



**The author(s) shown below used Federal funding provided by the U.S. Department of Justice to prepare the following resource:**

**Document Title:** Preventing and Controlling Corporate Crime: The Dual Role of Corporate Boards and Legal Sanctions

**Author(s):** Sally S. Simpson, Debra L. Shapiro, Christine M. Beckman, Gerald S. Martin

**Document Number:** 254622

**Date Received:** April 2020

**Award Number:** 2015-IJ-CX-0008

**This resource has not been published by the U.S. Department of Justice. This resource is being made publically available through the Office of Justice Programs' National Criminal Justice Reference Service.**

**Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.**

## FINAL SUMMARY OVERVIEW

Grant #2015-IJ-CX-0008<sup>1</sup>

### **Preventing and Controlling Corporate Crime: The Dual Role of Corporate Boards and Legal Sanctions**

Sally S. Simpson, P.I.  
Debra L. Shapiro, Co-PI  
Christine M. Beckman, Co-PI  
Gerald S. Martin, Co-PI

#### **Project Summary**

The question of how society can successfully prevent and deter corporate crime is a matter of practical urgency given the extensive costs borne by crime victims and society as a whole. This project examines two distinct but related mechanisms of corporate crime prevention and control: firm governance-related mechanisms and formal legal and regulatory intervention-related mechanisms. More elaborately, we examine whether firm participation in illegal behavior (offending) is inversely related to gender diversity of companies' board of directors. In addition, we assess how firms respond to legal discovery. Do they change their governance structures (i.e., become more diverse) after formal legal discovery? Does offending decrease after enforcement actions, or does deterrence depend on the kind of response utilized by the government? In particular, are certain legal regimes (criminal, civil, or regulatory) more successful at crime control? We answer these questions by collecting corporate financial, statistical, and governance information from a variety of secondary sources and linking this

---

<sup>1</sup> This grant was awarded by the National Institute of Justice, Office of Justice Programs, and U.S. Department of Justice. The opinions, findings, conclusions and recommendations expressed in this publication/program/exhibition are those of the author(s) and do not necessarily reflect those of the Department of Justice.

information to the offending behavior (measured by governmental enforcement actions)<sup>2</sup> of 3,327 public US-based companies, tracking firms from 1996 through 2013.

## **Project Purpose**

The stated aims of this project are to build a unique panel database from publicly available secondary sources that unites data on firm characteristics, corporate boards, and corporate offending, as measured by government response to violators in the form of enforcement actions. Specifically, the project supplements data previously collected by Gerald Martin on accounting and bribery enforcement actions (Karpoff, Lee, and Martin, 2008a; Koester, Karpoff, Lee, and Martin, 2017; Call, Martin, Sharp, and Wild, 2018; Files, Martin and Rasumussen, 2019; Lawson, Martin, Muriel, and Wilkins, 2019). The database is a population (universe) of all regulatory enforcement actions under the accounting and bribery provisions of the Foreign Corrupt Practices Act of 1977. We utilize and enhance these data by adding enforcement actions related to company anticompetitive and illegal environmental activities. The combined data are then linked to company level information, creating yearly panels with which to examine changes over time in key variables of interest, unpacking the temporal relationships among board diversity, corporate offending, and government response.

## **Project Design and Methods**

Dataset 1: The study uses Standard and Poor's (S & P) 1500 indices to identify the largest US publicly traded companies each year between 1996 and 2013.<sup>3</sup> Utilizing various databases

---

<sup>2</sup> The full range of enforcement actions include formal responses to entities and individuals for violations of laws, rules, or regulations, unsafe or unsound practices, breaches of fiduciary duty, and violations of final orders. Formal enforcement actions include letters and notices (e.g., Wells Notice), cease and desist orders, written agreements, prompt corrective action directives, removal and prohibition orders, and criminal and civil enforcement, including orders assessing criminal and civil money penalties.

<sup>3</sup> Large firms are defined by their presence any year (1996-2013) on Standard & Poor's 1500.

available to researchers through university consortium access agreements (ExecuComp, RiskMetrics, KLD, CRSP, and Compustat), relevant variables were extracted and integrated into a company characteristics database. We structure the data by firm-year so we can track changes in corporate board characteristics and other company indicators (e.g., size, economic performance) from year-to-year.

Dataset 2: Corporate offending data are divided into three types: financial/corruption (i.e., FCPA violations), environmental, and anticompetitive. From the FCPA enforcement data, we extract enforcement actions against firms beginning in 1996 through 2013. We collected a number of enforcement attributes, such as the dates and charges of the action, case filings, and case conclusion, regime (civil, criminal, regulatory), co-defendants (how many, individual or company), case outcome, and sanctions (fine, fine amount).<sup>4</sup> Researchers also extracted all enforcement actions brought against S & P firms for anti-competitive behavior using the Federal Trade Commission's and Department of Justice Antitrust Division publicized enforcement actions. Mainly inclusive of the Federal Trade Commission (FTC) Act; Sherman Act (Section 1 and 2), and Clayton Act violations, prohibited behaviors include conspiracy to fix prices, monopolization, and other restraints of trade; unfair, deceptive, and fraudulent business practices. Violations of environmental statutes also were collected using the Environmental Protection Agency (EPA)'s ECHO database. The violations capture a wide variety of offenses, including (among others) violations of the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund). We integrate the three types of offending into a

---

<sup>4</sup> For some filings, outcomes remain unknown as cases extend outside of our 2013 end date.

separate database, structured by firm-offense. Linking the data is possible by aggregating firm-offenses by firm-year and using the common gvkey identifier.

### *Dataset 2 Quality Assessment*

For data assurance purposes, the research team tracked the universe of *criminal* anti-competitive/environmental cases (N=42) and a random sample of 100 *civil* anti-competitive/environmental cases in PACER.<sup>5</sup> PACER is an electronic public access service that contains case and docket information from U.S. district, bankruptcy, and appellate courts. We searched each designated case in PACER. When a case was confirmed in PACER, we extracted and downloaded relevant case/docket information. These details were compared with information in the offending dataset as a validation procedure.

Comparisons revealed that nearly all of the collected case information was consistent and without discrepancy across the data sources. When sources differed, it was primarily due to differences in final order dates or because cases could not easily be found in PACER without extensive searching and additional costs.<sup>6</sup> Discrepancies in dates across sources are likely due to when a final decision is “lodged” versus when the final order is “approved.” Generally, the time discrepancy is not large and, given that the project data are structured by fiscal year and not by days or months, differences are unlikely to affect overall findings or interpretations unless it moves a case conclusion to a different fiscal year (only 5 cases in our assessment). When we discovered discrepancies, we recoded cases to be consistent with the PACER database.

---

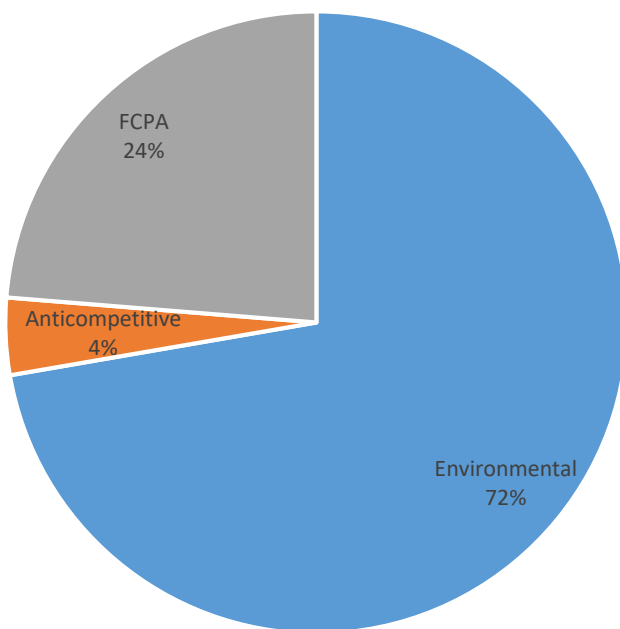
<sup>5</sup> The FCPA data were cross-checked in PACER prior to their integration into our database. We selected a limited number of cases to compare due to the cost of PACER searches.

<sup>6</sup> Nineteen (19) civil cases, for instance were not found in PACER after the initial search. We choose not to expend the additional costs necessary for a deeper dive.

## Data Analysis and Findings

The data comprise 3,327 publicly traded U.S. companies followed from 1996 through 2013, resulting in 24,305 distinct firm years for analysis.<sup>7</sup> The majority of firms had no formal actions brought against them for the three broad types of offending covered in this project. Nearly 25% however, were involved in some type of illegal activity. As represented in Figure 1, the most common type of offending is environmental (72% of cases), followed respectively by FCPA (23%), and anticompetitive (4%).

Figure 1: TOTAL OFFENSES BY TYPE



Governmental response to offending is also uneven. As shown in Table 1, the most common enforcement response is administrative/regulatory (57%). Civil is the next most common (38%). Criminal adjudication is rare (less than 5%). There is, however, variation by offense type. Accounting/bribery actions are more apt to be civil (44%) than regulatory (39%)

---

<sup>7</sup> Some firms appeared in the S&P indices sporadically and not for the entire time under investigation.

while the opposite is true for environmental and anti-competitive offenses. Across offense types, however, criminal adjudication is the least common legal response to corporate offending.

**Table 1: Offense type by Legal Regime, N=Firm-Year Observations**

| <b>Accounting/Bribery<br/>Offenses</b> |              |              | <b>Environmental<br/>and Anti-<br/>Competitive<br/>Offenses</b> |              |             | <b>Total</b> |               |             |
|----------------------------------------|--------------|--------------|-----------------------------------------------------------------|--------------|-------------|--------------|---------------|-------------|
| <b>Venue</b>                           | <b>N</b>     | <b>%</b>     |                                                                 | <b>N</b>     | <b>%</b>    |              | <b>N</b>      | <b>%</b>    |
| Administrative                         | 1,097        | 38.83        |                                                                 | 5,087        | 63.68       |              | 6,184         | 57.19       |
| Civil                                  | 1,258        | 44.53        |                                                                 | 2,859        | 35.79       |              | 4,117         | 38.07       |
| Criminal                               | 469          | 16.6         |                                                                 | 42           | 0.53        |              | 511           | 4.72        |
|                                        |              |              |                                                                 |              |             |              |               |             |
| <b>Total</b>                           | <b>2,824</b> | <b>100 %</b> |                                                                 | <b>7,988</b> | <b>100%</b> |              | <b>10,812</b> | <b>100%</b> |

Looking next at corporate governance, the average size of a corporate board across the time period is 9.5 members. Board members trend older (average age is 60) and, on average, they serve a relatively long tenure (nearly 11 years). Female directors are rare. While nearly 33% of companies report no female board members during the firm years under study, 67% report having one (most commonly) or more females.

| <b>Table 2: Board Characteristics</b> | <b>Mean</b> | <b>SD</b> | <b>Min</b> | <b>Max</b> |
|---------------------------------------|-------------|-----------|------------|------------|
| Average Board Size                    | 9.498       | 2.763     | 1          | 39         |
| Board average age                     | 60.47       | 4.23      | 35         | 78.2       |
| Board average tenure                  | 10.8        | 4.03      | 0          | 33.4       |
| Number of Female Directors            | 1.073       | 1.004     | 0          | 8          |
| Number of Male Directors              | 8.424       | 2.45      | 1          | 39         |
| No Female Director (0/1)              | 0.326       | 0.469     | 0          | 1          |
| One Female Director (0/1)             | 0.378       | 0.4851    | 0          | 1          |
| 1 or more female dir. (0/1)           | 0.6733      | 0.469     | 0          | 1          |

## Research Questions

- (1) Do companies with more diverse corporate boards (governance) have lower levels of corporate crime, generally and by offense type?

Analysis shows a weak but *positive* relationship between gender diversity on the board and corporate offending. The positive association does not vary by legal regime (i.e., the relationship is positive regardless of whether cases are brought administratively, civilly, or criminally) nor does it vary by offense type. Findings are relatively consistent using different modeling strategies and lag structures. There is some evidence, however, that results may be sensitive to how diversity is measured (any women, the percent of the board that is female, a “tipping point” of three or more women, or the number of independent female directors); which years are included in the analysis (e.g., distal versus more recent years); whether measures of good governance are included as controls; the industries included (e.g., highly regulated industries show a negative association); and statistical technique (fixed effects,<sup>8</sup> event-history, or traditional logistic regression).

- (2) Does board diversity increase after governmental discovery and/or sanctioning of wrongdoing?

Logistic regression analysis (with and without a lag on the independent variable) shows that the odds of having no females on the board significantly is lowered *after* firms are discovered offending and some kind of enforcement action occurs. Statistically, if a firm commits one additional offense, the number of females on its board would be expected to increase by a factor of 1.078\*\*\* (7%). In other words, it appears that boards become more gender diverse after

---

<sup>8</sup> Fixed effects models exclude firms that never offend.



government action—perhaps as a “signal” to investors and regulators that companies are making important governance changes in response to misconduct. On the other hand, these changes are relatively modest. As mentioned, on average a substantial number of firm years in the sample have no female board directors (33%) and another 38% report just one. A better interpretation of the shifts in female directorships may be governance “window dressing” rather than good governance (and crime prevention). In the future, we plan to investigate whether board diversification mitigates sentencing outcomes but for this report we focus on the relationship between board diversification and enforcement actions brought, not case outcome per se.

(3) What is the relationship between intervention type (i.e., criminal, civil, or regulatory response) and re-offending?

To answer this question, we utilized a negative binomial fixed effects model with a 1-year lag for independent variables. The dependent variable consists of a count of any enforcement action occurring in each year, i.e., the sum of all criminal, civil, and administrative actions for each company in each year. The main independent variables include administrative, civil, and criminal enforcement counts. Control variables include percent female board, percent minority board, board tenure, female director flag<sup>9</sup>, board independence, board size, dual role CEO, family board, total assets. Results reveal that administrative (regulatory) and civil enforcement actions brought are unassociated with repeat offending. Criminal interventions, on the other hand, appear to have a modest deterrent effect (see Table 3 below). Each additional criminal case is associated with a 40% decline in the number of offenses in the subsequent year. Notably, across all three legal regimes (civil and regulatory not shown), the presence of a woman on the

---

<sup>9</sup> Percentage of board female and female director flag are highly correlated (.74). As collinearity may affect results, we modeled each indicator of board gender diversity separately.

board (yes/no) has an unexpected positive and significant effect on reoffending ( $p < .001$ ).

However, when measured differently--as a percentage of the board that is female, gender diversity has no effect in any of the models.

**Table 3. Conditional FE negative binomial regression for reoffending on criminal enforcement, separate models for Female Board Flag, Percentage Female Board.**

| VARIABLES          | (1)<br>Bivariate FE | (2)<br>Covariates FE<br>(Female Board Flag) | (3)<br>Covariates FE (%<br>Female on Board) |
|--------------------|---------------------|---------------------------------------------|---------------------------------------------|
| Crim Enforcement   | .598* (.160)        | .631+ (.169)                                | .626+ (.168)                                |
| Time               | .979*** (.005)      | .975*** (.007)                              | .975*** (.007)                              |
| Female Board Flag  | -                   | 1.465*** (.161)                             | -                                           |
| % Female board     | -                   | -                                           | 1.858 (.855)                                |
| % Minority board   | -                   | 1.567 (.769)                                | 1.630 (.802)                                |
| Board tenure       | -                   | 1.007 (.010)                                | 1.008 (.010)                                |
| Board independence | -                   | 1.017 (.270)                                | 1.112 (.294)                                |
| Board size         | -                   | 1.028+ (.017)                               | 1.040 (.016)                                |
| Dual role CEO      | -                   | 1.061 (.084)                                | 1.059 (.084)                                |
| Family board       | -                   | 1.191 (.150)                                | 1.191 (.150)                                |
| Total assets       | -                   | 1.003 (.004)                                | 1.003 (.004)                                |
| Constant           | 1.007 (.097)        | .434** (.101)                               | .448** (.134)                               |
| Number of obs      | 7,974               | 7,894                                       | 7,894                                       |
| Number of firms    | 649                 | 642                                         | 642                                         |

Standard errors in parentheses

\*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , +  $p < .1$

### Implications for criminal justice policy and practice in the United States.

Little is known about what works, what's promising, and what doesn't in the prevention and control of corporate crime. After empirically assessing two sources of possible crime inhibition—female board diversification and government response to offending (regulatory, civil, or criminal), preliminary results suggest that only one intervention strategy has promise (albeit effects are marginally significant at  $p < .1$ ). *Ceteris paribus*, criminal prosecution of corporate offenders lowers the risk of recidivism. There are good reasons, however, to view this simple conclusion with skepticism.

First, criminal cases require a high evidentiary standard of proof. Because of this, criminal corporate crime prosecutions are relatively rare. Proof of wrongdoing is likely substantial with most cases settled by plea agreements. Given the considerable use of Non-Prosecution and Deferred Prosecution Agreements over the past decade, it is imperative to learn more about the relatively few criminal cases in our sample and unpack which mechanisms are driving these results. In particular, we will examine how the criminal cases were resolved and what, if any sanctions, were applied. In addition, were, for instance, responsible officers also charged and sent to jail? Future analyses will address the interplay of multiple mechanisms of corporate deterrence.

Second, regulatory regimes are set up to discover violations (inspections and self-reports) and then regulatory authorities work closely with violators to set them on a path to compliance. There is greater post-discovery surveillance and oversight of firms by regulators—naturally giving rise to the discovery of additional corporate offending. Self-reporting mechanisms enhance oversight. For instance, firms in the environmental area are required to test and self-report emissions and discharges monthly or quarterly. Although criminal sanctions also may include increased court oversight through sanctions such as corporate probation, the observed relationship for criminal enforcement actions is negative and marginally significant—thus implying a process of deterrence and not enhanced offending opportunities.

In sum, preliminary deterrence findings from this study--while informative—are incomplete. Unanswered is whether deterrent effects are long lasting; whether results vary across offense types; and if the patterns will be replicated taking case outcomes (sanctions) into consideration. We will need to subject the data to more rigorous analyses in order to determine answers to these questions.

On the governance side of prevention and control, our results are unexpected. Criminological and business/finance literatures have documented a consistent link between gender and offending risk. Females are less involved than males in criminal activity generally and corporate offending specifically. Numerous studies report that having women on the board is associated with better firm performance and enhanced problem-solving skills; thus minimizing the likelihood and severity of unethical conduct. Our results, however, reveal a complicated relationship between board diversity and offending. Diversity measured as having a woman on the board (versus not) appears to be criminogenic. Firms in our study typically have no female directors or just one. Under these conditions, when a woman is added to corporate boards she lacks any real power or influence to make changes or mitigate risky practices. She is a token--window dressing to shareholders and outside observers. This notion is reinforced by our findings that gender board diversification increases *after* offending formally is discovered and enforcement actions brought. Such changes can be a signal to shareholders and the market that the firm is taking action to restore the damage done to its reputation. Yet, there is a need for nuance here as well. There may be a threshold effect. A sub-analysis indicated that in highly regulated industries (industries that tend to have larger numbers of women board members), the number of independent female directors is negatively associated with accounting/bribery offenses. Much like the deterrence literature where crime inhibition--at least in some studies--is triggered by a particular level of sanction certainty, gender board diversity may not lower the risk of corporate crime until a particular tipping point is reached.

## References

- Call, A.C., G.S. Martin, N.Y. Sharp, and J.H. Wilde, 2018. Whistleblowers and Outcomes of Financial Misrepresentation Enforcement Actions, *Journal of Accounting Research*, Vol. 56, No. 1. March 2018, pp. 123-171.
- Files, R., G.S. Martin, and S.J. Rasmussen, 2019. Regulator-Cited Cooperation Credit and Firm Value: Evidence from Enforcement Actions, *The Accounting Review*, Forthcoming, <https://aaajournals.org/doi/abs/10.2308/accr-52307>.
- Karpoff J., D.S. Lee, and G.S. Martin. 2008a. The Cost to Firms of Cooking the Books, *Journal of Financial and Quantitative Analysis*, 43, September 2008, 581-612.
- Karpoff J., D.S. Lee, and G.S. Martin. 2008b. The Consequences to Managers for Financial Misrepresentation, *Journal of Financial Economics*, 88, May 2008, 193-215.
- Lawson, B.P., G.S. Martin, L. Muriel, and M.S. Wilkins, 2019. How Do Auditors Respond to FCPA Risk? *AUDITING: A Journal of Practice and Theory*, Forthcoming, <https://aaapubs.org/doi/abs/10.2308/ajpt-52390>.