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## ARTICLE

# Do liquid assets lure managers? Evidence from corporate misconduct

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## Abstract

We examine the effect of asset redeployability on corporate misconduct and find a significant positive relationship. Utilizing a large sample of public US firms for the period of 2001 to 2015, we find that a one standard deviation (SD) increase in the proportion of redeployable assets leads to a 7.2% increase in corporate fines. We also find that the positive association between asset redeployability and corporate misconduct varies across types of misconduct and industrial heterogeneity. In our channel analysis, we find that managerial risk-taking is a potential mechanism through which asset redeployability is associated with misconduct. Additional tests reveal that corporate misconduct associated with asset redeployability leads to lower firm value. Our results remained robust in a series of sensitivity tests and continue to hold after accounting for potential endogeneity concerns. Our paper contributes to the ongoing discourse on the costs and benefits of asset redeployability.

## KEYWORDS

agency conflict, asset redeployability, corporate misconduct, managerial risk-taking

## JEL CLASSIFICATION

G32, G34, M14

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## 1 | INTRODUCTION

We examine whether and how asset redeployability affects corporate misconduct.<sup>1</sup> Whether a classic case of fraud/accounting malpractice (e.g., Enron and WorldCom), environment-related crime (e.g., Volkswagen's emissions scandal in 2015 and Apple's product obsolescence case in 2018) or an operational scandal (e.g., LIBOR-fixing scandal by Deutsche Bank in 2015), the common thread across these incidents is pervasive rule violations by managers that lead to large-scale corporate abuses. The consequence of these behaviors has been the punishment of corporations through severe legislative penalties and fines. In addition to severe financial penalties and associated legal costs, loss of trust also undermines investors' confidence, damages shareholder value, triggers misallocation of capital resources and increases instability in the financial market (Cumming, Dannhauser et al., 2015; Cumming et al., 2018; Karpoff, 2021; Zaman, Atawnah, Baghdadi et al., 2021).

Such far-reaching consequences of corporate misconduct have encouraged many scholars to investigate the determinants of business fraud and other scandals (Cumming, Leung et al., 2015; Jain & Zaman, 2020; Karpoff, 2021; Zaman, Atawnah, Baghdadi et al., 2021). Several studies have examined the role of managerial characteristics on corporate wrongdoing (Amiram et al., 2018). Studies investigating the role of managerial risk-taking behavior find that managerial equity-based compensation (Bouslah et al., 2018; Hass et al., 2015; Jain et al., 2021; Johnson et al., 2009), managerial hubris (Tang et al., 2015) and managerial over-optimism and opportunism (Ali & Hirshleifer, 2017; Bianchi & Mohliver, 2016) intensify corporate misconduct. Asset redeployment is at the discretion of management (Li & Xu, 2018) and the presence of deployable assets influences managerial behavior linked to financing (Kim & Kung, 2017; Lui et al., 2009) and tax avoidance (Hasan et al., 2021). Managers might use these assets to fulfil short-term goals, as well as their own personal objectives, at the expense of stakeholders' interests—leading to corporate misconduct. We address this fundamental question by examining whether the presence of redeployable assets encourages managers to engage in corporate misconduct.

Asset redeployability refers to a firm's ability to liquidate its capital assets at reasonable prices in the secondary capital market (Kim & Kung, 2017). The buying and selling of corporate assets in this market constitutes an important investment decision and is often used by managers to meet their liquidity needs (Almeida & Campello, 2007; Anand & Singh, 1997). For example, in 1 year alone (2012), US-listed companies made more than 6000 corporate asset transactions in the secondary capital market. The total value of these transactions amounted to well over US \$167 billion (Kim & Kung, 2017).

Prior literature focusing on the consequences of asset redeployability does reveal a diversity of views. Scholars highlighting the positive side of asset redeployability advocate that the presence of a large portion of redeployable assets is a source of competitive advantage for firms. Redeployable assets provide liquidity for companies to meet their financial obligations and assist them to cover operational needs (Bates et al., 2009). Findings in the empirical literature suggest that higher asset redeployability: (i) increases debt maturity (Benmelech, 2009); (ii) enhances investment level and equity value of financially constrained firms (Almeida & Campello, 2007; Rong et al., 2020); (iii) results in cheaper capital (Chen et al., 2020; Ortiz-Molina & Phillips, 2014); and (iv) is associated with much less corporate tax avoidance (Hasan et al., 2021). Yet some research has commented on the negative consequences of asset redeployability. Such studies argue that the presence of redisposable assets facilitates managerial risk-taking behaviors that lead to higher earnings manipulation (Bartov, 1993; Black et al., 1998; Herrmann et al., 2003), adverse auditor responses (i.e., high audit fees and auditor resignations; Gul et al., 2019) and an increased risk of stock price crashes (Chen et al., 2019).

To test these opposing arguments, we use real penalties' data obtained from Violation Tracker, which is produced by the *Corporate Research Project of Good Jobs First* to identify instances of corporate misconduct.<sup>2</sup> Data relating to

<sup>1</sup> We followed Cumming, Dannhauser et al. (2015) and define corporate misconduct as behavior of firms or managers resulting in material value loss to shareholders or other relevant stakeholders (e.g., creditors, customers and suppliers), and therefore leads to legal enforcement, such as financial penalties on businesses.

<sup>2</sup> We are thankful to Philip Mattera of *Good Jobs First* for giving us access to the data on corporate misconduct.

asset redeployability are obtained from Kim and Kung (2017), with asset redeployability capturing the extent to which a company's underlying assets have alternative uses both within and across industry and incorporate dimensions of asset salability and market thickness<sup>3</sup> (Kim & Kung, 2017). Our analysis provides original evidence that a higher proportion of redeployable assets tends to increase not only the cost of corporate misconduct but also the number of times that it occurs. Our results are statistically significant and economically meaningful. We find that a one SD increase in the proportion of re-deployable assets leads to a 7.2% increase in corporate misconduct (i.e., equivalent to US \$0.53 million in fines). We further explored whether the positive association between asset redeployability and corporate misconduct varies across various types of misconduct and industrial heterogeneity. Our results indicate that the redeployability-misconduct relationship is more pronounced for workplace- and environmental-related misconduct and is contingent on industrial heterogeneity. Such an outcome indicates that managers are more likely to select easy targets and defy stakeholders when strong reactions are not expected.

Building on the hypothesis that asset redeployability leads to increased corporate misconduct due to managerial risk-taking, we perform a channel analysis based on Baron and Kenny's (1986) causal step regression. We employ two proxies for managerial risk-taking: (i) *CEO Vega*, which refers to the sensitivity of the CEO stock portfolio to total equity compensation (Coles et al., 2006); and (ii) management over-optimism (*Holder 67*). Management over-optimism is defined as whether the CEO holds vested options, with average moneyness of 67% or more, at least twice during the sample period (Malmendier & Tate, 2005). Our findings indicate that CEO Vega perfectly mediates the relationship between asset redeployability and corporate misconduct. However, we find that CEO overconfidence partially mediates the redeployability-misconduct relationship. Nonetheless, these findings indicate that managerial risk-taking is a possible mechanism through which asset redeployability is associated with misconduct. Furthermore, we find that corporate misconduct associated with asset redeployability reduces firm value measured as the return on assets (ROA) and Tobin's Q. Therefore, stakeholders (i.e., particularly the shareholders) bear the cost of management's irresponsible behaviors.

Our main findings remain consistent following the application of a large number of robustness tests: (i) alternative measurement of asset redeployability and misconduct; (ii) controlling for the 2008 Global Financial Crisis (GFC); and (iii) after including the state fixed effect. Our results continue to hold after accounting for potential endogeneity concerns<sup>4</sup>.

Our study contributes to three strands in the literature. First, it expands a growing body of research on corporate misconduct by examining the role of asset redeployability. Prior literature demonstrates that CEO risk-taking incentives (Armstrong et al., 2013; Bouslah et al., 2018; Jain et al., 2021), CEO hubris (Tang et al., 2015), gender diversity (Cumming, Leung et al., 2015), audit committees (Agrawal & Chadha, 2005; Beasley et al., 2000) and board independence influence corporate misconduct (Avci et al., 2018; Jain & Zaman, 2020; Mishina et al., 2010; Zaman et al., 2020). We identify an important characteristic of the firm's real asset bases, namely, asset redeployability which magnifies corporate misconduct.

Second, we extend the literature focusing on asset redeployability and its consequences for the firms. The majority of prior studies investigating the positive aspects of asset redeployability reveal that redeployability affects corporate financing decisions (Benmelech, 2009; Ortiz-Molina & Phillips, 2014), increases firm valuations (Kim, 2018; Rong et al., 2020) and curtails tax avoidance (Hasan et al., 2021). By contrast, we demonstrate the negative consequences of asset redeployability on firm behavior in general, and corporate misconduct in particular. To the best of our knowledge, this is the first study that not only captures nuances associated with asset redeployability and corporate misconduct but also explores conditions through which asset redeployability influences corporate misconduct.

<sup>3</sup> Kim and Kung (2017) followed three steps. First, they calculate an asset-level re-deployability score that captures the use of a particular asset within an industry. Second, they capture an industry-level asset re-deployability score by taking the average of each asset-level re-deployability score for the assets used by a particular industry. Third, and finally, they calculate a firm-level asset re-deployability score by utilizing the weighted average of industry level re-deployability score across a firm's business segments.

<sup>4</sup> Results available from the corresponding author by request.

Third and finally, we also demonstrate that the asset redeployability-misconduct relationship reduces firm value, which has much wider implications for multiple stakeholders. Given recent incidents of corporate wrongdoing, our findings concerning the relationship between asset redeployability and corporate misconduct have important ramifications for stakeholders and especially regulators, policymakers and investors across global settings. Our intent is to promote responsible business practices.

The remainder of the paper is organized as follows. We begin by examining the literature that is relevant to our study and by presenting our hypotheses. In Section 3, we describe our methods, including data, measures and research methodology. The results and discussion are presented in Section 4, and our overall conclusions are presented in Section 5.

## 2 | LITERATURE REVIEW AND HYPOTHESIS

### 2.1 | Asset redeployability

Asset redeployability refers to corporate assets that can be resold or reutilized as an efficient alternative (Hasan et al., 2021). Although the salability of redeployable assets is possible through active secondary markets for capital assets, there remains significant variation between firms in terms of proportion of such assets to their total assets. This heterogeneity is contingent on several factors, such as search costs for potential buyers and sellers, financial constraints and business type (Chen et al., 2020; Hasan et al., 2021). As a result, the use of redeployable assets of a business largely remained at discretion of management. Managers in companies with a large proportion of redeployable assets enjoy several benefits. First, such tangible assets are accounted for depreciation and lose their value over time; therefore, managers may redeploy these assets to ensure their production level remains at par (Rong et al., 2020). Second, managers may boost business profitability by simply converting less productive and/or less profitable tangible assets into cash and later investing this cash into more profitable segments (Li & Xu, 2018). An oft-cited example is General Electric (GE), which sold its appliance business in 2014 to Electrolux to redeploy its capital in more profitable sectors, such as the oil and gas, aviation and healthcare industries (Mann, 2014). Such redeployment of assets has resulted in a 75% increase in GE's profit margins in 2016.

Conversely, the presence of such assets also provides an opportunity for entrenched managers to obscure underlying earnings by selling productive assets at a higher price and ignore stakeholders' interests (Graham et al., 2005; Gul et al., 2019; Herrmann et al., 2003; Schnatterly et al., 2018). For instance, IBM sold one of its operating units for \$300 million to beat analysts' forecasts. Such an unprecedented action triggered the Security Exchange Commission (SEC) to investigate potential or suspected accounting malpractice, which resulted in the company's stock share value falling by 4% (Monica, 2003).

Due to the unique characteristics of redeployable assets, several scholars have examined their impact on corporate policies/outcomes. Studies have investigated the role of redeployable assets on finance policies, such as capital structure (Bernardo et al., 2020; Campello & Giambona, 2013), debt maturity (Benmelech, 2009), investment opportunities (Almeida & Campello, 2007; Kim & Kung, 2017; Rong et al., 2020) and corporate tax avoidance (Hasan et al., 2021). Despite the relevance of redeployable assets on managerial behavior, no studies have yet investigated their role in corporate misconduct. Thus, our study is intended to address this gap in the literature.

### 2.2 | Theoretical framing and hypotheses development

A firm's asset structure represents its capacity for producing and generating economic benefits, such as good profits. Firms, regardless of their size, need internal and/or external capital to finance their operations. Sometimes, these flows of capital can be replaced by redeploying existing assets to some other department, organization or another

industry to utilize these assets more effectively and efficiently (De Vita et al., 2011). These redeployable tangible assets can be viewed as an asset but also a liability. Studies focusing on the positive aspects of asset redeployability contend that such assets boost firm liquidity and facilitate better financing decisions. Consistent with this view, Benmelech and Bergman (2009) and Ortiz-Molina and Phillips (2014) indicate that companies with more illiquid assets pay more for capital. Similarly, Campello and Giambona (2013) find that asset redeployability eases borrowing conditions, especially in credit-constrained environments. More recently, Kim (2018) extends the implications of redeployable assets to corporate mergers and acquisitions. Their findings indicate that firms with a large proportion of redeployable assets receive higher premiums in such deals. Similarly, Hasan et al. (2021) explore the impact of asset redeployability on managerial behavior by invoking corporate tax avoidance activities. They report that management executives with responsibility for a large number of redeployable assets can ensure less corporate tax avoidance.

Taken together, these findings imply that firms with a higher ratio of redeployable assets enjoy better relationships with stakeholders (i.e., lenders, shareholders and regulators). Redeployable assets provide management-added resources to meet financial and operational obligations and release performance-related pressure (Anand & Singh, 1997; Rong et al., 2020). Consequently, managers will have little incentive to violate stakeholders' interests and engage in misconduct.

Although many studies favor the positive aspects of asset redeployability, there is a small but growing literature that has highlighted the dangers of such assets. This literature employs standard agency theory and argues that separation of ownership and control creates agency problems. This dichotomy is typically observed in public listed companies, where opportunistic managers can exploit company resources for their own advantage because it is difficult, expensive and time-consuming to monitor what they do (Jensen & Meckling, 1976). Studies focusing on underhanded aspects of asset redeployability argue that the presence of disposable assets facilitates agency conflict. Managers exploit these resources to their own advantage, resulting in higher earnings management practices<sup>5</sup>(Bartov, 1993; Black et al., 1998; Herrmann et al., 2003). Other studies have also acknowledged the role of asset redeployability in corporate risk-taking. For instance, Gul et al. (2019) suggest that auditors are more likely to charge higher fees for firms blessed with large amounts of redeployable assets because there is an inherent risk associated with these assets. Similarly, Chen et al.'s (2019) findings reveal that the presence of redeployable assets enables managers to opportunistically exploit asset sales so that they can manipulate firm earnings upwards and hide bad news, leading to a higher risk of a stock price crash. These findings strongly suggest that the presence of higher asset redeployability will encourage managerial risk-taking behavior.

We argue that such a corporate environment would increase the probability of managers seeking to pursue their own agendas at the expense of stakeholders, and, in certain circumstances, engaging in acts of corporate malpractice to cover their tracks. Our argument is based on prior literature documenting a significant positive relationship between managerial risk-taking behaviors and corporate misconduct (Armstrong et al., 2010; Bouslah et al., 2018; Hass et al., 2015). Managers' risky behaviors exacerbate agency problems to a point that poor outcomes for both shareholders and stakeholders are the result (Mishina et al., 2010; Rezaee, 2005). Empirical studies that support these arguments contend that a higher level of managerial risk-taking facilitates earnings manipulation (Armstrong et al., 2013; Zhang et al., 2008), increases incidents of product safety problems (Wowak et al., 2015) and results in a large number of shareholder lawsuits (Peng & Röell, 2008). Taking both views together (i.e., the positive and negative aspects of asset redeployability), we formulate our hypothesis as follows:

*H1: A higher proportion of asset redeployability is associated with corporate misconduct.*

<sup>5</sup> Since the presence of redeployable assets capture asserts salability, it would be much easier for a firm's management to manipulate earnings if it owned highly redeployable assets.

## 2.3 | Asset redeployability and corporate misconduct: The underlying mechanism

In this section, we explore a possible underlying mechanism: managerial risk-taking through which asset redeployability might be associated with corporate misconduct. We capture managerial risk-taking behavior through CEO Vega and CEO overconfidence.

### 2.3.1 | CEO Vega

We have hypothesized that liquidity stemming from redeployable assets heightens managerial risk-taking behavior (Chen et al., 2019; Gul et al., 2019), which, in turn, tempts managers to engage in fraud or other dishonest business dealings (Ali & Hirshleifer, 2017; Bouslah et al., 2018; Jain et al., 2021). If this hypothesis holds then one could expect that asset redeployability might be associated with corporate misconduct via managerial risk-taking (i.e., CEO Vega). Prior studies document that the use of stock options (i.e., CEO Vega) in executive compensation contracts does increase managerial risk-taking (Agrawal & Mandelker, 1987; Jain et al., 2021; Rajgopal & Shevlin, 2002). Prior studies also reveal that CEO Vega is positively associated with corporate misconduct in the form of earnings management and restatements (Armstrong et al., 2013), and socially irresponsible activities (Bouslah et al., 2018; Jain et al., 2021). Misconduct in any form can be perceived as a special type of risky project that raises expected equity value. Therefore, managers with high CEO Vega find such initiatives alluring (Armstrong et al., 2013). Taken together, if asset redeployability spurs higher risk-taking and managers with higher CEO Vega are linked with a higher likelihood of misconduct, then we would expect that asset redeployability is related to corporate misconduct through managerial risk-taking (i.e., in this case CEO Vega).

### 2.3.2 | CEO Overconfidence

CEOs' overconfidence, demonstrated in their underestimation/overestimation of risk/return associated with a company event, has long been considered the main determinant of corporate strategic decision-making (Malmendier & Tate, 2008). The psychology literature suggests that CEOs' overconfidence affects risk-taking through their overestimation of the precision of exogenous noisy signals (Gervais et al., 2011; Goel & Thakor, 2008) and underestimating the riskiness of future adverse events (Hackbarth, 2008). Prior studies provide evidence that CEO overconfidence is associated with: (i) unethical corporate behavior in the form of CSR decoupling (Sauerwald & Su, 2019); (ii) value-destroying mergers (Malmendier & Tate, 2008); and (iii) higher stock price crash risk (Kim et al., 2016). Overconfident CEOs may be involved in unethical and irresponsible activities because they believe they can deal with the negative consequences that might arise (Tang et al., 2015). To the extent that liquid assets provide managers with incentives for opportunistic use, overconfident CEOs are more likely to be lured toward corporate misconduct because they believe that they can deal with the consequences. Taken together, if asset redeployability spurs risk-taking and ultimately gives managers the incentive to engage in corporate misconduct, then asset redeployability could be associated with misconduct through managerial risk-taking. Thus, we formulate our hypothesis as follows:

**H2:** *Asset redeployability is associated with corporate misconduct through managerial risk-taking (CEO Vega and Overconfidence)*

## 2.4 | Asset redeployability, corporate misconduct and firm value

We have hypothesized that asset redeployability encourages management to engage in corporate misconduct through risk-taking. However, prior studies argue that stock markets react negatively to unethical corporate behavior (e.g., Carberry et al., 2018). For example, Nadeem (2021) argues that misbehaving firms face customer boycotts and public

outcry—all of which results in significant financial hardships. Among the costs associated with misconduct are legal expenses in the form of fines and settling lawsuits, and expenses associated with implementing new monitoring practices and reputational penalties—all of which eventually undermine a firm's market value (Atawnah et al., 2018; Karpoff et al., 2008; Nadeem, 2021; Zaman, Bahadar et al., 2021). Prior studies provide empirical evidence that managerial risk-taking increases the likelihood of corporate misconduct, which prompts poorer business performance (Nadeem et al., 2021; Schnatterly et al., 2018; Zahra et al., 2005). If asset redeployability increases the type of managerial risk-taking that leads to corporate misconduct, then we expect that the asset redeployability and misconduct relationship may have a negative impact on firm value. Our hypothesis is as follows:

**H3:** *The asset redeployability and corporate misconduct relationship lower firm value.*

## 3 | RESEARCH DESIGN

### 3.1 | Data, sample and variable description

We obtain our data from Violation Tracker, Bloomberg, Compustat and ExecuComp databases. We first extract penalties' data from Violation Tracker. We then manually match companies' names from Violation Tracker with companies' names extracted from Bloomberg. We employ the Google search engine and stock exchange websites to verify our matching based on company names. This process allows us to compile comprehensive and fine-grained data of penalties for 763 US companies with Bloomberg tickers, ISINs and CUSIPs as unique identifiers across the sample period of 2001 to 2015. We then obtain asset redeployability data from Kim and Kung (2017). Data to calculate managerial risk-taking variables, such as *CEO Vega* and *Holder 67*, are extracted from ExecuComp and Compustat. Company accounts data are also obtained from Compustat. To remove outlier effects, we winsorize all continuous variables at the first and 99th percentiles. Our final sample for the empirical analysis comprises 5452 firm-year observations for 680 US-listed companies.

### 3.2 | Variable measurement

#### 3.2.1 | Corporate misconduct

While a significant number of studies of corporate misconduct have focused largely on financial misreporting (Armstrong et al., 2013; Beasley et al., 2000), accounting irregularities (Armstrong et al., 2010) and financial market manipulations (Cumming, Dannhauser et al., 2015; Cumming et al., 2018) that mainly target shareholders, analyses examining corporate misconduct and its implications for a broad spectrum of stakeholders are scarce. In this study, we therefore examine corporate misconduct and measure it by the amount of financial penalties imposed on a firm due to the violation of stakeholders' interests, namely  $\ln(\text{Total Penalties } \$)$ , as suggested in recent research (Heese & Pérez-Cavazos, 2019; Jain & Zaman, 2020; Zaman, Atawnah, Baghdadi et al., 2021).<sup>6</sup> We use the real amount of penalties' data, obtained from Violation Tracker, which offers records of violations that resulted in penalties of at least \$5000. Violation Tracker data is produced by the *Corporate Research Project of Good Jobs First*, a national policy resource center that aims to promote corporate and governmental accountability. Violation Tracker was the first wide-ranging database of corporate irresponsibility, and it was used in a recent study examining stakeholders' misconduct (Heese & Pérez-Cavazos, 2019; Zaman, Atawnah, Baghdadi et al., 2021). It records corporate misconduct pertaining to an extensive range of infringements of stakeholders' rights and comprising the following categories: (i) shareholder-related

<sup>6</sup> We also utilize the number of penalties imposed on firms due to violation of stakeholders' interests as an alternative measure, namely  $\ln(\text{Number of Penalties})$ .

misconduct; (ii) customer-related misconduct; (iii) employee-related misconduct; (iv) environmental-related misconduct; and (v) society-related misconduct.<sup>7</sup> Violation Tracker has collected these data from more than 50 federal regulatory agencies of the US Department of Justice since 2000.

### 3.2.2 | Asset redeployability

We use Kim and Kung's (2017) asset redeployability (*REDEPLOY*) measure as the main explanatory variable. We prefer Kim and Kung's (2017) data over traditional measures (i.e., a simplified liquidity index measured as total book assets to industry total book assets) of asset redeployability since it accounts for asset use across as well as within industries.<sup>8</sup>

Kim and Kung (2017) employ a three-step process to capture firm-level asset redeployability. In the first step, Kim and Kung (2017) use the 1997 Bureau of Economic Analysis (BEA) capital flow table to calculate a redeployability score for each asset category.<sup>9</sup> They measure each asset redeployability score as the sum of weights of industries that use the assets among 123 industries in the BEA table. Here, industry weight is the sum of the market capitalizations of all Compustat firms in each BEA industry over the sum of market capitalizations across all Compustat firms.

In the second step, Kim and Kung (2017) aggregate the asset redeployability scores across the 180 different assets categories to construct an industry-level redeployability index. This kind of index is defined as the value-weighted average of each asset redeployability score used by the industry, where weights reflect the industry expenditure on a given asset category divided by the industry total expenditure per BEA table.

In their third and final step, they calculate firm-level asset redeployability as the value-weighted average of the industry-level redeployability indices across a firm's business segment. Of note as part of the robustness check, we utilize two additional asset redeployability measures (i.e., *REDEPLOY\_CORR* and *REDEPLOY\_EW*) proposed by Kim and Kung (2017). *REDEPLOY\_CORR* is a correlation adjusted asset redeployability measure that considers the extent to which a firm's output in a particular industry correlates with the output of other firms in the same industry. *REDEPLOY\_EW* is an equally weighted asset redeployability measure that calculates each asset's redeployability score across industries by using the number of firms (equal weights) operating in the industry instead of that industry's actual market capitalization. Companies with higher values of asset redeployability measures are generally associated with high recovery rates and more actively involved in asset sales.

### 3.2.3 | Control variables

We include two sets of control variables, based on previous studies of corporate misconduct and board co-option. Our first set of control variables includes board characteristics, such as board corporate social responsibility committee (*CSR COMM*), board size (*BFSIZE*), board gender diversity (*BGEND*) and board independence (*BIND*), which are all considered to be linked to corporate misconduct (Jain & Zaman, 2020; Nadeem, 2021). Our second set of control variables include a set of firm characteristics that have also been identified in previous studies as being related to corporate misconduct. Specifically, we control for firm performance using return on assets (*ROA*), since a firm's performance affects its propensity to engage in misconduct (Johnson et al., 2009; Köster & Pelster, 2017). We also control for firm tangibility, defined as the proportion of plant property and equipment to total assets (*PPE*) (Bouslah et al., 2018).

<sup>7</sup> Shareholder-related misconduct includes fines or penalties for accounting and tax-linked controversies, such as aggressive to nontransparent accounting, tax fraud and parallel imports or money laundering practices. Customer-related misconduct includes fines or penalties related to customer health and safety, product and service quality, customer privacy and integrity, price-fixing and anti-competitive behaviors. Workplace-related misconduct includes fines/penalties for health and safety breaches, and employment discrimination. Environmental-related misconduct includes fines/penalties due to such events as toxic chemical releases and oil spills. Society-related misconduct includes fines or penalties for public health, industrial accidents and corrupt practices.

<sup>8</sup> Kim and Kung's (2017) measure have other advantages. For example, it captures salability of over 180 different asset classes, while others measure all assets equally. This measure is based on the direct expenditure on specific assets instead of general corporate transactions at the industry level. The latter fails to account for the heterogeneity of underlying assets.

<sup>9</sup> BEA breaks down expenditures on new equipment, software and structures by 180 assets for 123 industries.

**TABLE 1** Corporate misconduct distribution across industries

	Penalties Cost in \$ (Sum)	Number of penalties (Sum)
Consumer (Nondurables)	629,000,000	850
Consumer (Durables)	159,000,000	169
Manufacturing	1,480,000,000	1540
Oil, Gas, and Coal Extraction	1,820,000,000	1,536
Chemicals and Allied Products	618,000,000	735
Business Equipment	2,220,000,000	424
Telephone and TV Transmission	345,000,000	208
Utilities	10,300,000,000	681
Wholesale and Retail	3,160,000,000	1159
Healthcare	17,700,000,000	275
Finance	119,000,000	96
Mines, Construction and Others	1,420,000,000	6518
Total	\$ 39,970,000,000	14,191

Note: This table shows the sum of corporate misconduct variables cost (USD) and numbers of financial penalties using the Fama French 12 industrial classification across study sample period 2001–2015.

We include firm size (*FSIZE*) because large firms are more likely to experience agency problems (Jensen & Meckling, 1976), and thus the opportunity to commit crimes is greater. Since the need for debt from external parties promotes corporate full disclosure, we include firm leverage (*LEV*) in our regression (Ferrell et al., 2016). We also control for cash holding (*CASH*), since a firm's retained cash is held at the discretion of management (Bouslah et al., 2018; Tang et al., 2015). We follow Wowak et al. (2015) and Tang et al. (2015) to control for market-to-book value (*MB*), firm age (*FAGE*), firm risk-taking ability (*FRISK*) and business complexity as one plus the natural logarithm of number of business segments (*Ln BUS SEGMENT*) and the number of geographical segments (*GEO SEGMENT*). Detailed definitions of the variables are included in Appendix A.

### 3.2.4 | Descriptive statistics

Table 1 shows the industry-wide distribution of our dependent variables. The results based on the Fama-French 12 industrial classification demonstrate that, generally, companies operating in healthcare, medical equipment and medicines are the prime violators with a total amount of US \$17.7 billion. However, manufacturing firms are leaders in terms of the number of misconduct events, followed by oil and gas firms. Overall, the firms in our sample have paid well over US \$39 billion for 14,191 stakeholders' violations.

In Table 2, we present the descriptive statistics for variables included in the study. The sample mean of 6.16 for *Ln (Total Penalties\$)* suggests that our sample companies have paid US \$7.30 million in fines for stakeholders' violations. Concurrently the mean value of *Ln (Number of Penalties)* in our sample (i.e., 0.68) indicates that, on average, the sample companies were involved in three violations. The average asset redeployability (*REDEPLOY*, *REDEPLOY\_CORR* and *REDEPLOY\_EW*) in our sample is 0.39, 0.21 and 0.33, respectively. An average firm in our sample consists of 10 board members, of which 13.8% are female and 81% are independent directors. A sample firm, on average, has a CSR committee of 0.18, a ROA of 0.15, a PPE ratio of 0.31, a firm size of 8.49, a leverage ratio of 0.23, a cash holding ratio of 0.09, a market-to-book ratio of 1.92, an average firm age of 44 years and a firm risk ratio of 0.52. These statistics are comparable with those reported in prior studies (Bouslah et al., 2018; Gul et al., 2019; Hasan et al., 2021; Jain & Zaman, 2020; Kim & Kung, 2017; Zaman, Atawnah, Haseeb et al., 2021).

**TABLE 2** Descriptive statistics

	Mean	SD	P25	Median	P75
<b>Panel A: Dependent variables</b>					
<i>Ln (Total Penalties \$) <sub>t+1</sub></i>	6.162	6.063	0.000	8.705	11.265
<i>Ln (Number of Penalties) <sub>t+1</sub></i>	0.679	0.832	0.000	0.693	1.099
<b>Panel B: Independent variables</b>					
REDEPLOY	0.393	0.081	0.338	0.396	0.448
REDEPLOY_CORR	0.206	0.056	0.179	0.208	0.240
REDEPLOY_EW	0.334	0.085	0.297	0.352	0.386
<b>Panel C: Control Variables</b>					
CSR COMM	0.182	0.386	0.000	0.000	0.000
BSIZE	2.350	0.217	2.197	2.398	2.485
BGEND	0.138	0.096	0.083	0.125	0.200
BIND	0.812	0.122	0.750	0.846	0.900
ROA	0.151	0.081	0.100	0.140	0.190
PPE	0.307	0.232	0.120	0.240	0.456
FSIZE	8.485	1.443	7.458	8.409	9.510
LEV	0.232	0.164	0.116	0.223	0.329
CASH	0.091	0.079	0.043	0.081	0.124
MB	1.915	1.080	1.260	1.599	2.167
FAGE	43.964	18.579	25.999	44.504	64.999
FRISK	0.524	0.181	0.426	0.473	0.585
<i>Ln (BUS SEGMENT)</i>	1.250	0.468	0.693	1.386	1.609
GEO SEGMENT	3.480	2.167	2.000	3.000	5.000
<b>Panel D: Additional Control variables</b>					
R&D_INTENSITY	1.844	3.768	0.000	0.000	2.193
FIN_CONST	-4.827	0.749	-5.549	-4.855	-4.142
<b>Panel E: Channel analysis variables</b>					
CEO Vega	3.213	1.824	2.105	3.417	4.515
Holder 67	0.292	0.455	0.000	0.000	1.000

Note: This table presents descriptive statistics for the variables used in this study. The sample consists of 5452 firm-year observations during the 2001–2015 period. Detailed variable definitions are provided in Appendix A.

## 4 | RESULTS AND DISCUSSIONS

### 4.1 | Baseline results

To examine the effect of asset redeployability on corporate misconduct, we estimate the following regression model:

$$\text{Misconduct}_{it+1} = \beta_0 + \beta_1 \text{RREDEPLOY}_{it} + \beta_2 \text{CONTROLS}_{it} + \text{Year Fixed Effect} + \text{Industry Fixed Effect} + \varepsilon_{it} \quad (1)$$

Misconduct measures are  $\ln(\text{Total Penalties}\$)$  and  $\ln(\text{Number of Penalties})$  for firm  $i$  in year  $t+1$ . Our key independent variable is asset redeployability (*REDEPLOY*). *CONTROLS* is a vector of all control variables defined in Section 3.2.3. We include year and industry fixed effects, and correct standard error at the firm-year level. Industry fixed effects help account for all time-invariant industry-level factors that might be jointly related to both dependent and independent variables. Year fixed effects help to account for common macroeconomic shocks. To alleviate endogeneity concerns, we have used the lead value ( $t+1$ ) of both dependent variables. Detailed descriptions of the variables are found in Appendix A. We report the baseline results in Table 3.

The results in Table 3 strongly support our hypothesis H1 that higher asset redeployability encourages managerial risk-taking, which results in more corporate misconduct. Specifically, the coefficient estimates on asset redeployability in column (1) are 5.469 and statistically significant at the 1% level. Similarly, the coefficient estimates on asset redeployability in column (2) are 1.204 and statistically significant at the 1% level. These results are consistent with our hypothesis and demonstrate that firms engage in more wrongdoing when they own more saleable assets. Our results are economically significant. For example, a one SD increase in *REDEPLOY* leads to an increase of 0.443 ( $5.469 \times 0.081$ ) and 0.098 ( $1.204 \times 0.081$ ) in  $\ln(\text{Total Penalties}\$)$  and  $\ln(\text{Number of Penalties})$ , respectively. This is equivalent to approximately 7.20% and 14.43% of the mean value of  $\ln(\text{Total Penalties}\$)$  and  $\ln(\text{Number of Penalties})$ , respectively. In terms of dollar amount, this is equivalent to an increase of US \$0.53 million in fines ( $7.20\% \times 7.30$  million).

#### 4.1.1 | Misconduct type and cross-industry analyses

Since our corporate misconduct measures include various types of stakeholders' violations and differ across industries, it is critical to further explore whether the documented relationship between corporate misconduct and asset redeployability varies across types of misconduct and industries.<sup>10</sup> A recent study by Harjoto et al. (2019) argued that managers are less likely to defy powerful stakeholders, such as the shareholders, consumers and the wider society, when they expect strong reactions. However, they are more likely to engage in misconduct related to the environment and workplace where responses are likely to be weak. Jones and Rubin (2001) also find that environmental violations, while associated with a significant loss in share value, do not elicit reputational losses. Cline et al. (2018) find that behaviors associated with dishonesty have significant and lasting reputational consequences for firms. Similarly, anecdotal evidence can be found in the Volkswagen case where the company's management, intending to generate stronger company performance for shareholders, compromised environmental standards (Hotten, 2015). To test this hypothesis, we rerun our baseline results replacing the aggregate measure of corporate misconduct with multiple stakeholders' violations (i.e., shareholders, workplace, customers, environment and society). Our results are reported in Table 4.

The result in Panel A of Table 4 shows that the coefficient estimates on asset redeployability are positive and significant for all types of stakeholders' violations. However, we do find evidence that such a positive association is more pronounced for workplace- and environmental-related fines compared with other types of stakeholders' violations. Panel B reports the results of various types of stakeholders' violations using number of penalties. Our results indicate that the effect of asset redeployability is more pronounced on the number of workplace- and environmental-related incidents. These outcomes are consistent with the findings of Harjoto et al. (2019) and Zaman, Atawnah, Baghdadi et al. (2021) that some misconduct is more obvious than others.

We also examine whether the positive association between corporate misconduct and asset re-redeployability differs across industries. Our motivation stems from the variation of misconduct events across industries, which is prompted by variance in litigation risk. Companies operating in sensitive industries, such as chemicals, and oil and gas, risk more dangerous litigation because they tend to drive their value through extraction and use of natural resources (King & Lenox, 2000; Zaman et al., 2020). Like misconduct, asset redeployability is contingent on industrial heterogeneity (Kim & Kung, 2017). To capture industrial heterogeneity, we followed the Fama-French 12 industrial

<sup>10</sup> We are thankful for an anonymous reviewer's important suggestion.

**TABLE 3** Asset redeployability and corporate misconduct

	$\ln(\text{Total Penalties } \$)_{t+1}$	$\ln(\text{Number of Penalties})_{t+1}$
	(1)	(2)
REDEPLOY	5.469*** (2.91)	1.204*** (5.56)
CSR COMM	0.489** (2.18)	0.035 (1.26)
BSIZE	0.182 (0.41)	-0.034 (-0.67)
BGEN D	-3.304*** (-3.57)	-0.538*** (-5.32)
BIND	1.287* (1.83)	0.149* (1.82)
ROA	3.750*** (2.88)	0.511*** (3.43)
PPE	2.105*** (3.45)	0.366*** (5.12)
FSIZE	1.187*** (15.74)	0.184*** (20.39)
LEV	-0.500 (-0.71)	-0.102 (-1.49)
CASH	-5.252*** (-3.65)	-0.751*** (-4.86)
MB	-0.382*** (-3.72)	-0.034*** (-3.10)
FAGE	0.017*** (3.30)	0.001* (1.86)
FRISK	0.197*** (3.87)	0.020*** (2.98)
Ln (BUS SEGMENT)	-0.353** (-2.09)	-0.044** (-2.21)
GEO SEGMENT	-0.032 (-0.85)	-0.003 (-0.71)
Industry FE	YES	YES
Year FE	YES	YES
F-test p-value	0.000	0.000
Observations	5452	5452
Adjusted R <sup>2</sup>	0.226	0.437

Note: This table reports regression results on the relation between corporate misconduct and asset redeployability. All regressions control for industry- and year-fixed effects. Standard errors are corrected for clustering at the firm level and t-statistics are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. Detailed variable definitions are provided in Appendix A.

**TABLE 4** Asset redeployability and types of corporate misconduct

Panel A: Corporate Misconduct (Total Penalties \$) and Asset Redeemployability					
	(1)	(2)	(3)	(4)	(5)
	Shareholders Misconduct	Workplace Misconduct	Customers Misconduct	Environmental Misconduct	Society Misconduct
REDEPLOY	0.527* (1.68)	3.614** (2.07)	0.632* (1.75)	5.371*** (3.91)	0.339* (1.69)
All controls	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
F-test p-value	0.000	0.000	0.000	0.000	0.000
Observations	5,452	5,452	5,452	5,452	5,452
Adjusted R <sup>2</sup>	0.033	0.156	0.229	0.244	0.033
Panel B: Corporate Misconduct (Number of Penalties) and Asset Redeemployability					
	(1)	(2)	(3)	(4)	(5)
	Shareholders Misconduct	Workplace Misconduct	Customers Misconduct	Environmental Misconduct	Society Misconduct
REDEPLOY	0.029* (1.69)	0.664*** (3.57)	0.215* (1.85)	0.736*** (5.24)	0.029* (1.91)
All controls	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
F-test p-value	0.000	0.000	0.000	0.000	0.000
Observations	5,452	5,452	5,452	5,452	5,452
Adjusted R <sup>2</sup>	0.030	0.231	0.667	0.316	0.027

Note: This table reports regression results on the relation between corporate misconduct and asset redeployability using stakeholder classification of misconduct. All regressions control for industry- and year-fixed effects. Standard errors are corrected for clustering at the firm level and t-statistics are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. Detailed variable definitions are provided in Appendix A.

**TABLE 5** Asset redeployability and corporate misconduct—industrial heterogeneity

	Ln (Total Penalties \$) $_{t+1}$	Ln (Number of Penalties) $_{t+1}$
	(1)	(2)
REDEPLOY_Chemicals and Allied Products	8.545*** (2.74)	1.952*** (5.88)
REDEPLOY_Manufacturing	7.347*** (4.29)	1.697*** (6.31)
REDEPLOY_Mines, Construction & Others	7.562*** (3.19)	1.314*** (4.64)
REDEPLOY_Oil, Gas, and Coal Extraction	1.952** (2.40)	1.184** (1.97)
REDEPLOY_Consumer (Durables)	5.608** (2.26)	1.017*** (3.73)
REDEPLOY_Business Equipment	4.587* (1.69)	0.905*** (2.89)
REDEPLOY_Healthcare	1.762** (2.59)	0.515*** (2.62)
REDEPLOY_Wholesale & Retail	-7.530* (-1.87)	-4.273*** (-2.80)
REDEPLOY_Telephone & TV Transmission	9.168 (1.53)	0.223 (0.21)
REDEPLOY_Utilities	-1.655 (-0.47)	-0.933 (-1.63)
REDEPLOY_Finance	-8.023 (-1.01)	-1.010 (-1.31)
REDEPLOY_Consumer (Nondurables)	-6.096 (-1.62)	-0.244 (-0.69)
All Controls	YES	YES
Year FE	YES	YES
F test p-value	0.000	0.000
Observations	5452	5452
Adjusted R <sup>2</sup>	0.240	0.461

Note: This table reports regression results on the relation between corporate misconduct and asset redeployability using Fama French 12 Industrial Classification. All regressions control for industry- and year-fixed effects. Standard errors are corrected for clustering at the firm level and t-statistics are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are provided in Appendix A.

classification and generated a dummy variable for each of the 12 industries. We then interact industrial dummies with corporate misconduct and re-run our analysis. We report the results in Table 5.

As expected, the positive association between asset redeployability and corporate misconduct remain more pronounced for industries that are deemed environmentally sensitive (i.e., chemicals and allied products; mines, construction and others; and oil, gas and coal extraction). We detected a significant negative association between asset redeployability and misconduct for the wholesale and retail industry. This finding confirms the bipartite nature of asset

redeployability and agrees with our central argument that asset redeployability in an organization is based on managerial discretion. It is up to company management to either use such assets to pursue short-term profits at the expense of stakeholders or take advantage of such assets to improve relationships with stakeholders. Since companies operating in the wholesale and retail industry are highly exposed to consumer activism, any perceived violations by these companies may attract hostile customer reactions. Therefore, the presence of redeployable assets in wholesale and retail industry firms can provide management-added resources to meet financial and operational obligations that release performance-related pressures (Anand & Singh, 1997; Rong et al., 2020). Consequently, management will have little incentive to violate stakeholders' interests and engage in any misconduct.

## 4.2 | Asset redeployability and misconduct—The underlying mechanism

Thus far, we have established that asset redeployability is positively associated with corporate misconduct. Our theoretical underpinning assumes that liquidity stemming from redeployable assets heightens managers' risk-taking behavior (Chen et al., 2019; Gul et al., 2019). Consequently, such heightened managerial risk-taking leads to corporate wrongdoing (Ali & Hirshleifer, 2017; Bouslah et al., 2018). In this section, we formally test whether managerial risk-taking mediates the relationship between asset redeployability and corporate misconduct. We follow prior studies and capture managerial risk-taking behavior using two proxies, namely CEO Vega and managerial overconfidence (Armstrong et al., 2013; Bouslah et al., 2018; Core & Guay, 2002; Malmendier & Tate, 2008). We apply four methods to test this mediation: (i) Baron and Kenny's (1986) causal step regression; (ii) Sobel (1982) tests; (iii) Goodman's (1960) tests; and (iv) the Preacher and Hayes (2004) bootstrapping approach. We begin with the Baron and Kenny regression following a four-step process. In the first step, the dependent variable (misconduct) is regressed on the explanatory variable (asset redeployability) to confirm the association. In the second step, the mediator (CEO Vega or Overconfidence) is regressed on the explanatory variable (asset redeployability) to confirm that the explanatory variable does affect the mediator. In the third step, the dependent variable (misconduct) is regressed on the mediator (CEO Vega or Overconfidence) to determine if the mediator affects the dependent variable. In the fourth step, both the independent variable (asset redeployability) and the mediator (CEO Vega or Overconfidence) are included in the model to check whether the inclusion of the mediator influences the significant relationship between the explanatory variable (asset redeployability) and the dependent variable (misconduct)—either making it insignificant (full mediation) or leading to a lower coefficient (partial mediation). We run the following four models for the four steps:

$$\begin{aligned} \text{Misconduct}_{it+1} = & \alpha_0 + \alpha_1 \text{Redeploy}_{it} + \alpha_z \text{Controls}_{it} \\ & + \text{Year} + \text{Industry} + \varepsilon_{it} \end{aligned} \quad (2a)$$

$$\begin{aligned} \text{Mediator}_{it+1} = & \alpha_0 + \alpha_1 \text{Redeploy}_{it} + \alpha_z \text{Controls}_{it} + \text{Year} \\ & + \text{Industry} + \varepsilon_{it} \end{aligned} \quad (2b)$$

$$\begin{aligned} \text{Misconduct}_{it+1} = & \alpha_0 + \alpha_1 \text{Mediator}_{it} + \alpha_z \text{Controls}_{it} \\ & + \text{Year} + \text{Industry} + \varepsilon_{it} \end{aligned} \quad (2c)$$

$$\begin{aligned} \text{Misconduct}_{it+1} = & \alpha_0 + \alpha_1 \text{Redeploy}_{it} + \alpha_2 \text{Mediator}_{it} \\ & + \alpha_z \text{Controls}_{it} + \text{Year} + \text{Industry} + \varepsilon_{it} \end{aligned} \quad (2d)$$

*Mediator* is either *CEO Vega* or *CEO Overconfidence*. All other variables are defined in Appendix A. The results of the channel analysis are presented in Table 6. In Panel A1, columns (1)–(4) establish the mediation channel (CEO Vega) related to total penalties (\$), while the results for number of penalties are presented in columns (5) to (8). Our results in column (1) and column (5) are in line with our baseline results and suggest that asset redeployability increases corporate misconduct. Similarly, the significant positive relationship between asset redeployability and CEO Vega in column (2) and column (6) suggests a higher level of CEO Vega in firms with a higher level of redeployable assets. We also find a positive association between CEO Vega and misconduct in columns (3) and (7), suggesting that greater risk-taking increases cost as well as number of penalties. Finally, in columns (4) and (8), the coefficients on *REDEPLOY* are insignificant and smaller than the coefficients in columns (1) and (5), indicating that CEO Vega perfectly mediates the relationship between asset redeployability and corporate misconduct.

Although the results of Baron and Kenny's (1986) causal step regression supports our hypothesis on the mediating role of managerial risk-taking, it does not confirm whether such a difference in the coefficient is significant. Therefore, we rely on the Sobel (1982) and Goodman (1960) tests. We use the values of *t*-test from equation (2b) and equation (2c) to calculate the Sobel (1982) and Goodman (1960) tests. The results reported in column (1) and column (2) of Panel A2 suggest significant *p*-values of the Sobel (1982) and Goodman (1960) tests at the 1% level. Such test results confirm that the difference in coefficients using the Baron and Kenny (1986) causal estimation is significant.

In Panel B1, columns (1) to (4) establish the mediation channel (CEO Overconfidence proxied by *Holder 67*) related to total penalties (\$), while the results for number of penalties are presented in columns (5) to (8). Our results in column (1) and column (5) are again in line with our baseline results and suggest that asset redeployability increases corporate misconduct. We also find a significant positive relationship between asset redeployability and *Holder 67* in column (2) and column (6), indicating a higher level of CEO overconfidence in firms with a higher level of redeployable assets. We find a positive association between CEO overconfidence and misconduct in columns (3) and (7), suggesting that managerial overconfidence increases cost as well as number of penalties. Finally, in columns (4) and (8), the coefficients on *REDEPLOY* are significant, yet smaller than coefficients in columns (1) and (5), suggesting that CEO overconfidence partially mediates the relationship between asset redeployability and corporate misconduct. Furthermore, the results reported in columns (1) and (2) of Panel B2 suggest significant *p*-values of the Sobel (1982) and Goodman (1960) tests at the 1% level, confirming the difference in the Baron and Kenny (1986) causal estimation is significant.

To further validate our findings, we follow Zhao et al. (2010) and apply a more recent technique: the Preacher and Hayes (2004) bootstrapping approach. We first calculate the indirect path *REDEPLOY* → *CEO risk-taking* → *Misconduct* and then apply a bootstrap estimation to confirm its significance. The Preacher and Hayes bootstrapping results in column (1) and column (2) reveal that the indirect effect of *REDEPLOY* on corporate misconduct through managerial risk-taking using CEO Vega ( $\beta = 0.477$  and  $0.074$ , while  $SE = 0.121$  and  $0.018$ ) is significant at the 1% level. Similarly, the percentile confidence intervals for both the upper and lower confidence intervals based on 5,000 bootstrap repetitions remain positive (i.e., more than zero). Our results remain qualitatively similar for CEO overconfidence (see Panel B2).

Taken together, the positive coefficient for both proxies of managerial risk-taking of the indirect paths and higher than zero value of confidence intervals level confirms hypothesis H2 that managerial risk-taking (CEO Vega/Overconfidence) is a possible mechanism through which asset redeployability increases the likelihood of misconduct.

### 4.3 | Asset redeployability, corporate misconduct and firm value

We have already established that asset redeployability is associated with higher corporate misconduct and that this relationship is mediated by managerial risk-taking. A natural implication of this relationship concerns what this means

**TABLE 6** Asset redeployability and corporate misconduct—channel analysis

Dependent Variables	REDEPLOY → CEO Vega → Ln (Total Penalties \$) <sub>t+1</sub>				REDEPLOY → CEO Vega → Ln (Number of Penalties) <sub>t+1</sub>			
	Ln (Total Penalties \$) <sub>t+1</sub> (1)	CEO Vega (2)	Ln (Total Penalties \$) <sub>t+1</sub> (3)	Ln (Total Penalties \$) <sub>t+1</sub> (4)	Ln (Number of Penalties) <sub>t+1</sub> (5)	CEO Vega (6)	Ln (Number of Penalties) <sub>t+1</sub> (7)	Ln (Number of Penalties) <sub>t+1</sub> (8)
REDEPLOY	5.469*** (2.91)	2.415*** (3.09)	0.182*** (3.71)	3.048 (1.54)	1.204*** (5.56)	2.415*** (3.09)	0.023*** (3.91)	0.234 (0.73)
CEO Vega				0.182*** (3.72)			0.025*** (4.24)	
All controls	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
F test p value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observations	5,452	4,976	4,976	4,976	5,452	4,976	4,976	4,976
Adjusted R-squared	0.226	0.286	0.216	0.217	0.447	0.286	0.428	0.513
<b>Panel A2: Asset Redeployability and Corporate Misconduct: Mediating role of CEO Vega (Indirect Path Analysis)</b>								
<b>Path Tested</b>	<b>REDEPLOY → CEO Vega → Ln (Total Penalties \$) <sub>t+1</sub></b> (1)				<b>REDEPLOY → CEO Vega → Ln (Number of Penalties) <sub>t+1</sub></b> (2)			
Sobel test p-value	0.018**				0.015**			
Goodman test p-value	0.015**				0.013**			
Hayes Bootstrapping	(i) Coefficient	0.477***			0.074***			
	(ii) S.E. Bootstrap	0.121			0.018			
	(iii) Conf. Interval (95%) (Lower, Upper)	(0.260, 0.735)			(0.041, 0.111)			
	(iv) Bootstrap Repetitions	5,000			5,000			

(Continues)

TABLE 6 (Continued)

Dependent Variables	REDEPLOY → Holder 67 → Ln (Total Penalties \$) <sub>t+1</sub>				REDEPLOY → Holder 67 → Ln (Number of Penalties) <sub>t+1</sub>			
	Ln (Total Penalties \$) <sub>t+1</sub> (1)	Holder 67 (2)	Ln (Total Penalties \$) <sub>t+1</sub> (3)	Ln (Total Penalties \$) <sub>t+1</sub> (4)	Ln (Number of Penalties) <sub>t+1</sub> (5)	Holder 67 (6)	Ln (Number of Penalties) <sub>t+1</sub> (7)	Ln (Number of Penalties) <sub>t+1</sub> (8)
REDEPLOY	5.469*** (2.91)	0.581** (2.48)	0.226** (2.57)	4.886** (2.26)	1.204*** (5.56)	0.581** (2.48)	0.013*** (2.61)	1.204*** (4.84)
Holder 67				0.219** (2.49)				0.012** (2.53)
All controls	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
F-test p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observations	5452	4301	4976	4976	5452	4301	4301	4301
Adj R <sup>2</sup> /PseudoR	0.226	0.216	0.241	0.242	0.447	0.216	0.456	0.460
<b>Panel B2: Asset Redeployability and Corporate Misconduct: Mediating role of CEO Overconfidence (Indirect Path Analysis)</b>								
Path Tested	REDEPLOY → Holder 67 → Ln (Total Penalties \$) <sub>t+1</sub> (1)				REDEPLOY → Holder 67 → Ln Ln (Number of Penalties) <sub>t+1</sub> (2)			
Sobel test p-value	0.074*				0.072*			
Goodman test p-value	0.063*				0.061*			
Hayes Bootstrapping (i) Coefficient	0.045***				0.011***			
(ii) S.E. Bootstrap	0.003				0.003			
(iii) Conf. Interval (95%) (Lower, Upper)	(0.035, 0.057)				(0.004, 0.008)			
(iv) Bootstrap Repetitions	5,000				5,000			

Note: This table reports mediation regression results of CEO risk-taking on the relation between corporate misconduct and asset redeployability. We used two proxies, i.e. CEO Vega and CEO overconfidence to capture managerial risk-taking. Panel A presents Baron and Kenny's (1986) causal step regression results (direct approach). Panel B reports the result of indirect path effect using three approaches i.e. Sobel, Goodman and Hayes 2004 bootstrapping. Detailed definitions of variables are provided in Appendix A & A1. All regressions control for year, industry and country fixed effects. The t-statistics are based on standard errors clustered by firm and year. The t-statistics are reported in parentheses. \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

**TABLE 7** Asset redeployability and corporate misconduct—firm value implications

	ROA <sub>t+1</sub>	Tobin Q <sub>t+1</sub>	ROA <sub>t+1</sub>	Tobin Q <sub>t+1</sub>
	(1)	(2)	(3)	(4)
REDEPLOY_Penalties \$	-0.005** (-2.13)	-0.051** (-1.99)		
REDEPLOY_Penalties Num			-0.027** (-2.28)	-0.452*** (-2.65)
REDEPLOY	0.113*** (4.50)	2.246*** (6.91)	0.082*** (3.84)	1.364*** (4.52)
Penalties \$	-0.001 (-1.37)	-0.003 (-0.28)		
Penalties Num			-0.007 (-1.59)	-0.027 (-0.44)
All controls	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
F-test p-value	0.000	0.000	0.000	0.000
Observations	4539	4539	4539	4539
Adjusted R <sup>2</sup>	0.094	0.164	0.099	0.209

Note: This table reports regression results of the impact of asset redeployability and corporate misconduct on firm performance (ROA and Tobin Q). *REDEPLOY\_Penalties \$* and *REDEPLOY\_Penalties Num* are the interaction of standard proxy of asset redeployability (*REDEPLOY*) on both proxies of corporate misconduct that is,  $\ln(\text{Total Penalties } \$)$  and  $\ln(\text{Number of Penalties})$ , respectively. All regressions control for industry- and year fixed effects. Standard errors are corrected for clustering at the firm level and t-statistics are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. Detailed variable definitions are provided in Appendix A.

for firm value.<sup>11</sup> We have hypothesized that since misbehaving firms or managers in these firms face public outcry, and customer boycotts, businesses' market value is compromised by misconduct or irresponsible practices tempted by asset redeployability. To test this contention, we assess the impact of asset redeployability and misconduct on firm value. We capture firm value through the return on assets (ROA) and Tobin's Q. We include the interaction terms of redeployability and misconduct (i.e., *REDEPLOY\*Penalties \$* and *REDEPLOY\*Penalties Num*) and run the following model:

$$\begin{aligned}
 \text{VALUE}_{it+1} = & \alpha_0 + \alpha_1 \text{REDEPLOY} * \text{MISCONDUCT}_{it} + \alpha_2 \text{REDEPLOY} \\
 & + \alpha_3 \text{MISCONDUCT}_{it} + \alpha_z \text{Controls}_{it} + \text{Year} + \text{Industry} + \varepsilon_{it}
 \end{aligned} \tag{3}$$

where *VALUE* is captured using ROA and Tobin's Q, *MISCONDUCT* is measured using amount of penalties (\$) and number of penalties. The results are presented in Table 7. We find significant negative coefficients on the interaction terms in columns (1)–(4) for both ROA and Tobin's Q, indicating that redeployability tempted misconduct, both the amount of penalties (\$) and number of penalties, negatively impact firm value by lowering ROA and Tobin's Q. These findings support hypothesis H3 that asset redeployability tempted misconduct behavior undermines firm value.

<sup>11</sup> We are thankful for an anonymous reviewer's important suggestion.

#### 4.4 | Robustness tests

In this section, we conduct several robustness tests to validate the main results. We consider whether our main results remain robust by: (i) using alternative measures of misconduct and asset redeployability; (ii) controlling for the 2008 Global Financial Crisis (GFC); and (iii) incorporating fixed effect for state level based on the location of a firm's headquarters. We report the robustness results in Table 8 where we use the same model from Table 3, one that includes the full set of control variables, as well as the year and industry fixed effects. For brevity, we only report the coefficients of the variables of interest.

In Panel A of Table 8, we follow prior studies and employ the environmental, social and governance (ESG) concerns obtained from the Kinder, Lydenberg, Domini & Co. (KLD) database as a measure of corporate wrongdoing (Bouslah et al., 2018; Tang et al., 2015). We continue to find a significant positive relationship between asset redeployability and misconduct measured as ESG concerns, indicating that our main results are robust when using alternative measure of the dependent variable. We also use two alternative measures for asset redeployability following Kim and Kung (2017) to ensure that our baseline results reported in Table 3 are not sensitive to specific measures of asset redeployability. The first measure is a correlation adjusted asset redeployability (*REDEPLOY\_CORR*). This measure captures the extent to which firm output in a particular industry correlates with the output of other firms in the same industry. Meanwhile, the second measure is equally weighted asset redeployability (*REDEPLOY\_EW*), in which we calculate each asset's redeployability score across industries by using the number of firms (equal weights) operating in the industry instead of the market capitalization of the industry. The results in Panel B support our baseline hypothesis H1 and highlight a positive relationship with corporate misconduct across both alternative measures of asset redeployability.

Prior studies report a shift in management behavior during this period due to increased uncertainty (Jain & Zaman, 2020; Köster & Pelster, 2017), and thus the GFC may affect the baseline results. To address this possibility, we control for the Global Financial Crisis (GFC) period by excluding the years of 2007–2009 from our sample and report the results in Panel C of Table 8. We find that the relationship between asset redeployability and corporate misconduct remains consistent after dropping the GFC years. In Panel D, we include state fixed effects to account for the different state-level legislative structures. For example, some states in the United States, such as Delaware, have less stringent regulations than others and more business-friendly regulations (Zaman, Atawnah, Baghdadi et al., 2021). The results in Panel D reveal that the coefficient estimates on asset redeployability remain positive and statistically significant after including state fixed effects.

#### 4.5 | Endogeneity tests

Our results indicate that asset redeployability encourages corporate misconduct. However, the relationship between asset redeployability and corporate misconduct might suffer from endogeneity biases. We applied several tests to potentially address endogeneity concerns in the asset redeployability and corporate misconduct nexus and to achieve consistent findings. These tests include the Heckman selection model, system GMM, PSM, Entropy Balancing, reverse causality and omitted variable bias.<sup>12</sup> Our results remain robust on the applications of these tests.

### 5 | CONCLUSION AND IMPLICATIONS

Our original study examines the extent to which the presence of a large proportion of redeployable assets determines the level of firm's corporate misconduct and evaluates conditions through which such assets lead a firm to engage

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<sup>12</sup> Results available from the corresponding author by request.

**TABLE 8** Asset redeployability and corporate misconduct—robustness check

Panel A: Alternative dependent variable				
	KLD ESG Concerns			
	(1)	(2)		(3)
REDEPLOY		2.015***		
		(4.51)		
REDEPLOY_CORR				2.522***
				(4.58)
REDEPLOY_EW				1.525***
				(4.40)
All controls	YES	YES		YES
Year FE	YES	YES		YES
Industry FE	YES	YES		YES
F-test p value	0.000	0.000		0.000
Observations	3270	3270		3270
Adjusted R <sup>2</sup>	0.050	0.049		0.048
Panel B: Alternative independent variables				
	Ln (Total Penalties \$) <sub>t+1</sub>		Ln (Number of Penalties) <sub>t+1</sub>	
	(1)	(2)	(3)	(4)
REDEPLOY_CORR	7.831***		1.661***	
	(3.04)		(5.66)	
REDEPLOY_EW		4.848***		1.002***
		(2.99)		(5.52)
All controls	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
F-test p value	0.000	0.000	0.000	0.000
Observations	5452	5452	5452	5452
Adjusted R <sup>2</sup>	0.226	0.226	0.438	0.437
Panel C: Controlling for Global Financial Crisis (GFC)				
	Ln (Total Penalties \$) <sub>t+1</sub>		Ln (Number of Penalties) <sub>t+1</sub>	
	(1)		(2)	
REDEPLOY	5.645***		1.127***	
	(2.63)		(4.55)	
All controls	YES		YES	
Year FE	YES		YES	
Industry FE	YES		YES	

(Continues)

TABLE 8 (Continued)

Panel C: Controlling for Global Financial Crisis (GFC)		
	$\ln(\text{Total Penalties } \$)_{t+1}$	$\ln(\text{Number of Penalties})_{t+1}$
	(1)	(2)
F-test $p$ value	0.000	0.000
Observations	4235	4235
Adjusted $R^2$	0.212	0.416
Panel D: Controlling for State Fixed Effect		
	$\ln(\text{Total Penalties } \$)_{t+1}$	$\ln(\text{Number of Penalties})_{t+1}$
	(1)	(2)
REDEPLOY	5.174*** (2.66)	1.109*** (4.96)
All controls	YES	YES
Year FE	YES	YES
Industry FE	YES	YES
State FE	YES	YES
F-test $p$ value	0.000	0.000
Observations	5439	5439
Adjusted $R^2$	0.243	0.462

Note: This table reports robustness test results on the relation between corporate misconduct and asset redeployability. For brevity, the coefficients of the control variables are not tabulated—only the coefficient estimates of the variables of interest. In the regression for Panel A, we replace our standard measure of corporate misconduct with the KLD concerns database and re-estimate equation 1. While in Panel B, we replace our standard measure of asset redeployability score (*REDEPLOY*) with two alternative variables *REDEPLOY\_CORR* and *REDEPLOY\_EW*. Panel C presents regression results excluding GFC period that is, 2007–2009. Panel D reports results for controlling firm's headquarters location. All regressions control for industry- and year-fixed effects. Standard errors are corrected for clustering at the firm level and  $t$ -statistics are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. Detailed variable definitions are provided in Appendix A.

in wrongdoing. Utilizing a unique dataset of monetary penalties imposed on 680 US-listed firms as a proxy for corporate misconduct, we demonstrate a strong and positive association between asset redeployability and corporate misconduct. Furthermore, we explored whether the positive association between asset redeployability and corporate misconduct varies across various types of misconduct and industrial heterogeneity. Our results indicate that firms' redeployability assets significantly increase workplace- and environmental-related misconduct compared to other stakeholders' misconduct (i.e., shareholders, customers and society). We also find evidence that the positive association between asset redeployability and misconduct is contingent on industrial heterogeneity. In our channel analysis, we find that managerial risk-taking is a possible mechanism through which asset redeployability is associated with misconduct

We further explore the underlying conditions through which asset redeployability affects corporate misconduct. We find evidence that redeployable assets tempt managerial risk-taking behavior which causes corporate misconduct. We further examine whether asset redeployability association with corporate misconduct affects firm value. Our results strengthening the negative aspects of asset redeployability indicate that higher assets-redeploying firms exhibit more examples of misconduct, which ultimately undermines firm value. Our results remain robust in a series of robustness tests, and after addressing endogeneity concerns.

Our study makes valuable contributions to three strands of the literature. First, it expands the growing body of research on corporate misconduct. Prior literature suggests that opportunities to commit misconduct, such as pre-existing fraud (Agrawal & Cooper, 2015), presence of collusion between market forces (Atanasov et al., 2015), internal and external corporate governance mechanisms (e.g., board of directors; Cumming, Leung et al., 2015; Jain & Zaman, 2020; Zaman, Atawnah, Baghdadi et al., 2021), managerial compensation (Armstrong et al., 2010; Bouslah et al., 2018; Jain et al., 2021), ownership structure (Bernile et al., 2015) and media and analyst forecasts (Chen et al., 2016), can function as determinants of corporate misconduct. We expand this literature by identifying an important characteristic of the firm's real asset base, namely, asset redeployability that substitutes for managerial risk-taking.

Second, we contribute to the emerging literature on asset redeployability. The majority of prior studies indicating the advantages of asset redeployability demonstrate that liquidity stemming from redeployable assets affects firms' financing decisions and reduces tax avoidance. Our study highlights the dark side of asset redeployability and indicates that the presence of redeployable assets encourages managerial risk-taking behavior. Finally, our study has important implications for company managers because we find evidence that asset redeployability can encourage them to take excessive risks and to be tempted to engage in misconduct at the expense of stakeholders. For this reason, we caution against using a large proportion of redeployable assets.

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## APPENDIX A: Definitions of variables

Variable	Definitions	Sources
<b>Dependent variables</b>		
<i>Ln (Total Penalties\$)</i>	Natural logarithm of one plus the real penalties in US dollars imposed by regulatory agencies on firm "i" on year "j" due to its engagement in corporate misconduct activities.	Authors' calculation based on Violation Tracker database.
<i>Ln (Number of Penalties)</i>	Natural logarithm of one plus the number of real penalties in US dollars imposed by regulatory agencies on firm "i" on year "j" due to its engagement in corporate misconduct activities.	
<b>Independent variables</b>		
REDEPLOY	Asset redeployability score of firm assets from Kim and Kung (2017).	Kim and Kung (2017)
REDEPLOY_CORR	Correlation adjusted asset redeployability measure of Kim and Kung (2017). This measure captures the extent to which firm output in a particular industry correlates with the output of other firms in the same industry.	
REDEPLOY_EW	Equally weighted asset redeployability of Kim and Kung (2017). This measure calculates each asset's redeployability score across industries by using the number of firms operating in an industry (equal weights) instead of market capitalization of the industry.	
<b>Control variables</b>		
CSR COMM	CSR committee: A dummy variable equal to "1" if the company has a CSR committee; otherwise 0.	Bloomberg database
BSIZE	Board size: Total number of directors on the board.	
BGEN	Board gender diversity: Number of female directors divided by board size.	
BIND	Board independence: Number of independent directors divided by board size.	
ROA	Return on assets: Ratio of net income to total assets.	Compustat database
PPE	Plant property equipment: Ratio of plant property equipment to total assets.	
FSIZE	Firm size: Natural logarithm of total assets.	
LEV	Leverage: Book value of total debt (DLC + DLTT) divided by book value of total assets (AT).	
CASH	Cash holding: Cash and assets readily convertible to cash (CHE) at the end of the fiscal year scaled by book total assets (AT).	

(Continues)

Variable	Definitions	Sources
<b>Dependent variables</b>		
MB	Market-to-book ratio = (Total Assets – Common Equity + Price Close * Common Shares Outstanding)/Total Assets.	
FAGE	Firm age: Number of earliest years a firm's name started to appear in the Compustat database.	
FRISK	Firm risk: Standard deviation of annual stock return.	CRSP database
Ln (BUS SEGMENT)	Business Segments: One plus natural logarithm of the number of business segments	World scope
GEO SEGMENT	Geographic Segments: Number of geographic segments	
<b>Additional variables</b>		
R&D	R&D intensity measured at the end of the fiscal year, defined as research and development expenditure (XRD) divided by book value of total assets (AT), and all missing values set to zero.	Compustat database
FIN_CONST	Financial constraints: Calculated using the formula: $0.737 * \text{SIZE} + 0.043 * \text{SIZE}^2 - 0.040 * \text{AGE}$ ; where SIZE is the natural log of book assets (in millions) and AGE is measured as the number of years since the firm was first covered by the Center for Research in Securities Prices (CRSP).	Authors calculation

## APPENDIX A1

### Managerial risk-taking proxies' calculation

#### CEO Vega

To calculate Vega, we rely on three types of variables: (i) firm-level variables (i.e., the stock price at end of the fiscal year, estimated stock volatility, and estimated dividend yield); (ii) option-specific variables (i.e., the number of vested and unvested options, the exercise price of the options and the maturity of option as of fiscal year-end); and (iii) an estimated risk-free rate corresponding to option maturity as of fiscal year-end.

Following Guay (1999), and Coles et al. (2006), Vega calculation is based on the Black and Scholes option formula valuing for the European call option, as modified to account for dividend payout by Merton (1973). The call option is calculated using the following equation:

$$\text{Option value} = \left[ Sp \exp^{-dT} N(Z) - Xp^{-rT} N\left(Z - \sigma T \left(\frac{1}{2}\right)\right) \right]$$

where

$$Z = \left[ \ln\left(\frac{Sp}{Xp}\right) + T\left(r - d + \frac{\sigma^2}{2}\right) / \sigma T \left(\frac{1}{2}\right) \right]$$

$N$  is the Cumulative probability function for the normal distribution,  $S_p$  is the share price of the stock at fiscal year-end,  $X_p$  is the exercise price of the option,  $\sigma$  is the expected stock return volatility over the life of the option,  $r$  is the natural logarithm of the risk-free rate.  $T$  is the time to maturity of the option in years,  $d$  is the natural logarithm of the expected dividend yield over the life of the option.

The sensitivity of the call option value to a 0.001 change in stock return volatility (VEGA) is defined as:

$$\text{Vega} = \left[ \frac{\delta (\text{call option value})}{\delta (\text{Stock volatility})} \right] * 0.01 = e^{-dT} N' \left( \frac{1}{2} \right) * (0.01)$$

where  $N'$  is a normal density function.

CEO Vega is the sum of Vega of all options (both vested and unvested) as of fiscal year-end for each CEO. We used the Vega of the CEO option portfolio as the main measure of managerial risk-taking. A higher CEO Vega value commonly reflects the high risk-taking CEO.

### CEO Overconfidence

Our second measure of managerial risk-taking (i.e., CEO overconfidence) is based on the Hall and Murphy (2002) certainty-equivalence framework. This framework analyses senior managers' behavior in terms of their options packages with an assumption that options granted to risk-averse executives who do not have diversified investment portfolios would be exercised immediately on the vesting day so that the benefits are realized. Malmendier and Tate (2005) applied this framework to CEO stock option packages and argued that CEO investment portfolios are highly influenced by the idiosyncratic risk of respective firms due to restrictions on hedging and investment diversification. Since CEO personal and human capital greatly depends on companies' economic performance, a willingness to postpone the allocated stock option exercise signals the CEO's expectation that firms will outperform a hedged portfolio. Against this backdrop, we classify a CEO as overconfident if he/she fails to exercise the money stock options whose average intrinsic value exceeds 67% of the average exercise price per option.

We followed Campbell et al. (2011) and reply on the Execucomp database to capture CEO overconfidence. We first estimate the average exercise price based on the CEO stock options data. We then calculated the mean realizable value as the proportion estimated value of unexercised options to the number of unexercised exercisable options. We then deduct the mean realizable value from the fiscal year-end stock price and obtain the average exercise price of the exercisable option held by the CEO. Concurrently, the average percent moneyness of the option is calculated as the mean realizable value divided by the average exercise price of the exercisable option.

Following Hirshleifer et al. (2012) we classify the CEO as overconfident by using an indicator variable (i.e., *Holder 67* that the value is "1" if the CEO holds options that are over 67% in the money and zero otherwise).