	(0.619)
BTM	0.041***	0.042***	0.043***	0.042***	0.040***	0.040***
	(0.008)	(0.007)	(0.006)	(0.006)	(0.009)	(0.010)
EP	0.016	0.017	0.018	0.017	0.016	0.015
	(0.584)	(0.569)	(0.544)	(0.559)	(0.590)	(0.601)

Analyst	-0.017***	-0.017***	-0.016***	-0.017***	-0.016***	-0.016***
	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)
Restricted Window	0.022***	0.022***	0.021***	0.021***	0.023***	0.023***
	(0.003)	(0.004)	(0.006)	(0.005)	(0.002)	(0.002)
Size	-0.163***	-0.163***	-0.162***	-0.162***	-0.163***	-0.163***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Constant	1.016***	1.000***	0.975***	0.971***	1.007***	1.004***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Observations	19,665	19,665	19,665	19,665	19,665	19,665
R-squared	0.342	0.342	0.342	0.342	0.340	0.340
Fixed Effect	Firm & Year	Firm & Year	Firm & Year	Firm & Year	Firm & Year	Firm & Year

This table presents the results from regression (2) where the dependent variable is the average daily trading profit measured over the 180-day window following the day of an insider purchase. Lobby (Ind.) is an indicator variable that equals one if the insider's firm is in an industry where firms that lobbied against the Dodd-Frank whistleblower program make up more than 5% of the industry's market capitalization, as measured at the end of 2009. See Appendix A for all other variable definitions. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. P-values are in parentheses. Standard errors are clustered by transaction date.

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Appendix A: Variable Definitions

VARIABLE	DEFINITION
Trading Profit	The alpha from the following regression: $Ri - Rf = \alpha + \beta_1(Rmkt - Rf) + \beta_2 SMB + \beta_3 HML + \beta_4 HML + \beta_5 UMD + \varepsilon$ measured over the 180-day window following each trade-day with an insider purchase.
Lobby	An indicator variable that equals one if the insider is in a firm that lobbied against the Dodd-Frank whistleblower program. For more details, see Baloria, Marquardt, and Wiedman (2017)
Lobby (Industry)	An indicator variable that equals one if the insider is in an industry where firms representing more than 5% of the industry's market capitalization at the end of 2009 lobbied against the Dodd-Frank whistleblower program.
Low Usage	An indicator variable that equals one if the insider is in an industry with a *Usage* score below zero, as reported in Stubben and Welch (2018). *Usage* is the common factor underlying 3 measures of internal whistleblowing system effectiveness: the number of reports per employee, the percentage of whistleblower reports that are reviewed by the firm, and the fraction of five key reporting variables that are available within the firm's reporting system. For more details, see Stubben and Welch (2018)
Positive CAR	An indicator variable that equals one if the insider's firm had a positive cumulative abnormal return in the (-1,+3) window around the passage date of the Dodd-Frank whistleblower program (May 25, 2011).
R&D	An indicator variable that equals one if the insider's firm had positive R&D expenditures, measured at the nearest prior year-end relative to the trade-day.

Loss	An indicator variable that equals one if the insider's firm had negative income before extraordinary items in the previous year.
Buy-and-Hold Return	The firm's buy-and-hold return in the (-380, -20) window relative to the trade-day.
Average Daily Turnover	The average daily share turnover in the (-380, -20) window relative to the trade-day.
Volatility	The variance of daily stock return in the (-380, -20) window relative to the trade-day.
Average Sales Growth	The average annual sales growth over the 5 years prior to the trade-day. When sales growth is missing in any year during the five-year period, that year's value is set equal to sales growth of year -1.
BTM	The book value of equity over the market value of equity, measured at the nearest prior year-end relative to the trade-day
EP	The ratio of net income before extraordinary items of the previous year over the price as measured 20 days before the trade-day.
Analyst	The natural logarithm of one plus the number of analysts following the insider's firm in the prior year.
Restricted Window	An indicator variable that equals one if 75% or more of insider trades in the prior year occur in a 30-day window following an earnings announcement
Size	The natural logarithm of price as measured 20 days before the trade-day multiplied by total common shares outstanding as measured at the nearest prior year-end.