

Cash-for-information whistleblower programs: Effects on whistleblowing and consequences for whistleblowers

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Abstract

We study the effect of financial incentives on whistleblowing and the consequences for whistleblowers under the cash-for-information program of the False Claims Act. Exploiting appeals-court decisions that increase financial incentives for whistleblowing, we find that greater incentives do not affect the number of lawsuits filed with the regulator or the percentage of lawsuits in which whistleblowers report internally before contacting regulators. However, greater incentives increase the regulator's investigation length, the percentage of intervened lawsuits, the percentage of settled lawsuits, and total settlement amounts, indicating that whistleblowers file higher-quality lawsuits. Using information from lawsuits, a professional networking site, and background checks for up to 1,168 whistleblowers, we find that whistleblowers have modest financial costs in terms of lower future income and home values but do not find evidence of social costs. In comparison, whistleblowers can expect to receive approximately \$140,000 for blowing the whistle. Overall, our results suggest that cash-for-information programs help expose corporate misconduct and adequately compensate whistleblowers. Finally, whistleblowers do not face as severe consequences as documented in prior research.

Keywords: Whistleblowers; cash-for-information whistleblower programs; False Claims Act; corporate misconduct; consequences for whistleblowers.

JEL Classifications: D82, G18, M41

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1. Introduction

In recent years, whistleblower programs have gained momentum as a regulatory tool to enforce corporate misconduct in areas such as financial fraud, government procurement fraud, or tax fraud (Dasgupta and Kesharwani 2010). To incentivize whistleblowers to come forward, regulators increasingly employ bounty schemes that reward individuals for revealing information about illegal conduct.¹ Despite the prevalence of cash-for-information programs, little is known about how financial incentives affect whistleblowers' decisions to report potential misconduct to authorities. Similarly, there is no large-sample evidence on the consequences for whistleblowers under these programs. We study these questions using over 5,000 whistleblower lawsuits brought under the False Claims Act (FCA) against firms accused of defrauding the government. The FCA whistleblower regime is critical in combatting fraud against the government, with approximately 12,000 lawsuits and over \$50 billion in recoveries since 2000 (DOJ 2018a).

Our setting provides three strengths to answer these questions. First, whistleblower allegations filed with regulators are typically unobservable.² In contrast, we have access to all FCA whistleblower lawsuits filed with district courts. Our sample consists of more than 5,000 lawsuits filed against public and private firms from 1994 to 2012. Second, it is difficult to establish causality between financial incentives for whistleblowing and whistleblowers' decision to file a lawsuit. We overcome this challenge by exploiting decisions of Courts of Appeals that increase the financial incentives for whistleblowers to file FCA lawsuits with

¹ For instance, the False Claims Act awards whistleblowers between 15% and 30% of the recovery from lawsuits. More recently, the Dodd-Frank Wall Street Reform and Consumer Protection Act (DFA) of 2010 introduced a cash-for-information program that awards whistleblowers between 10% and 30% of the monetary sanctions collected by the Securities and Exchange Commission (SEC).

² Typically, researchers are unable to observe the full sample of whistleblower tips filed with the authorities, forcing them to analyze subsamples of tips. Prior studies primarily use data from two sources: the press and the Occupational Health and Safety Administration (e.g., Bowen et al. 2010; Call et al. 2018; Dyck et al. 2010).

treated district courts at different points in time. Third, it is challenging to examine the consequences for whistleblowers, as whistleblowers typically remain anonymous. We can identify approximately 1,600 employee whistleblowers from court documents available from the Public Access to Court Electronic Records (PACER) system and construct a comprehensive database from these lawsuits, a professional networking site, and background checks to track a wide variety of outcomes for whistleblowers over the short-, medium-, and long-term.

Our first set of analyses examines the effect of financial incentives on whistleblowing. Proponents of cash-for-information programs point to the large number of tips that regulators receive from whistleblowers and the success in terms of cases and penalties imposed on corporations (e.g., Dyck et al. 2010; Pope and Lee 2013). They argue that cash-for-information programs help to expose corporate misconduct and highlight that these programs simply compensate employee whistleblowers for taking the risk of reporting wrongdoing by malicious firms to the authorities.

In contrast, critics argue that cash-for-information programs motivate employees to file meritless allegations with regulators that waste resources of regulators and accused firms alike (Bok 1980; Gobert and Punch 2000). Further, they argue that these programs incentivize employees to share information directly with regulators, instead of alerting the company first, in the hope of obtaining a quick payday (e.g., Miceli and Near 1992). They argue that this is detrimental, as firms can better assess tips in the context of their business and better resolve issues than the authorities.

To examine the effect of financial incentives on whistleblowing, we exploit decisions taken by U.S. Courts of Appeals that increase the financial incentives for whistleblowing under the FCA in specific judicial districts. In the U.S., the 94 district courts are organized into 12 circuits, each with its own Court of Appeals. Decisions of a given Court of Appeals are

mandatory for the district courts and other lower courts within the respective circuit. We exploit three staggered decisions by Court of Appeals that increased whistleblowers' power to negotiate settlements, eligible damage awards, or eligible penalties. We use a difference-in-differences methodology to examine changes in (1) the number of lawsuits filed, (2) the percentage of lawsuits filed internally before reporting to the authorities, (3) the Department of Justice's (DOJ) investigative efforts, and (4) the outcomes of lawsuits in treated district courts.

First, contrary to the critics' view, we do not find that whistleblowers file a greater number of lawsuits in treated district courts following decisions that increase financial incentives for whistleblowing. Similarly, we do not find a reduction in the fraction of allegations reported internally before the filing of a lawsuit. Second, we examine the effect of financial incentives for whistleblowing on DOJ investigation length as a proxy for the extent of the DOJ's investigative efforts (Heese et al. 2020).³ If stronger financial incentives help whistleblowers to come forward with valuable information, we would expect that, on average, the DOJ would spend more time investigating each allegation to build a winnable case. In contrast, if financial incentives trigger meritless claims, we would expect the DOJ to dismiss more cases outright and thus, reduce the average investigation length. We find that the DOJ spends more days on the average investigation of whistleblower allegations filed in treated courts. Third, we examine the effect of greater financial incentives for whistleblowers on lawsuit outcomes. We find an increase in 1) the percentage of DOJ-intervened lawsuits, 2) the percentage of settled lawsuits, and 3) total settlement amounts in treated courts.

³ DOJ investigation length is the period between the filing of the case with a court and the DOJ's case-selection decision. During this period, the allegation remains under seal to permit the DOJ to conduct a covert investigation without the defendant's knowledge. The seal period limits the possibility that the investigated firm can influence the investigation, thus providing a clean measure of the DOJ's investigative efforts (Heese et al. 2020). Lawsuits that the DOJ selects for litigation have longer investigations (Heese et al. 2020).

In sum, these findings support the view that cash-for-information programs help to expose misconduct. Specifically, our findings indicate that whistleblowers respond to financial incentives by filing higher-quality lawsuits. In contrast, we do not find support for the critics' view that greater financial incentives for whistleblowers trigger additional meritless lawsuits or drive whistleblowers to inform the authorities directly without informing the firm first. However, the concern is that whistleblowers face severe costs to help uncover corporate fraud (e.g., Dyck et al. 2010). Our second set of analyses investigates the validity of this concern by examining the career, financial, and social consequences for whistleblowers under cash-for-information programs using information from lawsuits, a professional networking site, and background checks on up to 1,168 whistleblowers.

We start by investigating the firms' responses to employee whistleblower allegations. Employee whistleblowers report in their lawsuits that, in most of the allegations, firms ignore the issue raised by them, and, in 10% of the allegations, firms try to cover-up the issue internally. In only 6% of cases, firms open an internal investigation. We also find a high prevalence of retaliation. Employee whistleblowers report in their lawsuits that firms typically retaliate against them via firing (in more than one third of all cases), harassment (about 16% of all cases), threats (about 10% of all cases), and demotions (about 6% of all cases). In only 21% of all cases, the firm does not retaliate against an employee whistleblower.

Next, we collect career information from the profiles of 89 whistleblowers from a widely used professional networking site. We find that the average whistleblower finds a new job approximately within one year. In 52% of the cases, the next job is better or equivalent to the one at the accused firm, while 10% of employees' next job is worse, and 21% of employees become self-employed. Only 16% of whistleblowers move to another state for their next job and 35% change industry. To assess longer-term consequences, we examine the most recent

job and find that in 58% of the cases, it is better or equivalent to the job at the accused firm. At the same time, there is a reduction in self-employment from 21% to 16%. Over this longer period (on average eight years after the lawsuit filing), 24% of whistleblowers work in a different state, and 42% in a different industry.

While the previous findings rely on whistleblowers' self-reported consequences (which could be subject to bias), we also examine the consequences for employee whistleblowers conducting background checks that access detailed information from a comprehensive set of public records. We manually search records for each whistleblower and collect time-series data related to financial and social consequences. We focus on financial and social consequences as prior research concludes that whistleblowers face substantial costs in both categories (e.g., Dyck et al. 2010). Regarding financial consequences, we collect data about the median income and home value in the neighborhood where the whistleblower resides, refinancing events, judgments and liens, and bankruptcies. In terms of social consequences, we collect data about the frequency of changing address, marriage and divorce records, traffic violations, and legal records.

To conduct a difference-in-differences analysis, we also construct a matched sample by finding individuals who worked for the same firm and held a position similar to the whistleblower at the lawsuit filing time. Using this design, we find that whistleblowers' income is lower by 7.3% to 8.6% one, five, and ten years after the lawsuit filing. Similarly, their home value is lower by 5.4% ten years after filing. In the short term, whistleblowers are also more likely to refinance their mortgage or face judgments and liens. However, we do not find an increase in bankruptcy likelihood, and the likelihood of refinancing or facing judgments and liens is economically modest in the medium and long term. Overall, these effects seem modest in magnitude compared to the expected benefit of \$140,000 for blowing the whistle in our

sample, and are concentrated among rank-and-file employees. In terms of social outcomes, we do not find meaningful differences between whistleblowers and matched individuals except for a higher likelihood of whistleblowers changing addresses. In sum, our results suggest that financial incentives under cash-for-information programs are adequate to compensate employee whistleblowers for the financial consequences of whistleblowing. Our results also indicate that the costs of whistleblowing are less severe than previously documented.

Our study makes three contributions. First, prior literature has shown that employee whistleblowers are an important information source for regulators (e.g., Dyck et al. 2010), focusing primarily on the consequences for firms (e.g., Bowen et al. 2010). We contribute to this literature by providing evidence on the effect of financial incentives on whistleblowing, a research area that is “woefully lacking” (Pope and Lee 2013). Our findings suggest that cash-for-information programs help expose corporate misconduct. In particular, we find that stronger financial incentives for whistleblowing result in a larger percentage of DOJ-intervened and settled cases, increasing overall settlements. In contrast, we do not find support for critics’ views that stronger financial incentives for whistleblowing trigger additional meritless lawsuits or drive whistleblowers to inform the authorities directly without informing the firm first.

Second, prior research has shown that employee whistleblowers face severe costs. For example, Dyck et al. (2010) use a sample of 17 employee whistleblowers and find that in 82% of the cases, the whistleblower was fired, quit under duress, or had significantly altered responsibilities. They conclude that whistleblowers face substantial cost from whistleblowing, especially employees, as they “seem to lose outright from whistleblowing.” We extend these inferences by studying a larger sample of whistleblowers, using a wide variety of data sources, and providing insights about the longer-term consequences. We find that the financial and social consequences for whistleblowers are not as severe as previously documented—

especially when considering that the average whistleblower can expect to receive approximately \$140,000 in rewards under the FCA cash-for-information program, representing approximately three years of salary for rank-and-file employees.⁴

Our study offers three main insights for policy-makers, firms, and potential whistleblowers. First, our finding that financial incentives increase the quality of whistleblower lawsuits can help regulators design better whistleblower programs. Second, firms are concerned that cash-for-information programs incentivize employees to report directly to regulators instead of alerting firms, and to file meritless allegations with regulators.⁵ Our findings do not support these concerns. Finally, our evidence on whistleblowers' career, financial, and social outcomes can inform individuals about the consequences of whistleblowing under the FCA, facilitating their decision-making.

2. Institutional background, related research, and research question

2.1. The False Claims Act and Qui Tam Provisions

The False Claims Act (FCA) is an American federal law and the government's primary tool to combat fraud in connection with federal programs and expenditures. Congress enacted it in 1863 in response to concerns that suppliers of goods to the Union Army during the Civil War defrauded the Army. The FCA originally stipulated that any person who knowingly submitted false claims to the government was liable for double the government's damages plus a penalty of \$2,000 for each false claim.

⁴ The average salary of the median employee working for a publicly traded firm in 2018 is approximately \$50,600, calculated using median pay from annual proxy statements and number of employees from S&P Global Market Intelligence (Serkez and Francis 2019).

⁵ To mitigate this concern, the SEC encourages employees to report to their employer before contacting the SEC (SEC 2019). Similarly, the European Union (2019) recently passed regulation that encourages whistleblowers to first report issues to their employer and only report to regulators if the issue cannot be resolved within the firm. In contrast, FCA whistleblowers can choose whether to raise the issue internally first or directly contact the authorities. A report of the National Whistleblowers Center (2010) recommends that the SEC adopts reporting procedures for whistleblowers similar to those of the FCA whistleblower program.

The FCA was revamped in 1986, primarily due to abuses in the defense contracting industry. These amendments significantly expanded the role of whistleblowers, increased financial incentives, and reduced barriers to bringing actions against persons or entities alleged to have submitted fraudulent claims to the federal government. The changes also included an increase in the damages from double to treble damages and an increase in the penalties from \$2,000 to a range of \$5,000 to \$10,000 (Engstrom 2014). Since the 1986 amendments, the FCA has recovered more than \$59 billion (DOJ 2018a). Nearly one-half of all recoveries have come from healthcare cases. The FCA also has been effective in combating fraud in other industries, such as defense, energy, construction, housing, natural disaster recovery, and other forms of government procurement.

The FCA allows private persons (called “relators”) to file suit for violations of the FCA on behalf of the government, called a “*qui tam*” action (this is also referred to as the FCA’s whistleblower provision).⁶ The *qui tam* provisions of the FCA were motivated by the recognition that the government lacks the information, as compared to private citizens, to pursue all those who submit fraudulent claims to the government. These private citizens can be employees, suppliers, customers, or shareholders of the company allegedly defrauding the government, among others. 12,643 lawsuits (or 71% of all lawsuits) from 1987 to 2018 were filed by citizen whistleblowers, who received rewards upwards of \$7 billion (DOJ 2018b).

2.2. The enforcement process for qui tam cases

The enforcement of *qui tam* cases consists of five primary steps (DOJ 2017): 1) the filing of the lawsuit by a whistleblower with a court, 2) the DOJ investigation of the lawsuit’s claims, 3) the DOJ’s decision to join the case, 4) the legal proceedings after this decision (either

⁶ The term “*qui tam*” is an abbreviation of the Latin phrase “*qui tam pro domino rege quam pro se ipso in hac parte sequitur*”, which means “[he] who sues in this matter for the king as well as for himself.”

with the DOJ if the DOJ decides to join, or if not, then the whistleblower can pursue the case without the DOJ), and 5) the conclusion of the case, typically marked either by a settlement or no settlement. Figure 1, adapted from Heese and Pérez-Cavazos (2019), shows the timeline of the FCA *qui tam* enforcement process and the average time spent on each step for our sample of FCA lawsuits.

– Insert Figure 1 here –

The FCA includes the following provisions to discourage opportunistic plaintiffs and minimize the chance of frivolous lawsuits: (i) a “first-to-file” provision precludes claims that mirror a previously filed lawsuit; (ii) a bar on claims related to an already existing enforcement action; and (iii) a bar on claims previously disclosed publicly.

A *qui tam* whistleblower can initiate a lawsuit by filing a complaint on behalf of the government with a court.⁷ This complaint is “under seal,” wherein only the government is informed of the lawsuit. The purpose of the seal is to permit the government to conduct a covert investigation without the defendant’s knowledge.⁸ If whistleblowers violate the seal requirements (e.g., by publicly discussing the case), the court can dismiss the case (Hoyer 2013). Next, the DOJ opens an investigation into the lawsuit’s claims and investigates the claims together with the allegedly defrauded agency. Investigations typically include interviews and statements from the whistleblower and other witnesses and obtaining the defendant’s records through the subpoena process. The DOJ and agency initially have 60 days for their investigation, but they can ask the court for an extension. During the length of the investigation, the case is kept under seal. Each extension request grants an additional six

⁷ According to Section 3732(a) of the FCA, a whistleblower lawsuit “may be brought in any judicial district in which the defendant or, in the case of multiple defendants, any one defendant can be found, resides, [or] transactions business [...]” Thus, if a firm operates in several jurisdictions, whistleblowers can choose where to file the lawsuit.

⁸ Companies can become aware of the allegation while the investigation is ongoing through other means, for instance, when the company receives a subpoena for records, or if investigators interview employees.

months for the investigation, and most cases remain under seal for approximately two years (DOJ 2011; see Figure 1).

At the end of an investigation, the DOJ, together with the industry-specific agency, decides on whether to join the case (or “to intervene”) or to decline joining the case (see Heese et al. 2020 for a study examining DOJ selection of FCA lawsuits). In the latter case, the *qui tam* whistleblower still has the option to proceed on his own without the DOJ.⁹ At the end of this stage, the case is unsealed and proceeds to the next step.

The next step in the *qui tam* process involves active litigation. At this time, the whistleblower’s complaint must be served to the defendant within 120 days, who is obliged to file an answer to the complaint within 20 days of receiving it. The case then proceeds through various phases such as discovery, trial, and any appeals. The entire litigation process can span several years (1.3 years for our sample lawsuits, as shown in Figure 1). At any point in the *qui tam* process, the defendant also has the option to settle the case. Companies can be held liable for criminal penalties in the form of fines, asset forfeiture, jail time, and a bar from future government contracting.

Qui tam whistleblowers stand to gain financially from successful lawsuits. The gains depend on the DOJ’s intervention decision. If the DOJ declines to intervene and the whistleblower continues on his own, then a successful whistleblower earns between 25% and 30% of any recovery; if the DOJ intervenes, then a successful whistleblower keeps only 15% to 25% of recoveries.

2.3. Decisions by U.S. Courts of Appeals

The financial incentives for whistleblowing under the FCA differ across district courts. In the U.S., the 94 districts courts are organized into 12 circuits, each with its own Court of

⁹ According to the DOJ, it intervenes in approximately 25% of all cases (DOJ 2011).

Appeals. Decisions of a given Court of Appeals are mandatory for the district courts and other lower courts within the respective circuit. We exploit three decisions by Court of Appeals that increased the financial incentives for whistleblowers filing FCA lawsuits in given circuits. The first decision is *United States ex rel. Killingsworth v. Northrop Corp.* 25 F.3d 715, 722 (9th Cir. 1994).¹⁰ In 1994, the U.S. Court of Appeals of the 9th Circuit ruled—contrary to all other appeals courts to consider the issue—that the DOJ may only influence a settlement between a whistleblower and a defendant where it has intervened previously.¹¹ This decrease in government power is relevant because a whistleblower sues on behalf of the United States, and any judgment determines the government’s later assertion of related claims. This decision increased the financial incentives for whistleblowing in two ways (Engstrom 2013). First, it creates incentives for whistleblowers and defendants to trade a wide release of liability for a larger settlement. Second, the DOJ could be more likely to intervene in cases filed in the 9th circuit to police collusive settlements. This benefits whistleblowers because DOJ intervention increases the likelihood of reaching a settlement substantially.

The second decision we exploit is *United States v. Larry Reed & Sons Partnership*, 280 F.3d 1212 (8th Cir. 2002). In 2002, the U.S. Court of Appeals of the 8th Circuit decided that damage awards are not limited to the amounts alleged in the initial complaint. As the whistleblower’s share is based on the total recovery (i.e., the sum of damages and penalties), this decision increased the financial incentives for whistleblowing as this decision allows whistleblowers to revise their claims upwards throughout the investigation process and the legal proceedings, increasing total recovery.

¹⁰ We do not consider two other decisions of the U.S. Court of Appeals of the 9th Circuit that increase financial incentives for whistleblowing (i.e., *United States v. Mackby*, 339 F.3d 1013 (9th Cir. 2003) and *United States v. Eghbal*, 548 F.3d 1281, 1285 (9th Cir. 2008), because district courts in the ninth circuit are already treated by *United States ex rel. Killingsworth v. Northrop Corp.* 25 F.3d 715, 722 (9th Cir. 1994).

¹¹ In lawsuits filed in other district courts the DOJ can veto settlements in cases that it declined to intervene in (Engstrom 2013).

The third decision we exploit is *U.S. ex rel. Tyson v. Amerigroup Illinois, Inc.*, 488 F. Supp. 2d 719 (N.D. Ill 2007). In this case, the jury returned a verdict that the defendant perceived as imposing excessive penalties. The defendant filed an appeal with the U.S. Courts of Appeals for the 7th Circuit in 2007. On appeal, the court ruled in favor of the plaintiffs. This decision increased financial incentives for whistleblowers to file cases in the 7th circuit because it ruled in favor of allowing penalties greatly in excess of damages, increasing total recovery.

2.4. Related research and research objective

The literature defines “whistleblowing” as the disclosure by either former or current employees of alleged illegal, immoral, or illegitimate practices that are under the control of the employer (Miceli and Near 1985). While employees are likely to have the greatest opportunities to identify corporate wrongdoings, whistleblowing can come from external sources to the firm as well.¹² Using a sample of 216 fraud cases between 1996 and 2004, Dyck et al. (2010) find that employees are the most important source of information (17% of the cases), followed by non-financial market regulators (13%) and the media (13%). The SEC and auditors only account for 7% and 10% of the cases, respectively. They conclude that whistleblowers face weak incentives to reveal wrongdoings, especially employees, who “seem to lose outright from whistleblowing.” Similarly, Brickley (2003) reports that random reviews of whistleblower complaints conducted by the National Whistleblowers Center and the Government Accountability Project find that over half of complainants reported they were fired after blowing the whistle, and over 90% were subjected to reprisals or threats. To reduce these

¹² Prior studies document consequences for firms targeted by employee whistleblowers. For instance, Bowen et al. (2010) find that firms subject to whistleblowing allegations face subsequent negative consequences (such as negative market reactions, restatements, and shareholder lawsuits). Whistleblowing has also been shown to deter financial misreporting and tax aggressiveness (e.g., Wilde 2017; Berger and Lee 2019; Wiedman and Zhu 2017).

costs for whistleblowers, regulators increasingly employ cash-for-information programs that provide financial rewards for whistleblowers.

Proponents of these programs argue that financial incentives by a regulator are likely to increase whistleblowers' willingness to share their information with the authorities (Pope and Lee 2013; Xu and Ziegenfuss 2008).¹³ They highlight that incentivizing whistleblowers to share their information with the authorities is important because whistleblowers have access to valuable information related to corporate misconduct. Call et al. (2018), for example, document that whistleblower involvement is associated with higher penalties for targeted firms and longer prison sentences for culpable executives. Under this view, cash-for-information programs compensate whistleblowers for the costs associated with reporting wrongdoing to the authorities. Evidence of significant underreporting of wrongdoing supports the implementation of financial rewards for whistleblowers (Ethics Resource Center 2013).

In contrast, critics argue that whistleblowers are often disgruntled employees or other stakeholders that waste resources of regulators and accused firms alike, and lodge baseless allegations (Gobert and Punch 2000). Miceli and Near (1992) also describe that whistleblowers often misjudge the situation and hence file trivial or frivolous complaints. They are also likely to report directly to regulators for the sake of financial rewards, instead of alerting the company first. Bok (1980) discusses that whistleblowers may "hope for revenge for past slights or injustices." Some employees may also want to misuse the protected "whistleblower" status to avoid discharges (Anechiarico and Jacobs 1996). Under this view, cash-for-information programs trigger employees to file meritless allegations with authorities that they might not have filed otherwise, generating costs for regulators and firms (Bok 1980; Schmidt 2005).

¹³ Xu and Ziegenfuss (2008) find that internal auditors are more likely to report wrongdoing when they receive incentives by their employing firm, and Pope and Lee (2013) find similar results in a sample of MBA students.

In the first part of this study, we examine the effect of financial incentives on whistleblowing under the cash-for-information program of the FCA. In particular, we exploit staggered court decisions that increase financial incentives for whistleblowing to examine the validity of the conflicting views regarding whistleblowers' behaviors in cases filed with authorities under the FCA cash-for-information program during the period 1994 to 2012. In the second part of this study, we investigate the short-, medium-, and long-term consequences for whistleblowers. Prior studies conclude that whistleblowers face substantial costs from revealing corporate wrongdoing, especially employees, who "seem to lose outright from whistleblowing" (Dyck et al. 2010). Our second set of analyses investigates the validity of this concern by examining the career, financial, and social consequences for whistleblowers under cash-for-information programs using information from lawsuits, a professional networking site, and background checks on up to 1,168 whistleblowers.

3. Data and sample characteristics

We obtain the list of whistleblower lawsuits from Engstrom (2013), who procured it through a series of requests to the DOJ under the Freedom of Information Act (FOIA). This dataset contains all FCA lawsuits initiated by whistleblowers from 1994 to 2012 against private and public firms.¹⁴ For each lawsuit, the data includes the filing date, the accused firm, the district court, and the lawsuit outcome. Appendix A provides examples from our sample.

Table 1, Panel A describes the entire dataset as well as the samples that we use for the analyses. The initial dataset comprises 5,138 lawsuits, involving 6,181 whistleblowers and

¹⁴ Roughly 3,000 (2,500 during our sample period) *qui tam* lawsuits remain under seal and fall into one of three categories (Engstrom 2013). First, a substantial portion of the cases remain under seal pending the completion of investigations. Second, a small fraction is comprised of closed cases that could involve national security concerns. According to DOJ attorneys (Engstrom 2013), the rest of the cases are likely closed cases that remained sealed for a variety of reasons, including neglect by the judge to unseal the case, accidental failure by the relevant DOJ attorney to request unsealing upon case termination, or a successful whistleblower effort to persuade the trial judge to keep the case sealed, typically because he or she remains employed by the company named in the lawsuit.

6,828 unique whistleblower-lawsuit observations.¹⁵ We refer to this sample as the “full sample.” We next obtain the court documents for these lawsuits from the Public Access to Court Electronic Records (PACER) system and collect data on the nature of the fraud, the whistleblowers, and the firm’s details and behavior towards the complaint and the whistleblower.¹⁶ We are able to obtain the court documents for a sample of 1,926 unique lawsuits involving 2,318 unique whistleblowers and comprising 2,450 unique whistleblower-lawsuit observations. This sample comprises 2,219 unique firms. We refer to this sample as the “lawsuits with court documents sample.” 1,335 (591) of the 1,926 lawsuits with court documents are filed by employee (non-employee) whistleblowers. In some instances, we note differences in lawsuits against public versus private firms.¹⁷

Table 1, Panel B describes the distribution of the 5,138 lawsuits over the sample period. The lawsuits are relatively equally spread over the sample period, while the settlement amounts are the highest for lawsuits filed in 2003.¹⁸ The 5,138 lawsuits identify more than 20 agencies that were allegedly defrauded by our sample firms (see Table 1, Panel C). The two agencies with the most cases are the Department of Health and Human Services (comprising 56% of the sample), and the Department of Defense (comprising 16% of the sample). Panel D reports the distribution of the 5,138 lawsuits across the 94 U.S. District Courts. The district courts in California, Florida, and Texas receive the largest number of FCA lawsuits.

Table 1, Panel E provides more information on the sample composition of the 2,451 whistleblower-lawsuit observations with court documents by type of whistleblower. By far,

¹⁵ A lawsuit may involve more than one whistleblower, explaining why the number of unique whistleblowers exceeds the number of unique lawsuits. We cannot determine the number of unique firms for the full sample without access to the court documents.

¹⁶ Three different teams of research assistants reviewed all lawsuits to ensure an accurate final dataset. Remaining issues were resolved by us.

¹⁷ To identify public firms, we review the court filings to match the name of each defendant to a GVKEY identifier.

¹⁸ The number of allegations drops significantly in 2012 (the last year in our sample) because many cases were still under seal at the time of the FOIA requests.

employee whistleblowers are the most common whistleblower in our sample, with approximately 70% of the observations related to employee whistleblowers. Other key categories of whistleblowers include customers (the second largest category with 4.5% of all observations), contractors, business partners, external auditors, competitors, and suppliers. Less than 30% of all lawsuits result in a settlement, suggesting that most lawsuits lack merit (or sufficiently strong evidence).

Regarding the characteristics of employee whistleblowers, we find that men file approximately 60% of lawsuits.¹⁹ We also consider the ranks of employee whistleblowers in our sample.²⁰ We find that the majority of the lawsuits are filed by rank-and-file employees (about 59%), followed by middle management (27%), and upper management (4%). Almost 60% of the settlement amounts pertain to cases filed by rank-and-file employees, and the percentages of settled lawsuits are similar across whistleblower ranks: 25%, 28% and 33% of lawsuits are settled for rank-and-file, middle and upper management, respectively.²¹ The average settlement per lawsuit is also similar across different ranks – the highest average settlement being for upper-management whistleblowers (\$23 million), followed by middle-management and rank-and-file employees (about \$17 million for each category).²²

– Insert Table 1 here –

4. Effect of financial incentives on whistleblowing

4.1. Empirical methodology

¹⁹ This could be reflective of the distribution of men versus women in our sample firms. According to the U.S. Department of Labor, as of 2016, almost 47% of U.S. workers are women (DOL 2016).

²⁰ We categorize all C-suite executives, such as a CEO, COO, CFO, Chairman, President, and Executive Vice President as upper management. We group positions that include the designations of “manager”, “supervisor”, “director” under middle management, and designate all others as rank-and-file. “Director” does not refer to a member of the board of directors; instead, these are designations such as “Director of Operations.” When not obvious, we read more about the position of the employee to determine his or her rank in the firm.

²¹ This is slightly different for public firms: 24% and 32% of lawsuits filed by rank-and-file and middle management are settled; however, only 17% of lawsuits filed by upper management are settled.

²² This is different for public firms: rank-and-file employee whistleblowers have the highest average settlement at \$46 million, followed by middle and upper management at \$22 million and \$19 million, respectively.

We examine the effect of financial incentives on whistleblowing by estimating the following regression at the district-court level using the full sample of 5,138 lawsuits:

$$Y_{i,t} = \alpha_0 + \alpha_1 Treatment_{i,t} + Controls + \alpha_i + \alpha_t + \epsilon, \quad (1)$$

where the dependent variable $Y_{i,t}$ is either the natural logarithm of one plus the number of FCA lawsuits (denoted *Number of Lawsuits*), the percentage of internally reported lawsuits (denoted *% Internally Reported Lawsuits*), the natural logarithm of the average DOJ investigation length, i.e., the number of days from the filing to the case-selection date (denoted *DOJ Investigation Length*), the percentage of DOJ-intervened lawsuits (denoted *% Intervened Lawsuits*), the percentage of settled lawsuits (denoted *% Settled Lawsuits*), or the natural logarithm of one plus the total settlements (denoted *Settlement*) that district court i incurred during year t .²³ The main explanatory variable $Treatment_{i,t}$ takes the value of 1 following an appeals-court decision in year t that increased the financial incentives for whistleblowing in district courts i , and 0 before that decision.

Our identification strategy is a difference-in-differences methodology that exploits appeals-court decisions over time. The first difference is the change in whistleblowing at each district court before and after a court decision that increased financial incentives for whistleblowers. The second difference is the change in whistleblowing in the control group of FCA lawsuits filed at other district courts that are not subject to these appeals-court decisions. We estimate the effect of financial incentives on district-court-level whistleblowing as the difference in those two differences.

Our tests include district-court fixed effects to control for time-invariant court characteristics and year fixed effects to control for general time trends. Similar to Heese et al.

²³ In untabulated tests, we examine the robustness of our results when winsorizing the dependent variables at the 1st and 99th percentiles. We find consistent results.

(2020), we include the following *Controls* for district-court and macroeconomic conditions. To control for resources available at each district court, we include *Number of Cases* (measured as the natural logarithm of one plus the number of civil cases pending per U.S. attorney office at the beginning of the year) and *Attorney Hours* (measured as the natural logarithm of attorney hours worked per year in a district court). To control for the macroeconomic conditions, we control for the size of the local *Labor Force* (measured as the natural logarithm of the labor force in each district at the beginning of the year) and the *Unemployment Rate* (measured as the district’s unemployment rate at the beginning of the year). All variables are defined in Appendix B. Standard errors are clustered at the circuit-court level.

Table 2 provides descriptive statistics for the variables included in our tests. In our sample, 24.5% of all observations are subject to an appeals-court decision that increases financial incentives for whistleblowers. On average, 2.88 FCA lawsuits are filed per district-court year, and the average investigation length is 409 days. Approximately 18.5% of these lawsuits are settled with an average settlement of \$3.8 million. The average district court has 1,142 civil cases pending per year and spends 9,458 attorney hours per year. District courts have an average labor force of roughly 1.6 million people and an unemployment rate of 5.85%.

– Insert Table 2 here –

4.2. Results

4.2.1. Number of lawsuits

We examine whether district courts receive a larger number of FCA lawsuits after an appeals-court decision that increases financial incentives for whistleblowing.²⁴ To do so, we examine changes in the *Number of Lawsuits* using equation 1. If financial incentives trigger

²⁴ In untabulated tests, we also examine parallel trends around the appeals-court decisions in our sample and do not find significant differences between treated and untreated courts prior to the court decisions.

whistleblowers to file more lawsuits, we expect the number of lawsuits to be higher following appeals-court decisions that increase financial incentives for whistleblowing.

Table 3 reports the results. The main difference across these models is the inclusion of different *Controls*. Column 1 does not include any *Controls*. Column 2 includes district-court-specific *Controls*, and Column 3 also includes macroeconomic *Controls*. All models include district-court and year fixed effects. In all models, the coefficient associated with the treatment effect is insignificant, indicating that financial incentives do not increase the number of FCA lawsuits filed with district courts.

– Insert Table 3 here –

4.2.2. *Internal reporting*

In this section, we examine the effect of financial incentives for whistleblowing on employees' decisions to report alleged wrongdoings internally first, versus directly reporting the case to regulators.²⁵ Critics of cash-for-information programs argue that whistleblower complaints reported to the authorities without informing the firm first are more likely to be frivolous and reflect whistleblowers' intent to obtain a quick payday. Under this view, we should observe differential case outcomes within our sample of lawsuits depending on whether an allegation was directly reported to the authorities versus reported internally first.

We begin our examination by providing statistics in Table 4, Panel A on the sample of 1,335 lawsuits with a court document filed by 1,666 employee whistleblowers. The statistics in Table 4, Panel A show that a significantly larger percentage of lawsuits were reported internally first. Further, a significantly larger percentage of lawsuits not reported internally first get settled (approximately 30% of these lawsuits settle) as compared to lawsuits reported

²⁵ We code all lawsuits in which the employee whistleblower unambiguously describes that he or she reported the issue internally before informing the authorities as internally reported. We cannot determine whether the employee whistleblower provided the firm with sufficient time to respond to the allegation.

internally first (approximately 25% of these lawsuits settle). Contrary to the critics' view, the average settlement is not statistically different across lawsuits initially reported internally versus those directly reported externally (the average settlement is approximately \$15 million). These descriptive statistics suggest that lawsuit merit cannot be predicted merely by the whistleblower's internal versus external reporting choice. We further examine the court documents to understand the whistleblowers' reasons for reporting directly to regulators. In almost 90% of the lawsuits, the whistleblowers did not provide a reason. Among those that did offer a reason, fear of retaliation was the most cited cause for not reporting internally first (9.4% of cases), followed by the supervisor being involved in the fraud (0.5%), and external parties already being aware of the fraud (0.4%).

In Table 4, Panel B, we conduct a more in-depth analysis of the various types of channels used by employee whistleblowers.²⁶ The majority of whistleblowers who report internally first choose to report to top management (34-38%) or their direct supervisor (34-38% of the time). Other channels include reporting to a colleague, legal compliance, HR, a hotline, and an internal auditor. Interestingly, hotlines (made specifically for use by whistleblowers) are very rarely used in our sample (about 2-4% of the time). Three explanations are possible for this. First, many private firms may not employ such hotlines as they are not required by law for private firms. Second, it is possible that most cases that are reported to hotlines are successfully resolved internally, and hence we do not observe these in our sample of lawsuits (e.g., Stubben and Welch 2020). Third, Soltes (2020) finds that there are often barriers to the proper functioning of hotlines, such as wrong or incomplete phone

²⁶ While most employee whistleblowers use only one internal reporting channel (in about 47% of the cases), it is not unusual for some whistleblowers to use multiple internal reporting channels prior to reporting externally. As a result, the number of observations for reporting channels used is greater than the number of observations for employee whistleblowers who chose to report internally first.

numbers provided or non-functioning websites.²⁷ Hence, whistleblowers may rarely use this channel. Among the external reporting channels, employee whistleblowers either report first to courts (in more than 95% of the cases), a government agency, or an external auditor.

Next, we examine the effect of financial incentives on informing firms before filing a lawsuit by studying changes in the percentage of internally reported lawsuits per district court and year (denoted % *Internally Reported Lawsuits*) using equation 1 and the sample of 1,335 lawsuits with a court document filed by employee whistleblowers. If financial incentives trigger whistleblowers to contact authorities directly, we expect the percentage of lawsuits reported internally decrease following appeals-court decisions that increase whistleblowing incentives. Table 4, Panel C reports the results. The table follows the same structure as Table 3. In all models, the coefficient on *Treatment* is positive and insignificant, indicating that incentives do not affect the percentage of FCA lawsuits reported internally first significantly.

– Insert Table 4 here –

4.2.3. *Investigation length*

In this section, we examine the effect of financial incentives for whistleblowing on DOJ investigation length to capture the DOJ’s investigative efforts using equation 1 and the full sample of 5,138 lawsuits. If stronger financial incentives help whistleblowers to come forward with valuable information, we would expect that the DOJ spends, on average, more time investigating each allegation to build a stronger case. In contrast, if incentives trigger meritless claims, we would expect the DOJ to reduce the average investigation length.

Table 5 reports the results. It follows the same structure as Table 3. As shown in Columns 1-3, we find a positive and significant coefficient on *Treatment*, indicating that treated

²⁷ Soltes (2020) documents that 20% of his sample of 250 firms had impediments that hindered the actual reporting by whistleblowers. He notes that, “some of these obstacles were serious, and effectively locked reporting on the channel altogether.”

district courts have longer DOJ investigations on average. The results are also economically significant. For the average district court, an appeals-court decision that strengthens incentives for whistleblowing increases the investigation length by 43.4% (based on Table 5, Column 1).

– Insert Table 5 here –

4.2.4. Lawsuit outcomes

Next, we study the effect of financial incentives for whistleblowing on the outcomes of lawsuits using equation 1 and the full sample of 5,138 lawsuits. To do so, we examine the percentage of DOJ-intervened lawsuits (*% Intervened Lawsuits*), the percentage of settled lawsuits (denoted *% Settled Lawsuits*), and the natural logarithm of one plus the total settlement amount per district court and year (denoted *Settlement*). If financial incentives encourage whistleblowers to file higher-quality lawsuits, we expect to find an increase in the percentage of DOJ-intervened lawsuits, the percentage of settled lawsuits, and total settlements following appeals-court decisions that raise incentives for whistleblowing.

Table 6, Panels A-C report the results. The table follows the same structure as Table 3. As shown in Columns 1-3, we find a positive and significant coefficient on *Treatment*, indicating that treated district courts have a larger percentage of DOJ-intervened lawsuits, a larger percentage of settled lawsuits, and larger settlements. The results are also economically significant. For the average district court, an appeals-court decision that increases financial incentives for whistleblowing increases the percentage of intervened cases by 3.2% (based on Table 6, Panel A, Column 1), the percentage of settled cases by 2.2% (based on Table 6, Panel B, Column 1), and total settlements by 61% (based on Table 6, Panel C, Column 1).

– Insert Table 6 here –

In sum, these findings support the view that cash-for-information programs help expose misconduct. Specifically, our analyses provide evidence that whistleblowers respond to

financial incentives by filing higher-quality lawsuits. In contrast, we do not find support for the critics' view that stronger financial incentives for whistleblowing trigger meritless lawsuits or drive whistleblowers to inform the authorities directly without informing the firm first. However, the concern is that whistleblowers face severe costs to help uncover corporate fraud (e.g., Dyck et al. 2010). Our second set of analyses investigates the validity of this concern by examining the consequences for whistleblowers under cash-for-information programs using information from lawsuits, a professional networking site, and background checks done using public records for up to 1,168 whistleblowers. These analyses are conducted at the whistleblower level (while equation 1 is run at the district-court level).

5. The consequences for whistleblowers

We conduct three sets of analyses to examine the consequences of whistleblowing for employee whistleblowers. In particular, we study firms' immediate reactions and whistleblowers' career, financial, and social consequences. Our first two tests use self-reported information obtained either from the lawsuits or a professional networking site. The last set of tests employs background-check information from public sources. We discuss these tests in the following sections.

5.1. Firms' responses to employee whistleblower allegations and immediate consequences

When an employee reports an issue internally, firms can choose to react to the complaint in several ways. They may open an internal investigation, cover it up, or ignore the complaint. Firms may also retaliate against employee whistleblowers in various ways, such as harassment, threats, suspension, demotion, and even firing them (Dyck et al. 2010).

We read each lawsuit to determine firms' responses as reported by the whistleblower. We also examine whether the whistleblower reports to be subject to any retaliatory practices, and if so, which ones. Table 7 describes the various responses and retaliation from the accused

firms for the sample of lawsuits filed by 897 employee whistleblowers, who reported internally first.²⁸ For most of the allegations in the sample (60%), whistleblowers report that firms ignore the issue raised by the employee. For 10% of the allegations, firms try to cover-up the issue internally. In only 6% of cases, firms open an internal investigation.

Whistleblowers also report that firms typically retaliate against them. The most common form of retaliation against whistleblowers in our sample is firing them (37% of cases). Other significant forms of retaliation include harassment (16%), threats (10%), demotion (6%), and suspension (2.5%). Employee whistleblowers quit in 7% of the cases and have a lawsuit filed against them in 0.4% of the cases. In only 20% of lawsuits, firms do not retaliate against the whistleblower.²⁹

We also find that the probability of reaching a settlement is higher in lawsuits where the whistleblower is fired, with 12% of those cases ending with an average settlement of \$8.3 million. In those cases, the whistleblower's expected benefit is approximately \$200,000, representing four times of the average annual compensation of the median employee.³⁰ The unconditional expected benefit for whistleblowers in our sample is approximately \$140,000.³¹ While these benefits seem large, it could take a long time to collect them. For example, Dyck et al. (2010) provide examples where whistleblowers had to wait up to 10 years to collect the reward. In our sample, the average whistleblower receives the reward 4 years after the filing date, and 75% of all whistleblowers receive the money within 5 years.

²⁸ The results are similar across public and private firms.

²⁹ In unreported analyses, we find that firms' responses and retaliations in our lawsuit sample do not vary much based on the rank of the whistleblower. Thus, it does not seem that firms' behaviors against whistleblowers and their complaints are contingent on the whistleblower's rank.

³⁰ We estimate the expected monetary benefits as the product of the probability of reaching a settlement, the average settlement amount, and the average fraction of recovered amounts collected by the whistleblowers in our sample (12% x \$8.3 million x 20%). As mentioned earlier, the average annual compensation of the median employee is \$50,603 in 2018.

³¹ We estimate the unconditional expected monetary benefits as the product of the probability of reaching a settlement, the average settlement amount, and the average fraction of recovered amounts collected by the whistleblowers in our sample using information from Table 2 (18.5% x \$3.8 million x 20%).

The evidence from this analysis suggests that informing the authorities carries costly consequences at the current firm, with approximately 45% of employees leaving the firm shortly thereafter, either by being fired or pushed to quit. However, the average benefits collected by employees who are terminated mitigate, and in some instances, fully eliminate the losses associated with the job loss.³² Especially for rank-and-file employees, the expected benefits appear to be larger than the costs associated with blowing the whistle. In contrast, the expected benefits may not be large enough to incentivize upper management to file a lawsuit.

– Insert Table 7 here –

5.2. Career consequences for employee whistleblowers

As shown in the previous analysis, one of the primary consequences of blowing the whistle is job loss. Prior work suggests that, in addition to job loss, whistleblowers suffer from a long unemployment period. To examine this conjecture, we hand-collect data about whistleblowers' career outcomes from a professional networking site. We find the profiles of 89 whistleblowers working at public firms and examine the career consequences with respect to the immediate job after working for the accused firm ("next job") and the whistleblowers' most recent job ("latest job"). Table 8 presents the results from this analysis. We find that the average employment gap (i.e., the period between the job at the accused firm and the next job) is 1.1 years. When considering the different ranks, upper management has, on average, no gap, whereas rank-and-file employees have the longest gap at 1.4 years.³³

We also find that the whistleblower's next job is better than its job at the accused firm in 31% of cases, equivalent in 21%, worse in 10%, and the whistleblower becomes self-employed in 21% of the cases. In 16% of the cases, the profile does not provide enough

³² As we describe in the next section, the average unemployment gap for whistleblowers is approximately 1 year.

³³ We have very few observations for upper management whistleblowers (6 employees). Thus, we caution the reader to interpret the findings for this rank of whistleblowers with this consideration in mind.

information to assess the next job. While these overall statistics apply to rank-and-file and middle-management employees, they are different for upper management. For upper management, their next job is better or equal 0% of the time, is worse 33% of the time, and the whistleblower becomes self-employed 50% of the time.

Whistleblowers can also suffer costs if they have to move to another state or change industries.³⁴ We find that 16% of whistleblowers move states for their next job, and 35% change industry. To better understand the long-term consequences of blowing the whistle, we also examine the whistleblowers' most recent job. The average whistleblower begins working at their latest job 8 years after filing the lawsuit. In 58% of the cases, the whistleblower's latest job is better or equal to the job at the time of whistleblowing. In 12% of the cases, the whistleblower has a worse job, and in 16% the whistleblower is self-employed. In 15% of the cases, we do not have enough information about the latest job. In terms of geographical moves and industry changes, we find that 24% move to another state and 42% change industry. These changes could also be due to normal labor movements in the economy.

Overall, this evidence suggests that while most whistleblowers cease working at their current firm, they can find an equivalent or better job within a year. In addition, most whistleblowers do not appear to suffer very negative long-term career consequences (particularly rank-and-file and middle-management whistleblowers).

– Insert Table 8 here –

5.3. Financial and social consequences for whistleblowers

Our third set of analyses examines short-, medium-, and long-term financial and social consequences for up to 1,168 employee whistleblowers (we are unable to obtain information

³⁴ For example, Dyck et al. (2010) describe some of the costs associated with whistleblowing as being forced to leave the hometown in the years following the allegation.

for 467 out of the 1,635 employee whistleblowers in our sample).³⁵ We focus on financial and social consequences as prior research concludes that whistleblowers face substantial costs in both categories (e.g., Dyck et al. 2010). For this analysis, we collect detailed information about each employee whistleblower by conducting background checks using LexisNexis Smartlinx. This data service accesses over 13,000 proprietary and public data sources. In Smartlinx, we conduct individual searches using each whistleblower's name, state, and an estimated age range to construct a panel with their historical records on two sets of outcome variables.

Our financial outcomes variables are the (1) median income and (2) median home value of the census tract where the whistleblower resides, (3) mortgage refinancing events, (4) number of judgments and liens, and (5) bankruptcy events.³⁶ Our social outcomes variables are (1) change of address, (2) marriage, (3) divorce, (4) traffic violations, and (5) legal record. This analysis offers three main advantages over our first two sets of analyses. First, it allows us to observe a wider range of outcomes in a more standardized manner. Second, the information from public records does not rely on whistleblowers' self-reported consequences. Lastly, we are able to measure consequences over a more extended period.

5.3.1. Descriptive statistics

Table 9 provides the summary statistics for each of our outcome variables one, five, and ten years before and after the lawsuit filing using the sample of 1,168 whistleblowers. Before blowing the whistle, the average whistleblower resides in a home worth approximately \$274,000 and has an annual income of \$75,000. We do not find any noticeable changes in terms

³⁵ In some instances we are unable to unambiguously find a specific whistleblower, as there may be multiple individuals with the same name that have lived in the state where the case was filed. In those instances we read through several profiles to assess whether additional information allows us to identify the correct individual.

³⁶ We use the median income and the median home value in the whistleblower's neighborhood as proxies for the income and the home value of the whistleblower. The implicit assumption with this choice is that individuals tend to live in neighborhoods that share a similar socioeconomic context. Thus, when their income improves, they are likely to move to wealthier neighborhoods and vice versa when their income declines.

of financial or social outcomes in the year after the lawsuit filing date. In terms of financial outcomes, we observe increases in home value, the likelihood of facing judgments and liens or refinancing a mortgage over the medium and long terms. In terms of social outcomes, we observe a reduction in the likelihood of changing address, marrying, or divorcing over the medium and long term. Please note that the descriptive statistics presented in Table 9 offer insights into the *levels* for various outcomes but do not compare the changes to a counterfactual or control for time-varying characteristics such as age changes. A takeaway from this analysis is that there is no evidence of large changes in any outcome variable in the very short term. Our difference-in-differences analysis, which we discuss next, offers more precise insights into how the whistleblowers' life trajectory changes after blowing the whistle.

– Insert Table 9 here –

5.3.2. *Difference-in-differences analysis*

Next, we conduct a difference-in-differences analysis using the sample of 89 employee whistleblowers described in Section 5.2. To that end, we use a professional networking site to find a non-whistleblower control individual.³⁷ More specifically, we manually match “control” individuals if they worked at the same firm as the whistleblower at the same time, held a similar position at the firm, are likely to be in a similar age group, and preferably of the same gender. We then search each individual from the non-whistleblower control group in Smartlinx and collect information about their financial and social outcomes. Collecting data from this non-whistleblower matched sample allows us to employ a difference-in-differences methodology.³⁸ The final sample for our difference-in-differences analysis consists of 172 individuals, i.e., 86

³⁷ We focus on whistleblowers working at public firms because those firms typically have a larger number of employees, which allows us to find better matches.

³⁸ In untabulated tests, we also examine parallel trends around the lawsuit filing and do not find significant differences between whistleblowers and the matched individuals prior to the lawsuit filing.

whistleblowers and 86 matched non-whistleblowers (we do not find a match for three whistleblowers and hence exclude them from this analysis). We estimate the following model:

$$Y_{i,j,t} = \alpha_0 + \alpha_1 Treatment_{i,t} + Age + \alpha_i + \alpha_t + \alpha_{j,t} + \epsilon, \quad (2)$$

where $Y_{i,j,t}$ is each of our ten dependent variables, and $Treatment$ takes the value of 1 in the one, five, or ten years after a whistleblower files a lawsuit with the court, and 0 in the one, five, or ten years before a whistleblower files a lawsuit. We include person and lawsuit-year fixed effects in all models. Lawsuit-year fixed effects allow us to do a within-case analysis where each specific whistleblower is compared to their specific control person.

Table 10 presents the results. Panel A reports the results using different financial outcomes as dependent variables. We find that whistleblowers are more likely to move to neighborhoods with a median income that is 7.3% to 8.6% lower. Similarly, whistleblowers live in a home with a 5.4% lower value than those of the control group after filing the lawsuits. Both effects present themselves one year after the filing date and persist in the medium and long terms (the home value effect is marginally not significant in the one- and five-year periods). In Columns 7-9, we report results from tests examining mortgage refinancing events. We find an increase in refinancing likelihood in the year following a lawsuit filing but no effect in the years after that. In Columns 10-12, we find an increase in the likelihood of judgments and liens in the one-, five-, and ten-year periods after the lawsuit filing. Whistleblowers are 7.7% more likely to be subject to a lien in the short-term. However, this effect is less than three times smaller in the medium and long term than in the first year. Lastly, we do not find that whistleblowing affects the likelihood of whistleblowers filing for bankruptcy.

Panel B reports the results using our social outcome variables as dependent variables. We find that whistleblowers change addresses more frequently than the matched sample in the medium and long terms. More specifically, whistleblowers are 4.9% (5.9%) more likely to

change addresses than the control sample five (ten) years after the lawsuit filing date. However, we do not find any differences between the whistleblower and non-whistleblower samples when examining the likelihood of committing traffic violations, legal offenses, getting married, or going through a divorce.

Overall, the results from Table 10 indicate that whistleblowers have worse financial outcomes in the years after whistleblowing, but no worse social outcomes. However, the evidence also shows that the financial repercussions are modest compared to the expected benefits of \$140,000. An 8.6% lower income represents approximately a reduction of \$6,500 per annum for the average whistleblower.³⁹ Moreover, the increase in the likelihood of facing more severe financial outcomes (e.g., mortgage refinancings, judgments and liens, or bankruptcies) is only pronounced in the short term.

– Insert Table 10 here –

Finally, we examine whether there are differential effects depending on the rank of the whistleblower. Table 11 reports the coefficients on our *Treatment* variable when we re-run equation 3 by employee rank.⁴⁰ Panel A reports the results using our financial outcome variables. We find that the income effects are concentrated in the rank-and-file and middle-management employees. In contrast, upper-management whistleblowers report, on average, higher income and home value five years after blowing the whistle. Consistent with these results, we find that judgments and liens are concentrated in middle-management whistleblowers and refinancings in rank-and-file employees.

³⁹ According to Table 9, the average whistleblower's *Income* one year before filing the lawsuit is \$75,592. Taking 8.6% of that figure yields \$6,501.

⁴⁰ Please note that the coefficient on *Treatment* is missing in several cells, as there is sometimes no variation in the dependent variables or the sample is too small to run the model.

Table 11, Panel B reports the results when we use social outcomes as dependent variables. The only outcome where we find a differential effect between whistleblowers and their matched-sample, *Address Change*, is concentrated in rank-and-file and middle-management employees. Overall, the evidence from these tests indicates that upper-management employees do not suffer from negative financial or social consequences from blowing the whistle. In contrast, we find that rank-and-file employees and middle managers are likely to experience negative financial repercussions. Regarding social consequences, our findings indicate that there may be some costs to lower- and middle-level employees in terms of more frequent address changes over the long-term, but no differential effects in terms of legal offenses, divorces, or marriages.

– Insert Table 11 here –

7. Conclusions

In this paper, we examine the effect of financial incentives on whistleblowing and the consequences of whistleblowing for employee whistleblowers under the cash-for-information program of the False Claims Act (FCA). We exploit three appeals-court decisions that increased the expected financial benefits of blowing the whistle and find that the additional incentives do not incite whistleblowers to file a greater number of meritless claims. Contrary to that notion, our evidence suggests that whistleblowers file higher-quality lawsuits that result in higher settlement amounts.

We examine the career, financial, and social consequences of blowing the whistle and find that whistleblowers suffer from retaliation that affects them professionally and financially. However, contrary to prior research, we find that the financial costs of blowing the whistle are somewhat modest. The expected benefits of providing information to the regulator seem to mitigate or fully compensate for those costs. More specifically, we calculate the expected

benefits at approximately \$140,000, while we estimate the financial costs at \$6,500 per year. Moreover, we do not find evidence of social costs for whistleblowers.

Our study is subject to three limitations. First, we do not attempt to provide a complete cost-benefit analysis of the effects of cash-for-information programs. For instance, we do not examine the deterrent effect of stronger financial incentives for whistleblowing on corporate misconduct. Second, our sample of lawsuits comprises the universe of whistleblower FCA lawsuits that were filed with regulators. We do not observe complaints that whistleblowers filed internally with the firm and were not reported to the authorities (either because they were resolved internally or because the whistleblower chose not to pursue these with regulators). Therefore, our results only speak to the effect of financial incentives on whistleblowing in cases filed with the authorities. Third, our sample focuses on whistleblower allegations filed under the FCA against firms accused of defrauding the Government. Cash-for-information programs in other regimes may have a different effect on whistleblowing.

Despite these limitations, our study has important implications for scholars, regulators, corporations, and employees. The academic literature has documented the importance of whistleblowers in detecting corporate fraud. However, considerable controversy remains on how cash-for-information programs affect the enforcement of corporate misconduct. Our paper sheds light on this debate by providing large sample evidence on whistleblowers' and firms' behaviors under the FCA cash-for-information program. Our evidence can be useful for regulators in designing optimal bounty programs. Firms can also benefit from this evidence in reevaluating the role governance systems play in whistleblowers' reporting behavior. Finally, our evidence on career consequences can allow individuals to make more informed decisions regarding blowing the whistle.

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Appendix A. Examples of Whistleblower Allegations

The following examples of whistleblower fraud allegations are based on excerpts from court documents.

Example 1: *US ex rel. Thom, Robert v Pacifica Service Inc.*

Relator [Mr. Thom] verbally informed his immediate supervisor and General Manager for PACIFICA that employees have improperly used, damaged and/or disposed of government property for their own personal benefit and/or pecuniary gain. [...] He was told on numerous occasions that an investigation would be conducted. However, no investigation was ever conducted. [...] On or about June 28, 1996, Relator submitted a letter of resignation from his employment with the Defendant. [...] the defendants, harassed, discriminated and otherwise retaliated against this Relator, resulted in Relator assigned diminished inferior duties, for which Relator has no training [...] resulting in Relator sustaining serious physical injury.

Case Facts:

- Case Received by Court: 3/10/1997
- DOJ Election Decision: 10/1/1997
- DOJ Intervened? No
- WB Reporting channels: Direct Supervisor
- Firm Response: Ignored
- Firm Retaliation: Whistleblower was harassed and forced to quit.

Example 2: *US ex rel. Hicks, James A v PeopleSoft Inc.*

PeopleSoft submitted a proposed GSA price list and Commercial Pricing Practices as part of MAS solicitations, but neither of document disclose all discounts to the Government. Hicks (the relator) has calculated that PeopleSoft's failure to disclose resulted in a minimum of \$7,152,112 in excess fees charged to the federal Government in 1997. [...] Hicks warned PeopleSoft's National Sales Manager that not including discounts was a risk to the company, but the manager told Hicks not to do anything about the issue. In January 2000, after meeting with in-house attorney, Hicks was discharged.

Case Facts:

- Case Received by Court: 3/5/2003
- DOJ Election Decision: 4/7/2006
- DOJ Intervened? Yes
- Settlement Judgment: 10/27/2006
- Time from Filing to Settlement: 3.65 years
- Settlement Amount: \$98.5 Million
- Reporting Channel: Direct supervisor
- Firm Response: Ignored
- Firm Retaliation: Whistleblower was fired

Example 3: *US ex rel. Bill, Betty; State of IL v Curran Contracting Co Inc.; Curran Group Inc.*

Defendants regularly and systematically inflated the amounts of materials that were billed to the Government under road building contracts. In addition, defendants, knowingly made false representation of the amount of business being done by Disadvantaged Business Enterprises. [...] In July of 1999, Bill contacted IDOT to report that Curran (the defendant) was defrauding the Government. At sometime thereafter, Curran and its employees subsequently retaliated against her through harassment, threats and other discriminatory acts. [...] Bill suffered emotional distress and was constructively discharged from Curran's employment.

Case Facts:

- Case Received by Court: 5/17/2001
- DOJ Election Decision: 5/16/2005
- DOJ Intervened? Yes
- Settlement Judgment: 6/9/2005

- Time from Filing to Settlement: 4.07 years
- Settlement Amount: \$0.5 Million
- Reporting channel: Report to State government directly
- Firm Retaliation: Whistleblower was harassed and fired

Example 4: *US; State of Florida ex rel. Rubin, Darren A v University of South Florida et al.*

After discovering the falsified research data, Dr Moor and Relator RUBIN present the findings to Mark P. McLean, Ph.D. (defendant). [...] Mark convinced that it would be the best never to disclose said research findings to anyone outside of the immediate group, [...] Relator Rubin, having continuing concerns on actions taken with respect to falsified research notebook, addressed to President of University of South Florida, [...] he was informed that Dr. Phillip Marty, had been assigned responsibility for conducting the initial inquiry concerning the reported research misconduct.

Case Facts:

- Case Received by Court: 6/6/2008
- DOJ Election Decision: 4/2/2012
- DOJ Intervened? No
- Reporting Channels: Direct supervisor; Top management
- Firm Response: Internal investigation
- Firm Retaliation: Whistleblower was fired

Example 5: *US ex rel. Harris, Robert v JP Morgan-Chase & Co.*

[JP Morgan Chase & Co.'s] inability to keep up with their loss mitigation duties led to purposeful shortcuts, including but not limited to forging documents, forging signatures, backdating documents, expanding loss recognition authority, and lack of proper document review. Defendants eventually abandoned all pretense of loss mitigation for tens of thousands of loans it considered too costly and time consuming to properly handle. [...] As a direct and proximate result of Defendants' fraudulent and/or illegal actions and pattern of fraudulent conduct, the United States has paid directly or indirectly thousands of false claims and spent millions of dollars. [...] Plaintiff-Relator [Harris] notified Chase management officials about the Defendants' failure to comply with regulations and loss mitigation requirements and that Chase was foreclosing on loans without proper loss mitigation. [...] Defendants fired Mr. Harris in retaliation for complaining about these issues on or about January 11, 2010.

Case Facts:

- Case Received by Court: 12/29/2006
- DOJ Election Decision: 4/17/2012
- DOJ Intervened? Yes
- Settlement Judgment: 4/4/2012
- Time from Filing to Settlement: 5.27 years
- Settlement Amount: \$6.18 Million
- Reporting Channel: Top management
- Firm Response: Ignored
- Firm Retaliation: Whistleblower was fired

Appendix B. Variable Definitions

The following variables are constructed using data from a proprietary dataset of whistleblower lawsuits obtained through FOIA requests [FOIA], the actual court documents pertaining to these lawsuits obtained from the Public Access to Court Electronic Records system [PACER], the Bureau of Labor Statistics [BLS], Department of Justice Annual Statistical Reports [DOJ], Institutional Shareholder Services Directors [ISS], and Smartlinx [SX].

Variable	Definition
Dependent Variables	
Number of Lawsuits	Natural logarithm of one plus the number of FCA lawsuits per district court. [FOIA]
% Internally Reported Lawsuits	Percentage of internally reported lawsuits per district court. [FOIA + PACER]
DOJ Investigation Length	Natural logarithm of the average number of days from the filing to the case-selection data per district court. [FOIA]
% Intervened Lawsuits	Percentage of DOJ-intervened FCA lawsuits per district court. [FOIA]
% Settled Lawsuits	Percentage of settled FCA lawsuits per district court. [FOIA]
Settlement	Logarithm of one plus the settlement amount per district court. [FOIA]
<i>Financial Outcomes</i>	
Income	Natural logarithm of the median income in the census tract of an individual's residence. [SX]
Home Value	Natural logarithm of the median home value in the census tract of an individual's residence. [SX]
Refinancing	Indicator equal to 1 in the year an individual refinances its home mortgage, 0 otherwise. [SX]
Judgments and Liens	Indicator equal to 1 in the year an individual faces a judgment or lien filed with a state court where there is a monetary amount awarded, 0 otherwise. [SX]
Bankruptcy	Indicator equal to 1 in the year an individual files for personal bankruptcy, 0 otherwise. [SX]
<i>Social Outcomes</i>	
Address Change	Indicator equal to 1 in the year an individual changes its home address, 0 otherwise. [SX]
Marriage	Indicator equal to 1 in the year an individual gets married, 0 otherwise. [SX]
Divorce	Indicator equal to 1 in the year an individual filed for divorce, 0 otherwise. [SX]
Traffic Violation	Indicator equal to 1 in the year an individual has a traffic violation, 0 otherwise. [SX]
Legal Record	Indicator equal to 1 in the year an individual has a derogatory mark added to his or her criminal record, 0 otherwise. The criminal record includes derogatory information from multiple sources, including statewide criminal courts, Department of Corrections, and county arrest records. We exclude traffic violations. [SX]
Independent Variables	
Whistleblower Characteristics	
Rank and File	Indicator equal to 1 if the employee whistleblower is a rank-and-file employee as described in the FCA lawsuit, 0 otherwise. [FOIA + PACER]
Middle Management	Indicator equal to 1 if the employee whistleblower is part of the middle management as described in the FCA lawsuit, 0 otherwise. [FOIA + PACER]
Top Management	Indicator equal to 1 if the employee whistleblower is part of the top management as described in the FCA lawsuit, 0 otherwise. [FOIA + PACER]
Control Variables	
Number of Cases	Natural logarithm of the number of pending civil cases per U.S. attorney office at the beginning of the year. [DOJ]
Attorney Hours	Natural logarithm of the number of attorney work hours spent in the Office of District Attorney. [DOJ]
Labor Force	Natural logarithm of the number of persons in the Judicial District who are eligible for employment at the beginning of the year. [BLS]
Unemployment Rate	The judicial district's unemployment rate at the beginning of the year. [BLS]
Age	Individual's age. [SX]

Figure 1

Timeline of the False Claims Act Qui Tam Enforcement Process

This figure shows the timeline of the False Claims Act *qui tam* enforcement process. The process starts with a whistleblower filing an allegation with a court. Then the Department of Justice in conjunction with the allegedly defrauded federal agency investigate the claim. On average, this investigation takes more than two years. At the end of the investigation, the DOJ and federal agency decide whether to intervene in or decline to join the case. If the DOJ declines to join the case, the whistleblower can pursue the case without the DOJ. Cases end with terminations or settlements.

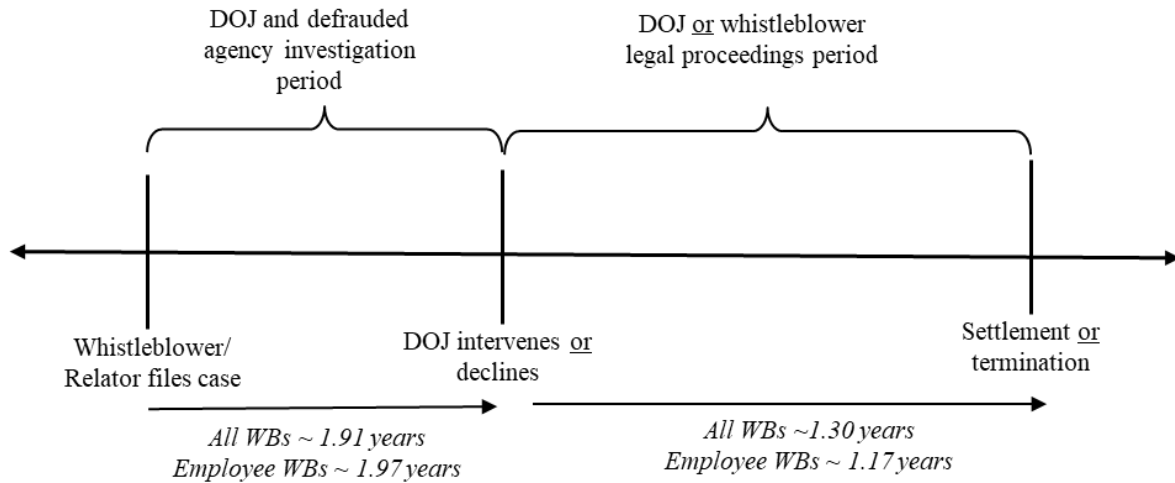


Table 1: Sample**Panel A: Sample composition**

This table presents the sample composition for the period 1994-2012. We are unable to determine the number of unique firms for the full sample, as we do not have access to the court documents for all of those lawsuits.

	Unique Lawsuits	Unique Firms	Unique Whistleblowers	Unique Whistleblower- Lawsuit Observations
Full Sample of Lawsuits	5,138	-	6,181	6,828
Less: Lawsuits without Court Document	(3,212)	-	(3,863)	(4,378)
Lawsuits with Court Document	1,926	2,219	2,318	2,450
Lawsuits Employee Whistleblowers	1,335	1,540	1,635	1,666
Lawsuits Non-Employee Whistleblowers	591	679	683	784

Panel B: Sample composition by year

This table presents the distribution of the 5,138 whistleblower lawsuits against firms in our sample for the period 1994-2012 by year.

Year	Lawsuits	% of Total	Total Settlements (\$ Millions)	% of Total
1994	189	3.7%	844	4.6%
1995	220	4.3%	820	4.5%
1996	331	6.4%	835	4.6%
1997	375	7.3%	598	3.3%
1998	317	6.2%	1,243	6.8%
1999	332	6.5%	968	5.3%
2000	271	5.3%	1,449	7.9%
2001	188	3.7%	731	4.0%
2002	284	5.5%	770	4.2%
2003	268	5.2%	4,180	22.8%
2004	307	6.0%	1,510	8.3%
2005	301	5.9%	766	4.2%
2006	323	6.3%	947	5.2%
2007	277	5.4%	1,857	10.1%
2008	278	5.4%	261	1.4%
2009	298	5.8%	286	1.6%
2010	267	5.2%	59	0.3%
2011	224	4.4%	176	1.0%
2012	88	1.7%	0	0.0%
Total	5,138	100.0%	18,300	100%

Panel C: Sample composition by agency

This table presents the sample composition the 5,138 whistleblower lawsuits in our sample for the period 1994-2012 by allegedly defrauded agency.

Agency Name	Lawsuits	% of Total	Total Settlements (\$ Millions)	% of Total
Department of Health and Human Services	2,874	55.9%	14,983	81.9%
Department of Defense	771	15.5%	1,389	7.6%
Department of Housing and Urban Development	183	3.6%	294	1.6%
Department of Education	177	3.4%	116	0.6%
Department of the Interior	136	2.6%	42	0.2%
General Services Administration	118	2.3%	692	3.8%
Department of Transportation	107	2.1%	62	0.3%
Department of Justice	72	1.4%	5	0.0%
Department of Agriculture	65	1.3%	29	0.2%
Department of Energy	61	1.2%	69	0.4%
Department of Labor	50	1.0%	7	0.0%
Environmental Protection Agency	49	1.0%	2	0.0%
Department of Veterans' Affairs	48	0.9%	81	0.4%
Department of the Treasury	44	0.9%	38	0.2%
U.S. Postal Service	39	0.8%	74	0.4%
Department of Homeland Security	34	0.7%	65	0.4%
NASA	28	0.5%	6	0.0%
Small Business Administration	28	0.5%	28	0.2%
Social Security Administration	23	0.4%	15	0.1%
Federal Communications Commission	22	0.4%	154	0.8%
Federal Deposit Insurance Corporation	18	0.4%	3	0.0%
Office of Personnel Management	17	0.3%	91	0.5%
Department of Commerce	16	0.3%	13	0.1%
Department of State	16	0.3%	9	0.0%
Federal Reserve System	14	0.3%	0.1	0.0%
Agency for International Development	8	0.2%	0.01	0.0%
U.S. Government Accountability Office	8	0.2%	2	0.0%
CIA	7	0.1%	3	0.0%
Tennessee Valley Authority	4	0.1%	0.2	0.0%
International Trade Commission	3	0.1%	0	0.0%
National Science Foundation	3	0.1%	0.9	0.0%
Securities and Exchange Commission	3	0.1%	0.3	0.0%
Equal Employment Opportunity Commission	2	0.1%	0	0.0%
Office of the President	2	0.1%	0	0.0%
Export-Import Bank of the U.S.	2	0.1%	0	0.0%
U.S. Government Publishing Office	2	0.1%	0.3	0.0%
Other	10	0.2%	3	0.0%
Unknown	74	1.4%	23	0.1%
Total	5,138	100.0%	18,300	100%

Panel D: Sample composition by district court

This table presents the sample composition of the 5,138 lawsuits for the period 1994-2012 by district court.

Judicial District	Lawsuits	% of Total	Circuit	Judicial District	Lawsuits	% of Total	Circuit
AK	12	0.2%	9	MSS	30	0.6%	5
ALM	19	0.4%	11	MT	6	0.1%	9
ALN	95	1.8%	11	NCE	20	0.4%	4
ALS	11	0.2%	11	NCM	12	0.2%	4
ARE	46	0.9%	8	NCW	19	0.4%	4
ARW	19	0.4%	8	ND	11	0.2%	8
AZ	52	1.0%	9	NE	15	0.3%	8
CAC	358	7.0%	9	NH	10	0.2%	1
CAE	78	1.5%	9	NJ	124	2.4%	3
CAN	129	2.5%	9	NM	35	0.7%	10
CAS	75	1.5%	9	NV	20	0.4%	9
CO	87	1.7%	10	NYE	74	1.4%	2
CT	46	0.9%	2	NYN	26	0.5%	2
DC	195	3.8%	DC	NYS	109	2.1%	2
DE	7	0.1%	3	NYW	23	0.4%	2
FLM	277	5.4%	11	OHN	68	1.3%	6
FLN	28	0.5%	11	OHS	97	1.9%	6
FLS	146	2.8%	11	OKE	4	0.1%	10
GAM	27	0.5%	11	OKN	19	0.4%	10
GAN	119	2.3%	11	OKW	59	1.1%	10
GAS	24	0.5%	11	OR	28	0.5%	9
GU	2	0.0%	9	PAE	191	3.7%	3
HI	26	0.5%	9	PAM	31	0.6%	3
IAN	4	0.1%	8	PAW	39	0.8%	3
IAS	18	0.4%	8	PR	8	0.2%	1
ID	19	0.4%	9	RI	8	0.2%	1
ILC	20	0.4%	7	SC	64	1.2%	4
ILN	156	3.0%	7	SD	10	0.2%	8
ILS	27	0.5%	7	TNE	31	0.6%	6
INN	17	0.3%	7	TNM	48	0.9%	6
INS	57	1.1%	7	TNW	27	0.5%	6
KS	35	0.7%	10	TXE	58	1.1%	5
KYE	26	0.5%	6	TXN	103	2.0%	5
KYW	64	1.2%	6	TXS	122	2.4%	5
LAE	96	1.9%	5	TXW	105	2.0%	5
LAM	17	0.3%	5	UT	40	0.8%	10
LAW	36	0.7%	5	VAE	144	2.8%	4
MA	149	2.9%	1	VAW	17	0.3%	4
MD	132	2.6%	4	VI	5	0.1%	3
ME	11	0.2%	1	VT	10	0.2%	2
MIE	110	2.1%	6	WAE	11	0.2%	9
MIW	23	0.4%	6	WAW	69	1.3%	9
MN	76	1.5%	8	WIE	30	0.6%	7
MOE	48	0.9%	8	WIW	14	0.3%	7
MOW	46	0.9%	8	WVN	7	0.1%	4
MP	0	0.0%	9	WVS	15	0.3%	4
MSN	18	0.4%	5	WY	39	0.8%	10

Panel E: Sample composition by type of whistleblower

This table presents the sample composition for the period 1994-2012 by the type of whistleblower for a subset of 2,450 whistleblower-lawsuit observations, involving 1,926 unique lawsuits with available court documents in the Public Access to Court Electronic Records (PACER) system filed by 2,318 unique whistleblowers.

Description	Whistleblower-Lawsuit Observations	% of Total	% Settled	Average Settlement (\$ Millions)	Total Settlements (\$ Millions)
(Former) Employee	1,666	68.0%	27.3%	\$15.6	\$7,083.4
<i>Gender</i>					
Female	682	40.9%	27.1%	\$14.7	\$2,716.6
Male	984	59.1%	27.4%	\$16.2	\$4,366.8
<i>Rank</i>					
Rank and File	979	58.8%	24.9%	\$16.9	\$4,112.9
Middle Management	453	27.2%	27.6%	\$17.4	\$2,170.7
Upper Management	69	4.1%	33.3%	\$23.0	\$529.9
No Information	165	9.9%	38.2%	\$4.3	\$270.0
<i>Repeat Whistleblowers</i>					
1 Allegation Only	1,620	97.2%	27.2%	\$13.4	\$5,896.5
Multiple Allegations	46	2.8%	30.4%	\$84.8	\$1,186.9
Unknown	493	20.1%	21.1%	\$32.8	\$3,415.5
Customer	110	4.5%	14.5%	\$9.0	\$143.4
Contractor	54	2.2%	13.0%	\$8.0	\$55.9
Business Partner	25	1.0%	20.0%	\$16.2	\$81.1
External Auditor	24	1.0%	16.7%	\$51.8	\$207.1
Tenant	20	0.8%	25.0%	\$0.1	\$0.3
Government Employee	13	0.5%	7.7%	\$62.8	\$62.8
Supplier	12	0.5%	16.7%	\$139.2	\$278.4
Consultant	11	0.4%	27.3%	\$54.5	\$163.6
Competing Firm	9	0.4%	33.3%	\$10.4	\$31.1
Lawyer/Law Firm	7	0.3%	0.0%	-	\$0.0
Private Investigator	4	0.2%	0.0%	-	\$0.0
Stockholder	2	0.1%	0.0%	-	\$0.0
Total	2,450	100.0%	24.7%	\$19.0	\$11,522.60

Table 2: Summary Statistics

This table provides descriptive statistics for the variables at the district-court-year level for 1994-2012.

Variable	Sample (N=1,786)						
	Mean	St. Dev.	Min	p25	Med	p75	Max
Treatment	0.245	0.430	0	0	0	0	1
Number of Lawsuits	2.88	3.97	0	0	1.50	4.00	35.00
% Internally Reported Lawsuits (%)	16.49	31.85	0	0	0	16.67	100
Investigation Length (days)	409	410	0	0	347	646	3,006
% Settled Lawsuits (%)	18.46	29.07	0	0	0	33.33	100
% Intervened Lawsuits (%)	17.99	29.13	0	0	0	33.33	100
Settlement (\$ Millions)	10.25	68.75	0	0	0	0.72	2,056
Average Settlement (\$ Millions)	3.79	17.30	0	0	0	0.60	228
Cases	1,142	1,402	3	365	680	1,216	10,859
Attorney Hours (Hours)	9,458	15,879	78	3,724	5,494	9,243	197,740
Labor Force (Thousands)	1,613	1,324	182	685	1,243	2,332	9,145
Unemployment Rate (%)	5.85	2.14	2.06	4.41	5.34	6.86	16.36

Table 3: Whistleblowing Incentives and Number of Lawsuits

This table reports the estimation results from OLS regressions of financial incentives on the number of lawsuits filed with district courts for the period 1994-2012. *Treatment* is equal to 1 for FCA lawsuits filed in district courts following appeals-court decisions that increased the financial incentives for whistleblowing, 0 otherwise. The models differ in the *Controls* included. The dependent variable, *Number of Lawsuits*, is the natural logarithm of one plus the number of FCA lawsuits filed per district court. Column 1 reports results without *Controls*. Column 2 report results with district-court-level *Controls*. Column 3 reports results with district-court-level and county-level *Controls*. All models include year and district-court fixed effects. All variables are defined in Appendix B. Standard errors are clustered at the appeals-court level. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	Number of Lawsuits		
	(1)	(2)	(3)
Variables			
Treatment	0.074 (0.072)	0.065 (0.068)	0.053 (0.056)
Cases		0.043 (0.029)	0.040 (0.028)
Attorney Hours		0.014 (0.051)	0.014 (0.051)
Labor Force			-0.160 (0.152)
Unemployment Rate			1.811 (2.144)
Judicial District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Adj. R-square	0.638	0.638	0.638
Observations	1,786	1,786	1,786

Table 4: Whistleblowing Incentives and Internal Reporting

Panel A: Lawsuits reported internally first versus lawsuits directly reported to the authorities

This table presents statistics for the sample of 1,335 lawsuits with court document filed by 1,666 employee whistleblowers on whether employee whistleblowers reported misconduct internally first before informing the authorities and the reasons why the whistleblowers did not raise the issue internally first (in several cases the whistleblowers did not provide a reason in the court documents for not raising the issue internally – we code those as “No Reason Provided”). The row “Difference” reports the difference between lawsuits reported internally first and those that were directly reported to the authorities and tests whether these differences are significant at the two-tailed 10% (*), 5% (**), or 1% (***) levels.

Description	Obs.	Obs.	% of Total	% Settled	Average Settlement (\$ Millions)	Total Settlements (\$ Millions)
<i>Lawsuit reported Internally First</i>	1,666					
No		769	46.2%	30.6%	\$15.9	\$3,743.2
Yes		897	53.8%	24.5%	\$15.2	\$3,340.2
<i>Difference</i>			-7.6%***	5.5%***	\$0.7	
<i>Reasons for not Reporting Internally First</i>	769					
No Reason Provided		690	89.7%	29.1%	\$16.6	\$3,345.2
Fear of Retaliation		72	9.4%	44.4%	\$12.4	\$396.5
Supervisors Involved		4	0.5%	50.0%	\$0.7	\$1.5
External Parties Already Knew		3	0.4%	0.0%	-	\$0.0

Panel B: Internal and external reporting channels

This table describes the internal and external reporting channels as reported by the 1,666 employee whistleblowers for the sample of 1,335 FCA lawsuits with court documents. Note that whistleblowers may report to use multiple channels internally and externally, increasing the sample size for this table.

Description	Obs.	No. of Times Used	% of Total	% Settled	Average Settlement (\$ Millions)	Total Settlements (\$ Millions)
<i>Internal Reporting Channels</i>						
	1,281					
Top Management		481	37.5%	24.3%	\$12.3	\$1,438.5
Direct Supervisor		441	34.4%	21.8%	\$21.5	\$2,061.4
Colleague		130	10.1%	24.6%	\$11.0	\$353.4
Legal Compliance		124	9.6%	28.2%	\$20.3	\$709.8
HR		50	3.9%	20.0%	\$1.5	\$15.2
Hotline		31	2.4%	19.4%	\$4.4	\$26.3
Internal Auditor		24	1.9%	12.5%	\$11.5	\$34.4
<i>External Reporting Channels</i>						
Reported Internally First						
	897					
Straight to Court System		856	95.4%	25.0%	\$15.6	\$3,333.0
Government Agency		34	3.8%	17.6%	\$1.2	\$7.2
External Auditor		7	0.8%	0.0%	-	\$0.0
Directly Reported Externally						
	769					
Straight to Court System		740	96.2%	30.8%	\$16.4	\$3,732.5
Government Agency		29	3.8%	24.1%	\$1.5	\$10.8
External Auditor		0	0.0%	-	-	\$0.0

Panel C: Whistleblowing incentives and internal reporting

This table reports the estimation results from OLS regressions of financial incentives on the fraction of lawsuits reported internally first at the district-court level for the period 1994-2012. *Treatment* is equal to 1 for FCA lawsuits filed in district courts following appeals-court decisions that increased the financial incentives for whistleblowing, 0 otherwise. The models differ in the *Controls* included. The dependent variable, *% Internally Reported Lawsuits*, is the fraction of lawsuits internally reported per district court. Column 1 reports results without *Controls*. Column 2 reports results with district-court-level *Controls*. Column 3 reports results with district-court-level and county-level *Controls*. All models include year and district-court fixed effects. All variables are defined in Appendix B. Standard errors are clustered at the appeals-court level. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	% Internally Reported Lawsuits		
Variables	(1)	(2)	(3)
Treatment	0.036 (0.021)	0.032 (0.022)	0.031 (0.019)
Cases		0.014 (0.018)	0.011 (0.019)
Attorney Hours		0.014 (0.023)	0.012 (0.023)
Labor Force			0.061 (0.072)
Unemployment Rate			0.758 (0.776)
Judicial District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Adj. R-square	0.241	0.240	0.240
Observations	1,786	1,786	1,786

Table 5: Whistleblowing Incentives and DOJ Investigation Length

This table reports the estimation results from OLS regressions of financial incentives on the DOJ investigation length for lawsuits filed with district courts for the period 1994-2012 at the district-court level. *Treatment* is equal to 1 for FCA lawsuits filed in district courts following appeals-court decisions that increased the financial incentives for whistleblowing, 0 otherwise. The models differ in the *Controls* included. The dependent variable, *Investigation Length*, is the natural logarithm of one plus the number of days from the filing date to the case selection date for lawsuits per district court. Column 1 reports results without *Controls*. Column 2 reports results with district-court-level *Controls*. Column 3 reports results with district-court-level and county-level *Controls*. All models include year and district-court fixed effects. All variables are defined in Appendix B. Standard errors are clustered at the appeals-court level. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable Variables	Investigation Length		
	(1)	(2)	(3)
Treatment	0.434** (0.197)	0.409* (0.190)	0.349** (0.150)
Cases		0.084 (0.150)	0.063 (0.147)
Attorney Hours		0.091 (0.199)	0.085 (0.198)
Labor Force			-0.774 (0.659)
Unemployment Rate			9.775 (7.123)
Judicial District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Adj. R-square	0.354	0.354	0.354
Observations	1,786	1,786	1,786

Table 6: Whistleblowing Incentives and Lawsuit Outcomes

Panel A: Whistleblowing incentives and percentage of DOJ-intervened lawsuits

This table reports the estimation results from OLS regressions of financial incentives on the fraction of DOJ-intervened lawsuits per district court for the period 1994-2012. *Treatment* is equal to 1 for FCA lawsuits filed in district courts following appeals-court decisions that increased the financial incentives for whistleblowing, 0 otherwise. The models differ in the *Controls* included. The dependent variable, *% Intervened Lawsuits*, is the percentage of DOJ-intervened lawsuits per district court. Column 1 reports results without *Controls*. Column 2 reports results with district-court-level *Controls*. Column 3 reports results with district-court-level and county-level *Controls*. All models include year and district-court fixed effects. All variables are defined in Appendix B. Standard errors are clustered at the appeals-court level. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	% Intervened Lawsuits		
Variables	(1)	(2)	(3)
Treatment	0.032** (0.011)	0.035*** (0.011)	0.033** (0.013)
Cases		0.005 (0.012)	0.005 (0.013)
Attorney Hours		-0.029 (0.018)	-0.028 (0.017)
Labor Force			-0.072 (0.078)
Unemployment Rate			0.083 (0.655)
Judicial District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Adj. R-square	0.115	0.114	0.113
Observations	1,786	1,786	1,786

Panel B: Whistleblowing incentives and percentage of settled lawsuits

This table reports the estimation results from OLS regressions of financial incentives on the fraction of settled lawsuits per district court for the period 1994-2012. *Treatment* is equal to 1 for FCA lawsuits filed in district courts following appeals-court decisions that increased the financial incentives for whistleblowing, 0 otherwise. The models differ in the *Controls* included. The dependent variable, *% Settled Lawsuits*, is the percentage of settled lawsuits per district court. Column 1 reports results without *Controls*. Column 2 reports results with district-court-level *Controls*. Column 3 reports results with district-court-level and county-level *Controls*. All models include year and district-court fixed effects. All variables are defined in Appendix B. Standard errors are clustered at the appeals-court level. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	% Settled Lawsuits		
	(1)	(2)	(3)
Variables			
Treatment	0.022** (0.009)	0.024** (0.009)	0.021** (0.008)
Cases		-0.000 (0.010)	-0.000 (0.011)
Attorney Hours		-0.011 (0.018)	-0.011 (0.019)
Labor Force			-0.053 (0.037)
Unemployment Rate			0.236 (0.658)
Judicial District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Adj. R-square	0.118	0.117	0.116
Observations	1,786	1,786	1,786

Panel C: Settlement

This table reports the estimation results from OLS regressions of financial incentives on the settlement amounts per district court for the period 1994-2012. *Treatment* is equal to 1 for FCA lawsuits filed in district courts following appeals-court decisions that increased the financial incentives for whistleblowing, 0 otherwise. The models differ in the *Controls* included. The dependent variable, *Settlement*, is the natural logarithm of one plus the settlement amounts per district court. Column 1 reports results without *Controls*. Column 2 reports results with district-court-level *Controls*. Column 3 reports results with district-court-level and county-level *Controls*. All models include year and district-court fixed effects. All variables are defined in Appendix B. Standard errors are clustered at the appeals-court level. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	Settlement		
Variables	(1)	(2)	(3)
Treatment	0.610*	0.589*	0.638*
	(0.291)	(0.313)	(0.344)
Cases		-0.005	0.061
		(0.223)	(0.238)
Attorney Hours		0.180	0.217
		(0.669)	(0.635)
Labor Force			-1.022
			(0.999)
Unemployment Rate			-20.192
			(16.473)
Judicial District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Adj. R-square	0.376	0.375	0.375
Observations	1,786	1,786	1,786

Table 7: Firms' Responses and Retaliations against Employee Whistleblowers

This table presents the types of responses to complaints and retaliations against employee whistleblowers from the alleged firms as reported by employee whistleblowers for the sample of lawsuits with court document filed by 897 employee whistleblowers, who reported internally first, from 1994-2012. Note that whistleblowers may report multiple forms of retaliation against them, increasing the sample size.

Description	Obs.	% of Total	% Settled	Average Settlements (\$ Millions)	Total Settlements (\$ Millions)
<i>Response to Allegation</i>					
Ignored	546	60.9%	14.3%	\$6.9	\$1,520.8
Cover Up	92	10.3%	3.2%	\$3.7	\$824.2
Internal Investigation	56	6.2%	1.0%	\$0.3	\$59.8
No Information	203	22.6%	6.0%	\$4.3	\$935.4
<i>Retaliation Against WB</i>					
Fired	505	37.1%	12.0%	\$8.3	\$1,819.0
Harassed	219	16.1%	5.2%	\$1.9	\$411.0
Threat	135	9.9%	1.6%	\$0.2	\$33.7
Quit	99	7.3%	3.6%	\$0.8	\$170.3
Demotion	82	6.0%	1.4%	\$0.6	\$121.3
Suspension	34	2.5%	0.7%	\$0.1	\$16.6
Lawsuit	6	0.4%	0.2%	\$0.0	\$0.9
No Retaliation	275	20.6%	9.8%	\$6.7	\$1,478.5

Table 8: Consequences for Employee Whistleblowers

This table reports the long-term career consequences for 89 employee whistleblowers who filed an FCA lawsuit. The table is constructed from profiles collected from a widely used professional networking site. Next job refers to the whistleblower's immediate job after working for the accused company. Latest job refers to the whistleblower's last reported job.

	All Profiles			Rank and File			Middle Management			Upper Management		
	Obs.	Next job	Latest Job	Obs.	Next job	Latest Job	Obs.	Next job	Latest Job	Obs.	Next job	Latest Job
Number of years from the job at the accused firm	80	1.1	8.0	47	1.4	7.9	23	0.9	7.6	5	0.0	7.8
No Information	9	-	-	4	-	-	3	-	-	1	-	-
<i>Position:</i>	89			51			26			6		
Better		31%	43%		35%	51%		38%	42%		0%	17%
Equal		21%	15%		27%	18%		19%	15%		0%	0%
Worse		10%	12%		10%	10%		8%	12%		33%	50%
Self-employed		21%	16%		20%	16%		23%	19%		50%	17%
No Information		16%	15%		8%	6%		12%	12%		17%	17%
<i>Moved to another state:</i>	89			51			26			6		
Yes		16%	24%		16%	25%		4%	12%		33%	33%
No		30%	24%		31%	24%		31%	23%		17%	17%
No Information		54%	52%		53%	49%		65%	65%		50%	50%
<i>Changed Industry:</i>	89			51			26			6		
Yes		35%	42%		33%	45%		38%	42%		50%	33%
No		52%	44%		55%	45%		46%	46%		33%	17%
No Information		13%	13%		12%	8%		15%	12%		17%	50%

Table 9: Summary Statistics for Financial and Social Outcomes

This table reports statistics for five financial outcome variables and five social outcome variables for 1,168 whistleblowers using data from public records. Income and Home Value are reported as the average annual value, while the remaining variables show the average likelihood of the event occurring during the 1-, 5-, and 10-year periods, respectively. Columns 1-4 present the average value of each variable 1 year before (pre), 1 year after (post) the lawsuit filing, the difference, and the t-statistic associated with the change. Columns 5-8 present the average value of the outcome variables in the 5 years before and after the lawsuit filing, the difference, and the t-statistic associated with the change. Columns 9-12 present the average value of the outcome variables in the 10 years before and after the lawsuit filing, the difference, and the t-statistic associated with the change. Variable definitions are provided in Appendix B.

	1 year				5 years				10 years			
	Pre	Post	Ch.	T-stat (Δ)	Pre	Post	Ch.	T-stat (Δ)	Pre	Post	Ch.	T-stat (Δ)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Financial outcomes												
Income	75,592	75,556	(36)	(0.03)	75,212	75,929	717	0.52	74,409	76,223	1,814	1.36
Home value	274,23	273,582	(649)	(0.08)	274,597	292,405	17,807	2.15	273,362	301,944	28,582	3.45
Refinancing	0.0026	0.0009	0.0230	(1.00)	0.0163	0.0197	0.0877	0.62	0.0232	0.0402	0.1362	2.33
Judgments and Liens	0.0617	0.0848	(0.0017)	1.79	0.2624	0.3502	0.0034	2.84	0.4528	0.5890	0.0171	3.07
Bankruptcy	0.0231	0.0154	(0.0077)	(1.32)	0.0812	0.0556	(0.0256)	(2.32)	0.1410	0.0932	(0.0479)	(3.18)
Social outcomes												
Change of address	0.0695	0.0539	(0.0155)	(1.56)	0.4177	0.3245	(0.0932)	(3.78)	0.8568	0.5274	(0.3294)	(9.90)
Marriage	0.0009	0.0009	(0.0000)	(0.00)	0.0163	0.0103	(0.0060)	(1.27)	0.0360	0.0180	(0.0180)	(2.65)
Divorced	0.0017	0.0000	(0.0017)	(1.41)	0.0120	0.0017	(0.0103)	(3.02)	0.0214	0.0051	(0.0163)	(3.45)
Traffic violation	0.0179	0.0060	(0.0120)	(2.41)	0.0581	0.0573	(0.0009)	(0.07)	0.0863	0.1094	0.0231	1.44
Legal record	0.0309	0.0300	(0.0009)	(0.11)	0.1741	0.1464	(0.0277)	(1.24)	0.2856	0.2757	(0.0099)	(0.31)

Table 10: Consequences for Employee Whistleblowers using a Difference-in-Differences Analysis

Panel A. Financial consequences for whistleblowers

This table reports the estimation results from OLS regressions of whistleblowing on financial consequences for whistleblowers for the period 1986-2019. The models differ in their dependent variables and definitions of *Treatment*. In Columns 1, 4, 7, 10, and 13, *Treatment* is equal to 1 in the one year after a whistleblower filed the lawsuit with the court, and 0 in the one year before filing the lawsuit. In Columns 2, 5, 8, 11, and 14, *Treatment* is equal to 1 in the five years after a whistleblower filed the lawsuit with the court, and 0 in the five years before filing the lawsuit. In Columns 3, 6, 9, 12, and 15, *Treatment* is equal to 1 in the ten years after a whistleblower filed the lawsuit with the court, and 0 in the ten years before filing the lawsuit. In Columns 1-3, the dependent variable, *Income*, is the natural logarithm of the median income in the census tract of an individual's residence. In Columns 4-6, the dependent variable, *Home Value*, is the natural logarithm of the median home value in the census tract of an individual's residence. In Columns 7-9, the dependent variable, *Refinancing*, is an indicator equal to 1 in the year an individual refinances its home mortgage, 0 otherwise. In Columns 10-12, the dependent variable, *Judgments and Liens*, is an indicator equal to 1 in the year an individual faces a judgment or lien, 0 otherwise. In Columns 13-15, the dependent variable, *Bankruptcy*, is an indicator equal to 1 in the year an individual files for personal bankruptcy, 0 otherwise. All models include lawsuit-year and person fixed effects. All variables are defined in Appendix B. Standard errors are clustered by year. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	Income			Home Value			Refinancing			Judgments and Liens			Bankruptcy		
	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Treatment	-0.073** (0.033)	-0.081*** (0.021)	-0.086*** (0.009)	-0.084 (0.049)	-0.044 (0.029)	-0.054*** (0.016)	0.026* (0.012)	0.001 (0.005)	0.000 (0.005)	0.077** (0.031)	0.023* (0.012)	0.021** (0.010)	-0.013 (0.011)	0.004 (0.009)	0.006 (0.006)
Age	-0.001 (0.001)	-0.001 (0.001)	0.000 (0.001)	-0.003* (0.001)	-0.001 (0.001)	0.000 (0.001)	-0.001 (0.001)	0.000 (0.000)	-0.000 (0.000)	-0.001** (0.001)	0.000 (0.000)	0.001* (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Person FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lawsuit FE x Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.606	0.749	0.691	0.751	0.824	0.787	0.031	0.045	0.061	0.062	0.169	0.128	0.018	0.023	0.060
Observations	331	1,635	3,132	331	1,635	3,132	331	1,635	3,132	331	1,635	3,132	331	1,635	3,132

Panel B. Social consequences for whistleblowers

This table reports the estimation results from OLS regressions of whistleblowing on social consequences for whistleblowers for the period 1986-2019. The models differ in their dependent variables and definitions of *Treatment*. In Columns 1, 4, 7, 10, and 13, *Treatment* is equal to 1 in the one year after a whistleblower filed the lawsuit with the court, and 0 in the one year before filing the lawsuit. In Columns 2, 5, 8, 11, and 14, *Treatment* is equal to 1 in the five years after a whistleblower filed the lawsuit with the court, and 0 in the five years before filing the lawsuit. In Columns 3, 6, 9, 12, and 15, *Treatment* is equal to 1 in the ten years after a whistleblower filed the lawsuit with the court, and 0 in the ten years before filing the lawsuit. In Columns 1-3, the dependent variable, *Address Change*, is an indicator equal to 1 in the year an individual changes its home address, 0 otherwise. In Columns 4-6, the dependent variable, *Marriage*, is an indicator equal to 1 in the year an individual gets married, 0 otherwise. In Columns 7-9, the dependent variable, *Divorce*, is an indicator equal to 1 in the year an individual filed for divorce, 0 otherwise. In Columns 10-12, the dependent variable, *Traffic Violation*, is an indicator equal to 1 in the year an individual has a traffic violation, 0 otherwise. In Columns 13-15, the dependent variable, *Legal Record*, is an indicator equal to 1 in the year an individual has a violation that resulted in a derogatory mark in his or her legal record, 0 otherwise. The sample in Columns 4-9 is smaller as not all states make divorce and marriage filings publicly available. All models include lawsuit-year and person fixed effects. All variables are defined in Appendix B. Standard errors are clustered by year. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Dependent Variable	Address Change			Marriage			Divorce			Traffic Violation			Legal Record		
Treatment Window	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Treatment	-0.036 (0.052)	0.039 (0.027)	0.059*** (0.017)	- -	0.017 (0.012)	0.016 (0.011)	- -	0.001 (0.001)	-0.004 (0.004)	-0.009 (0.026)	-0.013 (0.008)	-0.013 (0.009)	0.013 (0.012)	0.001 (0.009)	-0.012 (0.009)
Age	-0.000 (0.002)	-0.001 (0.001)	-0.000 (0.001)	- -	-0.000 (0.000)	0.000 (0.000)	- -	-0.000 (0.000)	-0.000 (0.000)	-0.001 (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.001 (0.001)	-0.001 (0.000)	-0.000 (0.000)
Person FE	Yes	Yes	Yes	-	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lawsuit FE x Year FE	Yes	Yes	Yes	-	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.005	0.002	0.004	-	0.022	0.006	-	0.007	0.003	0.011	0.034	0.070	0.010	0.062	0.039
Observations	331	1,635	3,132	-	670	1,277	-	670	1,277	331	1,635	3,132	331	1,635	3,132

Table 11: Consequences of Whistleblowing by Employee Rank

Panel A. Financial consequences

This table reports the estimation results from OLS regressions of whistleblowing on financial consequences for whistleblowers by rank for the period 1986-2019. The models differ in their dependent variables and definitions of *Treatment*. In Columns 1, 4, and 7, *Treatment* is equal to 1 in the one year after a whistleblower filed the lawsuit with the court, and 0 in the one year before filing the lawsuit. In Columns 2, 5, and 8, *Treatment* is equal to 1 in the five years after a whistleblower filed the lawsuit with the court, and 0 in the five years before filing the lawsuit. In Columns 3, 6, and 9, *Treatment* is equal to 1 in the ten years after a whistleblower filed the lawsuit with the court, and 0 in the ten years before filing the lawsuit. Each row presents the coefficient on *Treatment* using different dependent variables. In row a), the dependent variable, *Income*, is the natural logarithm of the median income in the census tract of an individual's residence. In row b), the dependent variable, *Home Value*, is the natural logarithm of the median home value in the census tract of an individual's residence. In row c), the dependent variable, *Refinancing*, is an indicator equal to 1 in the year an individual refinances its home mortgage, 0 otherwise. In row d), the dependent variable, *Judgments and Liens*, is an indicator equal to 1 in the year an individual faces a judgment or lien, 0 otherwise. In row e), the dependent variable, *Bankruptcy*, is an indicator equal to 1 in the year an individual files for personal bankruptcy, 0 otherwise. Columns 1-3 report results using the sample of rank-and-file employees. Columns 4-6 report results using the sample of middle-management employees. Columns 7-9 report results using the sample of upper-management employees. All models include lawsuit-year and person fixed effects. All variables are defined in Appendix B. Standard errors are clustered by year. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Employee Rank	Rank and File			Middle Management			Upper Management		
Treatment Window	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years
Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
a) Income									
<i>Treatment</i>	-0.075*** (0.025)	-0.082*** (0.021)	-0.095*** (0.015)	-0.071 (0.099)	-0.088** (0.040)	-0.078** (0.031)	-	0.138* (0.065)	0.035 (0.080)
b) Home Value									
<i>Treatment</i>	-0.068 (0.042)	-0.027 (0.028)	-0.030 (0.030)	-0.115 (0.110)	-0.079 (0.049)	-0.094** (0.039)	-	0.180* (0.084)	0.139 (0.128)
c) Refinancing									
<i>Treatment</i>	0.043** (0.019)	0.001 (0.008)	0.002 (0.007)	-	-	-0.003 (0.005)	-	-	-
d) Judgments and Liens									
<i>Treatment</i>	0.056 (0.054)	0.017 (0.019)	0.009 (0.014)	0.116** (0.041)	0.029 (0.025)	0.040** (0.018)	-	0.080 (0.078)	0.063 (0.059)
e) Bankruptcy									
<i>Treatment</i>	-0.020 (0.018)	0.011 (0.015)	0.007 (0.008)	-	-	0.008 (0.006)	-	-0.113 (0.117)	-0.050 (0.050)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Person FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lawsuit FE x Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	207	1,013	1,930	114	562	1,082	10	60	120

Panel B. Social consequences

This table reports the estimation results from OLS regressions of whistleblowing on social consequences for whistleblowers by rank for the period 1986-2019. The models differ in their dependent variables and definitions of *Treatment*. In Columns 1, 4, and 7, *Treatment* is equal to 1 in the one year after a whistleblower filed the lawsuit with the court, and 0 in the one year before filing the lawsuit. In Columns 2, 5, and 8, *Treatment* is equal to 1 in the five years after a whistleblower filed the lawsuit with the court, and 0 in the five years before filing the lawsuit. In Columns 3, 6, and 9, *Treatment* is equal to 1 in the ten years after a whistleblower filed the lawsuit with the court, and 0 in the ten years before filing the lawsuit. Each row presents the coefficient on *Treatment* using different dependent variables. In row a), the dependent variable, *Address Change*, is an indicator equal to 1 in the year an individual changes its home address, 0 otherwise. In row b), the dependent variable, *Marriage*, is an indicator equal to 1 in the year an individual gets married, 0 otherwise. In row c), the dependent variable, *Divorce*, is an indicator equal to 1 in the year an individual filed for divorce, 0 otherwise. In row d), the dependent variable, *Traffic Violation*, is an indicator equal to 1 in the year an individual has a traffic violation, 0 otherwise. In row e), the dependent variable, *Legal Record*, is an indicator equal to 1 in the year an individual has a violation that resulted in a derogatory mark to his or her legal record, 0 otherwise. The sample in rows b) and c) is smaller as not all states make divorce and marriage filings publicly available. Columns 1-3 report results using the sample of rank-and-file employees. Columns 4-6 report results using the sample of middle-management employees. Columns 7-9 report results using the sample of upper-management employees. All models include lawsuit-year and person fixed effects. All variables are defined in Appendix B. Standard errors are clustered by year. *, **, *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Employee Rank	Rank and File			Middle Management			Upper Management		
Treatment Window	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years
Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
a) Address Change									
<i>Treatment</i>	-0.037 (0.042)	0.054* (0.031)	0.056** (0.024)	-0.033 (0.112)	0.027 (0.053)	0.071** (0.032)	- -	-0.088 (0.085)	-0.032 (0.128)
b) Marriage									
<i>Treatment</i>	- -	0.013 (0.013)	0.018* (0.010)	- -	0.020 (0.019)	0.014 (0.019)	- -	- -	- -
c) Divorce									
<i>Treatment</i>	- -	- -	- -	- -	-0.001 (0.002)	-0.010 (0.009)	- -	- -	- -
d) Traffic Violation									
<i>Treatment</i>	0.008 (0.041)	-0.009 (0.012)	-0.005 (0.012)	-0.042 (0.043)	-0.020 (0.012)	-0.026** (0.015)	- -	-0.067 (0.068)	-0.068 (0.062)
e) Legal Record									
<i>Treatment</i>	0.023 (0.022)	0.008 (0.011)	-0.016 (0.011)	0.008 (0.013)	-0.013 (0.011)	-0.004 (0.016)	- -	- -	- -
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Person FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lawsuit FE x Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	207	1,013	1,930	114	562	1,082	10	60	120