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CHAPTER 1: FINANCIAL MISCONDUCT AND MARKET-BASED PENALTIES

Chapter Objective

After completing this chapter, you should be able to:

- Identify the various financial regulations used in the U.S. to combat corporate misconduct.

1.1 INTRODUCTION

Financial fraud and misconduct can attract significant penalties imposed by both legal processes and market forces. Legal penalties only account for a small fraction of the overall consequences incurred for the firms, executive officers, and directors involved. In the United States (US), Karpoff et al. (2008a) document that the legal penalties imposed on firms for financial misrepresentation only average $23.5 million per firm, whereas the average reputational penalty, as captured in the loss of market valuation, amounts to $380.50 million per firm. Similarly, in the United Kingdom (UK), losses of market value triggered by financial misconduct are nearly nine times the size of regulatory fines and compensation paid (Armour et al. 2017). In light of the significance of the penalties imposed by markets, we provide a synthesis of the empirical literature on the market-based penalties for financial fraud and misconduct.

In this chapter, we review the empirical evidence on the existence of market-based penalties for financial fraud and misconduct, with a primary focus on misconduct relating to financial reporting and disclosure. While most empirical studies are conducted in the US setting, we also review evidence from other jurisdictions around the world, including Canada, UK, Australia, European Union (EU) nations, China, and other Asian countries. Specifically, we begin by reviewing recent notable cases of financial reporting fraud. Next, we discuss the legal penalties for financial reporting fraud, and highlight the importance of examining non-legal, market-imposed penalties. We then discuss the empirical evidence on market-based penalties for corporate financial fraud and misconduct. Firm-level penalties include losses of market value, increased costs of operations, reduced innovation, financial constraints, and heightened risk of hostile takeovers. At the individual level, fraud-tainted executive officers and directors face consequences such as increased turnover, impaired career prospects, decreased compensation, and damaged reputations. We next discuss related areas of empirical research, including evidence on the incentives driving and risk factors predicting corporate financial misconduct, the role of public and private enforcement, and how the penalties for financial misconduct differ from those following other types of corporate misconduct. Finally, we provide some concluding remarks.

We examine several forms of market-related financial fraud and misconduct. Securities fraud refers to intentional deceptions in the financial market, causing detriment to users who justifiably rely upon the false information (Hennes et al. 2008; Duarte et al. 2014; Karpoff et al. 2017). The legal definition of financial fraud varies across jurisdictions. In the US, Section 10(b) of the *Securities Exchange Act* of 1934 prohibits 'any manipulative or deceptive device or contrivance.' Specifically, Rule 10b-5 makes it

unlawful ‘to make any untrue statement of a material fact or to omit to state a material fact.’ Similarly, in the UK, Sections 89–91 of the *Financial Services Act* 2012 render it illegal to ‘make a false or misleading statement,’ ‘dishonestly conceal material facts,’ or ‘create a false or misleading impression as to [. . .] the price or value of any relevant investments’ (Roberts 2013; Gullifer and Payne 2015). Similar statutory prohibitions exist in Canada and Australia. Section 12DA of the *Australian Securities and Investments Commission Act* 2001 outlaws ‘misleading or deceptive’ conduct in relation to financial services; likewise, in Canada the *Securities Act* 1990 of Ontario prohibits ‘misrepresentation’ affecting both primary and secondary markets for financial securities.

Financial fraud and misconduct can damage investor confidence (Giannetti and Wang 2016; Gurun et al. 2018), distort allocation of resources (Kedia and Philippon 2009), and undermine the efficiency of capital markets (Karpoff et al. 2017). Common types of financial market misconduct include misrepresentation in financial reporting, insider trading, market manipulation, and other dissemination of false information (Cumming and Li 2011; Cumming et al. 2015a). Cumming et al. (2015a) provide an overview of different types of financial misconduct. For example, front-running is a form of insider trading which involves brokers trading on client information in advance of the client’s trade (Markham 1988; Cumming et al. 2015a; Scopino 2015; Manahov 2016). ‘Pump-and-dump’ refers to a type of price manipulation, whereby the manipulator introduces misleading information to the market (Putniņš 2012; Withanawasam et al. 2013). For example, in early 2018, the Securities and Exchange Commission (SEC) cracked down on numerous ‘pump-and-dump’ schemes involving initial coin offerings in the cryptocurrency market (Eaglesham and Vigna 2018; Rubin 2018).[1] Wash trading is another form of financial misconduct, which involves manipulating trading volume by having the same client as both buyer and seller in a transaction (Cumming et al. 2011). In 2012, US regulators accused the Royal Bank of Canada of engaging in a ‘wash trading scheme of massive proportion’ for tax benefits (Eaglesham et al. 2012).[2]

To prove a case of financial misrepresentation, under US law plaintiffs must establish several elements, including ‘a misstatement or omission of a material fact made with intent that the plaintiff justifiably relied on causing injury in connection with the purchase or sale of a security’ (Jacobs 1973; Skinner 1994, p. 41; Donelson et al. 2012). Although the legal definitions of securities fraud vary across jurisdictions, one typical requirement is the presence of scienter, or the state of mind which accompanies the act. To establish fraud, the misstatement or omission must be proven to be intentional (or reckless in some jurisdictions). Similarly, in the UK and Australia, an equivalent requirement is built into the statutory provisions, which prohibit ‘intentional’ (‘knowing’) or ‘reckless’ misstatements. An exception exists in Canada, where *scienter* is not required to establish fraud (Gelowitz et al. 2015). In most jurisdictions, the presence of a culpable state of mind is an important factor that distinguishes securities fraud from mere misconduct (if negligent) or innocent mistakes.[3]

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1. Rubin, G.T. 2018. ‘Investors Warned of Cryptocurrency “Pump-and-Dump” Schemes.’ The Wall Street Journal, February 15, 2018. https://www.wsj.com/articles/investors-warned-of-cryptocurrency-pump-anddump-schemes-1518724576. Eaglesham, J., Vigna, P. 2018. ‘Cryptocurrency Firms Targeted in Sec Probe; Regulator Issues Subpoenas to Parties Engaged in Booming Market for Initial Coin Offerings.’ The Wall Street Journal. February 28, 2018. https://www.wsj.com/articles/sec-launches-cryptocurrency-probe-1519856266.

2. Eaglesham, J., Trindle, J., Van Hasselt, C. 2012. ‘CFTC Deals out Royal Pain; Canadian Bank Is Accused of Massive “Wash” Scheme to Garner Tax Benefits.’ The Wall Street Journal, April 3, 2012. https://www.wsj.com/articles/SB10001424052702303816504577319990588467360.

3. In many cases the distinction is a legal or evidentiary one.

Empirical researchers have adopted different proxies to represent securities fraud and misconduct, which capture various levels of severity and culpability (a comprehensive discussion is provided by Karpoff et al. 2017). At one end of the spectrum, Agrawal et al. (1999) examine corporate fraud by identifying 'fraud or crime-related' news articles reported in the *Wall Street Journal*. This is a narrow proxy, as it captures only extreme cases of fraud which attract media attention, while excluding other lower-profile incidences not reported in the press (potentially resulting in 'false negatives'). At the other end of the spectrum, accounting misstatements are frequently used as a broader proxy for financial misconduct (Desai et al. 2006; Agrawal and Cooper 2017). This is a wide proxy which captures all financial reporting errors, whether fraudulent or innocent, and may result in 'false positive' cases where unintentional mistakes are regarded as misconduct. In the middle of the continuum, securities litigation constitutes a commonly used proxy for financial misconduct. Specifically, researchers observe public or private enforcement through securities class actions or SEC enforcement lawsuits (e.g. Helland 2006; Dechow et al. 2011; Correia and Klausner 2012; Humphery-Jenner 2012; Karpoff et al. 2017).

However, these empirical proxies have common limitations. First, actual fraud committed by corporations is inherently unobservable (Wang 2013). Empirical researchers typically use detected fraud to proxy all fraud committed, which disregards undetected fraud (Wang 2013). Second, empirical researchers often use *accusations* of misconduct to proxy actual misconduct. This is also inaccurate because accused firms are presumed innocent until proven otherwise at trial, which rarely happens given that a vast majority of cases are settled out of court.[4] Consequently, there is no consensus in the literature as to what is the correct proxy for financial fraud, as no empirical proxy perfectly aligns with the legal definition of fraud. Karpoff et al. (2017) caution researchers to carefully select empirical proxies that best reflect the constructs of financial misconduct examined, as the choice of empirical proxies has a significant bearing on the research findings.

An extensive and growing body of literature examines the causes and consequences of corporate financial fraud and misconduct (e.g. Srinivasan 2005; Desai et al. 2006; Fich and Shivdasani 2007; Karpoff et al.,2008b; Cheng et al. 2010; Brochet and Srinivasan 2014; Amel-Zadeh and Zhang 2015; Arena and Julio 2015). Several recent surveys discuss the methodological issues in financial misconduct research and provide directions for future studies (Karpoff et al. 2017; Amiram et al. 2018; Cumming et al. 2018a). In particular, there is considerable academic attention devoted to investigating market-imposed consequences of financial fraud and misconduct, in addition to legal penalties such as fines and imprisonment. Understanding these market-imposed consequences is important to provide a holistic view of the overall penalties for fraud or misconduct (Alexander 1999). This enables regulators and policymakers to assess the adequacy of the legal penalties and to prescribe the optimal level of disincentives to deter future misconduct (Alexander 1999; Karpoff 2011).

1.2 NOTABLE CASES OF FINANCIAL REPORTING FRAUD

Notorious incidents of financial reporting fraud, such as the scandals involving Enron and WorldCom, have shocked stock markets worldwide in recent decades. These revelations of fraud not only resulted in significant losses of shareholder and debtholder wealth, but also undermined investor confidence in the markets generally (Giannetti and Wang 2016; Karpoff et al. 2017).

4. For example, Schrand and Zechman (2012) find that in three quarters of SEC enforcement actions for financial misreporting, the executives involved lack the requisite intent to defraud.

Enron's accounting fraud constitutes one of the most notorious corporate scandals this century (Brennan and McGrath 2007; Soltani 2014). Enron Corporation was an energy giant and the seventh largest US company by revenue in December 2000, with market capitalization of $75.2 billion (Soltani 2014). Enron announced restatements of its 1997–2000 earnings on 16 October 2001, revealing glaring accounting irregularities. These revelations triggered a freefall in Enron's share price from which it never recovered (Baker and Hayes 2005; Gillan and Martin 2007). The ensuing influx of securities lawsuits resulted in legal settlements of $7.2 billion in 2006, paid by Enron, its executive officers, auditor Arthur Andersen (including individual partners and employees), and former legal counsel, Vinson & Elkins. Enron's demise severely impaired market confidence. Subsequent forensic examination of its financial records revealed sophisticated and well-disguised accounting malpractices (Baker and Hayes 2005; Soltani 2014). For example, Enron failed to include three of its special purpose entities (SPEs) in its consolidated financial statements, in violation of the applicable accounting rules. This enabled Enron to use these SPEs as vehicles to overstate earnings, conceal losses, and remove liabilities from its balance sheet (Baker and Hayes 2005; Soltani 2014). Enron's scandal prompted regulatory changes in the US and worldwide during the ensuing decade (Rockness and Rockness 2005).

Another well-known case of financial reporting fraud involves WorldCom, a leading telecommunications company in the 1990s. During 2000 and 2001, facing a downturn in the telecommunications market and declines in long distance rates and revenue, WorldCom adopted fraudulent accounting practices to disguise expenses as capital expenditure and to overinflate its earnings (Soltani 2014). In July 2000, WorldCom's stock price began to fall after its attempted merger with Spring was blocked by the Department of Justice. Internal auditors at WorldCom discovered the fraudulent accounting practices in 2002. This discovery prompted an enforcement action by the SEC alleging $3.8 billion of overstatement of WorldCom's 2001–2002 earnings. The lawsuits against WorldCom and its chief executive officer (CEO), chief financial officer (CFO), controller, and accounting director, eventually settled for $6.2 billion in 2005.

Corporate fraud is by no means unique to US corporations. Numerous financial reporting scandals worldwide have gained notoriety over the past decades, including Canadian manufacturer Nortel Networks, Japan's cosmetic producer Kanebo Ltd, UK-based retailer Tesco, Australian telecommunications group OneTel, and the Italian food producer Parmalat (Lehman and Okcabol 2005; Jones 2011; Farrell 2015). For example, Nortel Networks, a Canadian manufacturer of telecommunications equipment, settled a civil fraud lawsuit initiated by the SEC in 2007 for allegedly falsifying accounting entries to overstate sales revenue for 2000–2001 and 2003–2004. Nortel's stock price fell from C$124 to C$0.47 from September 2000 to August 2002, causing its market capitalization to plunge from C$398 billion to C$5 billion. In the Australian context, the collapse of retailer Harris Scarfe in 2001 left outstanding debt totaling AUD$265 million. Subsequently, the Australian Securities and Investments Commission (ASIC) prosecuted its CFO and executive chairman for overinflating consolidated earnings (ASIC 2005). Parmalat, an Italian food producer, committed 'one of largest and most brazen corporate financial frauds in history' (SEC 2003), the total value of which exceeded the combined size of Enron and WorldCom (Soltani 2014). In December 2003, the then eighth-largest industrial group in Italy admitted to overstating assets by €3.95 billion and was declared insolvent within the same month (Soltani 2014). These notable scandals illustrate the significant extent to which corporate financial reporting fraud can deplete market value, harm investor trust, and disrupt capital markets.

1.3 FINANCIAL REPORTING MISCONDUCT AND LEGAL REDRESS

Misrepresentation in financial reporting constitutes a common type of corporate misconduct (Cumming et al. 2015a; Cumming et al. 2018a), which is prohibited under Rule 10b-5 of the *Securities Exchange Act* 1934 and Section 17(a) of the *Securities Act* 1933:

> Rule 10b-5: Employment of Manipulative and Deceptive Practices:
>
> It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange,
>
> a) To employ any device, scheme, or artifice to defraud,
>
> b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
>
> c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.

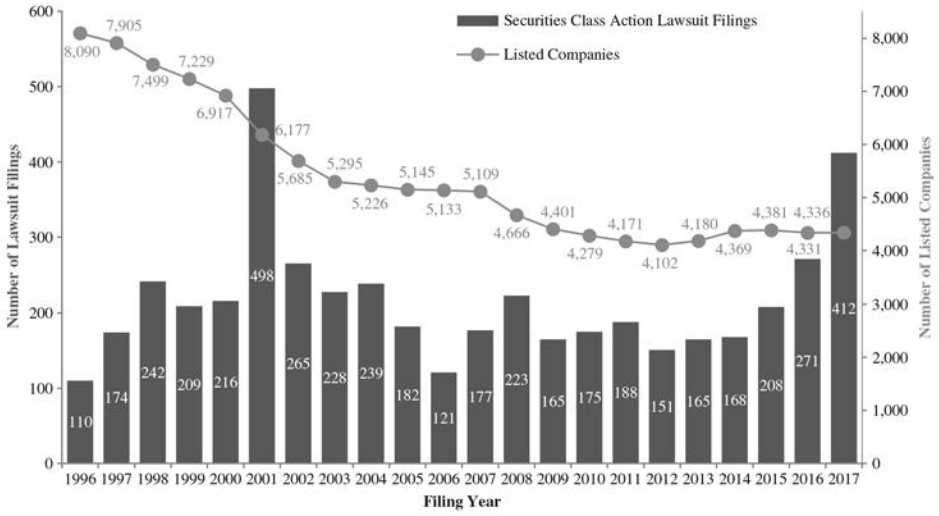
Violations of Rule 10b-5 can attract enforcement through public or private mechanisms. As public enforcement, the SEC or the Department of Justice (DOJ) can initiate regulatory actions against violators, commonly in the event of serious or high profile cases (Nourayi 1994; Dechow et al. 1996; Correia and Klausner 2012). Securities law violations can also be enforced through private mechanisms including securities class actions (McTier and Wald 2011; Humphery-Jenner 2012; Caskey 2014) and derivative lawsuits (Fischel and Bradley 1986; Loewenstein 1999; Ferris et al. 2007; Davis 2008).

Securities class actions constitute an important avenue of private enforcement of securities law, particularly in relation to violations of Rule 10b-5 (Kennedy 1977; Banoff and DuVal 1984; Thompson and Sale 2003). Shareholders have the right to file private legal actions for alleged securities fraud. Federal courts have exclusive jurisdiction to hear 10b-5 related securities lawsuits under Section 27 of the *Securities Exchange Act* 1934 (Choi 2007, p. 1489). Securities class actions remain a relatively unique feature of the US legal environment (Warren 2012), even though some elements of this legal process have been adopted by European nations (Grace 2006).

Legal actions accusing firms of financial misrepresentation have increased over time (Boettrich and Starykh 2017; Karpoff et al. 2017). The annual number of federal securities class action lawsuits has more than tripled from 1996 to 2017, despite a decrease in the total number of listed companies by over 40% during that time, as illustrated in Figure 1.1. This indicates that firms on average are becoming more frequently accused of financial wrongdoing.

FIGURE 1.1 LAWSUIT FILINGS AND NUMBER OF COMPANIES LISTED IN THE UNITED STATES.

Note: the number of federal securities class action lawsuit filings is sourced from Stanford Law School's Securities Class Actions Clearinghouse; the number of companies listed in the US is sourced from The Global Economy.



1.4 EVOLUTION OF US FINANCIAL REGULATIONS

'An ounce of prevention is worth a pound of cure – in few other business contexts is that as true as with financial statement fraud' (Young 2000, p. 211). The prevention of financial fraud is crucial to maintaining the efficiency of capital markets. Since the passage of the *Securities Exchange Act* of 1934, which established the Securities and Exchange Commission (SEC) to regulate securities issuance and trading, the modern financial system has been gradually constructed through legislative developments, with significant overhauls occurring in the 1980s and 1990s and additional fine-tuning since 2000 (Komai and Richardson 2014). In this section, we briefly review several significant changes in financial market regulations enacted over recent decades.

1.4.1 Private Securities Litigation Reform Act (1995)

Prior to the Private Securities Litigation Reform Act (PSLRA) of 1995, plaintiffs were able to file securities lawsuits with limited evidence of wrongdoing and use the discovery process as a 'fishing' expedition to seek evidence to support the claim filed. Consequently, defendants were frequently forced to settle any filed lawsuits at a 'nuisance' value to avoid high litigation costs (Spier 2007). PSLRA was introduced with the aim of reducing the number of frivolous securities lawsuits (Choi and Thompson 2006; Choi et al. 2009) to 'address the problems plaguing securities class action litigation' (Choi 2007, p. 1489). The passage of this legislation raised pleadings standards and limited the ability of plaintiffs to file nuisance lawsuits.

Empirical studies have documented the effects of PSLRA on corporations, executives, and investors. As PSLRA restricted investors' ability to file securities lawsuits, in the short term stock markets reacted negatively to its enactment, particularly in litigation-prone industries including computers, electronics,

pharmaceutical and biotech, and retailing (Ali and Kallapur 2001). In the long-run, PSLRA has reduced securities lawsuits, consistent with its intended purpose of limiting nuisance claims (Choi et al. 2009). However, Choi (2007) finds that PSLRA also reduces the filings of meritorious lawsuits, and that non-nuisance claims are more likely to be dismissed or receive low-value settlements in the post-PSLRA era. This evidence suggests that PSLRA may have the unintended consequence of hampering meritorious securities lawsuits.

1.4.2 Sarbanes–Oxley Act (2002)

The *Sarbanes–Oxley Act* of 2002 (SOX) was enacted in the wake of the high-profile corporate scandals including Enron and WorldCom. SOX introduced changes aimed at improving financial reporting transparency and increasing investor protection. These changes include heightened disclosure requirements and corporate governance mandates (Romano 2004). For example, SOX prescribes a minimum proportion of independent directors on the board and prohibits auditing firms from providing advisory services. Section 404 of the Act mandates various internal controls. Section 403 requires more timely disclosure of insider trades by reducing the filing period from the next calendar month to two business days.

Debates persist over whether SOX is effective in protecting investors and capital markets, and whether any benefits are sufficient to justify the costs of compliance incurred by firms (Romano 2004; Ge et al. 2017). To investigate the benefits of SOX, researchers have examined its impact on capital markets, management behavior, and executive and director labor markets (e.g. Romano 2004; Zhang 2007; Cohen et al. 2008; Linck et al. 2009; Brochet 2010). In the capital markets, the enactment of SOX is followed by reduced accrual-based earnings management (Cohen et al. 2008), decreased firm information opaqueness (Arping and Sautner 2013), and increased accounting conservatism, especially in firms with internal control weaknesses (Mitra et al. 2013). Additionally, more timely disclosures of insider trades help facilitate security pricing in the market (Brochet 2010), and firms experience lower costs of equity given the reduced information risk post-SOX (Ashbaugh-Skaife et al. 2009). In the executive and director labor markets, SOX is expected to enhance corporate governance quality and increase penalties for financial fraud. Empirical evidence shows that director and officer (D&O) insurance premiums have doubled since the passage of SOX (Linck et al. 2009). Post-SOX boards are larger and more independent, and audit and nominating committees meet more frequently (Linck et al. 2009). However, there is mixed evidence on whether CEO and CFO turnover is more sensitive to accounting restatements (Hennes et al. 2008; Collins et al. 2009; Burks 2010). Nonetheless, CEOs are more likely to experience reductions in bonus compensation in response to accounting misstatements post-SOX (Burks 2010), and CFOs incur greater ex post settling up when seeking re-employment after losing their jobs amidst fraud allegations (Collins et al. 2009).

SOX imposes significant costs of compliance on firms (Ge et al. 2017). As a result, stock prices reacted negatively to the enactment of SOX, particularly for firms with weak shareholder rights (Zhang 2007). The costs of compliance are especially burdensome on smaller firms, potentially reducing their value (Zhang 2007; Iliev 2010) and discouraging unlisted firms from going public (Piotroski and Srinivasan 2013). Furthermore, SOX also impacts on the incentives for foreign firms to list on US stock exchanges. In particular, small foreign firms are less likely to list in the US (Piotroski and Srinivasan 2013). Duarte et

al. (2014) argue that it is more costly for insider investors of foreign firms to extract value from minority shareholders, whose interests are better protected after the passage of SOX.

1.4.3 Dodd–Frank Act (2010)

In the wake of the Global Financial Crisis, the *Dodd–Frank Wall Street Reform and Consumer Protection Act* was enacted in 2010 to further strengthen investor protection. Notable changes include tougher consequences for executive officers who have committed fraud, and increased incentives for fraud reporting. For example, Section 954 of the Act establishes the 'clawback' provisions, which enable firms to recoup excessively paid compensation from their executive officers following accounting restatements. Furthermore, the Act amends the *Securities Exchange Act* of 1934 by adding Section 21F on 'Securities Whistleblower Incentives and Protection.' This 'bounty' program provides whistleblowers with financial rewards ranging from between 10% and 30% of the value recovered.

A growing number of academic studies examine the impacts and effectiveness of the Dodd–Frank Act (DFA). For example, Balasubramanian and Cyree (2014) find that following the passage of the Act, the size discount on bank yield spreads (in particular the too-big-to-fail discount) has decreased amongst secondary market subordinate debt transactions. This indicates that the DFA has strengthened market disciplining of banks. However, Dimitrov et al. (2015) document that, in the wake of the DFA, credit rating agencies such as Standard & Poor's and Moody's tend to issue lower ratings, more false warnings, and less informative downgrades. Dimitrov et al. (2015) argue that the DFA creates incentives for credit rating agencies to be overprotective of their own reputations and impede the informativeness of credit ratings. Further, deHaan et al. (2013) find that voluntary adoption of clawback provisions prior to the enactment of DFA was associated with better financial reporting quality. This evidence potentially sheds light on the likely impacts of the clawback provisions mandated under the DFA. Overall, securities regulations in the US and worldwide will continue to evolve over time in response to new challenges. Academic research provides important evidence to inform policymakers and regulators of the effectiveness of these laws.

1.5 LEGAL VERSUS MARKET-BASED PENALTIES FOR FINANCIAL MISCONDUCT

Financial fraud and misconduct can attract an array of consequences. These include legal penalties arising from lawsuits or regulatory enforcement proceedings, and nonlegal penalties imposed by the operation of market forces. In this section, we provide an overview of the legal penalties for the accused firms and their executive officers and directors. We then discuss the role and relevance of market-imposed penalties.

1.5.1 Common Forms of Legal Penalties

Violations of securities law can result in public or private enforcement actions. Legal penalties may be levied against the accused firms, or their individual executive officers and directors (Karpoff et al. 2008b). Monetary penalties constitute the main form of firm-level penalty (Karpoff et al. 2008b). Regulatory bodies such as the SEC can impose fines on the accused firms. If any wrongdoing is proven at trial, defendants would be ordered to pay damages for any losses sustained by the plaintiffs from relying on the fraudulent information. In addition to the compensatory damages for the actual losses incurred, punitive damages may be awarded for the purpose of penalizing the offenders (Karpoff and Lott 1999).

However, a majority of securities class actions are settled out of court before damages are awarded at trial (Cox and Thomas 2005). The amount of the settlement represents the firm's economic value in terminating the lawsuit, factoring in the estimated damages, the likelihood of losing, and any additional reputational losses arising from continuing a court trial (Haslem 2005).

Serious or high-profile violations can attract SEC enforcement actions. Researchers show that the risk of being targeted by the SEC is lower if firms have political connections established through lobbying and campaign donations (Yu and Yu 2011; Correia 2014). Furthermore, politically connected firms tend to incur significantly lower monetary penalties in enforcement actions (Correia 2014). Cooperation with the SEC increases the likelihood of receiving sanctions, but cooperation and timely disclosure through prompt restatements are both associated with lower monetary penalties (Files 2012).

At the individual level, executive officers and directors may be personally named in lawsuits and regulatory enforcement proceedings (Karpoff et al. 2008b; Crutchley et al. 2015). The SEC or Department of Justice (DOJ) may initiate criminal prosecutions against officers and directors (Karpoff et al. 2008b). In civil proceedings, accused individuals may face monetary sanctions, such as fines and disgorgement, and debarment from professional activities (Karpoff et al. 2008b). For example, Karpoff et al. (2008b) examine regulatory enforcement actions during 1978 to 2006, and find that 34% of accused executive officers were barred from serving as officers or directors of public or SEC-registered companies. The average monetary sanctions amounted to $6.7 million per individual (Karpoff et al. 2008b). Criminal prosecutions against individual executive officers and directors are relatively rare and only occur in serious cases (Brennan and McGrath 2007). Karpoff et al. (2008b) find that 28% of responsible individuals face criminal charges. Convicted individuals receive imprisonment averaging 4.3 years with an average 3-year probation period (Karpoff et al. 2008b).

1.5.2 Role of Market-Based Penalties

Many believe legal penalties to be insufficient to deter corporate misconduct. According to *Time*, 'the threat of fines . . . has proved laughably inadequate in producing better behavior.' (Karpoff 2011, p. 361). In particular, personal fines levied against executives and directors are typically covered by the companies' D&O insurance, and therefore serve as an ineffective penalty. Consequently, in the absence of debarment and imprisonment, executives and directors may incur negligible out-of-pocket expenses from fraud accusations.

Given the perceived inadequacy of legal penalties as a means of effectively penalizing executives and directors, researchers have looked to market-based penalties to determine whether other disincentives exist to deter firms from committing financial fraud. This body of research aims to inform policymakers as to the extent to which legislative changes are needed to provide sufficient deterrence to prevent corporate fraud (Alexander 1999).

Market-based penalties form an essential part of the sanctions incurred by corporations and their officers following alleged fraud and misconduct (Alexander 1999). Fama (1980) argues that such ex post settling-up in the labor market can discipline managers and consequently provide ex ante disincentives to deter managers from wrongdoing. In light of perceived insufficient legal penalties, it is imperative to examine market-based penalties to gain a full understanding of these ex post consequences and their potential deterrent effects (Cox 1997; Coffee 2006; Desai et al. 2006; Mitchell 2009).

1.6 FIRM-LEVEL PENALTIES FOR CORPORATE FINANCIAL MISCONDUCT

In the next two sections, we discuss the empirical evidence on market-imposed penalties for financial fraud and misconduct. Market-based penalties can be divided into two broad categories: penalties incurred at the firm level, and penalties incurred personally by executive officers and directors. Most of the empirical studies examining these market-based penalties are conducted in the US setting. However, we also discuss studies examining securities misconduct in other institutional settings, including countries in Europe (Grace 2006; Brennan and McGrath 2007; Armour et al. 2017), Asia (Chen et al. 2006; Jia et al. 2009; Tanimura and Okamoto 2013; Chen et al. 2016; Hass et al. 2016; Stuart and Wang 2016; Wang et al. 2017), and Oceania (Chapple et al. 2014; Capezio and Mavisakalyan 2016).

In this section, we discuss the firm-level penalties imposed by the markets. We provide a summary of a number of prior empirical studies in this literature in Table 1.1.

TABLE 1.1 OVERVIEW OF STUDIES ON FIRM-LEVEL PENALTIES.

This table summarizes the papers that examine firm-level penalties for financial fraud incurred by the accused firms. The authors, data sources, countries, time periods, variables, and main findings are summarized. The main findings are largely paraphrased and/or copied from the abstracts of the papers to best and succinctly represent the authors' contributions, but are not meant to exhaustively represent all of the findings from the papers.

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Market Reactions and Reputational Loss						
Karpoff and Lott (1993)	Searches for 'fraud' or 'crime' listings in *The Wall Street Journal* Index.	US	1978–1987	Market reactions to fraud allegations	Fraud allegations; legal penalties	Reputational costs significantly exceed legal penalties for firms accused or convicted of fraud. Initial allegations of fraud trigger an average 1.34% decline in market value (or 5.05% for fraud against government agencies). Penalties and criminal fines account for only 1.4%, and court-imposed costs 6.5%, of the loss of market valuation.
Bhagat et al. (1998)	Lawsuit filings or settlements reported in *The Wall Street Journal*.	US	1981–1983	Market reactions to lawsuit filings and settlements	Corporate lawsuits (lawsuit issues and nature of plaintiffs)	Lawsuit announcements trigger significant negative market reactions. The two-day abnormal returns differ depending on the nature of lawsuits: environmental suits (–3.08%), product-liability suits (–1.46%), and violations of security laws (–2.71%) result in significantly greater wealth losses for defendant firms, compared to disputes involving antitrust (–0.81%) or breach of contract (–0.16%) issues.
Alexander (1999)	Federal court criminal cases, news from *Wall Street Journal*, Dow Jones News Retrieval Service, *LexisNexis*, Westlaw, and government publications.	US	1984–1990	Market reactions; customer relationships; CEO turnover	Corporate crimes	Corporate crimes give rise to reputational penalties (reflected in the average 2.26% loss of firm value), but losses in market valuation associated with crimes against related parties (e.g. customers) are significantly larger than losses associated with third-party crime (e.g. environmental violations). Firms facing criminal allegations also experience terminated or suspended customer relationships, and management and employee turnover.

Karpoff and Lott (1999)	Searches for 'punitive' in *LexisNexis* Library.	US	1985– June 1996	Size of punitive damages awards; market reactions	Punitive damages lawsuits	Punitive damages lawsuits trigger larger market valuation losses for the defendant firms than compensatory damages lawsuits and actual punitive damages awarded. Initial lawsuit filings trigger an average loss of −1.02% market value during the two-day window. An announcement of a plaintiff verdict triggers a further valuation loss of 0.62%.
Palmrose and Scholz (2004)	Restatements from *LexisNexis* News Library, Lexis Disclosure of other corporate events, and Form 8-Ks on Lexis using keyword (e.g. 'restat', 'revis', 'adjust', 'error') and for specific accounting issues.	US	1995–1999	Market reactions; bankruptcy and delisting; litigation likelihood	Accounting restatements of core earnings	Firms with core restatements have higher frequencies of intentional misstatements (fraud), material restatements, subsequent bankruptcy or delisting, more negative security price reactions to restatement announcements, more negative security price changes over the six months pre- and post-restatement, and greater likelihood of securities lawsuits.
Palmrose et al. (2004)	Restatements from *LexisNexis* News Library, Lexis Disclosure, and Form 8-Ks on Lexis by searching for keywords (e.g. 'restat', 'revis', 'adjust', 'error') and for specific accounting issues.	US	1995–1999	Market reactions	Accounting restatements	The market reactions to restatement announcements average approximately 9% over the two-day event window. Returns are more negative if the restatements involve fraud, affect more accounts, decrease reported income or are attributed to auditors or management.
Karpoff et al. (2008a)	Securities and Exchange Commission (SEC) and Department of Justice (DOJ) enforcement actions from *LexisNexis*, Academic Business News, General News, and Legal Cases libraries, and SEC and DOJ websites.	US	1978–2002	Market reactions to lawsuits	SEC/DOJ enforcement actions for financial misrepresentation	Penalties imposed on firms through the legal system average only $23.5 million per firm, compared with the average loss of $380.50 million in market valuation per firm. For each dollar that a firm misleadingly inflates its market value, on average, it loses this dollar when its misconduct is revealed, plus an additional $3.08. Of this additional loss, $0.36 is due to expected legal penalties and $2.71 is due to lost reputation.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Gande and Lewis (2009)	Securities class actions from Stanford Securities Class Action Clearinghouse (SCAC).	US	1996–2003	Market reactions; market reactions of non-sued industry-peer firms	Securities class action lawsuits	Firms sued for securities class actions experience significant negative price reactions, averaging −4.66% during the three-day window around filing dates, and −9.79% in the two-week period preceding filings, indicating that the market partially anticipates the lawsuits. High litigation-risk firms experience greater anticipation effects and correspondingly smaller filing-date effects. Non-sued firms operating in the same industry as the accused firms also experience declines in valuation upon lawsuit announcements, indicating an industry spillover effect.
Tanimura and Okamoto (2013)	Factiva searches (*Jiji Press English News Service* and *Kyodo News*) for fraud*, false*, cheat*, conceal*, cover* up, manipulate* or misrepresent*.	Japan, US	2000–2008	Market reactions	Corporate scandals	Japanese firms involved in corporate scandal experience significant losses of market valuation upon revelations, despite negligible legal and regulatory penalties. The negative abnormal stock price reactions are larger in Japan than in the US, which is attributable to the trust-based culture underlying the business environment in Japan.
Armour et al. (2017)	Press statements relating to enforcement actions by the Financial Services Authority (FSA) and London Stock Exchange (LSE).	UK	Jan 2001– Jan 2011	Market reactions	Regulatory enforcement actions	Reputational losses, as captured by the losses of market valuation upon announcements of violation and penalties, are nearly nine times the size of fines. However reputational losses are confined to cases where the wrongdoing is against related parties (customers or investors) but not third parties.
Access to Financing and Cost of Capital						
Lowry and Shu (2002)	Securities class actions from *Securities Class Action Alert* Newsletters and Database; SEC filings from EDGAR or Nexis; Gilardi and Co. class action administration (http://www.gilardi.com/index.html); IPO data from Securities Data Company (SDC).	US	1988–1995	Initial IPO returns; subsequent litigation risk for securities class actions	Securities class action lawsuits; initial IPO returns	Firms with higher litigation risk experience greater IPO underpricing. Higher underpricing lowers expected subsequent litigation risks, especially for lawsuits occurring closer to the IPO dates.

Hribar and Jenkins (2004)	Restatements from the U.S. General Accounting / Government Accountability Office (GAO) Database.	US	1997–2002	Cost of equity capital	Accounting restatements	Accounting restatements lead to decreased expected future earnings and increased cost of equity capital for the restating firms, averaging 7%–19% in the month immediately following a restatement. The increase dissipates as time passes and after controlling for analyst forecast biases, but continues to average between 6% and 15% in the most conservative setting. This increase in the cost of capital is larger if the restatement is initiated by the auditor, or if the firm has high leverage.
Graham et al. (2008)	Restatements from GAO. Bank loan data from Dealscan, a Loan Pricing Corporation (LPC) Database.	US	1997–2002	Cost of debt capital (loan spreads); loan terms (maturities, security, restrictive covenants)	Accounting restatements	Restating firms experience significant increases in loan spreads. Lenders also impose stricter loan terms on the restating firms, such as shorter maturities, greater likelihood of secured loans, and more stringent restrictive covenants. The increase in loan spread is significantly larger for fraudulent restating firms than other restating firms. After restatement, the number of lenders per loan declines and firms pay higher upfront and annual fees.
Kravet and Shevlin (2010)	Restatements from GAO.	US	1997–2002	Fama and French factor loadings on Information Risk (IR) (discretionary and innate)	Accounting restatements	Restating firms experience a significant increase in the factor loadings on the discretionary information risk factor after a restatement announcement, resulting in increased estimated cost of capital. Other non-restating industry-peers of the restating firms also experience a smaller increase in the pricing of discretionary information risk.
Bai et al. (2010)	Settled securities class actions from Public Access to Court Electronic Records (PACER), SEC Litigation Releases, *LexisNexis*, restatements from GAO.	US	1996–2008	Liquidity ratio, bankruptcy risk (Altman's Z), market-to-book	Securities class action settlements; financial restatements	Defendant companies in securities class action lawsuits experience reduced operating efficiency during the lawsuits. After lawsuit settlements, defendant firms experience greater liquidity constraints and increased bankruptcy risk (proxied by Altman's Z score).

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Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Autore et al. (2014)	Securities lawsuits from the University of Michigan's Inter-University Consortium for Political and Social Research (ICPSR) and Stanford SCAC.	US	1987–2009	Net equity issue; net debt issue; long-term net debt issue	Securities lawsuits	Firms with a history of securities lawsuits are less likely to seek external debt and equity financing, particularly following more severe litigation and for firms with high information asymmetry. Sued firms experience a decline in capital expenditure and research and development (R&D) expenses during the three-year period following a litigation filing.
Arena et al. (2015)	Securities class actions from Stanford SCAC; Non-securities lawsuits from Audit Analytics.	US	1996–2006	Cash holdings; cash holdings of industry peer-firms; capital expenditure; value of cash	Securities class actions; other lawsuits (product liability, copyright, patent, antitrust, and trade regulation)	Firms with higher securities litigation risk hold significantly more cash in anticipation of future lawsuits and settlements, and lower market value of cash holdings. Additionally, high litigation-risk firms reduce investments and have lower capital expenditures. Non-sued industry-peers of the sued firms also increase their cash holdings in response to securities class action lawsuit filings.
Yuan and Zhang (2015)	Lawsuits from Institutional Shareholder Services (ISS) Securities Class Action Database.	US	1996–2009	Loan spread; restrictive covenants	Securities class action lawsuits	Sued firms experience increased loan spreads (averaging 19%) and stricter covenants following securities class action lawsuits.
Chu (2017)	Bank loan data from DealScan.	US	1995–2003	Loan spreads	Ninth Circuit Court ruling in 1999 increasing the difficulty of securities class actions	Using a natural experiment based on a ruling by the Ninth Circuit Court of Appeals, increasing the difficulty of class action suits is found to decrease loan spreads. The effect is stronger for firms with higher institutional ownership.

Arena (2018)	Corporate lawsuits from Audit Analytics; debt issue data from Thomson One-Banker (SDC Global Issues).	US	2000–2013	Credit ratings; yield spread	Corporate lawsuits	Litigation affects a firm's creditworthiness and debt costs in two stages. Before a lawsuit filing, firms at higher risk of litigation have lower credit ratings, are more likely to be rated speculative grade, pay higher yields on loans and bonds, and are less likely to rely on debt financing. After the lawsuits, firms facing larger settlement disbursements relative to their available cash experience a decline in credit ratings and an increase in yield spread.
Operating Performance, Innovation, and Costs of Operations						
Baker and Griffith (2007a)	Qualitative data from interviews with underwriters, actuaries, brokers, lawyers, and corporate risk managers.	US	2004–2006	D&O insurance premiums (qualitative)	Corporate governance risk (qualitative)	Insurers seek to price D&O policies according to the risk posed by each prospective insured and underwriters focus on corporate governance in assessing risk, with a focus on the idiosyncratic culture of firms beyond what is captured by traditional corporate governance indices.
Murphy et al. (2009)	Corporate misconduct from *WSJ Index* keyword searches (antitrust, breach of contract, bribery, business ethics, conflict of interest, copyright/patent infringement, fraud, kickbacks, price-fixing, securities fraud, and white-collar crime).	US	1982–1996	Profitability (reported earnings, analyst forecasts); risk (stock returns volatility; analyst forecast concordance)	Corporate misconduct (against related vs. unrelated party)	Corporate misconduct against related parties (e.g. customers, suppliers, investors) is followed by deteriorations in operating performance as measured by earnings and analyst earnings forecasts. Corporate misconduct is also associated with increased stock return volatility and reduced concordance amongst analyst forecasts, indicating an increase in risk.
Johnson et al. (2014)	Securities class actions from Stanford SCAC.	US	1996–2009	Customer relation termination; change in ROA; market reactions.	Securities class action lawsuits	Customers impose significant reputational sanctions on firms accused of securities fraud, resulting in a decline in operating performance through increased selling costs. The size of these decreases in earnings corresponds to the loss of market valuation upon initial lawsuit filings.

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Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Gillan and Panasian (2015)	D&O insurance, governance, ownership, and compensation data hand-collected from proxy statements. Lawsuit data from Stanford SCAC and LexisNexis legal sources.	Canada (largest 350 firms listed on the Toronto S.E.)	1995, 2000, 2005	Securities litigation likelihood	D&O insurance coverage and premium	Firms with D&O insurance coverage are more likely to be sued and the likelihood of litigation increases with increased coverage. Higher premiums are associated with the likelihood of litigation, indicating that insurers price this behaviour.
Cumming et al. (2019)	Patent data from the EPO's Worldwide Patent Statistical (PATSTAT) Database. Manipulation data from SMARTS Group Inc, Capital Markets Cooperative Research Centre (CMCRC) and SIRCA.	9 countries (Australia, Canada, China, India, Japan, New Zealand, Singapore, Sweden, and US)	2003–2010	Innovation (patents and citations)	End-of-day manipulation; Liquidity	Financial misconduct of market manipulation (through end-of-day dislocation) is associated with reduced innovation due to the firms' short-term orientation and impaired employee incentives to innovate. There is a positive relationship between liquidity and innovation which, however, is offset by the presence of end-of-day dislocation.
Mergers and Acquisitions						
Humphery-Jenner (2012)	Securities class actions from Stanford SCAC.	US	1996–2007	CEO/CFO turnover; change in compensation; disciplinary takeover	Securities class action lawsuits	Following securities class action suits for financial misrepresentation, CEOs and CFOs are more likely to experience turnover or a decrease in compensation, and the firm is more likely to sustain a disciplinary takeover.
Amel-Zadeh and Zhang (2015)	Accounting restatements from GAO. M&A data from Securities Data Corporation (SDC)	US	2001–2008	Mergers and acquisitions (M&A); deal duration	Accounting restatements	Firms that have issued accounting restatements are substantially less likely to receive takeover bids and, when they do, the bids are more likely to be withdrawn and the M&A process take longer to complete.

The penalties incurred by firms accused of securities misconduct range from loss of market value, to restricted access to financing resulting in reduced investments and innovation, to threats to their survival through disciplinary takeovers.

At firm level, revelations or allegations of financial fraud can lead to negative stock market reactions (Karpoff and Lott 1993; Palmrose and Scholz 2004; Gande and Lewis 2009), increased costs of operations (Hribar and Jenkins 2004; Autore et al. 2014; Caskey 2014; Chu 2017), reduced liquidity and access to financing (Bai et al. 2010; Kravet and Shevlin 2010; Cumming et al. 2011; Arena 2018), hampered innovation (Autore et al. 2014; Arena and Julio 2015; Cumming et al. 2019), and greater risks of hostile takeovers (Humphery-Jenner 2012).

1.6.1 Direct Economic Costs Captured in Loss of Market Value

Allegations of fraud cause declines in market valuation for the accused firms (Feroz et al. 1991; Karpoff and Lott 1993; Palmrose et al. 2004; Palmrose and Scholz 2004; Bhagat and Romano 2007; Gande and Lewis 2009). Bhagat et al. (1998) observe a 3% stock price decline for sued firms during the two-day period surrounding securities lawsuit filings. Feroz (1991) documents a 13% loss of market value over the two-day period in response to SEC enforcement actions. SEC enforcement proceedings signal the serious nature of the claims and therefore trigger greater declines in the sued firm's share price.

This decline in valuation is attributable to several factors, including the direct costs of litigation, reduced productivity from disruptions of operating activities, and a residual loss attributable to damage to firm reputation (Karpoff and Lott 1993; Karpoff et al. 2008a).

The loss of market value reflects the market's anticipation of future outflows of wealth directly associated with the lawsuits. These include legal fines, damages, or settlements paid to the plaintiff(s) (Cutler and Summers 1987; Fields 1990; Hertzel and Smith 1993). In addition, a defendant firm incurs substantial legal expenses, which rise exponentially as a lawsuit proceeds towards trial (Coffee 1986; Romano 1991; Haslem 2005). Further, successful litigation may also encourage other potential plaintiffs to sue and open the floodgates for further lawsuits (Grace 2006).

Finally, defending fraud allegations can disrupt a firm's productivity. Preparations for legal defence consume time and divert manager and employee attention from their ordinary duties. Executive officers, directors, and employees may be needed in the discovery and deposition process. Legal counsel commonly brief witnesses before depositions and trials. These activities prevent managers and employees from conducting their normal operating activities, thus hindering the firm's productivity (Johnson et al. 2000; Black et al. 2006; Dai et al. 2014).

1.6.2 Loss of Firm Reputation

The decline in shareholder wealth that cannot be explained by observable legal or regulatory penalties is attributed to a loss of reputation. Only a small portion of the losses of market value is attributable to the direct costs associated with legal penalties (Karpoff and Lott 1993; Karpoff et al. 2008a). Karpoff et al. (2008a) find that, in SEC enforcement actions, the loss of market value exceeds the amount of legal penalties (which averaged $23.5 million) by more than 7.5 times. This suggests that the loss of reputation can be substantial.

Karpoff (2011) defines reputation as 'the value of the quasi-rent stream that accrues when counterparties offer favorable terms of contract because they believe the firm will not act opportunistically towards them.' The reputational penalty imposed by the capital market captures 'the expected loss in the present value of future cash flows due to lower sales and higher contracting and financing costs' (Karpoff et al. 2008a, p. 581). The reputational penalty serves to increase a firm's future costs of operation (Karpoff et al. 2008a; Murphy et al. 2009). Empirical evidence shows that in the wake of financial misconduct and accounting restatements, firms experience poorer operating performance (Murphy et al. 2009; Johnson et al. 2014), restricted access to financing (Autore et al. 2014; Arena 2018), greater liquidity constraints (Bai et al. 2010), and increased risks as captured by higher cost of capital (Hribar and Jenkins 2004; Murphy et al. 2009; Kravet and Shevlin 2010; Yuan and Zhang 2015) and higher insurance premiums (Baker and Griffith 2007a; Caskey 2014). These increases in operating and financing costs do not arise from a conscious choice by other businesses to penalize the fraudulent firms. Instead, they arise because providers of finance and other business resources take measures to protect their own self-interest when dealing with the fraudulent firms, in light of heightened information uncertainty (Karpoff 2011). Such collective actions result in market-imposed penalties embodied in the loss of reputation (Lin et al. 2013). Fraud-committing firms can repair their reputational damage by engaging in reputation-building activities targeting their most salient stakeholder groups (Chakravarthy et al. 2014).

1.6.3 Spillover of Reputational Effect

The loss of reputation can also affect non-sued firms through perceived connections or commonality with the accused firms. For example, non-accused firms operating in the same industry as the accused firms also experience declines in valuation upon fraud revelations (Gande and Lewis 2009). This contagion effect extends to interlocked firms that share directors with the accused firms (Srinivasan 2005; Fich and Shivdasani 2007), industry peers (Gande and Lewis 2009; Arena and Julio 2015; Yuan and Zhang 2015), and country peers (Huang et al. 2017). Srinivasan (2005) finds that, following accounting restatements, non-restating firms which share directors with the restating firms experience an average loss of 0.24% market value during the two-day period. Similarly, Fich and Shivdasani (2007) find that interlocked firms experience an average one-day abnormal return of −3.25% upon securities class action lawsuit filings. Further, when foreign firms are accused of securities violations in the US, other non-sued US firms that are cross-listed in the same foreign countries also lose market value, particularly if these countries have poor institutional governance (Huang et al. 2017). Such spillover effects reflect the markets' reassessment of the information risk of the non-sued firms, in light of newly revealed information about their interlocked directors' monitoring capabilities, or the industry- and country-level risks.

1.6.4 Governance Risk and Insurance Premiums

One source of the increase in operating costs experienced by accused firms originates from insurance providers. Director and officer (D&O) liability insurance covers a substantial portion of settlement costs in securities litigation (Klausner et al. 2013). D&O insurance premiums reflect a firm's corporate governance risks (Boyer and Stern 2012). Following securities fraud allegations, insurance providers calibrate to the increased litigation risks associated with a firm's corporate governance failures and accordingly increase insurance premiums (Baker and Griffith 2007b; Boyer and Stern, 2012; Gillan and Panasian 2015). Baker and Griffith (2007b, 2014) argue that D&O insurance providers can impose deterrence on firms

through the underwriting process, in particular through their risk assessment of firms in deciding whether to provide coverage and the pricing of premiums. However, the increased price of insurance alone is insufficient to provide effective deterrence, in the absence of disclosure of the insurance details to the market (Baker and Griffith 2007b, 2014).

1.6.5 Reduced Liquidity

Securities fraud and misconduct may also impact on firm liquidity (e.g. Bai et al. 2010; Cumming et al. 2011; Arena and Julio 2015). At the macro-level, Cumming et al. (2011) document that more detailed stock exchange trading rules prohibiting false disclosure are associated with greater liquidity in the market. At the firm-level, Bai et al. (2010) find the firms sued in securities class actions are more likely to experience reduced liquidity and liquidity constraints following lawsuit settlements. The authors attribute this to the out-of-pocket settlement costs paid in cash or liquid assets, which are not fully covered by litigation insurance. Consistent with this view that lawsuit settlements reduce liquidity, Arena and Julio (2015) find that firms facing higher risks of securities litigation pre-emptively increase their cash holdings in anticipation of future settlements. Additionally, this effect of litigation risk on liquidity spills over to other non-sued peers that operate in the same industries as the sued firms (Arena and Julio 2015).

1.6.6 Access to Financing

Firms accused of fraud tend to experience restricted access to capital (Autore et al. 2014; Chu 2017) and increased cost of capital (Hribar and Jenkins 2004; Kravet and Shevlin 2010; Yuan and Zhang 2015). Firms sued for securities violations are less likely to obtain both debt and equity financing during the post-lawsuit period (Autore et al. 2014), and more likely to experience IPO underpricing (Lowry and Shu 2002). Specifically, following accounting restatements, firms experience increased cost of equity, which reflects investors' higher risk assessment of the restating firms (Hribar and Jenkins 2004).

Firms that are accused or suspected of financial fraud also incur higher cost of debt (Graham et al. 2008; Arena 2018). Following accounting restatements, lending institutions not only increase loan spreads, but also impose stricter loan terms on the restating firms, such as shorter maturities, greater likelihood of secured loans, and more stringent restrictive covenants (Graham et al. 2008). Yuan and Zhang (2015) find evidence of increased loan spreads and stricter covenants following securities class action lawsuits, and that these consequences also extend to industry peers of the sued firms. Finally, lawsuits alleging securities violations may lead to substantial settlements, causing the credit ratings of the sued firms to deteriorate, thus rendering it more difficult for sued firms to obtain future financing (Arena 2018).

1.6.7 Reduced Innovation

Securities fraud allegations can also hinder the accused firms' innovative activities and investments. Following securities class action lawsuits, sued firms experience a decline in capital expenditure and research and development (R&D) expenses during the subsequent three-year period (Autore et al. 2014; Arena and Julio 2015). These changes are attributable to limited external financing (Autore et al. 2014) and the firms' need to increase cash reserves in anticipation of future lawsuits and settlements (Arena and Julio 2015). Beyond the US context, Cumming et al. (2019) investigate the impacts of suspected market manipulation on firm innovation by examining patents and patent citations in nine countries,

specifically Australia, Canada, China, India, Japan, New Zealand, Singapore, Sweden, and US, and find that financial misconduct is associated with reduced innovation due to the firms' short-term orientation and impaired employee incentives to innovate.

1.6.8 Mergers and Acquisitions

Hostile takeovers constitute an additional mechanism of corporate governance when board governance fails to prevent fraud (Shivdasani 1993). In a market where managers constantly compete for corporate control, disciplinary takeovers serve as a mechanism to remove unfit management (Jensen and Meckling 1976; Jensen and Ruback 1983; Shivdasani 1993). Securities fraud revelations may expose managerial actions that are detrimental to investors, and trigger disciplinary takeovers to replace the existing management. Consistently, Humphery-Jenner (2012) finds evidence that firms sued for securities violations face increased likelihood of hostile takeovers in the year following the lawsuits.

By contrast, other empirical evidence suggests that firms with prior financial misstatements are *less* likely to successfully complete mergers (Amel-Zadeh and Zhang 2015). Amel-Zadeh and Zhang (2015) find that firms that have issued accounting restatements are substantially less likely to receive takeover bids and, when they do, the bids are more likely to be withdrawn and the M&A process take longer to complete. The authors attribute these observations to the increased information risk surrounding the restating firms (e.g. Kravet and Shevlin 2010), which makes them less attractive as potential targets.

Overall, at the firm level, penalties include losses of market valuation, which encompass anticipated direct litigation costs and a loss of reputation, which captures increased future costs of operations for the accused firms.

1.7 INDIVIDUAL-LEVEL PENALTIES FOR CORPORATE FINANCIAL MISCONDUCT

In this section, we discuss the second type of penalties for corporate financial fraud and misconduct, which are incurred personally by executive officers and directors of the accused firms. As discussed in the previous section, the direct legal costs in the form of fines or financial settlements are unlikely to lead to significant out-of-pocket expenses for the executive officers and directors, who are covered by D&O insurance (Klausner et al. 2013; Baker and Griffith 2014). At the other end of the scale, imprisonment and debarment constitute extreme forms of legal penalty which are relatively rare. Nevertheless, the executive and director labor markets can impose a variety of consequences on officers and directors following allegations of financial fraud. At the individual level, executive officers and directors experience increased turnover, impaired career prospects and reputation, decreased or restructured compensation, and more stringent future board monitoring. Such ex post settling-up is important to deter executive officers and directors from engaging in future fraud or misconduct or allowing fraud to be committed in their corporations (Fama 1980; Alexander 1999). In Table 1.2, we provide a summary of select papers examining individual-level penalties for fraud and misconduct.

TABLE 1.2 OVERVIEW OF STUDIES ON INDIVIDUAL-LEVEL PENALTIES.

This table summarizes the papers that examine individual-level penalties for financial fraud incurred by executive officers and directors. The authors, data sources, countries, time periods, variables, and main findings are summarized. The main findings are largely paraphrased and/or copied from the abstracts of the papers to best and succinctly represent the authors' contributions, but are not meant to exhaustively represent all of the findings from the papers.

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Executive Turnover						
Romano (1991)	Shareholder lawsuits in SEC filings.	US	1966–1987	Executive turnover, board turnover	Shareholder lawsuits	Sued firms experience top management turnovers significantly more frequently both before *and* during the litigation than the matched controls, with 55% of lawsuit firms experiencing a change in CEO or chair in the years surrounding litigation. Board turnover is significantly higher for lawsuit firms whose suits settled compared to their matches, but not for those whose suits were dismissed.
Feroz et al. (1991)	SEC enforcement actions from Accounting and Auditing Enforcement Releases (AAER).	US	Apr 1982–Apr 1989	Executive turnover	SEC enforcement actions	42 out of 58 sample firms (72%) experienced subsequent firing or resignation of high-level executives.
Agrawal et al. (1999)	'Fraud' and 'Crime' listings in the 'General News' and 'Corporate News' sections of the *Wall Street Journal Index*.	US	1981–1992	Executive (CEO and Top 3) turnover; board turnover	Fraud allegations	Little systematic evidence that firms suspected or charged with fraud have unusually high turnover among senior managers or directors.
Beneish (1999)	SEC enforcement actions from AAER; *LexisNexis* searches for executive turnover.	US	1987–1993	Executive turnover; SEC-imposed monetary penalties	SEC enforcement actions	Managers' employment losses subsequent to discovery of financial misstatements are similar in firms that do and do not overstate earning.
Niehaus and Roth (1999)	Securities class actions (*Securities Class Action Alert* Newsletters); *LexisNexis* searches for CEO reemployment.	US	Apr 1989–Dec 1994	CEO turnover; Subsequent reemployment	Securities class action lawsuits	Sued firms experience significantly higher CEO turnover than matched control firms. No departing defendant CEO gained a new and comparable position as CEO, president, or chair at another exchange-listed firm within three years after leaving the defendant firm.
Hennes et al. (2008)	Accounting restatements from the U.S. General Accounting / Government Accountability Office (GAO) Database, divided into 'errors' and 'irregularities' based on the wording of the restatement (8-K filings), and/or the existence of any SEC, DOJ, or other investigations.	US	2002–2005	CEO/CFO turnover; market reactions to restatements	Classification of accounting restatements as 'errors' (unintentional) or 'irregularities' (deliberate)	Restating firms experience significantly higher executive turnover in the 13 months surrounding the restatements (six months before to six months after) if the restatements are 'irregularities' (49% and 64% for CEO and CFO, respectively) rather than 'errors' (8% and 12%, respectively). During the four-year period surrounding irregularities restatements (two years before and two years after), 67% of CEOs and 85% of CFOs experience turnover.
Karpoff et al. (2008b)	Securities and Exchange Commission (SEC) and Department of Justice (DOJ) enforcement actions from *LexisNexis*, Academic Business News, General News, and Legal Cases libraries, and SEC and DOJ websites.	US	Jan 1, 1978–Sept 30, 2006	Executive turnover; financial penalties, criminal penalties	SEC/DOJ enforcement actions for financial misrepresentation.	93% of individuals who are named in SEC and DOJ enforcement actions lose their jobs by the end of the enforcement periods. Most are explicitly fired. The likelihood of ouster increases with the cost of the misconduct to shareholders and the quality of the firm's governance. 28% face criminal charges and penalties, including jail sentences that average 4.3 years.
Collins et al. (2008)	Restatements from GAO.	US	Jan 1, 1997–June 30, 2002	CFO, CEO, COO turnover; bonus compensation	Accounting restatements; Securities class action lawsuits	Increased CFO, CEO, and COO turnover and lower CFO bonus compensation associated with income-decreasing earnings restatements, but only when the restatements give rise to securities class action lawsuits.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Aharony et al. (2015)	Environmental, intellectual property, antitrust, and contractual lawsuits from Public Access to Court Electronic Records (PACER).	US	2000–2007	CEO and director turnover; CEO compensation	Corporate lawsuits	Contractual lawsuits are followed by increased turnover of CEOs and inside directors, whereas following environmental and IP lawsuits, only outside directors tend to depart.
Chen et al. (2016)	Regulatory enforcement actions against corporate fraud and firm data from China Centre for Economic Research (CCER/Sinofin) or China Stock Market and Accounting Research (CSMAR).	China	1999–2008	CEO turnover	Corporate fraud; state-owned enterprises; split share structure reform	Following corporate fraud enforcement actions, the likelihood of CEO turnover is lower amongst state-owned enterprises (SOE) than among non-SOE listed firms. After the Split Share Structure Reform, there is an increase in CEO turnover likelihood following fraud enforcements against SOE listed firms, indicating strengthened incentives of SOE controlling shareholders to replace fraudulent management.
Agrawal and Cooper (2017)	Earnings-decreasing restatements from GAO.	US	1997–2002	CEO turnover; CFO turnover; Auditor turnover	Accounting restatements	CEOs, top management, and CFOs of restating firms experience higher turnover compared to the control sample, but there is no evidence of significantly higher auditor turnover. CEOs and CFOs face, on average, a 14% and 10% greater probability of being replaced in restating firms over the three-year period surrounding the year of restatement announcement. The risk of turnover is larger for restatements that are more serious, have worse effects on stock prices, result in negative restated earnings, are initiated by outside parties, are accompanied by Accounting and Auditing Enforcement Releases (AAERs), or trigger securities class action lawsuits.
Career Progression						
Desai et al. (2006)	Restatements from GAO.	US	1997–1998	Executive turnover; CEO career progression	Accounting restatements	Restating firms experience higher executive turnover (60%) within 24 months following the restatement compared with matched controls (35%). Displaced CEOs are less likely to be reemployed by another public firm as (1) the CEO, president, chairman of the board, (2) a senior executive officer, or (3) an independent director.
Collins et al. (2009)	Restatements from GAO.	US	1997–2003	CFO turnover; CFO career progression	Accounting restatements; Sarbanes–Oxley Act (SOX)	Firms restating earnings have higher rates of involuntary CFO turnover. Displaced CFOs face impaired likelihood of finding comparable reemployment. The passage of SOX does not change the rate of CFO turnover, but the labour-market penalties are more severe post-SOX.
Correia and Klausner (2012)	Stanford Securities Class Action Clearinghouse (SCAC) – 'Classic' category 'alleged material misstatement or omission'. Accounting restatements from GAO, Glass Lewis and Audit Analytics Databases.	US	2000–2011	Executive turnover; career progression	Securities class action lawsuits for financial misrepresentation	CEOs, CFOs and other officers experience an increased likelihood of turnover, and conditional on leaving the firm, have a lower probability of finding a comparable position in a public company.
Liu et al. (2016)	Environmental, intellectual property, antitrust, and contractual lawsuits from Public Access to Court Electronic Records (PACER).	US	2000–2007	CEO career progression; CEO reputation (outside directorships)	Corporate lawsuits	CEOs of sued firms experience poorer reemployment prospects following contractual lawsuits. There is no decrease in the number of outside directorships following politically sensitive lawsuits such as environmental violations.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Condie et al. (2017)	SEC enforcement actions from AAER.	US	2005–2014	CFO turnover; CFO career progression	SEC enforcement actions	CFOs of accused firms experience higher turnover than non-implicated CFOs within two years of the end of the fraud. CFOs face impaired job prospects when seeking reemployment, which persist through three subsequent changes of employment.
Director Turnover and Reputation						
(Srinivasan, 2005)	SEC enforcement actions from AAER.	US	1997–2001	Independent director turnover; outside directorships; CAR of interlocked firms	SEC enforcement actions; interlocking directors	Director turnover is higher, particularly audit committee members, for restating firms during the three years after the restatement (48% following earnings-reducing restatements). Directors serving on audit committees lose an average of 25% of existing board seats in three years following accounting restatements. Interlocked firms which share directors with the restating firms experience significant negative market reactions upon restatement announcements.
Arthaud-Day et al. (2006)	Restatements from GAO.	US	Jan 1, 1997–June 30, 2002	Executive turnover; director (audit committee) turnover	Accounting restatements; CAR	CEOs and CFOs of restating firms experience higher turnover than matched controls (twice as likely to depart). Directors and audit committee members are approximately 70% more likely to exit in restatement firms.
Helland (2006)	Lawsuits from Securities Class Action Alert Newsletters and SEC enforcement actions from AAER.	US	1994–2002	Director reputation (proxied by number of outside directorships)	Securities class action lawsuits; SEC enforcement actions	Directors generally experience an increase in the number of directorships held in other firms following securities class actions. Directors lose outside board seats only following serious lawsuits, i.e. those in the top quartile of settlements or prosecuted by the SEC.
Fich and Shivdasani (2007)	Securities class actions from Stanford SCAC.	US	1998–2002	Independent director turnover; outside directorships; CAR of interlocked firms	Securities class action lawsuits	Independent directors do not face abnormal turnover on the board of the sued firm but experience a significant decline in outside board seats held in other firms (a loss of 50% of outside directorships during the three-year period following securities class actions). Interlocked firms that share directors with the sued firm also exhibit valuation declines at the lawsuit filing.
Marcel and Cowen (2014)	Restatements from ProQuest Newspapers database; Director capital from Corporate Library Board Analyst Database.	US	2001–2004	Director turnover following restatements	Director capital	Low-capital directors are more likely to leave restating firms than high-capital directors, indicating that the post-fraud director turnover is driven by 'cleaning house' rather than 'jumping ship' motives.
Brochet and Srinivasan (2014)	Securities class actions from Stanford SCAC.	US	1996–2010	Directors' likelihood of being named in securities class actions; re-election votes; turnover	Audit committee membership; selling stock during class period; securities class action lawsuits	Independent directors are more likely to be named in securities class actions if they serve on the audit committee or sell stock during the class period. Named directors receive more negative recommendations, receive worse voting outcomes from shareholders, and are more likely to leave the sued firms.
Executive Compensation						
Persons (2006)	Fraud/lawsuit revelation in the *Wall Street Journal (WSJ)* Index.	US	1992–2000	CEO turnover; CEO compensation	Fraud/lawsuit revelations in the *WSJ*	No evidence of increased CEO turnover following fraud/lawsuit revelations. CEOs receive an increase in cash compensation after fraud/lawsuit revelations.
Humphery-Jenner (2012)	Securities class actions from Stanford SCAC.	US	1996–2007	CEO/CFO turnover; change in compensation; disciplinary takeover	Securities class action lawsuits	Following securities class action lawsuits for financial misrepresentation, CEOs and CFOs are more likely to experience turnover or a decrease in compensation, and the firm is more likely to sustain a disciplinary takeover.

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Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Crutchley et al. (2015)	Securities class actions from Stanford SCAC.	US	1997–2009	CEO/director incentive compensation; board restructuring	Securities class action lawsuits	Following class action lawsuits naming directors, boards of the sued firms increase CEO incentive pay, but decrease director incentive compensation. Additionally, naming directors results in a greater change in board composition, including reduced board size and director busyness.
Strengthened Monitoring						
Farber (2005)	SEC Accounting and Auditing Enforcement Releases (AAER), filtered for financial statement misrepresentation.	US	1982–2002	Board composition and monitoring; institutional holdings; analyst following; stock price performance	SEC enforcement actions (financial misrepresentation); board composition and monitoring	Firms accused of financial statement fraud experience improvements in corporate governance. Three years after the fraud events, accused firms have similar board independence as non-accused firms, but exceed the non-accused firms in the number of audit committee meetings. These corporate governance improvements are associated with superior stock price performance, but not increased analyst following or institutional holdings.
Ferris et al. (2007)	Derivative lawsuits filings from *The Wall Street Journal* and Lexis-Nexis.	US	1982–1994	Board restructuring; director turnover	Shareholder derivative lawsuits	Derivative lawsuits are followed by significant increases in the proportion of independent directors and reduced incidence of CEO–Chair duality within the sued firms. Directors are more likely to depart during the three years following the lawsuits.
Cheng et al. (2010)	Lawsuits from Securities Class Action Services (SCAS) of Institutional Shareholder Services (ISS).	US	1996–2005	Securities class action outcomes; post-lawsuit board restructuring	Institutional investors (as lead plaintiffs)	Securities class action lawsuits led by institutional investors are more likely to lead to improvements in board monitoring, through the appointment of new outside directors to increase board independence. Securities class actions with institutional lead plaintiffs are more likely to survive the motion to dismiss than class actions with individual lead plaintiffs.

1.7.1 Executive and Director Turnover

Forced turnover is a severe form of ex post settling-up for executive officers of public firms (Fama 1980). When facing corporate fraud allegations, the board of directors of the accused firm has significant incentives to replace the top managers in order to restore market confidence and stakeholder goodwill (Agrawal et al. 1999). Given that a key function of the board is to monitor the CEO (Fama and Jensen 1983), fraud may also indicate a failure in board governance, which motivates the shareholders to replace existing board members. Therefore, fraud revelations can result in increased executive *and* director turnover.

Early empirical evidence showed increased CEO turnover following securities lawsuits (Romano 1991) and SEC enforcement actions (Feroz et al. 1991). Since then a large body of empirical studies have examined the relationship between allegations of financial fraud and executive and director turnover (Agrawal et al. 1999; Beneish 1999; Niehaus and Roth 1999; Persons 2006; Karpoff et al.,2008b; Correia and Klausner 2012).

A majority of studies focus on chief executive officers (CEO) (e.g. Agrawal et al. 1999; Beneish 1999; Niehaus and Roth 1999; Persons 2006; Karpoff et al. 2008b; Correia and Klausner 2012; Aharony et al. 2015). Some researchers document increased CEO turnover associated with fraud and lawsuit revelations (Romano 1991; Persons 2006; Karpoff et al. 2008b), whereas others find no empirical evidence of increased executive turnover in the wake of fraud charges (Agrawal et al. 1999), securities

class actions (Niehaus and Roth 1999; Correia and Klausner 2012) and SEC enforcement actions (Beneish 1999).

One key determinant of the market-based consequences is whether the executive officers are personally named in the lawsuits (Karpoff et al. 2008b). Karpoff et al. (2008b) find that as high as 93% of individuals who are named in SEC and DOJ enforcement actions lose their jobs by the end of the enforcement periods. This figure is higher than the 60% corresponding figure documented by Desai et al. (2006) and the 38% turnover rate amongst CEOs observed by Persons (2006). The difference could be explained by the degree of culpability attributed to the individual officers by the executive labor market.

Another subset of turnover studies examines CFOs, documenting higher CFO turnover in the wake of financial misreporting (Collins et al. 2008; Collins et al. 2009; Correia and Klausner 2012; Agrawal and Cooper 2017; Condie et al. 2017). Collins et al. (2008) find increased CFO turnover associated with income-decreasing earnings restatements, but only when the restatements give rise to securities class action lawsuits. Involuntary CFO turnover has not increased in the wake of the Sarbanes–Oxley Act, which introduced more stringent corporate governance requirements (Collins et al. 2009).

The final strand of turnover research focuses on directors (e.g. Arthaud-Day et al. 2006; Fahlenbrach et al. 2014; Baum et al. 2016). When firms encounter fraud scandals, executive directors and independent directors are motivated by different incentives to exit or remain in the firms. Executive directors have similar career incentives to the CEO. Their rate of turnover is documented to be comparable to CEO turnover (Romano 1991). In contrast, independent directors may be driven by concerns for their own reputation to pre-emptively depart from the fraudulent firms (Fahlenbrach et al. 2014; Baum et al. 2016). Consistent with this narrative, Fahlenbrach et al. (2014) document increased independent director turnover preceding earnings restatements and class action lawsuits. Further, Baum et al. (2016) find that independent directors are more likely to exit prior to settled lawsuits compared with dismissed lawsuits. This indicates that independent directors have private information regarding the seriousness of impending fraud allegations, and choose to exit the firms before the more serious claims are brought to light. As an alternative view, Marcel and Cowen (2014) argue that post-litigation fraud turnovers are primarily driven by firms' motives to 'clear house' and repair organizational legitimacy, rather than individual directors' motives to 'jump ship' and protect their own reputations.

1.7.2 Impaired Career Progression

For turnover to effectively discipline executive officers, the managerial labor market must impose ex post settling up which prevents displaced executives from acquiring comparable reemployment post-turnover (Fama 1980; Desai et al. 2006). If executive officers are debarred from serving in public companies, they would be automatically prevented from obtaining re-employment in similar positions. However, such legal penalties are relatively rarely imposed. Nonetheless, even in the absence of debarment, empirical evidence shows that executive officers exiting from firms accused of fraud face impaired subsequent career opportunities (e.g. Desai et al. 2006; Correia and Klausner 2012; Liu et al. 2016; Condie et al. 2017). For example, Desai et al. (2006) examine the career paths of CEOs following financial misreporting that violates accounting rules. They track the displaced CEOs' subsequent employment

in other public firms, and document that CEOs are less likely to be re-employed for all three tiers of positions examined, including as (i) the CEO, president, chair of the board; (ii) a senior executive officer; or (iii) an independent director. Similarly, Condie et al. (2017) focus on CFOs who exit their previous firms amidst fraud scandals. They find that CFOs face impaired career opportunities when seeking re-employment, and such impaired job prospects persist through three subsequent changes of employment. Furthermore, executive officers who have not been personally accused of fraud can still experience impaired career prospects after their firm experiences an event of fraud (Condie et al. 2017). This reflects the market penalizing the executive officers for their failure to discover and prevent the corporate fraud or misconduct.

1.7.3 Loss of Reputation

In the executive labor market, executive officers and directors trade on their reputational capital. Fama (1980) argues that the executive labor market prices executive officers' human capital based on their performance. Consequently, well-performing managers of large firms are more likely to receive additional board appointments, reflecting a high demand for their services and expertise. Independent directors are also priced by the labor market and assessed based on their demonstrated abilities (Fama 1980). Studies use the number of outside directorships as a proxy for the reputational capital of both executive officers (Lee 2011; Liu et al. 2016) and directors (Srinivasan 2005; Helland 2006; Fich and Shivdasani 2007).

Financial fraud can impair the reputations of both directors and executive officers. For independent directors, this reflects the market's reassessment of their monitoring capabilities in light of the fraud revelations. However, executive officers and independent directors have different reputational incentives (Fahlenbrach et al. 2014; Baum et al. 2016). Independent directors can be motivated to use their insider knowledge to avoid damage to their personal reputation by pre-emptively departing from firms ahead of imminent revelations of fraud or misconduct (Fahlenbrach et al. 2014). This represents a breakdown in their monitoring function, but there is limited evidence on whether this 'jumping ship' strategy is effective in deflecting the reputational harm associated with corporate misconduct.

In the wake of financial fraud allegations, shareholders can also force implicated directors to depart by voting against their re-election during annual general meetings (Brochet and Srinivasan 2014). Independent directors experience significant declines in reputation following fraud and accounting restatements, as evidenced by both increased turnover from the fraudulent firms, and a loss of outside directorships in other firms (Srinivasan 2005; Brochet and Srinivasan 2014). The likelihood of losing board seats is particularly high for directors who serve on audit committees (Srinivasan 2005) and for those personally named in the securities lawsuits (Brochet and Srinivasan 2014).

However, studies have not reached any consensus in quantifying this loss of reputation. For example, Srinivasan (2005) finds that directors serving on audit committees lose an average of 25% of existing board seats in three years following accounting restatements. Fich and Shivdasani (2007) observe a loss of 50% of outside directorships held by directors during the three-year period after securities class actions. In contrast, Helland (2006) documents a slight increase in the number of directorships held by sued firms' directors, which the author attributes to the outside-director labor market rewarding 'yes-man' behavior. In addition, Helland (2006) finds that directors lose outside board seats only following serious

lawsuits, as proxied by high settlements in the top sample quarter of filed lawsuits. This suggests that the director labor market can distinguish between meritorious and frivolous fraud allegations. Overall, directors incur reputational penalties in the wake of allegations of financial fraud or misconduct, as proxied by losing outside directorships. This loss of reputation occurs because other firms in the market have incentives to dissociate themselves from the fraud-tainted individuals, by removing them from their boards (Srinivasan 2005; Fich and Shivdasani 2007).

1.7.4 Executive Compensation

Legal penalties in the forms of fines and awards of damages are insufficient to punish executive officers and directors for committing or failing to detect fraud, because a substantial portion of the litigation and settlement costs is covered by D&O insurance (Baker and Griffith 2007b, 2007a; Klausner et al. 2013; Baker and Griffith 2014). Nevertheless, executive officers may still incur monetary penalties in the form of reduced compensation beyond the fines, damages, or settlements imposed by the legal system (Collins et al. 2008; Jones and Yan 2010; Humphery-Jenner 2012).

Empirical studies document significant decreases in executive compensation following securities fraud allegations (Collins et al. 2008; Jones and Yan 2010; Humphery-Jenner 2012). Evidence shows that CEOs, CFOs, and chief operating officers (COO) experience reductions in bonus compensation, which are driven by the performance-linked component (Collins et al. 2008; Humphery-Jenner 2012). Apart from reducing the level of compensation, firms also change compensation structure in the wake of fraud allegations (Dai et al. 2014; Crutchley et al. 2015). Crutchley et al. (2015) find that, following fraud lawsuits, boards increase CEO incentive pay to strengthen the alignment of manager–shareholder interests, but decrease *director* incentive compensation to enhance the independent monitoring by the board (Crutchley et al. 2015). In different country settings such as China where institutional enforcement is relatively weak, executive equity incentives are linked to higher fraud likelihood (Hass et al. 2016). To discourage fraud driven by incentive compensation, the *Dodd–Frank Act* in the US introduces 'clawback' provisions which require executive officers to repay any compensation obtained under misrepresentation of financial information.[5]

1.7.5 Strengthened Monitoring

Accused firms may undergo internal restructuring to strengthen board governance. Following allegations of fraud, firms change their board composition to rebuild legitimacy and restore lost reputational capital (Fich and Shivdasani 2007; Crutchley et al.,2015). These restructurings typically involve increasing the proportion of independent directors, reducing board size, and reducing director busyness (by reducing the number of outside board positions held by directors) (Farber 2005; Ferris et al. 2007; Cheng et al. 2010; Crutchley et al. 2015). Extant corporate governance literature shows more effective monitoring by smaller boards (Yermack 1996; Eisenberg et al. 1998; Coles et al. 2008), more independent boards (Hermalin and Weisbach 1998; Farrell and Whidbee 2000; Boone et al. 2007; Duchin et al. 2010), and less busy directors (Ferris et al. 2003). Consistently, firms that have experienced securities lawsuits tend to increase their proportion of independent directors (Farber 2005; Ferris et al. 2007; Cheng et al. 2010), increase the frequency of audit committee meetings (Farber 2005), reduce board size (Ferris

5. Previously this remedy was available at common law rather than as a statutory remedy (see Collins et al. 2008).

et al. 2007), and hire less busy directors (Crutchley et al. 2015), in order to improve the monitoring effectiveness of their boards.

The likelihood of such restructurings of board composition depends on the severity of the legal actions (Crutchley et al. 2015) and the strength of institutional monitoring, which constitutes a complementary governance mechanism (Cheng et al. 2010). Improvements in board independence are more likely to occur when the directors are named as defendants in securities fraud lawsuits (Crutchley et al. 2015) and when large institutional investors serve as lead plaintiffs in securities lawsuits (Cheng et al. 2010).

Strengthened board monitoring represents a potential penalty for future executive officers, who face reduced scope to engage in opportunistic conduct to the detriment of shareholders. These improvements in corporate governance are found to increase firm value in the wake of corporate financial misconduct (Farber 2005; Crutchley et al. 2015).

1.8 CAUSES, RISKS, AND MODERATORS OF FINANCIAL MISCONDUCT

In this section, we discuss the incentives and risk factors that determine the likelihood of financial misconduct, and the role of institutional enforcement in detecting and prosecuting securities violations. Firms' internal corporate governance mechanisms and external regulatory environments both play important roles in preventing financial fraud and misconduct. We first discuss incentives that motivate executive officers to engage in financial reporting fraud or misconduct. We then provide an overview of firm- and executive-level risk factors which exacerbate or mitigate fraud likelihood. Finally, we discuss public and private enforcement of securities law, including the impact of regulatory and judicial stringency on the effectiveness of financial regulations, and the role of surveillance in detecting fraud and misconduct in the markets. Table 1.3 provides a summary of prior studies investigating the causes and risk factors predicting the likelihood of financial fraud or misconduct. Table 1.4 summarizes the key papers in the literature pertaining to the enforcement, surveillance, and detection of financial fraud.

TABLE 1.3 OVERVIEW OF STUDIES ON THE CAUSES, RISKS, AND DETERRENTS OF FRAUD AND MISCONDUCT.

This table summarizes the papers that examine the causes, risks, and deterrents of financial fraud and misconduct. The authors, data sources, countries, time periods, variables, and main findings are summarized. The main findings are largely paraphrased and/or copied from the abstracts of the papers to best and succinctly represent the authors' contributions, but are not meant to exhaustively represent all of the findings from the papers.

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Incentives: Personal Gains						
Denis et al. (2006)	Securities class actions from *Securities Class Action Alert* Newsletters and Stanford Securities Class Action Clearinghouse (SCAC). Compensation data from ExecuComp.	US	1993–2003	Securities class action lawsuits	Executive stock option incentives	Firms with higher executive incentive compensation in the form of stock options experience greater likelihood of securities class action lawsuits. This relationship is stronger in firms with higher outside blockholding and higher institutional ownership.
Burns and Kedia (2006)	Restatements from U.S. General Accounting / Government Accountability Office (GAO) and *LexisNexis*.	US	1997–2002	Accounting restatements	Sensitivity of CEO compensation to stock price	Firms' propensity to issue accounting restatements is positively associated with the sensitivity of CEO's option portfolio to stock price (but not the price-sensitivity of other components of CEO compensation, i.e. equity, restricted stock, long-term incentive payouts, and salary plus bonus).
O'Connor et al. (2006)	Accounting restatements from Pro-Quest Newspapers Database.	US	2000–2004	Earnings-decreasing accounting restatements	CEO stock options; CEO duality; director stock options	Large CEO stock option grants are associated with lower likelihood of financial misreporting when the CEO is also the chair of the board, or when the CEO does not chair the board and the directors do not hold options. In other circumstances, large CEO stock option grants are associated with increased likelihood of financial misreporting.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Johnson et al. (2009)	SEC Accounting and Auditing Enforcement Releases (AAER) and *LexisNexis*.	US	1992–2005	SEC enforcement actions	Unrestricted stockholdings; restricted stockholdings; stock options	Likelihood of corporate fraud is positively related to incentives from unrestricted stockholdings and is unrelated to incentives from restricted stock and unvested and vested options.
Armstrong et al. (2010)	Accounting restatements from Glass-Lewis & Co.; Securities class action lawsuits from Woodruff-Sawyer and Co; and SEC actions from AAER.	US	2001–2005	Accounting restatements; class action lawsuits; SEC enforcement actions.	CEO equity incentives	No evidence of a positive relationship between CEO equity incentives and the incidence of accounting-related restatements, shareholder lawsuits alleging accounting manipulation, and SEC enforcement actions. To the contrary, high CEO equity incentives are associated with reduced likelihood of accounting irregularities.
Crutchley and Minnick (2012)	Director-aimed derivative lawsuits (federal and state) from the 'Corporate Officer and Director Liability Litigation Reporter'.	US	1996–2001	Shareholder derivative lawsuits targeting individual officers and directors	Director incentive compensation; cash compensation	High director incentive compensation is linked to increased incidence of shareholder lawsuits targeting individual officers and directors. Greater director cash compensation is associated with reduced likelihood of lawsuits.
Agrawal and Cooper (2015)	Restatements from GAO; 10-Q, 10-K, and 8-K SEC filings, ProQuest Newspapers and LexisNexis Databases.	US	1997–2002	Executive insider trading (sales, purchases, and net sales)	Earnings-decreasing restatements	Executive officers of restating firms tend to sell more stocks during the misstated period preceding income-decreasing accounting restatements than during the pre-misstated period.

Hass et al. (2016)	Regulatory actions from CSRC Enforcement Actions Research Database (excluding buybacks, embezzlement, price manipulation, fraudulent listings, illegal guarantees, and illegal speculation). Firm data from China Stock Market and Accounting Research (CSMAR) Database.	China	2000–2010	Regulatory enforcement actions	Executive equity incentives; board equity incentives	Firms with higher executive equity incentives are more likely to face regulatory enforcement actions for fraud. This effect is more pronounced for state-owned firms. There is no evidence that equity incentives of supervisory board members increase firms' propensity to commit fraud.
Incentives: Capital Raising						
Dechow et al. (1996)	SEC enforcement actions from AAER.	US	1982–1992	SEC enforcement actions	Free cashflow; financing; insider trading; bonus compensation; debt covenants	Firms' desire to raise external financing at low cost and to avoid debt covenant restrictions constitute important motivations for earnings manipulation. No evidence suggests that managers are manipulating earnings to obtain a larger earnings-based bonus, or to gain from selling their stockholdings at inflated prices.
Dechow et al. (2011)	SEC enforcement actions from AAER.	US	1982–2005	SEC enforcement actions	Financing activities; off-balance-sheet activities; accrual quality; performance	Firms which are investigated for financial misreporting are more likely to be engaging in financing activities and related off-balance-sheet activities during the misstatement periods, indicating that raising financing is a motivation for financial misreporting. Sued firms also have lower accrual quality and deteriorating performance compared to control firms.
McTier and Wald (2011)	Securities class actions from Stanford SCAC. Restatements from GAO.	US	1996–2005	Securities class action lawsuits likelihood; post-lawsuit investment and payout policies	Pre-lawsuit overinvestment; securities class actions	Firms which overinvest are more likely to be sued in securities class actions. Following the lawsuits, sued firms tend to decrease investments and payouts, increase leverage and cash holdings, and reduce diversification.
Executive-Level Risk Factors						
Biggerstaff (2015)	Options data from Thomson Financial Network Insider Filing Data Feed. SEC/DOJ enforcement actions from Federal Securities Regulation (FSR) Database.	US	1992–2009	Financial misrepresentation	CEO options backdating	Firms led by CEOs who backdate their option grants and/or exercises are more likely to engage in financial misrepresentation.
Cline et al. (2018)	Cases of personal misconduct from searching Factiva, LexisNexis, and ProQuest news retrieval services. Securities class action lawsuits from SCAC.	US	1978–2012 (misconduct); 1996–2012 (lawsuits)	Securities class action lawsuits; DOJ/SEC enforcement actions; market reactions; operating performance	Executive personal misconduct	Executive officers' private misconduct, such as substance abuse, sexual scandals, or violence, is associated with an increased likelihood of unrelated securities class action lawsuits, DOJ and SEC enforcement actions, and earnings management. CEO indiscretions trigger significant negative market reactions averaging 4.1% of firm value, and are followed by losses of customers and poorer performance. CEOs and boards face increased turnover, pay cuts, and lower shareholder votes at re-election.
Yu and Yu (2011)	Lobbying expenditure from Political Money Line (PML) of Congressional Quarterly Inc Database. Securities class actions from Stanford SCAC, filtered by settlement size (>$2.5M) and firm size (total assets >$750M).	US	1998–2004	Fraud detection; period before detection	Lobbying expenditure	Firms which engage in lobbying have a significantly lower hazard rate of being detected for fraud, their frauds remain undetected for an average period of 117 days longer, and are 38% less likely to be detected by regulators.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Correia (2014)	PAC contribution data from Federal Election Commission's (FEC) website (www.fec.gov) and Charles Stewart III and Jonathan Woon's Congressional Committee Assignments, 1993–2007, and Garrison Nelson's Committees in the U.S. Congress, 1947–1992, databases (http://web.mit.edu/17.251/www/data_page.html). SEC enforcement actions from Karpoff et al. (2008)'s Federal Securities Regulation (FSR) Database.	US	1979–2006	SEC enforcement actions; penalties imposed by SEC	PAC contributions and lobbying expenditures	Firms with political connections (established through lobbying and campaign contributions) are less likely, on average, to encounter SEC enforcement actions. If pursued in regulatory actions, politically connected firms tend to receive lower penalties imposed by the SEC. Firms' lobbying expenditure spend on the SEC directly or through lobbyists who have prior employment links to the SEC are most significantly associated with reduced enforcement costs.
Sun et al. (2016)	Director political connections manually coded by GTA Information Technology (provider of the China Stock Market and Accounting Research (CSMAR) Database). Firm data from China Listed Firm's Corporate Governance Research and Shareholder Research Databases.	China	2008–2011	Blockholder appropriation (tunnelling proxied by blockholders-intercorporate loans recorded as 'other receivables')	Ratio of politically connected directors (independent directors)	In Chinese firms with politically connected boards, blockholders are more likely to engage in expropriation of minority shareholder interests through tunnelling in the form of intercorporate loans.
Wang et al. (2017)	Enforcement actions by the China Securities Regulatory Commission (CSRC) and/or Shanghai and Shenzhen Stock Exchanges; China Securities Markets and Accounting Research (CSMAR).	China	2007–2012	Regulatory enforcement actions for financial fraud; penalties.	Manager ability; political connectedness	High managerial ability (efficiency to generate revenue) is associated with lower likelihood of the firm experiencing regulatory enforcement actions for financial misreporting. However, this relationship is weaker in politically connected firms. Firms led by more capable managers also receive less severe regulatory penalties in the
Stuart and Wang (2016)	Chinese technology firms data from Ministry of Science and Technology (MOST) and State Administration of Industry and Commerce (SAIC). Firm political connections hand-collected from founder resumes. Grant data from Innofund website.	China	2005–2010	Financial misreporting (discrepancy between profits reported to MOST vs. SAIC); Innovation Fund Grant	Firm founder political connections; venture capital investment	Chinese technology firms with politically connected founders and those backed by venture capital are more likely to engage in financial misreporting. However, these firms are rewarded by experiencing increased likelihood of receiving government-sponsored innovation grants.
Khanna et al. (2015)	SEC/DOJ enforcement actions from Karpoff et al.'s (2008b) Federal Securities Regulation (FSR) Database, supplemented by SEC's Litigation Releases and Stanford SCAC; filtered by naming CEO as a respondent.	US	1996–2006	SEC/DOJ enforcement actions; CEO turnover	CEO appointment-based connections (fraction of top 4 executives and directors appointed by the CEO)	CEO connectedness within the firm, established through their appointments of other top executives and directors of the firm, is associated with increased likelihood of committing fraud and decreased likelihood of fraud detection. Following fraud discovery, well-connected CEOs are less likely to experience turnover. Connections based on network ties through past employment, education, or social organization memberships are not significantly associated with fraud likelihood.
Kuang and Lee (2017)	Directors social connections data from BoardEx. Securities lawsuits from SEC's AAER and Stanford SCAC.	US	1999–2013	Securities lawsuits; fraud detection; period before detection; number of individuals charged for fraud	Independent directors' social connectedness	Well-connected independent directors are not associated with increased likelihood of committing fraud, but are associated with significantly reduced likelihood of fraud detection, longer period before fraud detection, and fewer individuals charged for the fraud. Independent directors connected to fraudulent firms are associated with higher likelihood of committing fraud and fraud detection.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Banerjee et al. (2018)	Securities class actions from Stanford SCAC.	US	1996–2012	Securities class action; subsequent CEO appointments	Executive overconfidence (holding deep in-the-money (>67%) options)	Overconfident CEOs and senior executives are more likely to misrepresent their firms' financial information giving rise to securities class actions. However, this relationship is weaker following the passage of the Sarbanes–Oxley Act which improved corporate governance. Following a class action, firms with overconfident CEOs reduce their litigation risk. Sued firms are also less likely to hire overconfident CEOs.
Schrand and Zechman (2012)	SEC enforcement actions from AAER.	US	1996–2003	SEC enforcement actions	CEO overconfidence (holding deep in-the-money (>67%) options)	Overconfident executives are more likely to misrepresent their firms' financial information due to an optimistic bias, which may lead to intentional misstatements in subsequent periods.
Firm-Level Risk Factors						
Beasley (1996)	SEC enforcement actions from AAER, supplemented *WSJ Index* 'Crime – White Collar Crime' listings.	US	1980–1991	SEC enforcement actions + fraud reported in *WSJ*	Board independence	Increased proportion of independent directors is associated with reduced likelihood for the firm to be accused of fraud. The presence of an auditing committee is not significantly associated with fraud likelihood.
Uzun et al. (2004)	*WSJ Index* 'Fraud' and 'Crime – White Collar Crime' listings.	US	1987–2001	Fraud reported in *WSJ*	Board independence; audit and compensation committee independence	Increased proportion of independent directors is associated with reduced likelihood of corporate fraud. The presence of outside directors who were not independent because they had business or personal ties to the company significantly increased the likelihood of fraud. The presence of a compensation committee is associated with increased fraud likelihood.
Agrawal and Chadha (2005)	News search using 'restat' or 'revis.' In *LexisNexis*, Newspaper Source, and Proquest Newspapers.	US	2000–2001	Accounting restatements	Director financial expertise; founding CEO; board and audit committee independence; non-audit services	The presence of independent directors with financial expertise is associated with a lower likelihood for the firm to issue accounting restatements. The likelihood to issue restatements is higher if the CEO belongs to the founding family, and is not significantly related to board independence, audit committee independence, or auditors providing non-audit services.
Zhao and Chen (2008)	SEC enforcement actions from AAER relating to 'fraudulent,' 'defraud,' and 'antifraud'; accrual data from Compustat.	US	1995–2001	Accounting accruals; SEC enforcement actions	Staggered board	Staggered boards are associated with lower likelihood of being accused of fraud in SEC enforcement actions and smaller magnitudes of abnormal accruals. Staggered boards are also associated with lower firm value. Consistent with the quiet-life perspective, managers insulated by staggered boards may be less motivated to increase firm value or manipulate earnings.
Perino (2012)	Class actions from Securities Class Action Services (SCAS) of Institutional Shareholder Services (ISS), Stanford SCAC and PACER.	US	1984–2005	Securities class action outcomes	Institutional investors (as lead plaintiffs)	Securities class actions with institutional investors as lead plaintiffs result in greater settlement amounts, and lower attorney fee requests and fees awarded. This indicates that institutional plaintiffs have greater ability to monitor class action attorneys.
Chapple et al. (2014)	Lawsuits from Factiva, NERA Report, law firm websites, Australian Securities and Investment Commission (ASIC), Signal G disclosure to Australian Stock Exchange (ASX), legal databases for reported cases (Austlii). Firm data from Morningstar, Connect4, and Worldscope.	Australia	1999–2010	Securities class action lawsuits	Compliance culture (ASX queries); corporate governance	Firms which receive more frequent queries from the Australian Stock Exchange (ASX) are more likely to experience securities class action lawsuits. The presence of a nomination committee and insider stock ownership are associated with increased lawsuit likelihood.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Cumming et al. (2015c)	Detected fraud data from China Securities Regulatory Commission (CSRC); board data from China Securities Market and Accounting Research (CSMAR).	China	2001–2010	Securities violations (inc. regulatory enforcement actions); market reactions	Female board representation	Firms with high board gender diversity are less likely to commit financial fraud. The presence of female directors is associated with both reduced frequency and severity of fraud. The effect of women is more pronounced in male-dominated industries. Market reactions to fraud revelations are less pronounced when the firms have high board gender diversity.
Capezio and Mavisakalyan (2016)	Fraud data from KPMG fraud surveys in 2004, 2006, and 2008, supplemented by Australian Securities and Investment Commission (ASIC) annual reports.	Australia	2002–2007	Fraud	Female board representation	Higher board gender diversity is associated with decreased likelihood of fraud.
Pukthuanthong et al. (2017)	Securities class actions from Stanford SCAC, Securities Class Action Alert (ISS), and PACER.	US	1996–2008	Securities class action lawsuit likelihood	Institutional investor horizon	Institutional investors with short-term horizons pursue litigation as an ex post monitoring mechanism, resulting in higher likelihood of securities class actions. In contrast, institutional investors with long-term horizons tend to engage in ex ante monitoring through board oversight and compensation structure, thus resulting in fewer securities class action lawsuits.

TABLE 1.4 OVERVIEW OF STUDIES ON THE ENFORCEMENT, SURVEILLANCE, AND DETECTION OF FINANCIAL FRAUD.

This table summarizes the papers that examine the enforcement, surveillance, and detection of financial fraud and misconduct. The authors, data sources, countries, time periods, variables, and main findings are summarized. The main findings are largely paraphrased and/or copied from the abstracts of the papers to best and succinctly represent the authors' contributions, but are not meant to exhaustively represent all of the findings from the papers.

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Cumming and Johan (2008)	Survey data from questionnaires sent to 75 jurisdictions worldwide with responses from 25 jurisdictions.	25 jurisdictions (in North, Central and South America, Western and Eastern Europe, Africa, and Asia)	2002–2005	Trading velocity, the number of listed firms, market capitalization	Single- and cross-market surveillance	Surveillance is positively associated with trading velocity, and cross-market surveillance is associated with the number of listed firms and market capitalization. The scope of cross-market surveillance shows a stronger positive association with trading velocity, the number of listed companies, and market capitalization than single-market surveillance. Compared with securities commissions, exchanges engage in a greater range of single-market surveillance, but both engage in cross-market surveillance activity of similar scope. Cross-market surveillance is more effective with information-sharing arrangements, and securities commissions are more likely to engage in information sharing than exchanges are.

(continued)

Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Dyck et al. (2010)	Class actions from Stanford SCAC, filtered by settlement size (>$3M) and firm size (total assets >$750M) and Factiva articles.	US	1996–2004	Identity of fraud detectors (e.g. investors, SEC, auditors, media, employees)	Securities class actions; SOX	Internal and external actors play important roles in fraud detection. Employee whistleblowing accounts for approximately 17% of fraud detection, other major detectors include analysts (14%), regulators (13%), short-sellers (15%), media (13%), auditors (10%), and SEC (7%). The passage of SOX (increased whistleblower protection) did not increase the employees' incentives to reveal fraud.
Cumming et al. (2011)	Trading rules from the webpage of each stock exchange (or regulatory body). Trading data from World Federation of Exchanges and Thomson Reuters Datastream.	42 stock exchanges worldwide	Feb 2006–Oct 2008	Market liquidity (velocity, volatility, and bid-ask spread)	Exchange trading rules indices (insider trading; market manipulation; broker-agency conflict)	Regulatory strength of stock exchange trading rules (as proxied by indices that capture the level of detail and explicitness of the rules prohibiting insider trading and market manipulation) are significantly associated with increased market liquidity on the stock exchange. There are close connections between the Volume Manipulation Rules Index and trading velocity, the Price Manipulation Rules Index and volatility, and the Insider Trading Rules Index and bid–ask spreads.
Humphery-Jenner (2013)	Intraday trade data from SIRCA/ Reuters. Firm data from Compustat Global.	China (treatment: Shanghai and Shenzhen Stock Exchanges); Hong Kong, Korea, and Taiwan Stock Exchanges (control)	Nov 2002–Dec 2003	Probability of informed trading; absolute order imbalance; adverse selection component of bid-ask spread	Principled reforms to China's market manipulation law in 2003 by the Supreme People's Court (SPC) guideline judgment	Difference-in-difference results show that informed trading increases following the Court judgment, indicating that adopting stringent securities regulations without altering the regulatory environment may worsen the market's information environment.
Cumming and Johan (2013)	Enforcement actions recorded by CSA (Canada), FSA (UK), and SEC (U.S.).	Canada, UK, US, (comparison sample: Brazil, China, Germany)	2005–2011	Fraud lawsuits characteristics	Junior vs. senior stock exchanges; different countries	Litigated fraud cases vary significantly by nature across different countries, and across different stock exchanges within the country. Outside the US there is relatively weak enforcement in other jurisdictions.
Aitken et al. (2014)	Market data from Capital Market Cooperative Research Centre (CMCRC).	24 stock exchanges in 19 countries	2003–2011	Average trade size; colocation services	High-frequency trading (HFT); colocation services	High-frequency trading (HFT) predates colocation by at least eight months on most exchanges, and has strong power in explaining the introduction of colocation services, indicating that colocation services are the result of HFT.
Aitken et al. (2015a)	Surveillance data from Cumming and Johan (2008). Exchange trading rules data from Cumming et al. (2011).	22 stock exchanges worldwide	2003–2011	Insider trading: number of cases, severity (profit) per case	Trading rules indices (insider trading; market manipulation; broker-agency conflict); surveillance index	Domestic and cross-market surveillance, and more detailed exchange trading rules, significantly reduce the number of suspected insider trading cases over time and across markets, but increase the profits per suspected case.
Cumming et al. (2015b)	Trading data from Compustat Global and CRSP. World Bank governance indicators, ICRG's composite risk ratings, S&P sovereign risk ratings, and Spamann's (2010) revised ADRI. Exchange trading rules data from Cumming et al. (2011).	26 countries	1999–2008	Location of trade for non-US firms cross-listed in the US.	Exchange trading rules indices; country-level sovereign governance; EU's implementation of Markets in Financial Instruments Directive (MiFID)	Stronger exchange trading rules outside the US increase the proportion of trading on non-US exchanges for stocks cross-listed in the US. Specifically, the EU's adoption of the Markets in Financial Instruments Directive, which strengthened trading rules, has increased the relative amount of trade in the EU for stocks cross-listed in the US.

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Author(s)	Data Source(s)	Country	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Christensen et al. (2016)	Entry-into-force dates of Market Abuse Directive and Transparency Directive from publications by the European Commission and by Linklaters LLP, an international law firm.	European Union (EU) countries	2001Q1–2011Q2	Market liquidity	New EU securities regulations; country-level regulatory quality; Directive-level enforcement strength	EU's adoption of new regulations, including the Market Abuse Directive and Transparency Directive, is associated with significant increases in market liquidity. The effects are stronger in countries with stricter implementation and more stringent securities regulations.
Neupane et al. (2017)	IPO and firm data from Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) websites.	India	2006–2011	Post-listing trading volume; number of bulk trades; post-listing returns	Suspected IPO manipulation: bulk trades on the first day of trading by syndicate traders involved in 7 prosecuted IPOs	IPOs which are suspected to be manipulated exhibit abnormally high volumes of large trades, a significant fraction of which originates from a syndicate of traders present in the prosecuted IPOs. Stock price in the manipulated IPOs rises initially before declining significantly, consistent with the pump-and-dump scheme.
Cumming et al. (2018b)	Enforcement data from the European Securities Market Authority (ESMA) report on the use of sanctioning powers under the Market Abuse Directive.	28 European Union countries	2008–2010	Number of detected offenses (or transmitted cases)	Number of supervisors; formalized cooperation; minimum imprisonment	Following the harmonization of market abuse regulations across the EU countries, country-level enforcement plays a significant role in predicting fraud. A greater number of supervisors in the regulatory institution is associated with a higher number of detected fraud cases, indicating that having more supervisors improves detection efforts. Formalized cooperation between the competent authorities and the judiciary is associated with fewer fraud cases through improving surveillance. Minimum duration of imprisonment for fraud offenses, which facilitates deterrence, is associated with a lower number of fraud cases.

1.8.1 Fraud Incentives

Managers are motivated by various incentives to misrepresent firms' financial information. These incentives fall into two broad categories: obtaining personal gains and fundraising motives. First, managers can derive personal gains from manipulating the firms' financial information, including obtaining performance-linked compensation and profiting from insider trading (Agrawal and Cooper 2015). From an agency perspective, accounting information serves an important role to 'monitor and constrain the decision behavior of agents and specify the performance criteria that determine rewards' (Fama and Jensen 1983, p. 310). However, given the information asymmetry underlying the manager-shareholder relationship, managers have incentives to manipulate accounting information to maximize performance-based compensation (Goldman and Slezak 2006; Crocker and Slemrod 2007; Peng and Roell 2014). Empirical evidence shows that executive incentive compensation (such as stock options) increases the likelihood of securities fraud (Burns and Kedia 2006; Denis et al. 2006; O'Connor et al. 2006; Hass et al. 2016). Furthermore, director incentive pay is also linked to increased fraud, as directors receiving incentive compensation experience greater interest alignment with managers, and therefore provide less effective independent monitoring (Crutchley and Minnick 2012). However, there is mixed empirical evidence on how different types of incentive pay affect fraud propensity. For example, Johnson et al. (2009) find that managerial incentives to commit fraud are driven by unrestricted stockholdings rather

than restricted stocks or options. Armstrong et al. (2010) find no evidence of increased securities fraud associated with CEO equity compensation; to the contrary, they document fewer accounting irregularities associated with CEO equity incentives. Apart from incentive compensation, securities fraud is also precipitated by insider trading. Executive officers tend to sell more stocks preceding income-decreasing accounting restatements (Agrawal and Cooper 2015), consistent with the view that managers benefit from overinflated stock prices resulting from misstated financial information.

The second category of incentives for financial misconduct relate to fundraising activities. Managers have incentives to manipulate accounting information to obtain better capital raising outcomes through initial public offerings (IPO) (e.g. Teoh et al. 1998b; Wang et al. 2010) and stock offerings (e.g. Teoh et al. 1998a), as well as to avoid defaults on debt covenants (DeFond and Jiambalvo 1994; Dechow et al. 1996). For example, Dechow et al. (1996) find that fraud-committing firms tend to have higher leverage. DuCharme et al. (2004) observe that managers manipulate accounting accruals to boost earnings before equity stock offers, and such accruals subsequently reverse to negatively affect post-offer returns. Wang et al. (2010) find that firms have greater incentives to commit fraud before IPOs when investors are optimistic about the firms' industry prospects.

The existing literature shows that both corporate fund-raising incentives and private gains can motivate managers to misrepresent firms' financial information. Further, managers may engage in insider trading in conjunction with financial misreporting to derive personal gains. In the next section, we discuss executive- and firm-level idiosyncrasies, including corporate governance characteristics, which can affect the likelihood of financial fraud and misconduct.

1.8.2 Risk Factors

Personal characteristics of CEOs, such as overconfidence and social or political connectedness, play a significant role in determining a firm's likelihood of engaging in financial wrongdoing. At the firm level, corporate governance quality serves as an important safeguard to mitigate the risk of fraud and misconduct. In this section, we discuss the empirical evidence on these risk factors.

Idiosyncrasies of individual managers significantly predict the risk of securities fraud litigation against their firms. Overconfident managers are more likely to misrepresent their firms' financial information (Laux and Stocken 2012; Schrand and Zechman 2012; Banerjee et al. 2018). Additionally, firms are more likely to be sued for securities violations when their CEOs have poor personal ethics, as evidenced by option-backdating scandals (Biggerstaff et al. 2015) or other private misconduct such as substance abuse, sexual scandals, or violence (Cline et al. 2018). Further, well connected CEOs are more likely to commit fraud (Khanna et al. 2015). Political connectedness increases fraud likelihood, particularly in countries like China with weak institutional enforcement (Stuart and Wang 2016; Sun et al.,2016; Wang et al. 2017). However, social and political connectedness of CEOs and directors also reduces the risk of fraud detection and enforcement (Yu and Yu 2011; Correia 2014; Khanna et al. 2015; Kuang and Lee 2017). Finally, managers' cultural values can play a role in predicting firms' fraud likelihood. Liu (2016) examines corruption attitudes held by executive officers, based on the cultural values associated with their countries of ancestry. Liu (2016) finds that firms with high corruption culture are more likely to commit accounting fraud.

At the firm level, the nature of their operating activities and environments are relevant in determining fraud litigation risk. In particular, industry membership is an important predictor of the likelihood of securities class action lawsuits, along with firm size, growth, and stock volatility (Kim and Skinner 2012). Firms which engage in overinvestment are more likely to be accused of securities fraud (McTier and Wald 2011). This is consistent with the aforementioned evidence that firms in need of financing are motivated to manipulate earnings (DeFond and Jiambalvo 1994; DuCharme et al. 2004). By contrast, Lennox et al. (2013) find that tax aggressive firms are less likely to be accused of accounting fraud, however, the authors concede that this finding is sensitive to the choice of empirical proxies for tax aggressiveness.

Firm-level corporate governance quality can mitigate the risk of financial fraud and misconduct (e.g. Agrawal and Chadha 2005; Chapple et al. 2014). Board monitoring constitutes an important internal governance mechanism (Fama and Jensen 1983). Reduced risk of securities litigation is linked to greater independence of boards and audit committees (Beasley 1996; Uzun et al. 2004), the presence of directors with financial expertise (Agrawal and Chadha 2005), and board gender diversity (Cumming et al. 2015c; Capezio and Mavisakalyan 2016). Staggered boards are also associated with lower likelihood of financial fraud and misconduct (Zhao and Chen 2008). The authors argue that staggered boards reduce the performance pressure on managers, which lessens their incentives to manipulate earnings (Zhao and Chen 2008). By contrast, securities litigation risk is higher for firms in which the CEOs belong to the founding families (Agrawal and Chadha 2005).

Institutional holdings provide a complementary governance mechanism to board monitoring, which also ameliorates the risk of financial fraud and misconduct. The presence of institutional investors not only reduces the likelihood of fraud accusations, but also enhances the disciplining effect of securities lawsuits (Barabanov et al. 2008; Cheng et al. 2010; Perino 2012; Pukthuanthong et al. 2017). In particular, securities class actions with institutional investors as lead plaintiffs are more likely to succeed (Cheng et al. 2010; Perino 2012). This higher success rate is in part attributable to institutional plaintiffs' greater ability to monitor class action attorneys (Perino 2012). Furthermore, securities lawsuits led by institutional investors are more likely to lead to improvements in board monitoring, by appointing new outside directors to increase board independence (Cheng et al. 2010). Pukthuanthong et al. (2017) provide further insights into how institutional holding affects fraud litigation likelihood. Specifically, institutional investors with short-term horizons pursue litigation as an ex post monitoring mechanism, whereas institutional investors with long-term horizons tend to engage in ex ante monitoring through board oversight and compensation restructuring, thus resulting in fewer shareholder lawsuits. Overall, monitoring by institutional investors serves as a complementary governance mechanism that reduces the likelihood of financial misconduct and strengthens disciplining of managers, whether through ex post litigation or through ex ante fraud prevention.

1.8.3 Public Enforcement: Regulatory and Judicial Stringency

External institutional environments play an important role in deterring and preventing financial market fraud and misconduct. Strong institutional enforcement is essential to ensure the effectiveness of securities laws and regulations (Jenner-Humphery 2013; Cumming et al. 2015a; Cumming et al. 2018b). For example, Humphery-Jenner (2013) finds that adopting stringent securities regulations in a weak enforcement environment may even worsen market conditions. Moreover, Dyck et al. (2010) provide a

holistic view of the roles of various actors (e.g. employees, auditors, regulators, and the media) in fraud detection, which suggests that the regulatory environment extends beyond laws and legal institutions, but rather 'takes a village.' In this section, we discuss both public and private enforcement mechanisms, and their impacts on the causes and consequences of financial misconduct.

Regulatory enforcement stringency varies widely across countries (Cumming et al. 2011; Cumming and Johan 2013; Christensen et al. 2016; Cumming et al. 2017; Cumming et al. 2018b), as a result of their different institutional environments (La Porta et al. 2006; Djankov et al. 2008; La Porta et al. 2008) and levels of resources devoted to securities law enforcement (Jackson and Roe 2009). The strength of enforcement has direct impacts on the risks and consequences of corporate financial fraud and misconduct (Tanimura and Okamoto 2013; Chapple et al. 2014; Stuart and Wang 2016).

In countries with strong legal enforcement such as the UK and Japan (La Porta et al. 1998; La Porta et al. 2008), firms that have committed fraud experience significant market-based penalties (Tanimura and Okamoto 2013; Armour et al. 2017). In contrast, in emerging economies such as China with unique institutional characteristics, state ownership plays a role in determining the executive-level penalties for corporate misconduct (Chen et al. 2016). The CEOs of state-owned enterprises are less likely to turnover following fraud revelations. However, following the Split Share Structure Reform, which converted non-tradable shares to tradable, controlling shareholders of state-owned enterprises experience stronger incentives to initiate CEO turnover following fraud revelations (Chen et al. 2016). Culture also plays an important role. For example, in Japan where honor and trust are highly valued and businesses operate in a reputation-based environment, firms accused of fraud experience greater reputational penalties and thus losses of firm value compared with their US counterparts (Tanimura and Okamoto 2013).

The strength of regulatory enforcement also moderates the role of political connectedness in predicting the likelihood and consequences of fraud. In countries such as China where legal enforcement is relatively weak (Allen et al. 2005; La Porta et al. 2008), firms with politically connected founders or managers are more likely to commit financial fraud (Stuart and Wang 2016; Sun et al. 2016; Wang et al. 2017). Further, some evidence suggests that firms are rewarded for committing financial misreporting, which improves their chances of receiving government-sponsored innovation grants (Stuart and Wang 2016). Even in the US where institutional enforcement is strong, political and social connections of CEOs and directors can significantly reduce the likelihood of fraud detection and the risk of regulatory enforcement actions (e.g. Yu and Yu 2011; Correia 2014; Kuang and Lee 2017).

In addition to country-level variations, the regulatory environment can also differ across different stock exchanges (Cumming and Johan 2013; Cumming et al. 2015b), court districts (Cheng et al. 2017), and geographical locations (Kedia and Rajgopal 2011). For example, Aitken et al. (2015a) examine 22 stock exchanges worldwide and find that more detailed trading rules significantly reduce the incidence of insider trading but increase the illegal profits obtained per trade. Even within the US, some Federal District Courts exhibit greater judicial stringency than others in interpreting securities fraud law (Cheng et al. 2017). Additionally, firms' proximity to the SEC headquarters and the locations of its past enforcement activities also significantly determine their likelihood of being targeted in enforcement actions (Kedia and Rajgopal 2011). However, empirical research produces inconsistent evidence on how the perceived risk of enforcement affects firm behavior. Kedia and Rajgopal (2011) find that firms located closer to the

SEC are less likely to restate earnings. In contrast, Cheng et al. (2017) find that firms headquartered in districts with greater court enforcement stringency are more likely to issue accounting restatements, in the attempt to promptly correct any misstatements to avoid litigation.

1.8.4 Public Enforcement: Detection and Surveillance

Financial market fraud and misconduct are not readily observable. Wang (2013) points out that empirical researchers use detected fraud to proxy all fraud committed, which is not accurate because many incidents of fraud remain undetected.

Fraud detection is an important issue in securities law enforcement. Across the common types of financial fraud and misconduct, misreporting of financial information is typically revealed through subsequent accounting restatements, which correct market misinformation and trigger legal actions. Karpoff and Lou (2010) document that, prior to fraud discovery, short-sellers in the markets anticipate the occurrence and severity of financial misconduct and serve to curb the overinflated stock price. In contrast, insider trading and market manipulation are difficult to detect and require regulatory surveillance (Neupane et al. 2017; Cumming et al. 2018b).

Computer surveillance forms a necessary component of the public enforcement of securities laws (Austin 2017; Cumming and Johan 2019). Technological developments have had significant impacts on trading activities and created greater potential for market manipulation (Aitken et al. 2014; Li et al. 2015). As a part of the enforcement process, stock exchanges and securities commissions commonly use computer algorithms to facilitate surveillance and to search for activities that indicate fraud or misconduct, such as insider trading and market manipulation (Cumming and Johan 2008; Comerton-Forde and Putniņš 2011; Aitken et al. 2015a, 2015b; Cumming et al. 2015a).

The importance of surveillance in preventing financial market fraud has been documented globally (Aitken and Siow 2003; Comerton-Forde and Rydge 2006; Cumming et al. 2011; Domowitz 2012; Aitken et al. 2015b, 2015a; Li et al. 2015). For example, Cumming and Johan (2008) examine market surveillance conducted by stock exchanges and commissions in 25 jurisdictions worldwide to detect manipulative trading, including in North, Central and South America, Western and Eastern Europe, Africa, and Asia. The authors find that surveillance is positively associated with trading velocity, and cross-market surveillance is strongly related to the number of listed firms and market capitalization. Aitken et al. (2015a) investigate insider trading activities on 22 stock exchanges around the globe, documenting that domestic and cross-market surveillance reduce the incidence of insider trading. Furthermore, there is significant interplay between regulatory stringency and surveillance efforts (e.g. Aitken et al. 2014, 2015a). For example, in environments of comparatively weak institutional enforcement, a large number of trade-based market manipulations may remain undetected and escape enforcement (Neupane et al. 2017). Overall, surveillance plays a crucial role in fraud detection and securities law enforcement.

1.8.5 Private Enforcement

Apart from public enforcement, a significant portion of fraud cases rely on private enforcement through shareholder litigation. Regulators have limited resources and only prosecute the most serious and high-profile violations, which account for a small percentage of all cases, leaving the remainder to be litigated by private plaintiffs.

Potential plaintiffs are motivated by their own incentives in deciding whether to litigate their claims. Plaintiffs' decisions to file lawsuits depend on their assessment of the private costs and benefits (Spier 2007). In an environment of uncertainty and asymmetric information, a plaintiff may choose to litigate a frivolous claim, which can appear more credible than it is, forcing the defendant to reach a settlement (Spier 2007). In the US, two institutional factors further remove barriers to sue and render it easier to file frivolous claims. First, attorneys are permitted to charge contingent legal fees. Contingent fees are calculated as a percentage of the damages awarded to the plaintiff(s), and conditional upon the success of the litigation (no fees are paid if the litigation is unsuccessful). This removes the initial financial outlay of legal fees incurred by potential plaintiffs. This risk-sharing between plaintiffs and their attorneys encourages more lawsuits to be filed. Secondly, fee awards (also known as cost recovery) are rare in the US compared with other jurisdictions, such as the UK and Australia. In those countries, the losing party in a lawsuit is usually required to pay the legal fees incurred by the winning party (Baker et al. 2015). Such fee awards discourage plaintiffs from filing lawsuits, because of the risk of paying the defendant's legal fees in the event of losing the lawsuit. The absence of such cost recovery practices further encourages more lawsuits to be filed.

Plaintiffs are more likely to file suits against 'deep pocket' corporations with large market capitalization and abundant funds, to maximize the plaintiffs' chances of receiving payouts (Choi 2004; Coffee 2006). Plaintiff attorneys also play an important role in the litigation process (Coffee, 1986). Since the passage of PSLRA, institutional investors play an important role as lead plaintiffs in securities class action lawsuits. Institutional investors are more effective in monitoring class action attorneys (Perino 2012), capable of developing repeat relationships with top-tier law firms, and can negotiate lower attorney fees (Choi et al. 2011).

Given the myriad incentives affecting a plaintiff's decision to sue, some legitimate claims of fraud against firms may never result in lawsuits. Conversely, not all securities fraud lawsuits filed are meritorious, as plaintiffs and their attorneys may use litigation as a means to force defendant firms into settling their claims for a nuisance value.

1.9 OTHER NON-FINANCIAL MISCONDUCT

Financial misconduct constitutes only one subset of corporate misbehavior. Corporate wrongdoings can take various forms, such as environmental violations (Karpoff et al. 2005), breaches of contract (Bhagat et al. 1998), infringements of intellectual property rights (Meurer 2003; Posner 2005), and antitrust transgressions (Griffith 2013; Krishnan et al. 2014). Unlike securities violations which are typically perpetrated against the firms' investors, other types of corporate misconduct impact on broader stakeholder groups. For example, environmental lawsuits can affect local communities; contractual disputes may disturb supplier or customer relations; and intellectual property and antitrust challenges often involve the firms' competitors and regulators.

Securities lawsuits are followed by significant market-imposed penalties at both firm- and executive-levels. In contrast, the consequences of other types of corporate misconduct are less obvious and seldom studied (e.g. Bhagat et al. 1998; Aharony et al. 2015; Liu et al. 2016). For example, following environmental transgressions, Karpoff et al. (2005) find that the loss of market value experienced by

sued firms is limited to the amount of the legal penalties incurred, indicating that there is no additional reputational penalty for firms accused of environmental misconduct. Similarly, at the executive level, researchers have examined CEO turnover and reputational impairments following different types of litigation, but find no penalties incurred by individual officers in the wake of environmental lawsuits (Aharony et al. 2015; Liu et al. 2016).

Karpoff et al. (2005) propose an important distinction between corporate misconduct affecting parties who have existing contractual relationships with the accused firms versus misconduct affecting external parties with no such contractual relationships. Through the process of future repeated contracting, parties such as shareholders, suppliers, and customers are able to penalize the offending firms by increasing their costs of operations (e.g. Karpoff et al. 1999). In contrast, alleged victims in environmental lawsuits usually lack such contractual recourse to impose penalties on the accused firms. This argument is further supported by empirical evidence documented by Armour et al. (2017), who find that firms in the UK experience significant reputational damage following misconduct against customers and investors, but not following misconduct against third parties who do not trade with the firms. In this respect, financial fraud constitutes a special type of corporate misconduct that is most likely to attract market-imposed consequences, due to the direct relationship between the accused firms and defrauded investors.

1.10 CONCLUDING REMARKS

Financial misconduct disrupts capital markets and harms investor confidence. The past two decades have witnessed numerous cases of high-profile corporate scandals, which prompted legislative changes aimed at fraud prevention. To gauge the adequacy of legal penalties in deterring corporate fraud, it is crucial to understand the full extent of market-imposed penalties incurred by corporations and responsible individuals. Indeed, the evidence suggests that market-based penalties are of much greater magnitude than legal fines and compensation. This chapter has provided a comprehensive review of the empirical evidence on the economic, reputational, and personal consequences for accused firms and their executive officers and directors.

At the corporate level, firms accused of securities fraud experience a variety of negative consequences. Short-term consequences include losses of market value, which incorporate the market's assessment of the firms' future impaired reputational capital. Long-term consequences include restricted access to financing, higher cost of capital and insurance premiums, reduced innovation, and increased risk of hostile takeovers. At the individual level, executive officers of firms facing securities allegations are more likely to experience turnover and subsequent impairment in their career progression. Executive officers who retain their jobs nonetheless experience reduced compensation and strengthened board monitoring. Directors are also more likely to exit fraud-tainted firms, though debates persist as to whether this is driven by the firms' motives to restore organizational legitimacy or the directors' motives to protect their personal reputations.

The existing literature has also provided insights into incentives that motivate fraud and misconduct, including fund-raising objectives and executives' motives to obtain personal gains through insider trading or incentive compensation. Effective corporate governance, such as monitoring by boards and institutional investors, mitigates the risk of fraud. Regulatory enforcement environments also play a significant role

in the detection, prevention, and punishment of financial market fraud. Compared with other forms of corporate wrongdoing such as environmental violations or intellectual property infringements, securities misconduct attracts more significant market-based penalties for the accused firms and their executives.

The body of literature on the consequences of corporate fraud and misconduct has significant implications for policymakers, investors, and practitioners. The empirical evidence on market-based penalties imposed on corporations, executive officers, and directors provides regulators and lawmakers a holistic view of the total penalties incurred by those who commit fraud, beyond those imposed in the legal and regulatory systems. Moreover, understanding the causes, motivators, and inhibitors of fraud also contributes valuable insights into the prevention of corporate fraud and misconduct.

Apart from the need to be aware of the methodological issues in financial fraud-related research, such as the choice of empirical proxies and the distinction between committed and detected fraud, there remain a number of unanswered questions to be explored in future research. First, it is important to distinguish between allegations of fraud and actual fraud committed. While prior researchers have sought to filter lawsuit filings to exclude frivolous claims (e.g. by the size of settlements), most prior studies employ litigation-based variables (e.g. securities class actions, regulatory enforcement actions) as proxies for fraud. In the absence of data on actual convictions, it may be a misnomer to characterize and interpret allegations of fraud as indicating actual fraud committed. Careful attention devoted to developing a more nuanced approach to explore the connection between allegations and convictions of fraud may yield fruitful avenues for future research.

Second, corporate fraud does not occur in a vacuum, but is the product of a myriad of social-political, cultural, and ideological factors that coexist at the individual, firm, and institutional levels. It is worthwhile investigating the interplay of these factors in influencing corporate behavior, and providing motivators and inhibitors of fraud and misconduct.

Finally, more attention should be devoted to understanding what remedial measures are undertaken by firms following the revelations of fraud to rebuild their reputations and to safeguard the firms against fraud in the future. It is useful to investigate whether these measures are effective in preventing future fraud. Given the importance of understanding the causes and consequences of corporate financial misconduct, future research will continue to contribute to this tapestry of multifaceted evidence to assist policymakers to formulate optimal regulations to facilitate fraud prevention.

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CHAPTER 1: TEST YOUR KNOWLEDGE

The following questions are designed to ensure that you have a complete understanding of the information presented in the chapter (assignment). They are included as an additional tool to enhance your learning experience and do not need to be submitted in order to receive CPE credit.

We recommend that you answer each question and then compare your response to the suggested solutions on the following page(s) before answering the final exam questions related to this chapter (assignment).

1.	**Which of the following is correct regarding financial fraud and misconduct:** **A.** in the U.S., legal penalties imposed on firms for financial misrepresentation averaged $500 million per firm **B.** in the U.S., reputational penalties imposed on firms for financial misrepresentation averaged $10 million per firm **C.** legal penalties only account for a small fraction of the overall consequences incurred by the firms, executive officers, and directors involved **D.** all of the above
2.	**Financial fraud and misconduct can have which of the following repercussions:** **A.** damaged investor confidence **B.** less efficient capital markets **C.** distorted allocation of resources **D.** all of the above
3.	**Which of the following was introduced with the aim of reducing the number of frivolous securities lawsuits and to "address the problems plaguing securities class action litigation":** **A.** the Securities Exchange Act of 1934 **B.** the Private Securities Litigation Reform Act of 1995 **C.** the Sarbanes-Oxley Act of 2002 **D.** the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010

4.	**Which of the following is correct regarding market value and allegations of corporate fraud:** **A.** Bhagat et al. observe a 27% stock price decline for sued firms during the two-day period surrounding securities lawsuit filings **B.** the loss of market value reflects the market's anticipation of future outflows of wealth directly associated with lawsuits **C.** the decline in market valuation is attributable solely to the direct costs of litigation **D.** all of the above are correct
5.	**Studies by Karpoff et al. found that, in SEC enforcement actions, the loss of market value exceeds the amount of legal penalties by more than _____ times.** **A.** 2.5 **B.** 5 **C.** 7.5 **D.** 10
6.	**Which of the following is correct regarding executive officers exiting from firms accused of fraud:** **A.** studies find that CFOs face impaired career opportunities and such impairment persists through three subsequent changes of employment **B.** the exiting executive officers' future job prospects are generally unaffected by the fraud accusations **C.** CEOs of a firm accused of fraud are less likely to be re-employed as a CEO of another firm, but more likely to be re-employed as a senior executive officer **D.** the legal penalty of debarment is frequently used on executive officers leaving a company accused of fraud

CHAPTER 1: SOLUTIONS AND SUGGESTED RESPONSES

Below are the solutions and suggested responses for the questions on the previous page(s). If you choose an incorrect answer, you should review the pages as indicated for each question to ensure comprehension of the material.

1.	**A.** Incorrect. In the U.S., legal penalties imposed on firms for financial misrepresentation averaged $23.5 million per firm. **B.** Incorrect. In the U.S., reputational penalties imposed on firms for financial misrepresentation, as captured in the loss of market valuation, averaged $380.5 million per firm. **C.** **CORRECT**. Legal penalties only account for a small fraction of the overall consequences incurred by the firms, executive officers, and directors involved. **D.** Incorrect. Only one of the provided selections is correct. *(See page 2 of the course material.)*
2.	**A.** Incorrect. Financial fraud and misconduct can lead to damaged investor confidence, but this is not the only selection that is correct. **B.** Incorrect. Less efficient capital markets are a byproduct of financial fraud and misconduct. However, this is not the only correct selection provided. **C.** Incorrect. Financial fraud and misconduct may lead to the distortion of allocated resources, but this is not the only correct selection. **D.** **CORRECT**. Financial fraud and misconduct can damage investor confidence, distort the allocation of resources, and undermine the efficiency of capital markets. *(See page 2 of the course material.)*
3.	**A.** Incorrect. The Securities Exchange Act of 1934 established the SEC. **B.** **CORRECT**. The Private Securities Litigation Reform Act of 1995 was introduced with the aim of reducing the number of frivolous securities lawsuits by raising pleadings standards and limiting the ability of plaintiffs to file nuisance lawsuits. **C.** Incorrect. The Sarbanes-Oxley Act of 2002 introduced changes aimed at improving financial reporting transparency and increasing investor protection. **D.** Incorrect. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 included tougher consequences for executive officers who have committed fraud and increased incentives for fraud reporting. *(See page 6 of the course material.)*

4.	**A.** Incorrect. Bhagat et. al observed a 3 percent, not 27 percent, stock price decline for sued firms during the two-day period surrounding securities lawsuit filings. **B.** **CORRECT**. The loss of market value reflects the market's anticipation of future outflows of wealth directly associated with lawsuits. These include legal fines, damages, or settlements paid to the plaintiff(s). **C.** Incorrect. The decline in valuation is attributable to several factors, including the direct costs of litigation, reduced productivity from disruptions of operating activities, and a residual loss attributable to damage to firm reputation. **D.** Incorrect. Only one of the provided selections is correct. *(See page 14 of the course material.)*
5.	**A.** Incorrect. The loss of market value exceeded the amount of legal penalties by far more than 2.5 times. **B.** Incorrect. The study found that the ratio was higher than 5 times more. **C.** **CORRECT**. Only a small portion of the losses in market value is attributable to the direct costs associated with legal penalties. Karpoff et al. found that, in SEC enforcement actions, the loss of market value exceeds the amount of legal penalties by more than 7.5 times. **D.** Incorrect. The loss of market value exceeded the amount of legal penalties by less than 10 times. *(See page 14 of the course material.)*
6.	**A.** **CORRECT**. Condie et al. found that CFOs face impaired career opportunities when seeking re-employment, and such impaired job prospects persist through three subsequent changes of employment. **B.** Incorrect. Even executive officers who have not been personally accused of fraud can still experience impaired career prospects after their firm experiences an event of fraud. **C.** Incorrect. Studies by Desai et al. found that CEOs are less likely to be reemployed for all three tiers of positions examined, including as the CEO, president, chair of the board, a senior executive officer, or an independent director. **D.** Incorrect. If executive officers are debarred from serving in public companies, they would be automatically prevented from obtaining re-employment in similar positions. However, such legal penalties are relatively rarely imposed. *(See pages 22 to 23 of the course material.)*

CHAPTER 2: INSIDER TRADING AND MARKET MANIPULATION

Chapter Objective

After completing this chapter, you should be able to:

- Recall the consequences of strict enforcement of laws aimed at preventing financial market abuse.

2.1 INTRODUCTION

Insider trading refers to the use of private information to trade assets, whereas market manipulation involves attempting to cause the asset price to be above, or below, its expected equilibrium.[1] To achieve this end the price manipulator may engage in complex trading strategies or simply misrepresent information to other market participants. The intention from both practices is to make a financial gain from disruption of the proper functioning of markets. While these practices occur across many industries, media attention in recent years has focused on the activities of financial intermediaries, given the financial scale and scope of the reported activities.

There are several financial crimes of which insider trading and market manipulation are part. Others include fraud,[2] electronic crime including cybercrime, money laundering, bribery, and corruption.[3] These crimes are universally condemned, and a rich suite of regulations and regulatory bodies are present at a national level to prevent, identify and prosecute these crimes.

Table 2.1 provides an example of the scope of regulation using the case of the United States of America (US), with the Securities and Exchange Commission (SEC) providing the centerpiece for regulatory enforcement. Note the layered regulatory structure that comprises specific statutes designed to capture certain practices, further statutes that clarify process, and those that establish agencies designed to monitor and affect the legislation. In the United Kingdom the Financial Conduct Authority (FCA)[4] is the key authority with similar agencies operating in other countries.[5]

1. Section 12(1)(a)(ii) of the UK Market Abuse Regulation terms this an abnormal or artificial price level.
2. A spectacular recent example is the reputed US $1 billion fraud perpetrated by officials at various banks in Moldovia: www.ft.com/content/b582ad2c-c424-11e5-b3b1-7b2481276e45.
3. See the Global Fraud Survey (2018) for further details on the scale and scope of these activities worldwide: www.ey.com/Publication/vwLUAssets/EY_Global_Fraud_Survey_2018_report/$FILE/EY%20GLOBAL%20FIDS%20FRAUD%20SURVEY%202018.pdf.
4. The Financial Conduct Authority (FCA) is responsible for protecting consumers, financial markets and promoting competition and 'is the conduct regulator for 59,000 financial services firms and financial markets in the UK and the prudential regulator for over 18,000 of those firms': www.fca.org.uk/about/the-fca.
5. See the list of regulators provided by the Bank for International Settlements: https://www.bis.org/regauth.htm.

TABLE 2.1 THE NETWORK OF REGULATION AND AGENCIES INVOLVED IN THE DETECTION, PREVENTION AND INVESTIGATION OF FINANCIAL CRIME IN THE US.

US statutes and regulations
Section 32(a) of the Securities Exchange Act of 1934 (Exchange Act).
Section 24 of the Securities Act of 1933 (Securities Act).
Sarbanes–Oxley Act of 2002.
Mail and wire fraud statutes (18 U.S.C. §§ 1341, 1343).
Misapplication and embezzlement statute (18 U.S.C. § 656).
Criminal False Claims Act (18 U.S.C. § 287).
Internal Revenue Code (§§ 7201, 7206(1)).
Computer Fraud and Abuse Act (18 U.S.C. § 1030(a)(4)).
False Statements Statute (18 U.S.C. § 1001).
Major Fraud Act (18 U.S.C. § 1031).
Provisions that impose civil liability for fraud
Civil False Claims Act (31 U.S.C. §§ 3729-3733).
Sections 11, 12(a), and 17(a) of the Securities Act.
Sections 9, 10(b), 14, 16(b), and 18 of the Exchange Act.
Securities and Exchange Commission (SEC) Rules 10b-5 and 14a-9.
Commodity Futures Trading Commission (CFTC) Rule 180.1.
Financial Institutions Reform, Recovery, and Enforcement Act of 1989.
US agencies involved in the detection, prevention and investigation of financial crime
Department of Justice (DOJ), including the US Attorney's Office in each federal district and the Federal Bureau of Investigation (FBI).
Securities and Exchange Commission (SEC).
Commodity Futures Trading Commission (CFTC).
Non-governmental self-regulatory organizations (SROs) such as the Financial Industry Regulatory Authority (FINRA).
US Department of the Treasury, including the Internal Revenue Service (IRS).
Federal Trade Commission (FTC).

Source: Based on data from Zornow et al. (2017). Note also those regulations that exist within the European Union including Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (market abuse regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC, as well as specific national directives. Also, see the Council on Foreign Relations discussion on the US regulatory system: https://www.cfr.org/backgrounder/us-financial-regulatory-system and Cumming, Dai and Johan (2018) on the impact of markets of the implementation of the Dodd–Frank Act.

At an international level there is general guidance on what constitutes acceptable practice. The recent Principle 29, on effective banking supervision, by the Bank for International Settlements (BIS, 2016: 29) highlights the importance of monitoring the abuse of financial services and argues that

> '[the banking] supervisor determines that banks have adequate policies and processes, including strict customer due diligence rules to promote high ethical and professional standards in the financial sector and prevent the bank from being used, intentionally or unintentionally, for criminal activities.'

In addition, there is also guidance arising from key international institutions, such as the UN Global Compact, which asks for a 'shared set of values and principles, which will give a human face to the global market' to help ensure that its basic activities—dealing with markets, commerce, technology, and finance—will move forward in ways that benefit economies and societies around the world (UN Global Compact, 2013 and 2015).

Better and more strict enforcement of law aimed at preventing financial market abuse has been shown to generate significant economic benefits as well as receiving widespread and popular support (Ernst and Young, 2018). For example, Bhattacharya and Daouk (2002) report reductions in the cost of equity capital due to the significant increase in worldwide restrictions on insider trading that began in the 1990s, while Aitken et al. (2015b) show that more detailed exchange trading rules and surveillance over time and across markets significantly reduces the number of suspected cases of insider trading. Overall, preventing market abuse encourages investment, both domestically and internationally, and thereby assists long-term economic growth and wealth creation.

What is novel now is the widespread use of technology, as well as the types of trading that expand the range of criminal possibilities. Recent attention has been directed to high frequency and algorithmic trading (see Coombs, 2016), which may provide benefits in the form of added liquidity and reduced-price dislocation (Aitken et al., 2015a), but also potential harms given that prices may be easily manipulated (Angel and McCabe 2013, Angel 2014, Angel et al., 2015 and Cooper at al. 2016). A recent example of the potential impact of high-frequency trading was the arrest and subsequent conviction of Navinder Sarao, a London-based day trader who used an automated trading program to manipulate the S&P 500 futures contracts on the Chicago Mercantile Exchange (CME) using techniques called spoofing and layering (see Stafford and Mackenzie, 2015). As noted by these authors, these trading techniques are difficult to distinguish from legitimate trading due to the role of algorithmic trading in many exchange-based markets, such as products trading on the CME.

It is worthy of mention that the pre-release of sensitive price information clearly has economic value and can be used by high-frequency traders and their trading systems to generate profits. Recently, Angel and McCabe (2018) considered the ethical issues associated with the recent practice by Thomson Reuters of selling the University of Michigan's Consumer Sentiment Index to computerized trading firms two seconds before releasing its data to its other paying clients. This practice remains legal, although clearly it provides a select group of market participants with an information advantage.

The scale and scope of financial crime is enormous and has significant impacts on the global economy as well as the lives of those involved. In a presentation to The World Economic Forum, Craig (2018)

argued that financial crime proceeds (i.e. the amount of money from criminal activities being laundered through the financial system) totaled at least $2.4 trillion annually, While this figure represents a broad perspective of financial crime, the impact of financial misconduct, including market manipulation and insider trading, are economically significant and have now transcended simple zero-sum games typically associated with fraud where a gain for one is simply a loss for another.

While criminal losses may be allocated very broadly, these crimes are not victimless, with significant damage to the social and regulatory fabric as well as to market reputation. The effective collapse of the international short-term lending market associated with the London Interbank Offer Rate (LIBOR) scandal is one such recent example, with the Wheatley Review estimating LIBOR price manipulation affected a financial market whose contracts range in value from US $202 to US $333 trillion.[6]

Detection of market manipulation and insider trading is possible in exchange-traded funds, such as stock markets, using sophisticated search algorithms that target anomalous trading as well as patterns of trading (Hawke, 2016; Ehret, 2017). This more detailed analysis has moved beyond earlier analyses of accounting data for detecting manipulation and assessing the reliability of accounting earnings (Beneish, 1999; Dechow et al., 2011) to actual trading data, termed high-frequency data. Identifying such distortions in over-the-counter (OTC) markets is more difficult, since price, trade, and volume information at such a high-frequency is not readily available given that it is not occurring on a single exchange. As noted by the International Compliance Society,

> 'Due to the often complex nature of financial services, detecting and preventing fraud within the financial sector poses an almost insurmountable challenge. The threats are both domestic and international. They may come from within the organization or outside it. Increasingly, internal and external fraudsters combine to commit significant fraudulent acts.'[7]

Thus, identification of key aspects of financial crime has shifted to incentivizing whistle-blowers (see Culiberg and Mihelič, 2016), which provides 'enhanced protection and financial rewards.'[8] For example, under the Dodd–Frank whistle-blower program there are bounty provisions, which provide monetary rewards of between 10 and 30% of any cash collected if the information provided leads to a successful enforcement action and monetary penalties exceeding $1 million. These incentives have had considerable success. For example, Lee (2017) notes that since financial incentives have been offered to whistle-blowers, the probability of accounting fraud was reduced by 7% between 2001 and 2010. Nonetheless, the rewards to whistle-blowers, often those involved in the original crime but who have received immunity from prosecution for their testimony, has attracted criticism (Rapp, 2007; Rapp, 2012). To put these payments in perspective, the US SEC awarded more than $111 million to 34 whistle-blowers in 2016. (SEC, 2017: 1).

6. See Wheatley Report Table C1 (2012).

7. ICA: https://www.int-comp.org/careers/a-career-in-financial-crime-prevention/what-is-financial-crime/.

8. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 amended the Securities Exchange Act of 1934 (Exchange Act) by adopting Section 21F, entitled 'Securities Whistle-blower Incentives and Protection.'

The OECD (2018) has also recently highlighted the importance of the media and investigative journalism in combating financial crime. This owes much to the success of the Panama Papers investigation, by the International Consortium of Investigative Journalists (ICIJ) into tax evasion and bribery.[9]

Dealing with financial crime, broadly defined, is an important component of a corporation's risk management strategy and several authors have identified the importance of improving internal process. Key regulators, such as the SEC also highlight the importance of improving process in firms. As noted by Hawke (2016),

> 'The high percentage of cases that ultimately settle, and low recidivism rates, insider trading enforcement is also among the most visible of the (SEC) Division's programs. It should come as no surprise that the SEC seeks to optimize the technology that it uses to conduct investigations and to rethink and reinvent the methods, tactics, and strategies that it uses to identify and investigate suspicious trading activity. Given the reputational risk associated with even being investigated for insider trading, traders and compliance professionals should seek to better understand the SEC's 'trader-based approach' to insider trading enforcement.'

The 'trader-based' approach, refers to the examination of microstructure trading data to identify patterns between and among individual and institutional traders.

Overall, while the identification and successful prosecution of these crimes remains important with considerable regulatory effort and expense directed to this purpose, much more needs to be undertaken to prevent these crimes from occurring. That is, it is not just a national, industry, or firm-based problem, but also one that must be effected at the individual level. Others, including Batten, Lončarski and Szilagyi (2017) in their discussion of the LIBOR scandal, argue that greater attention should be paid to the role of the individual and the importance of instilling and promoting individual ethical principles and standards as well as more effective compliance at the organization level. These themes are discussed in the final section on the management of risks.

2.2 REGULATORY FRAMEWORK ON INSIDER TRADING AND MARKET MANIPULATION

Goshen and Parchomovsky (2006) note that as custodians and intermediators of the nation's savings, financial market participants – both individuals and corporations – are subject to regulatory scrutiny, which falls into three broad categories: (i) disclosure duties, which reduce the costs of gathering information; (ii) restrictions on fraud and manipulation, which lower the costs of verifying information; and (iii) restrictions on insider trading that would undermine the investment made in gathering and verifying information. A taxonomy of market manipulation techniques is provided in the surveys by Putniņš (2012) and by Pirrong (2017), while Cumming Johan and Peter (2018) review the recent literature on financial market institutions, governance, agency costs, and financial market misconduct.

9. https://panamapapers.icij.org/graphs/ and the ICIJ, Paradise Papers: Secrets of the Global Elite, www.icij .org/investigations/paradise-papers/.

In an economic sense, price manipulation artificially leads to an erroneous equilibrium that in turn may trigger adjustments to demand and supply. However, insider trading pre-empts the price adjustment process that occurs in response to new information, thereby allowing an abnormal profit to be made by the insider. Profit taking by the insider relies upon the broader market eventually adjusting their prices to reflect the new information once it is known publicly. Nonetheless, in most jurisdictions it is not essential for successful prosecution for the insider to profit from these trades, since the initial act of trading signals intent to use the private information. With market manipulation, it is not intended to extract an economic rent from private information, but instead, to force the price to be above or below the correct market equilibrium. As will be discussed later on, given the scale and scope of some financial markets, successfully changing the price from its true equilibrium invariably involves collusion between some, but not necessarily all, market participants.

There may be subtle differences in the application of law associated with insider trading and market manipulation, although the types of acts considered are similar. For example, Table 2.2 lists a series of white-collar crimes investigated by the Federal Bureau of Investigation (FBI) in the US including the falsification of financial information, self-dealing by corporate insiders, kickbacks, and fraud. Some examples of these crimes are also provided. The FCA and European Commission regulation EU596/2014 on market abuse considers the following examples of insider trading and market manipulation and clarify by example aspects of the FBI list:[10]

a. Insider trading occurs when prior to the official publication of certain price sensitive information, a trader learns from an insider the nature of the information and takes a position (possibly leveraged through futures or options) expecting to profit when the information is released. These positions may involve either buying or selling an asset.

b. Front running/pre-positioning involves taking an advantage of an expected price movement associated with a client order that the agent buys or sells beforehand. A detailed discussion of this activity in the Indian stock markets is provided by Chaturvedula et al. (2015).

c. In the context of a takeover, an offeror or potential offeror taking a bet on financial contract, such as an option that should increase or decrease in value once news of the takeover is made public.

d. Price squeezes occur regularly in markets due to demand and supply shocks. However, as the FCA notes, 'Market tightness, is not of itself likely to be abusive . . . In addition, having a significant influence over the demand and supply of an asset is not in itself abusive.'[11] What is important is intention and whether the parties act to mitigate the consequences of their positions. One of the most famous market squeezes involved the Hunt brothers' cornering of the silver market, which involved stockpiling up to two thirds of the world's silver inventory. Nonetheless as Christopher (2016) points out, the case highlights the difficulty in distinguishing market manipulation from normal market trading.

10. https://www.handbook.fca.org.uk/handbook/MAR/1/3.html: MAR 1.3.2G03/07/2016
11. https://www.handbook.fca.org.uk/handbook/MAR/1/6.html

TABLE 2.2 EXAMPLES OF WHITE-COLLAR CRIME INVESTIGATED BY THE U.S. FEDERAL BUREAU OF INVESTIGATION.

1. Falsification of financial information

- False accounting entries and/or misrepresentations of financial condition

  The examples include:

  - Enron (2001), where executives misrepresented earnings and balance sheet items in order to boost performance.[12]
  - Worldcom (2002), where executives recorded expenses as investments and inflated profits (instead of showing the net loss).[13]

- Fraudulent trades designed to inflate profits or hide losses

  The examples include:

  - Guinness (1986), where 'the Guinness Four' manipulated the Guinness stock price on London Stock Exchange in order to facilitate the takeover of a larger drinks firm Distillers.[14]
  - Lehman Brothers (2008), where executives used the repurchase agreements with the non-independent party to misrepresent the company's net leverage position.[15]

- Illicit transactions designed to evade regulatory oversight

  The examples include:

  - Deutsche Bank (2015), where employees were involved in the so-called mirror trading schemes in which the same entity sells and buys the same asset using companies at different locations, thus evading taxes by moving asset to offshore centers.[16]
  - UBS (2007 onward), where the bank systematically assisted nationals of many countries to evade taxes.[17]

2. Self-dealing by corporate insiders

- Insider trading (trading based on material, non-public information) *(continued)*

12. www.theguardian.com/business/2006/jul/06/corporatefraud.enron
13. www.theguardian.com/business/2002/aug/09/corporatefraud.worldcom2
14. www.nytimes.com/1987/01/15/business/guinness-ousts-head-in-scandal.html
15. https://dealbook.nytimes.com/2010/03/12/the-british-origins-of-lehmans-accounting-gimmick
16. www.ft.com/content/5bc8008a-e722-11e6-967b-c88452263daf
17. www.ft.com/content/fd4608f6-1b5e-11e7-a266-12672483791a

The examples include:

- Drexel Burnham Lambert (1986), a case that saw Dennis B. Levine, a banker at DBL, Ivan F. Boesky, a client of DBL, as well as Michael Milken, charged and convicted on several counts of insider trading and financial fraud.[18]
- Martha Stewart (2001), an US household 'brand' and personality, was found guilty of the abuse and profiting of insider information related to biotech company ImClone.[19]
- Raj Rajaratnam (2011), once considered as one of the Wall Street's savviest investors according to New York Times, was charged of insider trading for swapping inside stock tips with corporate insiders and other traders.[20]

- Kickbacks

  The examples include:

  - Amaya CEO (2016), where David Baazov and some other insiders were paid kickbacks in various forms in exchange for privileged insiders' information.[21]

- Misuse of corporate property for personal gain

  The examples include:

  - Polly Peck (1990), where Asil Nadir was found guilty of stealing from the company, which went bankrupt in light of heavy indebtedness.[22]
  - Tyco (2002), where the two executives embezzled funds and misrepresented the company's profits.[23]

- Individual tax violations related to self-dealing[24]

3. Fraud in connection with an otherwise legitimately operated mutual hedge fund

- Late trading
- Certain market timing schemes *(continued)*

18. www.nytimes.com/1990/02/14/business/the-collapse-of-drexel-burnham-lambert-key-events-for-drexel-burnham-lambert.html
19. https://money.cnn.com/2018/05/31/news/companies/trump-martha-stewart-pardon/index.html
20. https://dealbook.nytimes.com/2011/05/11/rajaratnam-found-guilty/
21. www.theglobeandmail.com/report-on-business/former-amaya-ceo-was-involved-in-complex-kickbackscheme-watchdog-says/article31761550/
22. www.bbc.com/news/uk-19161940
23. http://edition.cnn.com/2002/BUSINESS/asia/09/12/us.tyco/
24. https://www.irs.gov/pub/irs-tege/eotopicq85.pdf

The most famous examples include:

- The mutual funds scandal (2003), where the New York attorney general Eliot Spitzer charged four mutual fund companies, a New Jersey hedge fund and several other fund and bank entities of illicit practice of late trading and market timing at the expense of fund investors.[25]

- Falsification of net asset values[26]

Source: https://www.fbi.gov/investigate/white-collar-crime

What are the characteristics of those people charged with insider trading? In an early empirical study investigating the characteristics of 452 persons successfully prosecuted for insider trading in the US, Szockyj and Geis (2002) differentiated between insiders charged with civil versus criminal offenses. First, there were more civil than criminal prosecutions partly due to the difficulty in establishing, as required in criminal prosecutions, that the offender, beyond reasonable doubt, knowingly and willfully violated the law. Second, the median trading profit was also lower for civil versus criminal prosecutions (median of US $25,800 versus US $50,000). And third, not surprisingly, securities professionals were the group mostly likely to be charged with criminal offenses, whereas the civil offenders were mostly business associates, colleagues, and family members. Finally, insider traders were mostly male, and were corporate officers and directors, and as Szockyj and Geis (2002) noted had 'considerable investment in their public persona.'

Given the low average payoff to insider trading, it seems puzzling that those with a significant investment in their 'public persona' would risk the social backlash from a conviction for insider trading. A famous case that illustrates this point is when Martha Stewart, who created a multibillion homewares empire, was accused of 'insider trading after she sold four thousand ImClone shares one day before that firm's stock price plummeted.'[27] The subsequent scandal caused the share price of Martha Stewart's publicly listed firm Omnimedia to 'fall more than 70 percent...and washed away more than a quarter of her net worth. Before the scandal, Stewart had an estimated net worth of $650 million.'[28]

In a more recent study Kallunki et al. (2018) show that insiders' willingness to engage in informed insider trading is a function of wealth and income, although it differs for those selling versus those buying stocks. Kallunki et al. (2018) conclude that this asymmetric finding is consistent with 'reputational and legal risk associated with being detected for trading on private information is significantly higher for insider sales, compared to purchases.'

Market manipulation relies on interpretation by the courts in deciding whether a transaction is abusive or not, whereas acting on the information of an insider is more easily discerned, given the sequential trail of the insider's actions. In financial markets where trading occurs electronically, an insider trading can be identified through a forensic examination of the trading record. For example, the purchase by the insider of an option should cause the price to move in a manner that is inconsistent with other news in the market. This transaction could signal the entry of an insider to the market with further investigation

25. https://money.cnn.com/magazines/fortune/fortune_archive/2003/11/24/353794/index.htm
26. https://www.sec.gov/fast-answers/answersnavhtm.html
27. The details are described in this case study: https://danielsethics.mgt.unm.edu/pdf/martha%20stewart%20case.pdf
28. Ibid, p. 4.

by the regulator on the potential relationships between the various stakeholders (e.g. between the trader and corporate stakeholders with access to private information, including corporate officers and board members).

To better understand the processes involved in market manipulation, Ledgerwood and Carpenter (2012) decomposed the process into three stages: (i) The cause or the trigger: The price-making trades used to provide false information into the market about the value of the asset traded and the subsequent directional price movement; (ii) The effect or the target: The price-taking positions held by the trader that benefits from the directional price movement caused by the trigger; and (iii) the 'nexus' or the linkage between the trigger and target – in this case, the price that is directionally moved to execute the price-based manipulation.

Their point is that uneconomic bids and offers constitute transactional fraud, and clearly differ from outright fraud (for example, simply stealing the proceeds of an asset sale), or the creation of an artificial price, which is not manipulation of existing prices. By separating the analysis of manipulation into these three elements, Ledgerwood and Carpenter (2012) provide a framework to better understand the motives of a trader. For example, Batten, Lončarski and Szilagyi (2015) show that insiders made losing trades to cover their tracks to avoid unnecessary detection by regulators. That is the insider, or manipulator, is in effect making a cost-benefit decision based on the potential profits versus the costs of achieving these benefits, including accounting for the costs of detection.

In response to the many technological challenges associated with monitoring these crimes and especially the impacts of Internet-based attacks on financial agents and institutions,[29] Clayton (2018) explained how the US SEC has established a new Cyber Unit to address these various issues. This unit focuses its efforts on the following key areas:

1. Hacking to obtain material, non-public information and trading on that information.
2. Market manipulation schemes involving false information spread through electronic and social media.
3. Violations involving distributed ledger technology and initial coin offerings (ICOs).
4. Misconduct perpetrated using the dark web.
5. Intrusions into online retail brokerage accounts.
6. Cyber-related threats to trading platforms and other critical market infrastructure.[30]

2.3 RECENT EXAMPLES OF MARKET MANIPULATION AND INSIDER TRADING

There is a rich literature documenting the manipulation of prices in financial markets such as stock markets (e.g. Allen and Gale, 1992), including those where regulatory oversight might be compromised (see Chaturvedula et al. 2015). There are also several telling examples in the commodity (Pirrong,

29. See also www.pwc.com/financialcrime and financial crime in funds transfer systems: actions to counter an emerging international threat for a discussion of the cyber heist against the Bangladesh Central Bank.
30. See www.sec.gov/news/press-release/2017-176 and discussion by Clayton (2018).

2017) and precious metals markets, such as the previously mentioned manipulation of the silver price by the Hunt Brothers in the 1970s (see Pirrong, 1993 and 1995)). A more recent academic study of the gold and silver markets, however, shows no statistical evidence of price fixing (Batten, Lucey and Peat, 2016), despite subsequent regulatory penalties imposed on those involved. This serves to highlight the limitations of statistical techniques used to detect anomalous price trading.

The more recent study by Griffin and Shams (2018) investigated potential manipulation of the VIX volatility index, which is traded as options and futures on the Chicago Board Options Exchange (CBOE). This example highlights both the complexity of trading involved with potential price manipulation in modern financial markets (interconnected by derivatives as well as cash-based products), as well as the difficulty in its determination. The VIX is popularly known as the 'fear index' since it is based on the implied volatility, derived using a Black and Scholes (1973) option pricing model, of the Standard & Poor's 500 Stock Index (S&P 500 Index). If the index increases then market volatility is expected to rise, with the reverse also true. If one assumes that the other inputs to the option pricing model (time to maturity, interest rates, and moneyness) are constant, then the call and put prices will increase if volatility increases, or decrease if volatility decreases.

It is well known that around the time when option and futures contracts are settled, there may often be significant price movements in the underlying asset (e.g. Griffin and Shams, 2018). There is also an extensive literature highlighting the important information role that options provide to their underlying assets (e.g. Amin and Lee, 1997; Du and Fung, 2018). These information flows may be multidirectional and encompass a suite of cash based on derivative products, with the same or similar underlying basis. For example, Antonakakis at al. (2016) show that spot and futures stock volatility spillovers between the UK and US markets are bidirectional in nature and are affected by similar macroeconomic events. A more recent example is the study by Du, Fung and Loveland (2018) that shows that information contained in option trades prior to Federal Open Market Committee (FOMC) rate change announcements can predict bank stock returns. The authors conclude that the options markets can therefore act as a source of informed trading.

However, when exactly is informed trading manipulation? In the Griffin and Shams (2018) study, the authors show that at the settlement time of the VIX, volume spikes on S&P 500 Index (SPX) options occurred, but only in out-of-the-money options used to calculate the VIX. Thus, it appeared that traders were buying these options, not as informed traders, but to cause the settlement price of the VIX to be higher than would otherwise have been the case. Griffin and Shams (2018) investigated alternative explanations of hedging and coordinated liquidity trading but suggested the abnormal increases in volume were more consistent with market manipulation.

A recent list of important events (including prosecutions) on insider trading and manipulation in financial markets is provided in Table 2.3. There are two outstanding examples in the table. The first involves the announcement in 2015 by the U.S. Federal Reserve that it will impose fines totaling more than $1.8 billion against six major banking organizations for their 'unsafe and unsound practices in the foreign exchange (FX) markets.' The fines were for $342 million each for UBS AG, Barclays Bank PLC, Citigroup Inc., and JPMorgan Chase & Co.; $274 million for Royal Bank of Scotland PLC (RBS); and $205 million for Bank of America Corporation. The total amount paid in fines by financial intermediaries involved in

recent scandals was more than US $10 billion,[31] with a detailed timeline of events detailed in McGeever (2017).[32]

TABLE 2.3 LIST OF RECENT EVENTS IN FINANCIAL MARKETS LINKED TO FINANCIAL CRIME.

- 2017: April 10, Bank of England implicated in London Interbank Offered Rate (LIBOR) manipulation scandal.
- 2017: March Barclays CEO Jes Staley reprimanded by board for trying to uncover the identity of a whistle-blower.
- 2016: September, manipulation by Deutsche Bank AG of the silver price.
- 2015: May 20, the US Federal Reserve announces imposition of fines totaling more than $1.8 billion against six major banking organizations for their unsafe and unsound practices in the foreign exchange (FX) markets.
- 2015: Kamay and Hill charged for insider trading in the AUD–USD (the only insider trading case in over-the-counter (OTC) foreign exchange market).
- 2013: June, Bloomberg reports that major banks have been front running client orders and rigging the foreign exchange (FX) benchmark rates.
- 2012: Credit Suisse (amongst others) fined for helping customers avoid taxes.
- 2010: 'Flash Crash' of the Standard & Poor's 500 stock index.
- 2008: LIBOR scandal financial institutions were accused of fixing LIBOR.

Sources: Based on data from www.reuters.com/article/us-deutsche-bank-settlement-silveridUSKBN12H2HB.

This scandal involved the prosecuted banks front running client orders in the lead-up to a key foreign exchange market rate fix on WM/Reuters. It had always been assumed that the size of the spot foreign exchange market, which trades US $5.3 trillion per day, according to the Bank for International Settlements (BIS) foreign exchange survey, would provide sufficient liquidity and prevent manipulation. However, as also noted by the BIS, this market is also highly concentrated with several dealers dominating global turnover. Thus, if these dealers colluded it would be easily possible – despite the market size – to force at least temporarily the spot exchange rate up or down to the desired level.

The second example, in terms of the scale of potential impacts, remains the most important example of recent financial market manipulation. This involved manipulation of the London Interbank Offered Rate (LIBOR) and the subsequent scandal that unfolded in financial markets after the Global Financial Crisis (GFC) from 2007 to 2009. As noted earlier, the Wheatley Report stated that the total value of financial contracts affected was more than US $300 trillion.[33]

31. Fines, exceeding US $6 billion, were levied on the various banks involved in the LIBOR and related foreign exchange scandals: www.abc.net.au/news/2015-05-21/us-britain-fine-top-banks-nearly-6-bn-forforex-libor-abuses/6485510
32. www.reuters.com/article/global-currencies-scandal/timeline-the-global-fx-rigging-scandalidUSL5N1F14VV.
33. See Appendix 1 Use of LIBOR in Financial Contracts from the Wheatley Report Table C1.

LIBOR is the price used to set various floating rate financial contracts and loans and is set by the average of rates provided by a select group of banks and released to other market participants at 11 a.m. London time. Barclays Bank was fined for £59.5 million by the Financial Services Authority (FSA) in June 2012 for breaches under the Financial Services and Markets Act 2000, mostly between 2005 and 2009. Barclays was also fined for $360 million by various US authorities for tampering and false reporting of the EURIBOR and LIBOR during 2005 to 2009.

Numerous studies have subsequently investigated the actions of several banks to set the LIBOR rate including Kregel (2012) Vasudev and Guerrero (2014), Ashton and Christophers (2015) and Braml (2016). These authors note that the misreporting involved was of two types: first, for personal gain, since those involved received incentive-based compensation, and second for broader corporate interests, with the conduct encouraged by senior managers. The British Bankers Association (BBA) has historically managed the LIBOR setting process. However, in response to the LIBOR scandal the US Federal Reserve Bank of New York introduced new reference rates aimed at replacing LIBOR on financial contracts.[34] The regulatory response to the LIBOR scandal is explained in Janin and Stamegna (2016) and Yeoh (2016).

2.4 CONCLUSIONS

The International Compliance Association (ICA) highlights the importance of organization culture in preventing various forms of financial crime. They argue that 'correctly motivated, employees remain honest and become the most effective front-line defense against the fraudster.' Nonetheless, for a firm's employees to do so, they must believe that their institution is also honest and ethical, with all stakeholders being treated with respect and discipline and that achieving high ethical standards is a common objective within the organization.[35]

The previous examples of insider trading and market manipulation highlight the importance of greater transparency as well as corporate and individual accountability (Seyfert, 2016). They also demonstrate that compliance cannot simply replace a foundation in ethics in financial markets and in the corporation. It is noteworthy that while the examples provided may appear distinct, international concerns over regulatory arbitrage have meant that there has been a worldwide convergence of key national regulation, although the penalties may differ between countries. Thus, the examples provided are relevant to a broader audience beyond the national perspectives, or markets, in which they occurred.

One key feature of this discussion is that we distinguish between insider trading and market manipulation that has occurred in over-the-counter (OTC) financial markets, as well as exchange traded markets. Interest rate products such as bonds and bills, and foreign exchange spot and forward trading typically occurs in OTC markets. Derivative products, whose values depend upon market products traded in OTC markets, typically trade in exchange-traded markets, such as the various exchanges associated with the Chicago Mercantile Exchange (CME) Group. In addition, there is stock exchange trading in markets such as the New York Stock Exchange (NYSE) or the Nasdaq.

34. See: www.newyorkfed.org/markets/opolicy/operating_policy_180403 and www.bba.org.uk/about-us/.
35. See: www.int-comp.org/careers/a-career-in-financial-crime-prevention/what-is-financial-crime/.

The specific examples discussed in this paper of market manipulation highlights the limits to national legislation making such schemes illegal. Historically, successful identification and prosecution of these illegal trading schemes has relied either on sophisticated market surveillance of trading behavior, or the mandatory reporting by financial market participants or exchanges of suspicious activity. Despite some reported success of the deterring effect on crime of whistle-blowing legislation (e.g. Wilde, 2017), such oversight and surveillance and a reliance on self-reporting by industry has had mixed success worldwide. It is clear that individual responsibility and the encouragement of better moral and ethical standards cannot be ignored.

To provide additional insights into the processes and linkages between these various examples of market behavior, we apply the framework of ethical behavior described in Batten, Lončarski and Szilagyi (2017). While most corporate ethical codes reflect national regulation, with processes designed to enforce compliance to these rules, the Batten, Lončarski and Szilagyi interdependent model described above highlights the importance of a bottom-up approach to ensure ethical individual and organizational behavior. This process allows a set of core ethical values to facilitate individual and corporate expression, beyond simple compliance.

We conclude that top-down, external approaches to preventing financial crimes such as insider trading and market manipulation cannot alone succeed. What is needed is more inclusive approach that enables the propagation of ethical behavior, not only in terms of ethical (and legal) codes of conduct, but also in terms of embedding ethics in the culture of the individual and corporation. These perspectives support the position of Batten, Lončarski and Szilagyi that the legal, ethical and moral structures surrounding financial markets should be interdependent and inclusive, while still allowing for individual and corporate expression. This approach in effect sees ethical policy as being at the nexus of individual and national–international guidance.

CHAPTER 2: TEST YOUR KNOWLEDGE

The following questions are designed to ensure that you have a complete understanding of the information presented in the chapter (assignment). They are included as an additional tool to enhance your learning experience and do not need to be submitted in order to receive CPE credit.

We recommend that you answer each question and then compare your response to the suggested solutions on the following page(s) before answering the final exam questions related to this chapter (assignment).

1.	**Which of the following involves attempting to cause an asset price to be above, or below, its expected equilibrium:** **A.** insider trading **B.** market manipulation **C.** price squeezes **D.** phishing
2.	**All of the following are U.S. agencies involved in the detection, prevention, and investigation of financial crime <u>except</u>:** **A.** the Central Intelligence Agency (CIA) **B.** the Department of Justice (DOJ) **C.** the Securities and Exchange Commission (SEC) **D.** the Federal Trade Commission (FTC)
3.	**Which of the following is correct regarding whistle-blowers and market manipulation:** **A.** the identification of key aspects of financial crime has shifted to incentivizing whistle-blowers **B.** the Dodd-Frank whistle-blower program offers monetary rewards between 75% and 100% of any cash collected if the information provided leads to a successful enforcement action and monetary penalties exceeding $100,000 **C.** studies show that since financial incentives have been offered to whistle-blowers, the probability of accounting fraud was reduced by 25 percent between 2001 and 2010 **D.** both A and B are correct

4.	**Financial market participants are subject to which of the following forms of regulatory scrutiny:** **A.** restrictions on insider trading **B.** restrictions on fraud and manipulation **C.** disclosure duties **D.** all of the above
5.	**Which of the following involves taking an advantage of an expected price movement associated with a client order that the agent buys or sells beforehand:** **A.** insider trading **B.** front running/pre-positioning **C.** price squeezes **D.** self-dealing
6.	**Which of the following is <u>not</u> a key area focused on by the SEC's Cyber Unit:** **A.** misconduct perpetrated using the dark web **B.** intrusions into online retail brokerage accounts **C.** the use of counterfeit digital currencies **D.** cyber-related threats to trading platforms

CHAPTER 2: SOLUTIONS AND SUGGESTED RESPONSES

Below are the solutions and suggested responses for the questions on the previous page(s). If you choose an incorrect answer, you should review the pages as indicated for each question to ensure comprehension of the material.

1.	**A.** Incorrect. Insider trading refers to the use of private information to trade assets. **B.** **CORRECT**. Market manipulation uses complex trading strategies or the simple misrepresentation of information to other market participants in order to cause the asset price to be above, or below, its expected equilibrium. **C.** Incorrect. Price squeezes occur regularly in markets due to demand and supply shocks. However, proving criminal intent can be difficult. **D.** Incorrect. Phishing is not the term used to describe an attempt to manipulate a market. *(See page 45 of the course material.)*
2.	**A.** **CORRECT**. The CIA is not involved in the detection, prevention, and investigation of financial crime in the United States. **B.** Incorrect. The DOJ is involved in the detection, prevention, and investigation of financial crime. **C.** Incorrect. The SEC is considered the centerpiece for regulatory enforcement for the detection, prevention, and investigation of financial crime in the United States. **D.** Incorrect. The FTC is one of the numerous organizations involved in the detection, prevention, and investigation of financial crime. *(See page 46 of the course material.)*
3.	**A.** **CORRECT**. Identification of key aspects of financial crime has shifted to incentivizing whistle-blowers, which provides “enhanced protection and financial rewards.” **B.** Incorrect. The Dodd-Frank whistle-blower program offers monetary rewards of between 10% and 30% of any cash collected if the information provided leads to a successful enforcement action and monetary penalties exceeding $1 million. **C.** Incorrect. Studies have shown that since financial incentives have been offered to whistle-blowers, the probability of accounting fraud was reduced by 7 percent, not 25 percent, between 2001 and 2010. **D.** Incorrect. Only one of the provided selections is correct. *(See page 48 of the course material.)*

4.	**A.** Incorrect. Financial market participants are subject to restrictions on insider trading that would undermine the investment made in gathering and verifying information, but this is not the only selection that is correct. **B.** Incorrect. Restrictions on fraud and manipulation apply to all financial market participants. However, this is not the only correct selection. **C.** Incorrect. Financial market participants are subject to disclosure requirements, but this is not the only provided selection that is correct. **D. CORRECT**. Financial market participants, both individuals and corporations, are subject to regulatory scrutiny which falls into the three broad categories of disclosure duties, restrictions on fraud and manipulation, and restrictions on insider trading. *(See page 49 of the course material.)*
5.	**A.** Incorrect. Insider trading refers to the use of private information to trade assets. **B. CORRECT**. Front running/pre-positioning involves taking an advantage of an expected price movement associated with a client order that the agent buys or sells beforehand. **C.** Incorrect. Price squeezes occur regularly in markets due to demand and supply shocks. **D.** Incorrect. Self-dealing does not involve taking advantage of an expected price movement associated with a client order that the agent buys or sells beforehand. *(See page 50 of the course material.)*
6.	**A.** Incorrect. The SEC's Cyber Unit does focus on misconduct perpetrated using the dark web. **B.** Incorrect. Intrusions into online retail brokerage accounts is an issue that the Cyber Unit focuses on. **C. CORRECT**. The use of counterfeit digital currencies is not an area focused on by the SEC's Cyber Unit. **D.** Incorrect. The Cyber Unit focuses, in part, on cyber-related threats to trading platforms and other critical market infrastructure. *(See page 54 of the course material.)*

GLOSSARY

Accounting fraud: Accounting fraud is the illegal alteration of a company's financial statements in order to manipulate a company's apparent health or to hide profits or losses. Overstating revenue, failing to record expenses, and misstating assets and liabilities are all ways to commit accounting fraud.

Digital currency: A form of currency that is available only in digital or electronic form, and not in physical form.

High-frequency trading: A method of trading that uses powerful computer programs to transact a large number of orders in fractions of a second. Typically, the traders with the fastest execution speeds are more profitable than traders with slower execution speeds.

Initial public offerings (IPO): The process of offering shares of a private corporation to the public in a new stock issuance.

Insider trading: The trading of a public company's stock or other securities (such as bonds or stock options) based on material, nonpublic information about the company.

Kickback: An illegal payment intended as compensation for preferential treatment or any other type of improper services received.

Layering: A strategy in high-frequency trading where a trader makes and then cancels orders that they never intend to have executed in hopes of influencing the stock price.

Market manipulation: A type of market abuse where there is a deliberate attempt to interfere with the free and fair operation of the market and create artificial, false or misleading appearances with respect to the price of, or market for, a product, security, commodity or currency.

Money laundering: Money laundering is the illegal process of concealing the origins of money obtained illegally by passing it through a complex sequence of banking transfers or commercial transactions. The overall scheme of this process returns the "clean" money to the launderer in an obscure and indirect way.

Order spoofing: Spoofing is an illegal form of market manipulation in which a trader places a large order to buy or sell a financial asset, such as a stock, bond or futures contract, with no intention of executing. By doing so, the trader—or "the spoofer"—creates an artificial impression of high demand for the asset.

Pump-and-dump: Denoting the fraudulent practice of encouraging investors to buy shares in a company in order to inflate the price artificially, and then selling one's own shares while the price is high.

Reputational capital: The perception of the trust that customers and users have in your products, websites and services and your brand.

Self-dealing: When a fiduciary acts in their own best interest in a transaction, rather than in the best interest of their clients. Self-dealing may take many forms but generally involves an individual benefiting — or attempting to benefit — from a transaction that is being executed on behalf of another party.

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