UTS UNIVERSITY OF TECHNOLOGY SYDNEY

The Role of Organizational Slacks during a Corporate Scandal: The Effects on Firm Value and Risk

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under the supervision of

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Certificate of original authorship

I, Dimitri Giacomo Simonin declare that this thesis, is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Management, UTS Business School at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

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Conventional thesis

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Abstract

Since the late 1990s, corporate scandals are on the rise. They have far-reaching consequences in the short and long terms and bring uncertainty to a firm's financial health, influencing investors' expectations about the future of the firm. Corporate scandals are inevitable, complex, and difficult to manage. Thus, managers continuously look for ways to protect their firms in such a situation. Yet, research on how firm resources are used in corporate scandals is sparse to date. In particular, the mitigating role of organizational slacks – resources held by firms to deal with unexpected events – remains underexamined. Drawing on the Resource-Based View and Behavioural Theory of the Firm, my thesis aims to determine whether organizational slacks mitigate corporate scandal's impacts on firm value and firm risk in the short and long terms. I posit that this mitigating effect depends on the type of organizational slacks, whether unabsorbed or absorbed, and on the timeframe of the strategic vision and firm's needs. I rely on the event study methodology to measure the financial impact of corporate scandals on firms with a unique cross-sectional dataset containing 257 worldwide environmental-, social-, and governance-related (ESG) corporate scandals of U.S.-listed firms from 2012 to 2015. Then, I analyse the distinctive mitigating roles of unabsorbed and absorbed slacks on firm values and firm risk using an ordinary least squares regression approach. My empirical analysis confirms that corporate scandals decrease short- and long-term firm values and increase firm risk. I also show that holding unabsorbed slacks helps firms through an inverted U-shape effect that mitigates the corporate scandal's impact on short-term firm value. This effect is linear on both long-term firm value and firm risk. Holding absorbed slacks mitigates the impact of a corporate scandal only on firm risk, and the mitigating effect is linear. My thesis contributes (1) to the organizational slacks literature by demonstrating the significant role of unabsorbed and absorbed slacks on short- and long-term firm values and firm risk in a corporate scandal's situation, and (2) to the research on corporate scandals by providing a richer conceptualization

of corporate scandal and strong evidence of its financial impact on firms, specific to the management literature. From a practical perspective, I reveal that managers can attenuate the negative effects of corporate scandals by building organizational slacks during shock-free periods and using them when facing corporate scandals. This implies that managers need to take into account short- and long-term perspectives when making strategic decisions on organizational slacks during corporate scandals.

Thesis summary

Since the end of the 1990s, corporate scandals have surfaced more frequently, partially because the information is easily accessible and can be instantly disseminated by the media. Local incidents quickly become global corporate scandals, intensifying in strength and reducing the time available for firms to implement a strategy to face such events. Corporate scandals relate to a variety of topics and take multiple forms, such as ethical misconducts, product recalls, ecological disasters, and accounting frauds. A classification based on environmental-, social-, and governance-related (ESG) implications is a pertinent way to categorize corporate scandals broadly. A corporate scandal is a corporate crisis that turns into a wide incident engaging intense and far-reaching public discussions about an assumed or proved violation of morality that damages the reputation of the firm and has a significant economic impact on the firm and society. Corporate scandals bring uncertainty to the firm's financial health and influence the investors' expectations of the future of the firm. Thus, to protect their firms, managers continuously look for ways to prevent, deal with, and recover from corporate scandals.

Researchers in the fields of finance, sociology, marketing, and management have analysed scandals using different approaches. While their approaches vary, most studies agree that scandals are inevitable, complex to manage, and arise from multiple causes. Yet, because research on corporate scandals is scattered across disciplines, the concepts and specificities to understand corporate scandals are not consolidated to date. Specifically, existing research on corporate scandals is limited in two aspects. First, few empirical studies examine the short- and long-term financial impacts of corporate scandals on firms. Second, the role of firm resources in a corporate scandal situation is under-researched. In particular, research has not examined the role of organizational slacks, defined as flexible resources held by firms to deal with unexpected events (e.g., Bourgeois III 1981; Cyert and March 1963), in situations of corporate scandal. Although organizational slacks are widely studied and well-known resources, no study

has examined if these resources can help firms to mitigate the effect of a corporate scandal. My thesis aims to fill these gaps.

As a primary step, I define the concept of corporate scandal and detail the notion of organizational slacks and its various mitigation roles. I also elaborate on corporate scandal's impact on firm value and firm risk and the magnitude of the effect in the short and long terms with precise measurements. After establishing the baseline effects of corporate scandals on short- and long-term firm values and firm risk, I focus on the main objectives of my thesis: (1) defining if organizational slacks have a role in protecting firms from the negative impact of corporate scandals and (2) if this protective role depends on the type of organizational slacks held by the firm. In particular, I aim to determine if organizational slacks mitigate corporate scandal's impact on firm value and firm risk in both short and long terms.

Drawing on the Resource-Based View and Behavioural Theory of the Firm, I suggest that holding organizational slacks helps to reduce the impact of corporate scandals on firms in both short and long terms; thus, organizational slacks influence the firm's stock market price – the short- and long-term firm values – positively and decrease the uncertainty in expected future cash-flows – the firm risk. Going further, I posit that these mitigating effects on firm value and firm risk vary with the types of organizational slacks, be they unabsorbed or absorbed slacks because they differ in their characteristics in terms of timeline availability and potential allocation process. Unabsorbed slacks are available in the short term and can be allocated without modifying the structure of the firm, while it takes more time to deploy absorbed slacks and generate internal organizational chances. Thus, it is important and relevant, both theoretically and practically, to understand how the different types of slacks may help in the short and long terms during a corporate scandal situation.

To investigate the mitigating role of unabsorbed and absorbed slacks on short- and long-term firm values and firm risk, I build a unique cross-sectional dataset of 257 worldwide ESG-related

corporate scandals from 2012 to 2015 of 90 firms U.S.-publicly traded and listed in the S&P 500 index with their headquarters based in the U.S. Then, I examine the short- and long-term impacts of corporate scandals on firm value and firm risk. The short-term impact is measured on the days surrounding the corporate scandal. The long-term analysis is based on one year following the corporate scandal. Finally, I analyse the role of organizational slacks by their type, unabsorbed and absorbed, and how they moderate the impact of corporate scandals on short- and long-term firm values and firm risk. To do so, I use an ordinary least squares (OLS) regression approach with three different dependent variables: short-term and long-term firm values and firm risk.

The results of the baseline effect confirm that a corporate scandal decreases short- and long-term firm values and increases firm risk. The regression analysis' results reveal that holding organizational slacks mitigates the corporate scandal's negative impact on short- and long-term firm values and risk. More specifically, unabsorbed and absorbed slacks mitigate the corporate scandal's impact on the firm value and risk differently depending on their timeframes. On the one hand, holding unabsorbed slacks has a curvilinear impact on firm value in the short term; the significant effects are linear on long-term firm value and firm risk. On the other hand, holding absorbed slacks decreases significantly firm risk.

From a theoretical perspective, my thesis contributes to the literature on corporate scandals and organizational slacks. First, my findings demonstrate the significant role of organizational slacks in protecting firms during corporate scandals. By distinguishing between unabsorbed and absorbed slacks, and their use in the short and long terms, I establish the importance of holding organizational slacks to protect both the short- and long-term firm values and firm risk from the shock of a corporate scandal. These findings help define the respective roles of both types of slacks to highlight their buffering and enabling capacities in the context of corporate scandals.

I thus contribute to our limited understanding of mechanisms on the relationship between types of organizational slacks and the complex structure of corporate scandals.

Moreover, I extend the methodological and empirical scope of research on corporate scandals, allowing for robust results in both short- and long-term timeframes by building a unique cross-sectional dataset with corporate scandals precisely dated on multiple types of corporate scandals from multiple industries.

From a managerial perspective, my findings indicate that managers can attenuate the negative effects of a corporate scandal on their firm by increasing the level of organizational slacks during shock-free periods and using them when facing such events. Also, I find that managers need to consider both the short and long terms equally and adapt the use of each type of organizational slacks according to the targeted timeframe. Overall, my thesis urges managers to consider the firm value and risk separately and hold an optimal level of organizational slacks towards a situation of corporate scandal.

Finally, given the extent to which firms suffer from the shock of corporate scandals, the economic perspective should not be ignored. As my results show, with an average of 0.3 percent of the decrease in short-term firm value on the day of the corporate scandal and 7.2 percent in a one-year post window, corporate scandals can have extreme financial impacts on firms. Holding organizational slacks helps the firm restrain an increase in firm risk caused by a corporate scandal, thus avoiding long-lasting consequences. These resources can help maintain competitive advantage and growth even after the corporate scandal ends. However, from an economic point of view, holding absorbed slacks might not be the optimal solution to face a corporate scandal. Based on my empirical results and extensive investigation of both corporate scandals and organizational slacks literature streams, I argue that the direct and indirect costs of absorbed slacks might not worsen their significant mitigating effect on firm risk.

Chapter 1: Introduction

In the last quarter-century, the world has witnessed an immense number of corporate scandals, such as Enron (2001), WorldCom (2002), Pfizer (2006), British Petroleum (2010), Volkswagen (2015), Mossack Fonseca (2016), and Wirecard (2020). Today, the number of corporate scandals has never been higher. While in 2007, the media reported only 12 notable corporate scandals, this figure increased to 46 in 2016 (RepRisk 2020a). This trend has been attributed to soaring market pressures, complexity, and competitive intensity, which have led firms to resort to misconduct, accounting fraud, and product recalls (e.g., Cleeren, Dekimpe, and Helsen 2008; Cleeren, Van Heerde, and Dekimpe 2013; Dawar and Pillutla 2000; Pavlovich, Sinha, and Rodrigues 2016); all environmental-, social-, and/or governance-related (ESG) negative incidents.[1] High responsibilities, rising performance targets, and intense work pressure also sometimes galvanize top managers and employees into fraud in a bid to meet these work requirements, show their value, and stay employed in the firm (Jory et al. 2015).

The fall of Enron in 2001 is probably the most well-known corporate scandal of the last century that ended in its bankruptcy. The success story started in 1990. Enron's stock price increased by 311 percent in eight years, and the firm was one of *Fortune*'s Most Admired Companies before the stock price hit zero in 2001. Why and how did this happen? The reason for the misconduct was straightforward: inflating share prices to satisfy investors and stockholders. Enron exploited the complexity of its business model and hedged on accounting rules in reporting earnings and its balance sheet. Enron's accounting auditor, Arthur Andersen, helped

[1] Corporate scandals can relate to either one or more types of ESG-related negative events. For instance, the Diesel Gate involving Volkswagen was an environmental disaster implying failure in governance processes and social (ethical) misbehavior at the same time.

to hide the financial fraud for years before the revelations of the Top Management Team (TMT)'s misconduct (Healy and Palepu 2003).

Stories of scandals often start as a corporate crisis arising from an incident that is private and/or looks insignificant. But, at a certain point, this incident turns into a bigger event. The crisis becomes a corporate scandal when the incident becomes public and reaches a large audience. Since information can be accessed easily and spreads instantly through media coverage, local crises intensify in strength and become global corporate scandals, shrinking the time firms have to implement an efficient strategy to deal with the shock (Van Heerde, Helsen, and Dekimpe 2007). Consequently, the media play a major role in deciding and shaping the extent to which news about a transgression is propagated to the public and when the public reaction subsides and ceases (e.g., Adut 2008; Thompson 2000).

Intrigued by how a minor incident grows swiftly into a public and shocking event when the information is released in the media, in my thesis, I focus on the process and impact this produces on firms in the short and long terms. To protect themselves from the shock in the short term and to alleviate long-term consequences, firms need to develop and implement specific strategies for each step of a corporate scandal. Addressing the duality of the immediate versus long-lasting impact makes managing a corporate scandal even more complex and challenging, and yet it is critical to do so.

However, the management literature on how to manage corporate scandals is still sparse and scattered across disciplines. Previous studies do not clearly position the concept of corporate scandal and its characteristics. The concept of corporate scandals tends to be misused and is not differentiated sufficiently from other related concepts, such as socio-political scandals and corporate crises (e.g., De Maria 2010). Studies on corporate issues often mix the use of these terminologies and lack consensus on the conditions under which an event can be defined as a

corporate scandal. In this sense, my thesis starts by consolidating existing perspectives to clarify the concept of corporate scandal and its specificities and mechanisms. Integrating the socio-political scandal literature and the corporate crisis literature streams into the corporate scandal literature, I suggest that *a corporate scandal emerges from a corporate crisis that turns into a wide incident engaging intense and far-reaching public discussions about an assumed or proved violation of morality that damages the reputation of the firm and has a significant economic impact on the firm and society*.[1] This integration of three different but related research streams enables to provide a more comprehensive conceptualization of corporate scandals by connecting specific corporate-related terms from the corporate crisis research stream with the complex mechanisms of socio-political scandals from the sociology literature. It gives a clear understanding of corporate scandals' specificities to differentiate with more accuracy a corporate scandal with a large public impact from a negative incident that a firm is able to manage. Additionally, a clear definition of the concept of corporate scandal helps to support hypothesis development and discussions on the analysis of the scandal's impact on firm value and firm risk.

Corporate scandals have far-reaching consequences. From a financial perspective, corporate scandals influence stock market performance, market shares, sales, and the reputation of a firm (e.g., Dyck, Morse, and Zingales 2010; Jonsson, Greve, and Fujiwara-Greve 2009; Kang, Germann, and Grewal 2016; Paruchuri and Misangyi 2015; Pennings, Wansink, and Meulenberg 2002). For instance, in 2015, Toshiba overstated its operating profits by more than $1.9 billion over several years, and top managers were involved. This corporate scandal impacted the firm value of Toshiba's share price, which dropped more than 25 percent in the few days following the release of the information (Mochizuki 2015). The impacts on stock

[1] I use "corporate scandal" to refer to some studies that might employ the term "crisis" or "scandal" as long as the signification fits with my definition of corporate scandal. This is done to avoid confusion and facilitate the reading process.

market performance are usually (1) due to investors and stakeholders expecting a decrease in future incomes, (2) sales losses, (3) annual financial decreases, and (4) are moderated by the gravity of the incident (Chen, Ganesan, and Liu 2009). Corporate scandals affect managerial decisions such as capital raising, risk anticipation, and capital structure policies, which can happen *ex-post* or *ex-ante* events (Bonini and Boraschi 2012). While corporate scandals can be beneficial for the reputation of competitors (Paruchuri, Pollock, and Kumar 2019), they can affect the relationship between the firm and its stakeholders (Bouzzine and Lueg 2020). Stakeholders might see the firm less positively and show jitteriness and anger against the firm, which could affect its reputation (Coombs 2014). The fact that such a shock implies multiple layers of consequences is another aspect of corporate scandals.

Despite the multidimensional and intense consequences of corporate scandals, very little research has empirically examined these events and their financial impact on firms. A scandal is an inevitable, unexpected, and strong shock for a firm, and managers need more understanding on how to go through such events without too much loss. Until now, datasets with reliable information are hard to find because of the complex task of collecting accurate and precise data on corporate scandals. This lack of available data may have slowed down quantitative research in the corporate scandal literature, mainly considering corporate scandals as an exogenous element to understand other causes and effects, with limited studies focusing on the corporate scandal itself (Piazza and Jourdan 2018). Therefore, in this thesis, I build a unique and precise dataset to advance the empirical research in corporate scandals of all ESG-related types. I use this dataset to explore whether a corporate scandal has an impact on short- and long-term firm values and firm risk.

Furthermore, evidence across related literature streams suggests that the impact of corporate scandals varies among firms. While some firms were plunged into the depths, others have been less impacted (Moore, Stuart, and Pozner 2010). What are the reasons for such significant

differences in the effects of corporate scandals? Why are some firms able to compensate more or lower their losses from the shock of a corporate scandal? Do they have enough internal resources to use as a buffer against the shock?

Consider the case of Takata Corporation, a Japanese supplier of automotive parts. In 2013, Takata started a massive recall of 20 million cars due to a manufacturing defect in their airbags that had caused multiple deaths. Year after year, the firm faced numerous recalls on its airbags, affecting more than 100 million cars from different car manufacturers worldwide. After being sued and condemned to pay $1 billion as charges of wire fraud, Takata was declared bankrupt in June 2017 (e.g., France-Presse 2017; Soble 2017). Before this recall, Takata was the second biggest manufacturer of safety products, and their seatbelts equipped one-third of the cars sold around the world; but in three years, its share price dropped by more than 95 percent (Tajitsu 2017). Why did Takata have issues in dealing with recalls in the short term? What did Takata miss in managing the series of recalls year after year? How could Takata have used its available resources to deal with such a situation? What kind of resources did Takata need to deploy to face the multiple recalls and reassure its investors in the long term? The fall of Takata is one of a plethora of recent corporate scandals following similar patterns in terms of resource allocation decisions.

After confirming the impact of corporate scandals and their magnitude on firm performance based on short- and long-term firm values and firm risk, I follow this line of questioning by investigating how firms can decrease the effect of a corporate scandal using particular internal resources in the short and long terms. More specifically, I examine the role of organizational slacks – resources held by firms to gain flexibility when dealing with unexpected events (e.g., Grewal and Tansuhaj 2001). Organizational slacks are available resources and are defined as the difference between the total resources held by the firm and its total mandatory expenses (Cyert and March (1963). The buffering and enabling mechanisms of organizational slacks

could have been useful for Takata to help confront its series of unforeseen recalls. For instance, Takata could have used organizational slacks for a short-term strategy to solve the emergency of its recalled airbags. At the same time, Takata could have invested in organizational slacks to find long-term solutions and build a sustainable competitive advantage. Yet, the role of organizational slacks as firm resources in corporate scandal situations have been ignored, and these conjectures remain unconfirmed.

In the general management literature, the role of organizational slacks has been investigated in contexts involving negative events, such as economic crises (e.g., Grewal and Tansuhaj 2001) and environmental threats (e.g., Bradley, Shepherd, and Wiklund 2011). While researchers to date have acknowledged the broad value of organizational slacks, they do not agree on the specific benefits of holding these resources. For instance, on the one hand, Bradley, Shepherd, and Wiklund (2011) show that slacks positively affect a firm in both dynamic and stable "tough" contexts, and Chen et al. (2013) find that organizational slacks moderate the relationship between technological diversification and firm performance. In addition, some studies argue that organizational slacks do not positively affect a firm unless they reach an optimal level (e.g., Nohria and Gulati 1996; Tan 2003; Voss, Sirdeshmukh, and Voss 2008; Wiseman and Bromiley 1996). However, other research finds that organizational slacks affect firms negatively by encouraging managers to make risky investments and decisions (Wu and Tu (2007) or serve their own interests and not act for a firm's good (e.g., Litschert and Bonham 1978; Tan and Peng 2003; Wan and Yiu 2009).

Notably, neither the organizational slack nor the corporate scandal research streams have investigated whether holding organizational slacks is beneficial for firms facing a corporate scandal. However, considering corporate scandals are inevitable (e.g., Bundy et al. 2017) and resources are the foundations of any firm (e.g., Barney 1991), it is important to understand the role(s) of resources during this specific situation and, especially, the role(s) of available

resources at the time of the shock. In this sense, organizational slacks are the kind of resources that can play a buffering and enabling role as they are at the disposable of managers. Not having a clear understanding of these available resources might deprive decision-makers of a managerial tool to protect their firm against a corporate scandal – either by ignorance of the utility of organizational slacks during corporate scandal or by misuse of these resources. My thesis aims to fill this gap by exploring if and how organizational slacks act as available resources for firms to draw on in a corporate scandal. Organizational slacks can be important and relevant to the context of corporate scandals because, in general, their specificities are useful in different timeframes (short term versus long term) depending on their types. This flexibility in usage and efficiency in various timeframes may fit with firms' needs in the context of a corporate scandal and, thus, help the firm react promptly in the short term as well as protect its competitive advantage and sustain its activities in the long term. Accordingly, I examine the effect of organizational slacks on short- and long-term firm performance in a corporate scandal situation and seek to determine how organizational slacks have buffering and enabling effects reducing the impact of a corporate scandal on short- and long-term firm values and firm risk.

In sum, I aim to investigate whether organizational slacks mitigate the impact of a corporate scandal on firm performance in the short and long terms. Consequently, my thesis addresses the following research questions: ***(1) Does holding organizational slacks affect the impact of a corporate scandal on firm value in the short term and firm value in the long term? (2) Does holding organizational slacks affect the impact of a corporate scandal on firm risk?***

To do so, I draw on the Resource-Based View (RBV) and Behavioural Theory of The firm (BTF) to link the literature on organizational slacks, firm resources, and corporate scandals to hypothesise that, depending on their types, holding organizational slacks helps firms minimize corporate scandals' negative impact in the short and long terms. I rely on the characteristics of organizational slacks to understand the magnitude and direction of their mitigating effects on

short- and long-term firm values and firm risk during a corporate scandal. Differentiating between firm value and firm risk as long-term measures allows to accurately define all aspects of the financial consequences of a corporate scandal on firm performance because firm value indicates the expected future cash flow, while firm risk is the vulnerability of the expected future cash flows. In some cases, these two measures of firm performance might give contradictory information leading to highly risky investments (e.g., Fama and French 1993; Markowitz 1952). Analysing organizational slacks in a short and long-term perspective motivates to consider two types of organizational slacks, absorbed and unabsorbed. They differ in availability and readiness and on their useability timeframe. Unabsorbed slacks are available promptly and allocated easily. It takes more time and organizational changes to allocate absorbed slacks. Thus, I hypothesise that organizational slacks will not have the same significance in effects on firm value and firm risk in a situation of corporate scandal, depending on the type of organizational slacks.

Unabsorbed slacks are more liquid and ready to be reallocated, thus available in the short term. I hypothesise that they mitigate corporate scandals' effects on firm performance in the short term when their buffering abilities are used (e.g., Grewal and Tansuhaj 2001; Moorman and Miner 1998; Reed and DeFillippi 1990). Also, absorbed slacks are widely spread throughout a firm, increasing the capacity of certain firm activities. This capacity might allow the firm to compensate the immediate losses from one activity by increasing the capacity of other activities (e.g., Daniel et al. 2004; Greve 2003; Suzuki 2018; Tan and Peng 2003). This enabling mechanism of absorbed slacks might reassure investors; thus, mitigating the corporate scandal's shock on short-term firm value. It is important to understand the link between each organizational slacks' characteristics and the usage in case of corporate scandal in the short and long terms.

Consider the Takata case and the long-term implications for the firm. On the one hand, successfully implementing its unabsorbed slacks would help to pursue daily activities and make faster decisions involving long-term outcomes, such as implementing strategies to face repetitive waves of the corporate scandal and find solutions to external changes and internal difficulties (e.g., Adut 2008; Bizzi 2017; Bourgeois III 1981; Greve et al. 2010). On the other hand, Takata's absorbed slacks would be allocated to improve sustainable competitive advantage with long-term activities and decrease the probability for managers to misbehave, bringing stability by inhibiting variability and uncertainty (e.g., Boso et al. 2017; Mackey, Mackey, and Barney 2007; Mishina et al. 2010; Moses 1992; Peng et al. 2010). Thus, I hypothesise that both unabsorbed and absorbed slacks mitigate the negative impact of a corporate scandal on long-term firm value as well as on firm risk.

To answer my research questions, my methodological approach goes through a three-step process. First, I create a unique and precise dataset of corporate scandals by defining the exact date the information first becomes public in the media to accurately measure corporate scandals' impacts (Fama 1998; Fama and French 2015; Malkiel and Fama 1970; Sorescu, Warren, and Ertekin 2017). Also, my sample includes many types of corporate scandals across multiple industries, while previous research has usually focused on one type of corporate scandal, usually in more "popular" industries, such as the automotive industry (e.g., Bernile and Jarrell 2009; Bouzzine and Lueg 2020; Cleeren, Dekimpe, and Van Heerde 2017; Durand and Vergne 2015; Piazza and Jourdan 2018). My final sample is a unique cross-sectional dataset of 257 international corporate scandals from 2012 to 2015 of 90 U.S.-publicly traded firms listed in the S&P 500 index with their headquarters based in the U.S.

Second, I use short- and long-term event study analyses to precisely measure the impact of a corporate scandal on firm performance in both the short and long terms. A short-term event study analysis captures the corporate scandal impact's intensity on firm value during the few

days surrounding the corporate scandal (Srinivasan and Hanssens 2009). “Short-term” denotes a duration of a few days. To measure the long-term impact intensity of a corporate scandal, I separately determine the fluctuations of firm value based on the 252 days following the event. The measure of the changes in firm risk is based on the same duration (Brown and Warner 1980; Sorescu, Warren, and Ertekin 2017).

Third, I define the role of organizational slacks in mitigating corporate scandals’ impact on short- and long-term performance for firms holding these specific resources. I differentiate between two types of organizational slacks: unabsorbed and absorbed slacks. I use an ordinary least squares (OLS) regression approach in three different models on three dependent variables: short-term and long-term firm value and firm risk. This analysis allows me to test my hypotheses and determine their significance.

The results are as follows: (1) the analysis of the baseline effect confirms previous findings that a corporate scandal has a significant and negative impact on short- and long-term firm values and firm risk; (2) holding unabsorbed slacks mitigates the negative effect of a corporate scandal positively until an optimal curvilinear level is reached on the short-term firm value; (3) holding unabsorbed slacks positively and linearly mitigates the negative effect of a corporate scandal on long-term firm value and firm risk; and (4) holding absorbed slacks positively and linearly mitigates the negative impact of a corporate scandal on the firm risk.

In short, my findings provide evidence that holding organizational slacks helps a firm decrease the harmful impact of corporate scandals on short- and long-term firm values and firm risk. They also demonstrate that the mitigating effects vary depending on the type of organizational slacks, unabsorbed or absorbed.

These insights provide theoretical contributions and practical implications to researchers and managers. From a theoretical perspective, my thesis contributes to the literature on corporate

scandals and organizational slacks by revealing the significant role of organizational slacks in helping firms deal with a corporate scandal. More specifically, I show the financial consequences of corporate scandals on firms and the ways in which firms can utilize the buffering and enabling mechanisms of unabsorbed and absorbed slacks as specific available resources to maintain financial health in the short and long terms during corporate scandals.

I add to the corporate scandal literature in three ways. First, I provide a comprehensive conceptualization of corporate scandal by drawing on two complementary literature streams: the scandal literature with a socio-political approach and the literature on corporate crises, to avoid approximations in understanding the mechanisms investigated. Second, I confirm the magnitude of corporate scandals' impact on short- and long-term firm values and risk found in previous studies. Third, I provide evidence that holding organizational slacks helps mitigate the decrease in firm performance generated by a corporate scandal.

My insights also add to the corporate scandal literature that has observed the positive effect of holding organizational slacks in turbulent and threatening environments (e.g., Bradley, Shepherd, and Wiklund 2011; Cyert and March 1963; Grewal and Tansuhaj 2001; Wan and Yiu 2009). I show the particular role of each type of organizational slack, unabsorbed and absorbed, and each timeframe, short- and long-term, in helping mitigate the impact of a corporate scandal.

From a methodological and empirical perspective, event study analysis has been rarely used in the corporate scandal literature, except for precise types of corporate incidents such as financial misconduct and product recall (Fich and Shivdasani 2007; Paruchuri and Misangyi 2015; Stäbler and Fischer 2020; Thirumalai and Sinha 2011). Also, only a few empirical studies have examined the short- and long-term implications or considered corporate scandals' impact on either firm value (e.g., Coffee Jr 2005; Jonsson, Greve, and Fujiwara-Greve 2009; Jory et al.

2015) or firm risk (e.g., Kölbel, Busch, and Jancso 2017). Nevertheless, considering both firm value and firm risk allows for a more comprehensive analysis because they provide complementary indications and verifications with different interpretations of firm performance (e.g., Christie 1982; Duffee 1995; Fama and French 1993; Markowitz 1952). Also, I build a unique and reliable database containing a large number of ESG-related corporate scandals to provide an extensive and precise analysis of the mechanisms I aim to study.

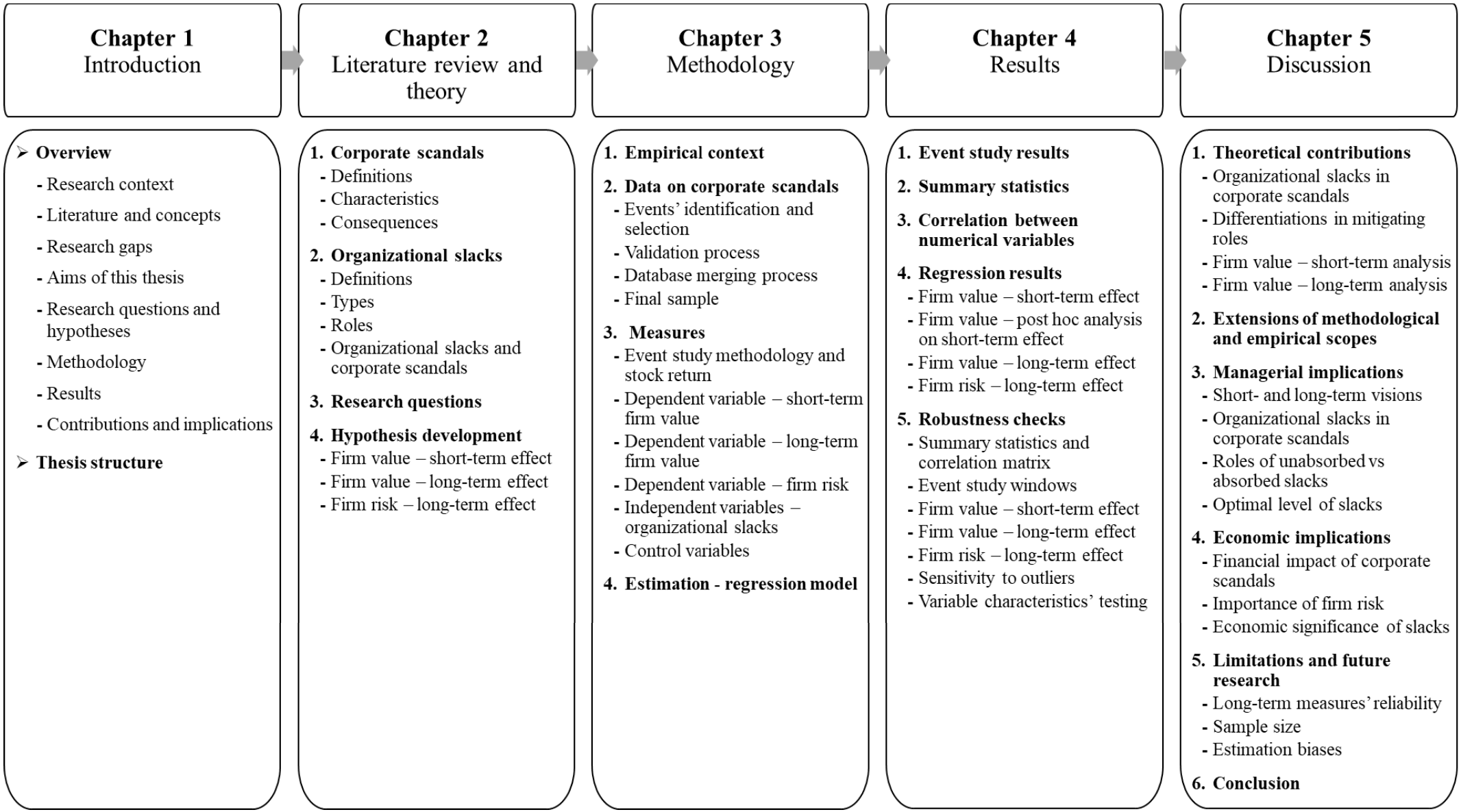
From a managerial perspective, my thesis urges managers to include organizational slacks in their strategic plans in shock management. They need to customize the operationalization of their resources to avoid unnecessary wastage of available resources in difficult situations such as corporate scandals. By distinguishing unabsorbed and absorbed slacks in my analysis, I provide answers on the requirement of differentiating their allocations to certain activities at certain times. Also, my findings raise managers the necessity and benefits of reacting promptly to the corporate scandal and extending their efforts beyond the initial shock.

Finally, my results show that corporate scandals are an essential factor of risk for investors and are critical events that managers must contain because their shocks generate negative economic consequences that can be major and persistent. From the point of view in nominal value, the costs of a corporate scandal can represent an impressive amount of cash in the short and long terms. In this sense, I encourage investors and managers to think based on rational and economic considerations before making decisions related to organizational slacks and corporate scandals. However, my findings indicate that holding both types of organizational slacks, especially absorbed slacks, might not be the best due to high costs and low benefits. Thus, it might be economically preferable for managers to focus only on holding unabsorbed slacks to face such situations. Their opportunity costs are high, but they provide more benefits than absorbed slacks do.

Thesis structure

As illustrated in Figure 1, this thesis is organized as follows: After an introduction (Chapter 1), Chapter 2 provides a review of the existing literature on corporate scandals and organizational slacks and related research gaps leading to my research questions. I then provide my hypotheses on the effects of the unabsorbed and absorbed slacks on firm performance in the short and long terms in reference to firm value and risk. Chapter 3 discusses my research methodology. I describe how I create a unique dataset containing corporate scandals' observations. Then, I explain each step of the short- and long-term event study methods used to measure the dependent variables of the estimation models, short-term abnormal returns, long-term abnormal returns, and idiosyncratic risk. I also detail the measurements of unabsorbed and absorbed slacks and control variables included in the estimation model. I end the chapter by analysing the effects of unabsorbed and absorbed slacks during a corporate scandal using an ordinary least squares regression on the three dependent variables representing short- and long-term firm values and firm risk, respectively. Chapter 4 first presents the results of the baseline effects from the short- and long-term event study analyses. Then, it provides findings on the significance of the suggested hypotheses on the role of unabsorbed and absorbed slacks in mitigating corporate scandals' effects on short- and long-term firm values and firm risk. Chapter 5 discusses the theoretical contributions, practical and economic implications, and methodological and empirical extensions arising from my thesis. I conclude by highlighting potential limitations and future research avenues.

Figure 1: Thesis structure



Chapter 2: Literature review and theory

1. Corporate scandals

"A scandal is gossip made tedious by morality."

Oscar Wilde, *Lady Windermere's Fan*, 1892

There is increasing academic and public interest in corporate scandals as a result of the growing number of scandals that have occurred in recent years. Since the late 1990s, many well-known companies – Enron, Volkswagen, Mitsubishi, Lehman Brothers, and UBS Swiss Bank – across virtually all industries have been involved in one or multiple scandals. Such scandals have involved various immoral, irresponsible, and/or unethical activities with possible illegal components, including failures in products sold, corporate misconduct, and fraud.

Corporate scandals can be very damaging with potentially severe and long-lasting outcomes (Kalavar and Mysore 2017). Because of this, it is crucial that firms understand how to avoid being involved in such scandals or, if involved, how to mitigate the damage. For example, Intel Corporation, the world's leading semiconductor manufacturer by revenue, has identified and reported publicly that the worst disaster would be the recall of its high-tech chipsets due to manufacturing quality problems. Not only would the firm suffer, but so would all its clients across many industries. Such an issue could lead to a worldwide product recall with potential lawsuits from clients, consumers, authorities, and regulators (Barton 2008). In 2006, Sony Semiconductor faced this exact situation. The Japanese firm had to recall six million semiconductors because battery cells induced battery explosions in laptops of many PC manufacturers (The United States Consumer Product Safety Commission, 2006). Corporate scandals bring uncertainty to a firm's financial health by decreasing expectations around future financial returns and increasing the volatility of future cash flows. Along with the short-term

financial damage, corporate scandals can result in fatal long-term consequences, such as bankruptcy. To date there has been little research into the impacts of corporate scandals on firms or on how such events might be more effectively managed. The present research seeks to address that gap and make an important contribution to the field.

Not all corporate transgressions result in a corporate scandal. An organization's response to a transgression will determine the level of negative public perception generated, thus determining whether it will escalate to become a scandal (e.g., De Maria 2010). In this sense, the literature does not give clear characteristics to differentiate 'simple' misbehaviours from scandals nor when, how, or why such 'simple' events switch to scandals. The mechanisms of a corporate scandal are also only partially understood; the attempts to understand them mainly rely on other literature streams, and these mechanisms have attracted merely sporadic attention from researchers in various fields such as accounting, management, marketing, sociology, and economics (e.g., Adut 2008; Clemente and Gabbioneta 2017; Dewan and Jensen 2020; Entman 2012; Hirsch and Milner 2016; Jory et al. 2015; Palmer, Greenwood, and Smith-Crowe 2016; Paruchuri and Misangyi 2015; Piazza and Jourdan 2018; Vaughan 1999).

I provide a comprehensive understanding of corporate scandals partially developed in the related literature (e.g., Clemente and Gabbioneta 2017; Markham 2015; Roehm and Tybout 2006) considering two other research streams: the literature on scandals from a socio-political perspective and the literature on corporate crises. It is important to link the concept of corporate scandal with the concepts of socio-political scandal and corporate crisis because (1) corporate scandal literature gives inconsistent definitions of what is exactly a corporate scandal and (2) the literature streams on socio-political scandals and corporate crises bring complementary elements to understand the mechanisms of a scandal in a corporate context. First, the socio-political perspective gives a broad definition of the fundamentals of a scandal going beyond a

corporate perspective. This approach from the sociology literature[1] helps define a corporate scandal and its characteristics in an extensive way and describes the complexity and processes of such events from a generic perspective. Second, the corporate crisis literature adds the managerial and corporate perspectives to research on socio-political scandals, with a focus on how a crisis impacting a firm could turn into a corporate scandal and the causes and consequences of the negative incident to the firm. These perspectives can be used to establish a clear framework within corporate studies from which to analyse scandals. As a result, both the socio-political scandal and the corporate crisis literature streams are utilised in this research to complement and explain the impact of corporate scandals on firms.

Moreover, to date, studies have mainly used either financial acts, such as accounting fraud, security fraud, and price-fixing, or non-financial acts, such as lack of ethics and governance, product-harm, and CEO misconduct. Studies rarely base their analysis on both (e.g., Yu, Zhang, and Zheng 2015). To provide an extensive overview of a corporate scandal's impact on a firm, I consider both financial and non-financial events in my study.

In the following section, I incorporate ideas from the socio-political perspective on scandals and the corporate crisis literature into current understandings of corporate scandal to provide an integrated definition of this construct. I draw on these three streams of research because they are complementary in understanding the complex processes and specificities of a corporate scandal. After conceptualizing the notion of corporate scandal, I describe its characteristics through three time-based stages. Finally, I delve into the different consequences of a corporate scandal, linking them to the first aim of my study – understand specific mitigating mechanisms on the effect of a corporate scandal on firm value and risk.

[1] For an understanding of scandal's fundamentals, I rely mainly on the seminal books of Adut (2008), Adut (2005), and Thompson (2000), all cited in most of the studies on scandals and corporate scandals. The authors give a socio-political approach to the terminology of scandal, which enables a broader view of the meaning of scandal than that in the management literature.

1.1. Definitions

Scandals are ubiquitous social phenomena (Adut 2005); thus, each of the two complementary research streams, the literature on scandals from a socio-political perspective and on corporate crises, report multiple definitions of "scandal." As a generic word, the term "scandal" is multifaceted and can describe many situations involving misconduct, the media, and public audiences. In this section, I integrate both socio-political scandal and corporate crisis literature streams into the corporate scandal literature to enhance the concept of corporate scandal and develop a comprehensive definition. Figure 2 provides a visual representation of the different elements developed in what follows.

In the socio-political context, Thompson (2000 p. 245) suggests that *scandals* are "struggles over symbolic power in which reputation and trust are at stake." In a sociological approach, a scandal has been defined as "a significant transgression, the forceful reaction that a transgression elicits, the discredit heaped on persons and institutions as a result of a transgression or its denunciation, and an episode during which a transgression is publicized and condemned" (Adut 2008, p. 11). For instance, the Watergate scandal pushed Richard Nixon to resign his presidency in 1972 (e.g., Fisher 2012). Thus, a scandal cannot exist without a transgression that might be true or based only on allegations and rejected by the presumed transgressor until this transgression generates negative perceptions or curiosity from an audience (Adut 2008). Most of the time, the transgressor misbehaves deliberately, and the audience makes him a bad apple. In other cases, the cause of the transgression is the transgressor's incompetency to follow legal and moral rules (Adut 2008). Nevertheless, in each case, the public evaluates the transgressor's professional and personal competencies (Doherty, Dowling, and Miller 2011). The Clinton-Lewinsky case is an example of a socio-political scandal that ruined the reputation of the president of the United States, Bill Clinton. The story started as gossip on the internet in January 1998. A couple of days later, the media and public

audience condemned his "behaviour." Political parties, members of his government, and citizens cast doubt on his competencies to lead a country (e.g., Waxman and Merrill 2018).

In parallel, the management literature elaborates the concepts of *corporate crisis*. There are many definitions of corporate crisis, with relative consistency in terminology. For instance, Coombs (2014, p. 19) defines a crisis as "the perception of an unpredictable event that threatens important expectancies of stakeholders related to health, safety, environmental, and economic issues, and can seriously impact an organization's performance and generate negative outcomes." A recent literature review by Bundy et al. (2017, p. 1662) gives the most comprehensive definition of a corporate crisis[1]: "An event perceived by managers and stakeholders as highly salient, unexpected, and potentially disruptive," thwarting business objectives of a firm and even impacting relationships with the firm's stakeholders. Stakeholders are any entity or group that participates in the ecosystem of an organization and can influence or be influenced by the behaviour of the organization (Bryson 2004). This behaviour has an essential role in a crisis situation and is especially important in defining how to behave adequately, as the crisis can be locally or internationally situated (Coombs 2007). For example, crises related to products have been more frequent since the 2000s' because products are more sophisticated and complex, manufacturers and regulators continuously monitor the product quality, globalization and outsourcing increase the difficulty of quality oversight, consumers request higher quality products, and media have the power to easily bring the attention of the public in case of product's misfunction (Berman 1999; Cleeren, Dekimpe, and Van Heerde 2017; Van Heerde, Helsen, and Dekimpe 2007). For example, in 2016, Samsung and the battery recall crisis threatened the success of other future smartphone-related product releases (Maheshwari 2016). On average, there are four product recall announcements per day, which

[1] I use "corporate crisis" interchangeably with "crisis."

means a high probability that a firm will suffer from a recall one day or another. Thus, the firm needs to determine the consequences of the recall to attenuate its impact (Hsu and Lawrence 2016). However, most of them do not catch the attention of the public and stay as internal crises. The specificities of corporate crises and socio-political scandals lead to the question of what a corporate scandal is and how it is defined from both these research perspectives.

Depending on its gravity and intensity, a corporate crisis can be contained and resolved efficiently. In other cases, when firms fail to govern the immoral and unethical behaviour (illegal or not), and the participants' reputation falls in the public eye, it can have more serious implications for the firm and even for its stakeholders (Paruchuri and Misangyi 2015). Such cases are categorized as corporate scandals. The media are one of the main stakeholders that influence the way the public and investors interpret a corporate crisis (e.g., Greve, Palmer, and Pozner 2010; Wiersema and Zhang 2013). Hail, Tahoun, and Wang (2018, p. 620) argue that "the press plays a role as a watchdog for corporate misconduct." Scandals are "mediated events" (Thompson 2000), meaning that the former exists only if the media give a minimum amount of attention to the latter. That is, "no publicity, no scandal" (Adut 2008, p. 19). For instance, the "Diesel Gate" involving Volkswagen (VW) is due to the TMT's misconduct. Its optimization of the polluting emissions made VW the leading manufacturer of ecological cars and spurred the group as the number one in the car industry in 2014. However, engines of several diesel car models from 2009 until the fraud was discovered in 2015 emitted more carbon dioxide levels than the VW's pollution tests stated (Hotten 2015). The car manufacturer falsified on purpose the Engine Control Unit (i.e., car's internal computer software) for cheating emission tests on their diesel cars (U.S. Department of Justice 2016). VW ended with paying fines of a total of nearly $30 billion and 11 million recalled diesel cars (Ewing 2018).

The level of media coverage (i.e., attention to the event) has an important influence on the public's perception of a transgression and determines if the event stays unseen or becomes a

scandal for the public (Adut 2005; Clemente, Durand, and Porac 2016). Thus, some transgressions can be considered potential scandals instead of scandals (Entman 2012). Potential scandals are "misconduct[s] that the media could reasonably be expected to treat as a scandal because the bad deeds resemble previously publicized scandals in key respects" (Entman 2012, p. 4). If the publicizing of the topic is not efficient, the crisis will not turn into a scandal.

However, in the corporate scandal literature,[1] there is confusion in the conceptualization of a corporate scandal. First, even recently, authors rely mostly on the socio-political definition of scandal as the basis of the discussion (e.g., Clemente and Gabbioneta 2017; Piazza and Jourdan 2018). They define a corporate scandal by referring to Adut (2008), the seminal book on scandals in sociology. Second, studies build their stories in terms of "organizational wrongdoing." They analyse the origins of the behaviours (e.g., Mishina et al. 2010; Palmer 2012; Palmer and Yenkey 2015), the spreading mechanisms (e.g., Paruchuri and Misangyi 2015; Pierce and Snyder 2008), the consequences on the firm's reputation (e.g., Sullivan, Haunschild, and Page 2007), and how firms are able to recover their social status (e.g., Pfarrer et al. 2008). However, the definition of corporate scandals cannot be based exclusively on "wrongdoing." Such descriptions of unethical behaviours are too broad, and these studies do not specify clear factors that determine appropriate events to conduct a corporate scandal analysis (Piazza and Jourdan 2018). The fact that misbehaviour leads to negative consequences is another important yet underemphasized aspect in corporate scandal research. Also, the literature needs sharper boundary conditions in the definition of a corporate scandal. Finally, these studies recall terminology from the socio-political scandal viewpoint, such as "social-control agents," without integrating them as "agents" in the management literature, such as shareholders and stakeholders. Some studies combine the organizational wrongdoing literature with other

[1] See Greve, Palmer, and Pozner (2010) for a review.

concepts to analyse corporate scandals (e.g., Graffin et al. 2013; Jonsson, Greve, and Fujiwara-Greve 2009; Piazza and Jourdan 2018); for instance, Clemente and Gabbioneta (2017) use mass communication to study the Volkswagen Diesel scandal.

While studies on corporate scandals in the management literature contribute valuable insights on the topic and build a general corporate scandal frame, they are overly reliant on the socio-political perspective of scandals and fail to bring specific aspects of the firm into the discussion.

Corporate scandals and socio-political scandals have similar mechanisms, stages, and processes, but basic particularities of a firm are missing in the socio-political context of scandal. Additionally, an accurate understanding of corporate scandals requires analytical tools specific to firms. The challenges of a corporate scandal do not resemble those of a socio-political scandal. A corporate scandal involves not only individual agents but firms, one or several industries, communities, peer firms, and stakeholders, depending on the nature of the corporate scandal (Grebe 2013; Yu, Zhang, and Zheng 2015). Also, the transgressive firm implements specific requirements to restore its reputation and public image and rebuild trust with its stakeholders. These are not accounted for in a socio-political scandal situation (George and Evuleocha 2003). A firm-focused conceptualization and analytical processes are required to offer relevant implications and practical solutions for managers in a corporate scandal context.

In the management literature, the notion of corporate scandal is often considered on the same level as a crisis (e.g., fraud, product-harm, and crime) but not as an event that arises from a crisis (e.g., Bonini and Boraschi 2012; Marcus and Goodman 1991). Although characteristics of a corporate crisis are close to those of a corporate scandal, they differ in important facets related to the event's intensity, emergence, and timing. This distinction between corporate crisis and corporate scandal is hard to find in the literature. The use of this kind of terminology overlaps with and, at the same time, describes very different elements. As a result, even if the aims of the analysis are well specified, the research focus often remains unclear and blurry.

Some studies discuss “crises” when the intensity of the event refers to a corporate scandal. For instance, while Clemente and Gabbioneta (2017) discuss product recall/fraud such as VW’s during the Dieselgate *scandal* (as such in the study), Cleeren, Dekimpe, and Helsen (2008) analyse the different consequences of product recalls, which they refer to in their study as *crises* (as such in the study), such as Perrier’s water (1990) and Vioxx (2004). Ideally, the recalls of Perrier’s water and Vioxx should have been studied from the perspective of corporate scandals instead of crises. They both have the characteristics of a corporate scandal: relate to high intensity, involve a large public discussion, and impact many actors. These are examples out of many which show that these two words are misused and, thus, misinterpreted. This confusion in terminology and usage might arise from the literature on the different types of corporate misconduct, which does not differentiate between crisis and scandal. Research has regarded product recalls and product harms, frauds, and misconducts as both corporate crises and corporate scandals interchangeably. Therefore, in order to develop clear and comprehensive attributes of corporate scandals, it is necessary to provide more precise boundaries for their aspects.

Besides, corporate scandals arise from various causes, such as accidents, boycotts, chemical leaks, rumours, deaths, lawsuits, sexual harassment, product harm, and whistleblowing (e.g., Dyck, Morse, and Zingales 2010; Egelhoff and Sen 1992; Marcus and Goodman 1991). Both literature streams on socio-political scandals and corporate scandals do not give a rigorous classification of scandals in a corporate context. The corporate crisis literature is useful in this regard (Coombs and Holladay 2001). For example, Coombs (2014) suggests a master list of crisis typologies: operational disruptions from disasters, workplace violence, rumours, unexpected loss of key leadership, malevolence, challenges, technical-error accidents, technical-error product harm, human-error accidents, human-error product harm, and organizational misdeeds, the key definitions of which as summarized in Table 1. These also

have a bearing on the characteristics and mechanisms of corporate scandals. Yet, most studies focus on one type, and only a few consider multiple categories of misbehaviour in their analyses.[1] The research on corporate scandal faces a lack of cross-sectional studies at present.

Given the abovementioned issues, it is important to integrate and clarify the concept of corporate scandal. On the one hand, a corporate scandal has the intensity, impact, and power of a socio-political scandal; on the other hand, it connects with the types and characteristics of a corporate crisis. Thus, I integrate these two research streams (Adut 2008; Agrawal and Cooper 2017; Cambridge University Press 2021; Clemente, Durand, and Porac 2016; Dyck, Morse, and Zingales 2013; Hail, Tahoun, and Wang 2018; Hung, Wong, and Zhang 2015; Zona, Minoja, and Coda 2013) into the corporate scandal literature (e.g., Bouzzine and Lueg 2020; Coffee Jr 2005; Dewan and Jensen 2020; Jensen 2006; Jonsson, Greve, and Fujiwara-Greve 2009; Piazza and Jourdan 2018) to summarize the concept of "corporate scandal"[2] as follows:

A corporate scandal emerges from a corporate crisis that turns into a wide incident engaging intense and far-reaching public discussions about an assumed or proved violation of morality that damages the reputation of the firm and has a significant economic impact on the firm and society.[3]

Specifically, relying on the three literature streams – corporate scandals, socio-political scandals, and corporate crises – allows one to conclude that, first, corporate scandal is a socio-political scandal with a firm as a transgressor; and second, a corporate scandal is a corporate crisis that has increased in intensity and public visibility. Clearly, transgression and crisis are

[1] See Jory et al. (2015); Yu, Zhang, and Zheng (2015).

[2] From this point of the thesis, I use "corporate scandal" interchangeably with "scandal" to facilitate the comprehension of the main ideas and principal construct. However, if the term "scandal" recalls the socio-political scandal literature, it will be signalled as such.

[3] The notion of "intense and far-reaching public discussions" is reflected in media coverage, changes in regulations, and political implications. The "significance of the economic impact" is related to the financial and monetary aspect and the gap between the perceived financial success of the firm and the reality of its financial health. It implies not only damages to the firm but to various stakeholders, such as employees, investors, and governments.

antecedents of scandals, but not all turn into scandal (Piazza and Jourdan 2018). There are an entire process and complex mechanisms at play. An entity can be facing a crisis with no sign of scandal, and an entity facing a scandal might not have to manage a crisis. In other words, a corporate scandal is a corporate crisis that was not managed well enough (e.g., De Maria 2010). However, both imply transgressions, have negative consequences, and are harmful to the participants. For instance, both literature streams on socio-political scandal and corporate crises provide similar definitions and descriptions of the evolutionary steps the transgressor/firm has to go through. In this thesis, I rely on the understanding that corporate crises and corporate scandals are events that might not happen at the same time. A process of events and behaviours, and different mutation steps, "switches" corporate crises into corporate scandals.

In this sense, the media have a crucial position as decision-makers. With their influential capacity in perceiving and promoting a transgression to the public (e.g., Entman 2012), the media are a primary driver in switching "simple" misconduct or crisis into a corporate scandal. The media have an important role as information propagators and public audience influencers. A corporate scandal may not exist without their intervention because the minimum amount of public attention is not reached. The media have the power of deciding whether the information is important enough to trigger a scandal, when the scandal starts and ends, and how the public audience perceives the transgression (Adut 2008; Thompson 2000).

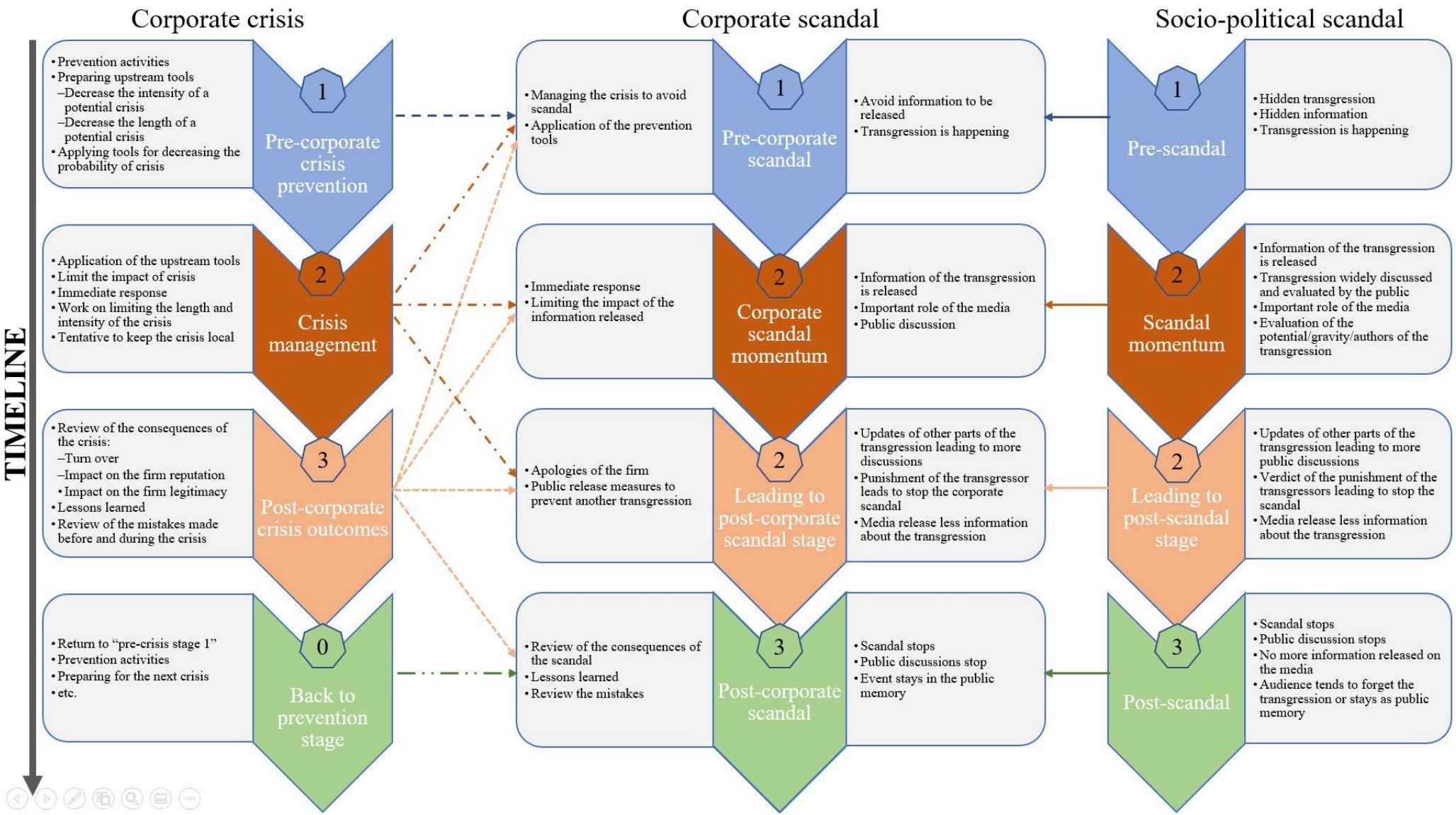
Relying on data from news coverage, my thesis aims to optimally capture corporate scandal events through access to a wide panel of major media. Because of the catalytic role of the media, media coverage analysis provides information to define the timeline of a corporate scandal and its impact on firm value and risk.

From this point, I rely on the corporate scandal, socio-political scandal, and corporate crisis literature streams to define the different types of corporate scandals, their characteristics, and their processes. Doing so will fill the gaps in the literature of corporate scandals, as long as the

socio-political scandal and corporate crisis notions fit with the above-described definition and conceptualization of a corporate scandal.[1]

[1] As a recall from Chapter 1: Some of the studies I refer to might use the term "crisis." If not specified, I use the term "scandal" even if the original study uses the term "crisis." Similarly, the term "scandal" is used to define "corporate scandal," even if the elements come from the socio-political scandal literature, as long as the notions in the latter fit with my definition of scandal as involving broad public discussions. This is done to avoid confusion and facilitate the reading process.

Figure 2: Corporate scandal vs. corporate crisis vs. socio-political scandal



Based on the descriptions of stages by Bundy et al. (2017) for corporate crisis and of Clemente, Durand, and Porac (2016) for socio-political scandal.

Table 1: Classification and definitions of corporate scandal's types

Name of scandal cluster typology	Definition
Operational disruptions from disasters	"When organizational routines are disrupted by disasters; this includes an organization needing to close or to operate at reduced capacity due to a disaster such as tornadoes, hurricanes, volcanic ash, flooding, or health emergencies."
Workplace violence	"When an employee or former employee commits violence against other employees on the organization's grounds."
Rumours	"When false or misleading information is purposefully circulated about an organization or its products in order to harm the organization."
Unexpected loss of key leadership	"When an organization suddenly loses a key leader, such as a CEO, to illness or death."
Malevolence	"When some outside actor or opponent employs extreme tactics to attack the organization, such as product tampering, kidnapping, terrorism, or computer hacking."
Challenges	"When the organization is confronted by discontented stakeholders with claims that it is operating in an inappropriate manner."
Technical-error accidents	"When the technology utilized or supplied by the organization fails and causes an industrial accident."
Technical-error product harm	"When the technology utilized or supplied by the organi[s]ation fails and results in a defect or potentially harmful product."
Human-error accidents	"When human error causes an accident."
Human-error product harm	"When human error results in a defect or potentially harmful product."
Organizational misdeeds	"When management takes actions, it knows it may place stakeholders at risk or knowingly violates the law."

Coombs (2014, pp. 89-90)

1.2. Characteristics

While the structures of corporate crises, corporate scandals, and socio-political scandals are similar, they diverge in their goals, timing, intensity, and reactions. Drawing on the socio-political scandal and corporate crisis literature streams, I derive three time-based stages to represent the specific characteristics through the process of a corporate scandal as presented in

Figure 2: (1) the pre-corporate scandal stage, (2) the corporate scandal momentum stage, and (3) the post-corporate scandal stage.[1]

First, the pre-corporate scandal stage allows managers either to work on prevention activities and upstream tools to prepare to face future crises; or they might already be dealing with a crisis that has not yet turned into a scandal. In the latter situation, managers make decisions and use a firm's internal resources as an immediate response to the crisis and act optimally to reduce the negative impact of the crisis (e.g., Hsu and Lawrence 2016; Kang 2008; Liu, Shankar, and Yun 2017; Pillai and Meindl 1998). As in a pre-socio-political scandal stage, the firm (i.e., transgressor) works on hiding information on any unethical or illegal behaviour without actively preparing a strategy to confront a scandal because managers may not expect this eventuality. As long as the information does not reach the traditional media, such as newspapers, the transgression will not reach a large enough public audience and accumulate public criticism and, thus, not become a scandal (Entman 2012).

Second, the scandal momentum stage starts as soon as the scandal is "switched on," and the firm must respond to it immediately. A whistle-blower, a control-agent,[2] or a non-governmental watchdog can trigger the scandal by releasing information outside the group of "secret-keepers" (Clemente, Durand, and Porac 2016). The information on the transgression is spread with enough media publicity and widely discussed among the audience. Then, the public expresses its disapprobation (Thompson 2000). From this point, the characteristics of the transgression are part of public knowledge (Clemente, Durand, and Porac 2016). The media have the capacity

[1] Between the corporate scandal/scandal momentum and the post-corporate scandal/post-scandal stage, I add the "leading to post-corporate scandal stage" and "leading to post-scandal stage" to Figure 2. This part is not described either in the socio-political scandal or the corporate scandal and corporate crisis literatures; I do not consider them as specific stages. However, they contribute slightly more details on the "switch off" moment and give additional clarity to the process of both event descriptions.

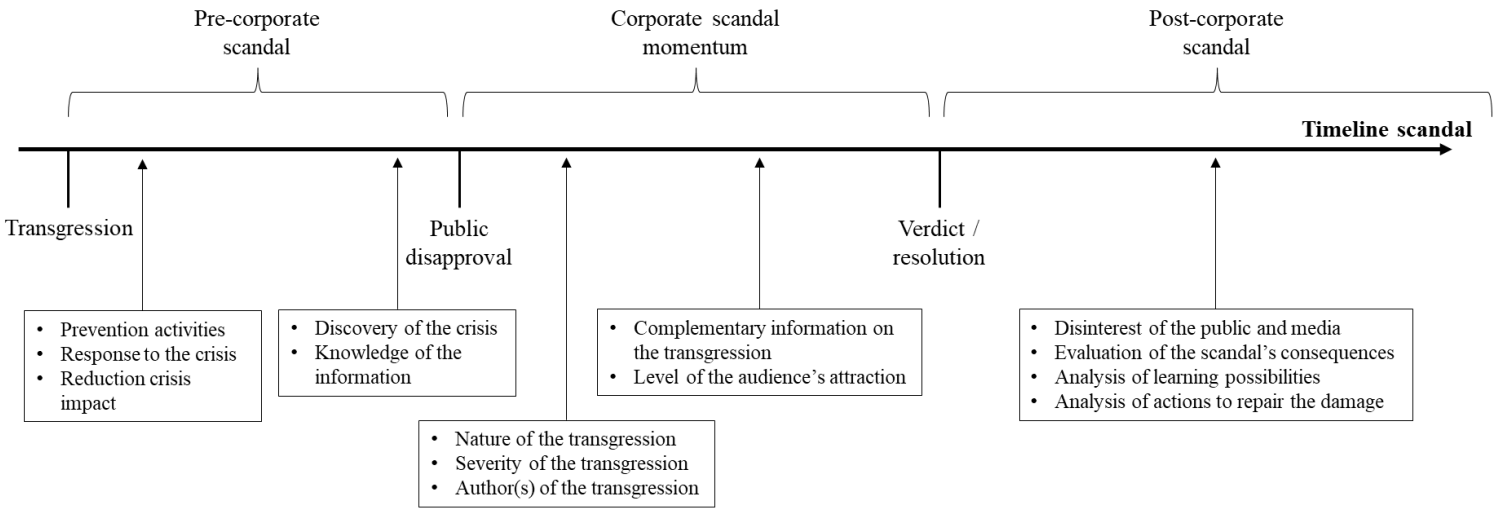
[2] "Control agents" regroups all the different government and professional agencies, such as criminal court judges and government regulators. They are important actors in misconduct and corporate scandals, as they are the entities that will be able to sanction the misbehaviour.

to highly discredit the scandal's participants to the public according to three core components of the scandal: the nature of the transgression, which determines whether the misconduct is unethical or illegal; the gravity of the transgression, which represents the level of severity that the transgression reaches; and the author(s) of the transgression (Clemente, Durand, and Porac 2016). The level of the audience's attraction to the scandal constantly changes: the number of articles published in the media could decrease for a period, the authorities/publics/media could revaluate the gravity of the transgression based on complementary information, and the media could reveal the identity of the faulty transgressor(s). Scandals have a dynamic structure and evolve over time (Clemente, Durand, and Porac 2016). Thus, the duration of the scandal coincides with the level of complexity in its structure. The lifetime of a scandal will depend on the public interest; a scandal dies when the transgression stops to draw the attention of an audience (Adut 2008).

Finally, the post-corporate scandal stage starts as soon as the scandal terminates; yet, determining the end of a scandal is challenging because of the complexity of such event (Adut 2008). The disinterest of the public and media generally occur when the control agents decide if the transgressor is guilty and must face sanctions or is released of all accusations. The scandal will then move to the post-scandal stage, referring to the end of a scandal (Clemente, Durand, and Porac 2016). In contrast to the post-socio-political scandal stage, the post-corporate scandal is a period used to consider the consequences for the firm and cast light on the outcomes, such as employee turnover and the social evaluations based on a firm's reputation, legitimacy, and trust. Also, the firm analyses the learning possibilities from facing the scandal and the actions to repair the damages (e.g., Claeys and Cauberghe 2014; Cleeren, Dekimpe, and Helsen 2008; Dawar and Pillutla 2000; Haunschild, Polidoro Jr, and Chandler 2015; Haunschild and Rhee 2004).

From this timeline of three stages, visually represented in Figure 3, I measure the firm's value in the short term by focusing on the immediate financial impact at the exact day[1] when the media release the information to the public. I determine the firm value and firm risk in the long term by the scandal's long-term financial impact from the same reference point of the released information to one year after the scandal started.[2]

Figure 3: Timeline – corporate scandals



Based on the representation of scandal stages in the media by Clemente, Durand, and Porac (2016).

1.3. Consequences

Scandals are extreme events with a complex structure. They provoke shocks to the social system, switch suddenly from a small to a massive event, and constantly evolve to have different implications and consequences at each stage. Scandals can be ephemeral or enduring and come in small or big sizes, with short- or long-lasting effects. In many situations, scandals come in waves with an "up and down" effect during their lifetime (Adut 2008). When scandals come from deep social, public, and political structures and reach actual public interest, they have a high probability of lasting longer (Greve, Palmer, and Pozner 2010).

[1] I consider a lag of one to three days surrounding the event, as I explain in Chapter 3.
[2] For the long-term analysis, I also measure firm value and firm risk up to two years after the scandal (i.e., 504 opening trading days) to test the robustness of the results.

Facing a scandal has multiple consequences for the firm internally and externally. Evidence is strong that corporate scandals impact a firm's value, volatility, and performance (e.g., Bernile and Jarrell 2009; Jain, Jain, and Rezaee 2010; Jory et al. 2015; Knittel and Stango 2014; Long and Rao 1995; Murphy, Shrieves, and Tibbs 2009), as well as its reputation (Nelson, Price, and Rountree 2008), costs, operations (Hoffer, Pruitt, and Reilly 1988), and loss of shareholders (Narayanan, Schipani, and Seyhun 2007). On average, these damages caused by the market are 7.5 times higher than the penalties from regulators' legal actions (Karpoff, Lee, and Martin 2008). Thus, the consequences of scandals could go beyond financial issues, including injuries and death, material and environmental damages, and impact brand and firm reputations. Thus, there could be a severe impact on financial aspects in both the short and long terms. An analysis of the impact on a firm from both timelines using different measures is missing in the scandal literature.

Also, a scandal produces a spill-over effect for firms associated with the transgressor (Paruchuri and Misangyi 2015; Roehm and Tybout 2006). A corporate scandal can affect the firm that is part of the transgression, individuals of the firm, and even its surrounding firms (Jensen 2006; Jourdan, Qiu, and Galeshchuk 2019). The consequences can contaminate the entire industry to which the incriminated firm belongs and spread beyond the industry. It will depend on the firm's characteristics, such as its size and its role in the industry. For instance, the spill-over was particularly extreme during the 2008 financial crisis, when the misconduct and bad decisions of a few banks contaminated the global economy for many years (Clemente and Gabbioneta (2017); Jonsson, Greve, and Fujiwara-Greve (2009); Piazza and Jourdan (2018). By their high intensity and consequent damages, scandals might provoke changes in the law and involve governments (Clemente, Durand, and Roulet 2017). With scandals like Enron, Tyco, and WorldCom, the repercussions on individuals, firms, and industries were immense. To prevent their recurrence, the U.S. government and Congress intervened by implementing the Sarbanes-

Oxley Act in 2002[1] (White 2010). Also, the SEC, the Department of Justice's lawsuits, and stakeholders' and shareholders' legal actions enforce negative monetary consequences on transgressors (Jory et al. 2015). Such information release not only has a strong impact on a firm, but the consequences are also visible instantly, especially on the firm's value. However, the corporate scandal literature tends to stay focused within the field of analysis by considering one type of scandal and one industry, or even one event. For instance, the studies of Piazza and Jourdan (2018) and Clemente and Gabbioneta (2017) refer to one scandal to build up their conclusions. Analyses on scandals from multiple contexts might show the true impact of scandals on firm value, measure their intensity, and describe their consequences to suggest during- and after-scandal remedies. For this reason, my analysis includes all types of scandals in almost all industries.[2]

The literature already provides evidence that when a scandal begins, stock volatility increases and stock price decreases (Jory et al. 2015). For example, after the information on HP's misconduct (2010) was released, its stock price dropped by 8.3 percent in after-hours trading; the CEO, who had made HP recover from bad times, resigned (Worthen and Tam 2010). Such a situation might discourage investments because investors worry about the future of the firm. Uncertainty might increase around the next TMT's competencies and the costs related to reorganizing the firm's internal processes. Also, the duration of the media coverage about the transgression influences investors' scepticism. The media are again an important driver of such short-term impacts (Jory et al. 2015).

Nevertheless, a key shortcoming of existing studies is that even if they examine the consequences of a scandal on a firm's stock, their analysis of the short-term impact is not precise

[1] See Coates (2007) for a detailed discussion on the implementation, expectations, and results of the Sarbanes-Oxley Act, and Hail, Tahoun, and Wang (2018) for a general discussion on the effectiveness of regulations.
[2] Refer to Section 2 of Chapter 3 for reasons for industry exclusions.

enough because the outcomes are not based on adequate measures of the timing of the scandal. The estimation of the exact moment when a scandal starts to define the immediate impact of the scandal on a firm's financial measures is an unsolved problem to date. I suggest an alternative to this lack of time precision by considering the day when the information on the scandal is released in the media for the first time.

Moreover, corporate scandals have a significant and long-lasting impact on various facets of firm performance and sometimes even lead to bankruptcy (Boone and Ivanov 2012). The fall of Enron in 2001 is an emblematic example of a corporate scandal that ended with the bankruptcy of the firm as well as its partners, such as Arthur Andersen. The success story started in 1990. Enron's stock price increased by 311 percent in 8 years. The firm was among the Most Admired Companies by *Fortune* Magazine before the stock price hit zero in 2001. Enron fully exploited the complexity of its business model and used the hedge of accounting rules in reporting earnings and balance sheets. Arthur Andersen was the accounting auditor for Enron and helped hide financial fraud for years (Healy and Palepu 2003). Enron never recovered and was declared bankrupt in December 2001.

In other cases, a scandal can reveal weaknesses and push a firm to make adequate changes in internal rules and corporate culture (Utz 2019), such as increasing the independence of the board of directors, ameliorating the selection of the audit committee and reviewing their obligations, controlling insider trading of the firm's stock, limiting "golden parachutes" for TMT's members, creating a Chief Compliance Offer position, and discussing morals and ethics with all the firm's employees (Silverman 2002). For instance, after the scandal of its CEO's misconduct, Tyco implemented drastic changes to rebuild its stakeholders' trust, going as far as developing an internal guide for employees to promote corporate governance practices and a specific list of ethical conduct (Pillmore 2003). A firm and the surrounding ones can improve their CSR strategy because of the "peer effect" (Heflin and Wallace 2017; Liu and Wu 2016).

These changes often bring an increase in firm performance by improving operational processes and restoring the market's and stakeholders' trust in the firm (Jory et al. 2015).

Despite these studies that describe the overall consequences of scandals on a firm, the literature is limited in several respects. First, the literature does not provide extensive research on the effects of corporate scandals on firms from a financial perspective. Little research in this area examines the impact of corporate scandals on either firm risk (e.g., Kölbel, Busch, and Jancso 2017) or firm value, including firm performance (e.g., Coffee Jr 2005; Jonsson, Greve, and Fujiwara-Greve 2009; Jory et al. 2015). Risk represents a firm's vulnerability and the uncertainty of future cash flows and firm value, the expected future cash flows. Issues in performance evaluation can arise when investment risk is too high compared to the opportunity for returns (e.g., Fama and French 1993; Markowitz 1952). In this case, analysing both firm risk and firm value is useful. While firm value and firm risk are complementary measures for investors (e.g., Christie 1982; Duffee 1995), studies focusing on firm value and firm risk are rare. They do not define particular elements that might influence the impact of a scandal on the value and risk of a firm and for how long, and they do not specify the differences in outcomes between the two. Also, a very limited number of studies examine both short- and long-term consequences on a firm in such a context and give insights into these two timeframes. While both firm value and firm risk are likely to be affected by a corporate scandal, the short- and long-term impacts are not necessarily equal. As a result, our knowledge about the short- and/or long-term impacts a corporate scandal has on a firm's financial value and risk is sparse. My thesis fills this gap by examining if a corporate scandal has short- and long-term impacts on both these financial characteristics – firm value and firm risk – and at what intensity.

In addition, studies in the corporate scandal literature examine the moderators that influence the consequences of scandals on the firm. However, these elements are often uncontrollable by the firm, such as media and media coverage (e.g., Clemente, Durand, and Porac 2016; Clemente

and Gabbioneta 2017; Kölbel, Busch, and Jancso 2017; Stäbler and Fischer 2020), and bystander firms (Paruchuri and Misangyi 2015) or unmodifiable at the moment of the scandal happens, such as a CEO's personal traits (e.g., Van Scotter and Roglio 2020; Zona, Minoja, and Coda 2013), managers' behaviour (Cohen et al. 2012), and corporate governance characteristics (Agrawal and Cooper 2017). Studies suggesting resources for firms to moderate the impact of a scandal are missing.

Given the complexity of corporate scandals and the potential severity of their impact, it is critical for firms to have a "scandal management plan" dedicated to similar but not identical types of scandals. As part of this process, firms will have to make choices on which categories of scandals the firm will be prepared for because it is impossible to be fully ready for every type of scandal (Coombs 2014). Thus, a broader analysis on corporate scandals in terms of a wide range of industries and types is essential. To be fully prepared, firms need to develop a portfolio of resources to conceive and implement plans within necessary timeframes. Managers need to be ready to use and spend resources as soon as a scandal occurs. These actions build adequate shields against scandals and increase the scope of managing a scandal efficiently (Coombs 2014).

In this sense, the RBV perspective and BTF give explanatory arguments to the managerial decisions of detaining certain resources. RBV argues that a firm has (1) bundles of heterogeneous and time-persistent resources relying on the fact that the firm has a unique toolbox of resources (Barney 1991; Conner 1991; Wernerfelt 1984) and (2) these resources are imperfectly mobile because it is difficult to get them from the market due to high transaction costs (Barney 1991). Other resources might have to be combined (Peteraf 1993). The BTF provides elements to predict behaviour regarding price, output, and resource allocation decisions based on behaviours of individuals and groups composing the firms. It includes managers, shareholders, and any other stakeholders. Conflicts might appear because each

stakeholder has different goals and priorities, thus acting accordingly to maximize personal satisfaction (e.g., Cyert and March 1963; Gavetti et al. 2012). Both theories bring a global understanding of the mechanisms inside a firm during a corporate scandal (e.g., Kuhn and Lee Ashcraft 2003). This broad view of defining firms' resources, managers' behaviours, and the specific context of a scandal leads to a particular type of resources that can fit with the needs for resources during such an event: organizational slacks. They are defined as resources held by the firm to deal with unexpected events, such as unexpected investments and market threats, and come from a large variety of sources within the firm. Organizational slacks can be a potential solution to help the firm react against scandals in terms of multifaceted usage and flexibility because firms need to react promptly with enough resources to sustain the firm's activity in such a context. However, to the best of my knowledge, no studies examine how organizational slacks can help decrease a corporate scandal's impact on firms.

Similar to the myopic research focus in the corporate scandal literature that studies one context simultaneously (i.e., industry and scandal types), many studies consider firms' very specific resources in specific situations, such as advertising expenses and brand equity in product recalls' scandals (e.g., Gao et al. 2015; Hsu and Lawrence 2016), CSR activities as an insurance mechanism (e.g., Kang, Germann, and Grewal 2016), and firm reputation in ecological scandals (e.g., Chandler, Polidoro Jr, and Yang 2020). To date, studies on a higher-order resource classification, in particular on organizational slacks, are missing. Therefore, I am interested in examining if and how organizational slacks can help firms deal with a corporate scandal situation. I elaborate more in the following section.

2. Organizational slacks

Firms must continuously decide between being fully efficient now or keeping part of their resources for potential opportunities or threats in the future. Firm resources are defined as "a

strength or weakness of a given firm" (Wernerfelt 1984, p. 172), such as brand name (i.e., assets) and innovation (i.e., capabilities), and are used to develop core competencies (Day 1994; Hunt and Morgan 1995).

A firm manages and holds these resources on the basis of elements within the firm and external strategic factors (Conner 1991). The firm optimizes the utilization of these resources efficiently and effectively (Daft 2015). Above-normal returns are due to the firm's ability to take advantage of the imperfect elements from the market and build strong strategic assets (Oliver 1997). Flexibility to adjust constantly is also crucial for firms, which is even truer when facing a scandal. Organizational slacks are a type of resources held by the firm to deal with unexpected events, enabling them flexibility (e.g., Alessandri, Cerrato, and Depperu 2014; Fadol, Barhem, and Elbanna 2015; Grewal and Tansuhaj 2001; Kim and Bettis 2014; Rajagopalan 1997; Wan and Yiu 2009). While no study has defined their utility in the context of a corporate scandal, this flexibility might act as an important asset for firms facing a scandal.

2.1. Definitions

Organizational slacks, [1] a concept introduced by Barnard (1968) and then applied to management practices by Cyert and March (1963), are resources that a firm holds to increase its flexibility. A universal definition of slacks is hard to find, as many terminologies are used in the literature and vary over time.[2] However, the commonality between all definitions and domains of applications is the idea of slacks as "surplus" and the buffering role played by slacks against internal and external forces (e.g., Bourgeois III 1981). An analogy can be made with a bicycle with a tight driving chain that will break on the first stress, which is not the case if the driving chain has a minimum slack (Bourgeois III 1981). Cyert and March (1963) define

[1] I use "organizational slacks" and "slacks" interchangeably if no specification on the types of slacks is needed.
[2] Most of the studies have different terms for referring to available (i.e., unabsorbed), unavailable (i.e., absorbed), and potential slacks. To be more consistent in this literature review, I rely on the description of slacks used in each article to determine which type of slack the study is referring to.

organizational slacks as the difference between the total resources held by the firm and its total mandatory expenses. They are extra resources over the quantity that the firm needs to conduct its current business (e.g., Mishina, Pollock, and Porac 2004) and reach the expected level of revenues (Nohria and Gulati 1996). Bourgeois III (1981, p. 30) gives the most comprehensive of the multiple definitions in the literature: "Organizational slack is that cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for policy changes, as well as to initiate changes in strategy with respect to the external environment." Slacks are created during certain market conditions. When the market is in a growth tendency, firms hold more financial resources, such as capital markets. When the market is trending downward, these overflows of resources are more difficult to acquire. In this case, organizational slacks are helpful for the firm to reduce losses (Bourgeois III 1981). Each firm holds different levels of slacks allowing different potential for growth (e.g., Mishina, Pollock, and Porac 2004; Penrose 1959). Thus, slacks help the firm increase its fit with the market, build entry barriers from competitive advantages, and target sustainable activities (Grewal and Tansuhaj 2001).

Some studies utilize organizational slacks to analyse the general flexibility of the firm; a firm's higher-order construct (e.g., Grewal and Tansuhaj 2001; Kurt and Hulland 2013; Lee and Grewal 2004). Slacks allow the firm to broaden the spectrum of its strategic options (Johnson et al. 2003). In this sense, the firm can modify its organizational structure, be involved in uncertain ventures, and search for new business opportunities without risking its existing activities and triggering internal disagreements that might put the firm in a dangerous position (George 2005; Tan and Peng 2003). Thus, organizational slacks represent the strategic flexibility of the firm to react to positive and unexpected events (Grewal and Tansuhaj 2001); flexibility that could help firms face scandals.

On the other hand, organizational slacks are not always perceived as positive and helpful, especially from an agency theory perspective. Some authors find that slacks can negatively affect performance and push firms to suboptimal behaviours (March and Simon 1959; Wiseman and Bromiley 1996). In order to temper the bad side and the good side of holding slacks, scholars suggest that the utility of slacks will depend on the level and types of the slacks (e.g., Nohria and Gulati 1996; Tan and Peng 2003; Voss, Sirdeshmukh, and Voss 2008). Research indicates an optimal level of slacks to reach efficiency; otherwise, managers might implement risky strategies and invest in invaluable activities (Wu and Tu 2007).

Both sides of holding slacks, positive or negative, seem to influence a firm in terms of flexibility, management decisions, and level optimization in a context of scandal; however, previous research does not study the potential roles that slacks might play in such a situation.

2.2. Types

Different kinds of slacks are studied in the literature because slacks are composed of various types of resources and are made for distinct usages. Each kind is managed and used differently, based on their divisibility, fungibility, and stickiness (Mishina, Pollock, and Porac 2004). Thus, managers would face more or fewer issues in deploying them (e.g., Wang et al. 2016). Each type of slacks might have different effects depending on where the firm stands in the timeline of its scandal. This distinction of use should be investigated for a situation of scandal. In this sense, Wiseman and Bromiley (1996, p. 539) stress that "slack should not be considered in a generic sense." The analysis of distinctive types of slacks seems mandatory, considering the level of complexity of these resources (Vanacker, Collewaert, and Zahra 2017). However, even with different denominations, they can be grouped by a similar meaning based on accounting components of their measurements and their consideration for the firm's activities.

In a general perspective based on internal resources, two types of organizational slacks can define: unabsorbed (i.e., available) and absorbed (i.e., recoverable) (Bourgeois III and Singh 1983). [1] The different types of slacks [2] represent different time perspectives and usages depending on their attributes. This distinction between types of slacks is particularly appropriate to consider in my study because I analyse the effects of a scandal on two different timeframes, short-term and long-term. By defining a good fit between these variables, managers could focus on appropriate resources at each specific time of the scandal without wasting resources.

First, *unabsorbed slacks* are quickly available resources, as they are not entirely integrated into the complex design of the firm (e.g., Bradley, Shepherd, and Wiklund 2011; Chattopadhyay, Glick, and Huber 2001; Nohria and Gulati 1996). By analogy to running's athleticism disciplines, the sprinters would need this type of resource to have explosive strength capacities. They are also called available (e.g., Bourgeois III and Singh 1983), financial (e.g., Josephson, Johnson, and Mariadoss 2016; Kim, Kim, and Lee 2008), or high-discretion slacks (e.g., Sharfman et al. 1988). Among other measures, they represent the connection between the current assets and the excess in current liabilities (Suzuki 2018). This surplus of internal resources can be cash and marketable assets. As they are not allocated to any activities yet, they are highly liquid (Bourgeois III and Singh 1983; Greve 2003). Thus, they are ready to be redeployed for any activity in the firm (Singh 1986). These resources are the most discretionary, as they can easily be attributed to new projects in the short term (i.e., highly liquid securities with not more than three months of maturity) without making any changes in the structure of the firm (Singh 1986; Voss, Sirdeshmukh, and Voss 2008). As they are liquid resources in

[1] Singh (1986) is one of the first authors who suggests separating slacks into two types to analyse the different effects depending on the type of slacks. Absorbed slacks represent excess costs, and unabsorbed slacks are the unallocated excess of liquid resources in the firm (Singh 1986).

[2] It is important to mention that Bourgeois III and Singh (1983) and other studies describe a third type of slacks: potential slacks. However, I do not discuss potential slacks because they represent "the capacity of the organization to generate extra resources from the environment, as by raising additional debt or equity capital" (Bourgeois III and Singh 1983, p. 43). I discuss this point more in detail in Chapter 3, Section 3.5.

excess of the firm's current activities, they can be accurately identified, and their usage is hence more accessible to monitor than absorbed slacks. The level of unabsorbed slacks reflects strategic flexibility in terms of time-based ability to react to unexpected events. Although no study has yet produced answers, unabsorbed slacks might be useful when a scandal "switches on," as the firm needs timely access to a large amount of resource.

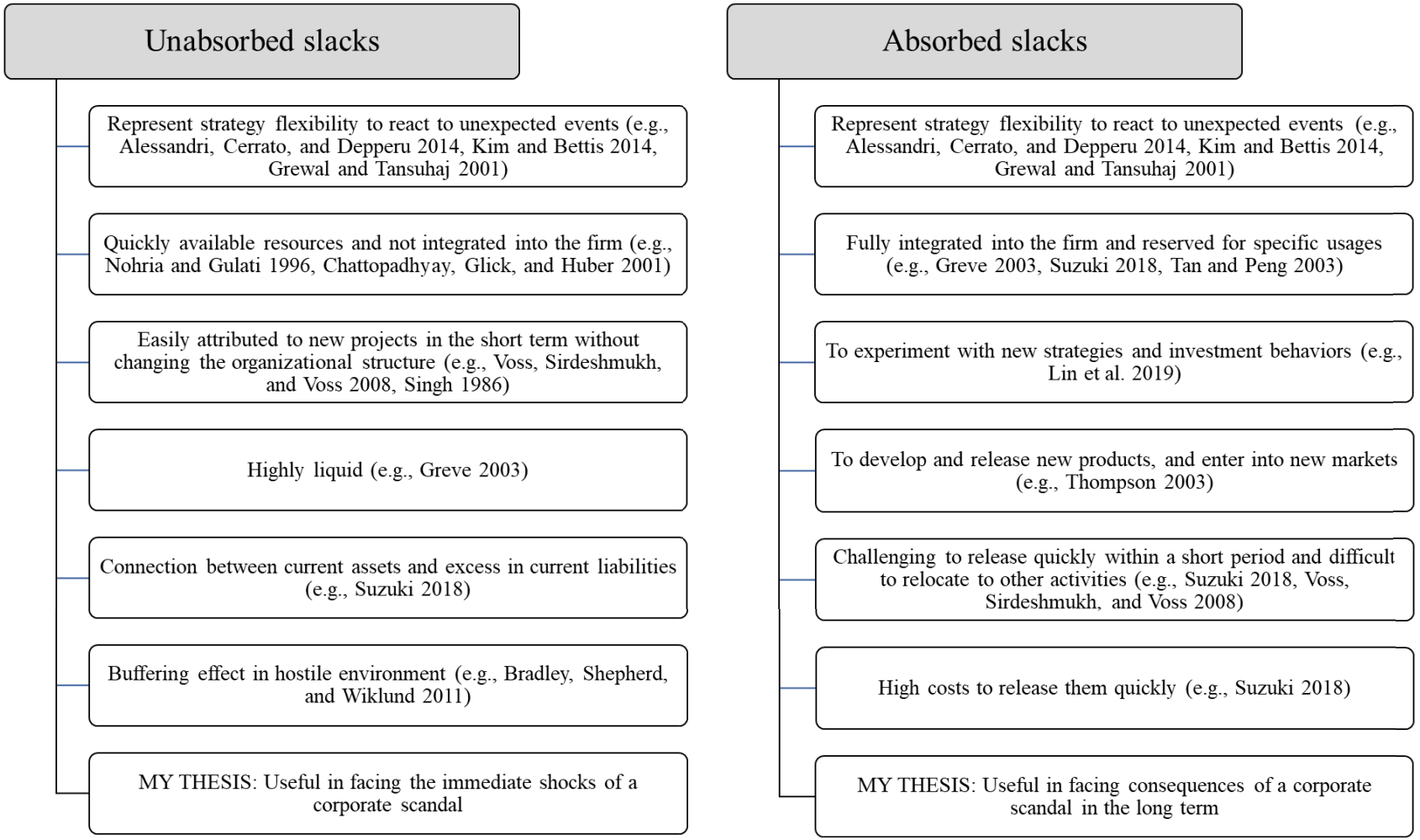
Second, *absorbed slacks* are resources that are integrated into the firm already and reserved for specific usages. Excess and unused/under-utilized resources, such as overhead costs, inventory surplus, extra machine capacity, downsizing contingency, and indirect workforce, are examples of absorbed slacks (e.g., Geoffrey Love and Nohria 2005; Greve 2003; Suzuki 2018; Tan and Peng 2003). They have various denominations, such as operational (e.g., Voss, Sirdeshmukh, and Voss 2008), recoverable (e.g., Bourgeois III and Singh 1983), or low-discretion slacks (e.g., Sharfman et al. 1988). These resources are "absorbed into the system design as excess costs" (Bourgeois III and Singh 1983, p. 43). In the "runner" analogy, absorbed slacks would be resources marathonists need to run long distances. These types of slacks consider the financial resources of the firm exclusively without any external financing. Compared to a time-oriented capacity of unabsorbed slacks, the level of absorbed slacks depicts the flexibility of power in reacting to unexpected events. The firm can experiment with new strategies and investment behaviours, such as CSR operations (e.g., Lin et al. 2019), developing and releasing new products, and entering new markets (e.g., Thompson, Zald, and Scott 2003). Implementing these strategies might help the firm to maintain its business activities during and after a scandal. These potential usages of absorbed slacks remain unexplored in existing studies in the corporate scandal literature.

Absorbed slacks are widely spread among a firm's structure (Greve 2003). For instance, Hill, Hitt, and Hoskisson (1992) refer to recoverable slacks in the context of competitive versus cooperative structures and find a positive effect of absorbed slacks, considering advertisement

and R&D expenditures. Zajac and Westphal (1994) find positive effects of slacks in the context of costs and benefits of managerial incentives. Moreover, absorbed slacks can be recovered during harsh times (Bourgeois III and Singh 1983). Yet, it is challenging to release them quickly within a short period and hard to quantify them and relocate them for another activity within the organization (Suzuki 2018; Voss, Sirdeshmukh, and Voss 2008). Moving absorbed slacks into cash incurs costs. For instance, converting excess in non-working capital and machinery into liquid cash produces transaction costs and obsolescence, while human capital reallocations bring relocation, training expenses, and indemnities (Kline and Brown 2021). As a result of these specificities, I argue that absorbed slacks might be helpful in a short- and long-term horizon recovery after a scandal in terms of a firm's power capacity.

As discussed, unabsorbed and absorbed slacks have similarities and differences, making each fitting with specific roles. Figure 4 presents the main characteristics and differences of unabsorbed and absorbed slacks.

Figure 4: Overview – differences between unabsorbed and absorbed slacks



2.3. Roles

Slacks have four principal utilities (Bourgeois III 1981). First, slacks can help minimize the negative consequences of important changes in the external environment. Second, they are available resources that the TMT can use to invest in new product development, improve management processes, and decrease internal conflicts regarding resource issues (Bourgeois III 1981; Cyert and March 1963; Hambrick and D'Aveni 1988; Mitroff and Emshoff 1979; Nohria and Gulati 1996). Third, slacks can help reduce the interdependencies between a firm's subunits, enhancing how the firm manages internal information (e.g., Galbraith 1973). Thus, slacks help the TMT and decision-makers implement changes in the firm's behaviour and financial strategy to react to environmental modifications. If management decisions are perfectly rational, a firm should not need to hold resources that might serve as a buffer (Jensen 1986).

However, in most cases, managers do not make perfectly rational decisions; thus, maintaining slacks is essential for enduring unanticipated threats and issues (Alessandri, Cerrato, and Depperu 2014; Fadol, Barhem, and Elbanna 2015; Kim and Bettis 2014). Finally, organizational slacks can be a financial cushion to cover unexpected losses and cash-flow shortages (e.g., Alessandri, Cerrato, and Depperu 2014; Rajagopalan 1997). While facing various negative situations, such as environmental jolt (e.g., Wan and Yiu 2009), economic crisis (e.g., Grewal and Tansuhaj 2001), and environmental threats (e.g., Bradley, Shepherd, and Wiklund 2011), this cushion can serve to reposition assets, resources, and capabilities where the firm needs them the most (e.g., Bourgeois III 1981; Cheng and Kesner 1997; Voss, Sirdeshmukh, and Voss 2008). Slacks serve as shock absorbers in case of disruption and protect the firm from collapsing if it needs to face an unexpected event; hence, they are considered vital for firms (Daniel et al. 2004).

Surprisingly, there is no study analysing slacks in a situation of scandal. However, these resources and their specificities mentioned above might have an important role to play when a

firm faces such unexpected shocks. They can be a relevant resource to help firms tackle and weather a scandal's situation. These resources can assist managers in making appropriate decisions and reassuring investors, which is essential when facing a scandal. Therefore, in this thesis, I focus on the role organizational slacks play in a scandal situation.

2.4. Organizational slacks and corporate scandals

Depending on the context, firm resources need to be (re)allocated to sustain its activities, and the utilization of these resources can positively or negatively affect the firm. In the context of corporate scandals, firm resources play a major role in allowing managers to get through difficult situations (Table 2 provides an exhaustive list of the studies that help understand the mechanisms of firm resources and corporate scandals). The firm will need available resources if a misconduct turns into a scandal. In this regard, most researchers are convinced that firm resources, practices, and structures might widely help in uncommon situations (e.g., Lin et al. 2006; Marcus and Nichols 1999). Empirical evidence suggests that the impact of corporate scandals varies across firms. Some firms are able to survive a scandal when others are forced to end their business activities (Moore, Stuart, and Pozner 2010). This phenomenon raises the question on why some firms compensate more or minimize their losses during a corporate scandal.

In essence, a firm can detail a variety of resources, such as external or internal and intangible or tangible. Some of these resources can help the firm go through a scandal smoothly and influence its impact on the firm value and firm risk. Also, the time availability of these resources is another component to consider because it might influence the speed by which a resource can be (re)deployed. As a scandal appears, a firm needs to be able to react promptly as well as to use adapted resources. Surprisingly, this particularity in resources is not considered in the scandal literature or firm's resource-related studies.

In this regard, slacks can be a good candidate to assist a firm in facing a scandal due to their capacity to serve as a cushion to temporize difficulties, evolve sustainably, and enable unexpected investments. Depending on their types, slacks are useful in different timeframes (short term vs. long term) and deal with negative events such as unexpected investments and market threats. This plurality of usage is relevant during a scandal when firms need to react urgently with sufficient resources and keep some resources to sustain the firm's activity. Research on slacks examines the use of slacks in various positive and negative environmental conditions (e.g., Bradley, Shepherd, and Wiklund 2011; Chen, Yang, and Lin 2013; Singh 1986; Tan and Peng 2003), but not in a situation of scandal.

However, as previously discussed, slacks also have negative aspects, even if they are an efficient resource management tool. In the context of managers' behaviour, studies argue that if a certain level of slacks that brings resource management efficiency is not reached, slacks push managers to follow risky strategies and slow down decisions about breaking unattractive investments (Wu and Tu 2007). For example, Bergh (1997) analyses available slacks in the context of illegal corporation behaviour and finds that the level of slacks leads to illegal behaviour. Yet, previous research focuses on the role of slacks before an event/behaviour by analysing the influencing role of their occurrence, such as with misconducts; these studies are pre-event analyses.

Thus, analysing the benefits of holding slacks in a situation of scandal could bring new insights into the positive or negative side of using slacks. Yet, neither organizational slack nor corporate scandal research has considered whether organizational slacks are beneficial as an internal resource for firms facing a corporate scandal.

My thesis aims to fill these gaps by exploring if and how organizational slacks act as a helpful resource for firms during (i.e., scandal management) and after a corporate scandal (i.e., recovery). Consequently, after determining if a corporate scandal impacts firm value and firm

risk, I investigate how firms can draw on slacks to decrease the effects of a scandal in the short and long terms. I examine the effect of organizational slacks on the short- and long-term firm values and firm risk after a corporate scandal and determine how slacks produce a buffering effect that decreases the impact of a corporate scandal on firm value and firm risk. Thus, based on the different literature streams related to the RBV and BTF, I argue that the ability to sustain a competitive advantage during and after a scandal depends on the capacity of the firm and managerial decisions to absorb, keep, and release resources – including information (Leiblein, Chen, and Posen 2017). I posit that by drawing on organizational slacks, the firm can maintain stability even when facing a corporate scandal by being reactive and flexible.

Table 2: Examples – Corporate scandals and firm resources

Study	Literature stream	Types of events (as reported in the study)	Type of study (dependent variable)	Context	Research	Published by/in
Adut (2008)	Socio-political	Socio-political scandals	Theoretical	Socio-political scandals in media	Explanation of scandals in the Society, Politics, and Art	Cambridge University Press
Chen, Ganesan, and Liu (2009)	Corporate crisis	Product-harm crisis	Empirical/quantitative (short-term firm value)	Strategies of product recall	The financial losses of a recall process on firm value depending on the recall strategy (proactive vs. passive)	Journal of Marketing
Clemente and Gabbioneta (2017)	Corporate scandal	Corporate scandal	Empirical/qualitative (media's corporate scandal frame)	Media coverage of corporate scandals	Definition of four types of corporate scandal framed by the media and analysis of their elements	Journal of Management Inquiry
De Maria (2010)	Corporate scandal	Corporate scandals	Theoretical	Post-scandal management strategy	Improving the typology of "corporate scandal"	Journal of Management & Organization
Dewan and Jensen (2020)	Corporate scandal	Corporate misconduct with socio-political mechanisms	Empirical/quantitative (initiation of SEC's enforcement actions)	Class action lawsuits	The effect of the social status of a firm in SEC labelling its norms and rules' alleged violation	Academy of Management Journal
Durand and Vergne (2015)	Corporate stigmatization	Stigmatization	Empirical/quantitative (assets' divestment)	Media coverage in stigmatized industries	The effect of media attacks on firms in stigmatized industries	Strategic Management Journal
Hsu and Lawrence (2016)	Corporate crisis	Product recall crisis	Empirical/quantitative (short-term firm value)	Social media during a product recall	Analysis of the role of social media and its moderators in negatively influencing the firm value during a product recall	International Journal of Research in Marketing
Kölbel, Busch, and Jancso (2017)	Corporate social responsibility	Corporate social irresponsibility (CSI)	Empirical/quantitative (financial risk)	Media coverage of CSI	Analysis of the role of media reach on the firm's financial risk when covering a firm's CSI	Strategic Management Journal
Neville et al. (2019)	Corporate scandal	Corporate misconduct	Empirical/meta-analysis (committing corporate misconduct)	TMT's characteristics before a misconduct	The nuance in the relationship between board independence and corporate misconduct	Journal of Management
Paruchuri and Misangyi (2015)	Corporate scandal	Financial misconduct	Empirical/quantitative (short-term firm value)	After financial restatement	Analysis of the characteristics of financial misconducts that influence the contamination process from one firm to the other firms in the same industry	Academy of Management Journal
Paruchuri, Pollock, and Kumar (2019)	Reputation	Corporate crisis	Empirical/quantitative (category member reputation)	After food outbreak	Definition of the spillover effect and duration on competitors' reputation when a focal firm faces capability failure	Strategic Management Journal
Piazza and Jourdan (2018)	Corporate scandal	Scandals	Empirical/quantitative (number of adherents to Christian churches)	Long-term impact of corporate scandals	Country-level analysis on how corporate scandals impact the competition within the field in the long term and why some organizations retain competitive advantage	Academy of Management Journal
Shi, Connelly, and Hoskisson (2017)	Corporate governance	Managerial fraud	Empirical/quantitative (committing financial fraud)	Environmental antecedent in managers' frauds	External pressure from activist owners, the market, and financial analysts pushes managers to commit frauds	Strategic Management Journal
Wenzel, Stanske, and Lieberman (2020)	Crisis management	Global crisis	Theoretical/literature review	During/after-pandemic crisis strategies	Identification of strategic organizational responses to crisis: retrenchment, persevering, innovating, and exit	Strategic Management Journal
Zona, Minoja, and Coda (2013)	Corporate scandals	Managerial frauds	Case study	Relationship characteristics before CEO fraud	Relation between CEOs' personal and corporate strategy and stakeholders' cohesion	Journal of Business Ethics

3. Research questions

Here I summarize the research gaps discussed so far that my thesis aims to fill, and the corresponding research questions related to corporate scandals and firm resources.

In a widely developed stream in the management literature, the concept of organizational slacks has been applied to multiple topics related to firm resources, such as R&D and innovation (e.g., Argote and Greve 2007; Mishina, Pollock, and Porac 2004), entry modes into new markets (Lin, Cheng, and Liu 2009), strategic alliance creation (Bizzi 2017), and M&A process (Uhlenbruck et al. 2017). Some studies utilize organizational slacks to analyse the general flexibility of a firm, a higher-order firm construct (e.g., Grewal and Tansuhaj 2001; Kurt and Hulland 2013; Lee and Grewal 2004), because these resources can be promptly redeployed and repositioned when facing needs or opportunities (e.g., Cyert and March 1963). They provide flexibility allowing the firm to adapt to market fluctuations in a fast and effective way. Additionally, a large part of this research stream focuses on the role of slacks to face unstable markets, environmental crises, and threats (e.g., Alessandri, Cerrato, and Depperu 2014; Bradley, Shepherd, and Wiklund 2011; Fadol, Barhem, and Elbanna 2015; Grewal and Tansuhaj 2001; Kim and Bettis 2014; Wan and Yiu 2009). Moreover, previous research investigated if and in which ways slacks influence the occurrence of TMT's illegal activities and push managers to misbehave (e.g., Bergh 1997; Wu and Tu 2007). Their analyses address insights on the role of slacks before an event.

Surprisingly, no studies have analysed their potential role as a resource for firms facing a corporate scandal, during and after the event, even though slacks have all the appropriate characteristics to help a firm deal with a scandal. More specifically, research considering if and how slacks affect both short- and long-term impacts of corporate scandals is rare. My thesis fills this gap by answering two questions:

(1) Does holding organizational slacks affect the impact of a corporate scandal on firm value in the short term and firm value in the long term? (2) Does holding organizational slacks affect the impact of a corporate scandal on firm risk?

4. Hypothesis development

As described in the literature review, a firm gathers slacks when the resources are above what it needs to cover its current operations (Cyert and March 1963; Greve 2007; Levinthal and March 1981). The firm then uses slacks to compensate its expenses/investments. According to Cyert and March (1963), slacks have a crucial role in helping firms with stabilization and adaptation when facing environmental variability. Slacks absorb the effects of external changes in the economy and market. They also influence the way a firm can respond to external threats. In a corporate scandal situation, the firm will have to reinvent its internal and external processes to face and recover from the hardship imposed by the changes in the external environment (e.g., Bonini and Boraschi 2012; Chen, Ganesan, and Liu 2009; James, Wooten, and Dushek 2011; Narayanan, Schipani, and Seyhun 2007; Nelson, Price, and Rountree 2008).

In my thesis, I consider both internal and external usage of slacks against the negative effects of a scandal that a firm faces. I argue that different types of slacks can help firms go through external issues related to the scandal by allocating their resources internally. In this sense, the primary purpose of including organizational slacks in my analysis is to cast light on the ability of slacks as a reallocated resource to help a firm during a corporate scandal[1] by compiling absorbed and unabsorbed slacks from the short to long terms. I explore this effect on short- and

[1] The goal of my study is to answer whether holding slacks during a scandal benefits a firm. However, the literature has shown that having too little or too many slacks can be harmful to the firm, and there is an optimal level of slacks that needs to be defined. Holding slacks has a positive effect on the firm only if the optimum is reached (e.g., Tan and Peng 2003). Studies find a curvilinear relationship between slacks and performance (e.g., Bromiley 1991; George 2005; Modi and Mishra 2011; Tan 2003; Tan and Wang 2010). Mishina, Pollock, and Porac (2004) argue that the slack and growth relationship has an inverse shape. These findings are a reason to proceed with post hoc tests after considering the results from the data analysis (see Section 4 in Chapter 4).

long-term firm values and firm risk. Based on organizational slacks' literature, I develop the following hypotheses considering that slacks have two main applications: (1) a buffering mechanism that helps firms mitigate threats and risks and (2) an enabling mechanism that allows firms to explore new solutions.

4.1. Firm value – short-term effect

4.1.1. Unabsorbed slacks

When facing a scandal, quickly available resources are what a firm needs to react promptly and flexibly because scandals have a negative effect on the firm's value almost instantly. In such a situation, a firm can improvise by using its organizational slacks (Grewal and Tansuhaj 2001; Moorman and Miner 1998) and their buffering mechanisms, particularly unabsorbed slacks quickly available in time. Managers need to consider a wide range of information when facing a scandal. This information changes quickly and is hard to process in a short time. Flexibility and velocity in decision-making are critical. Having unabsorbed slacks available also allows managers to make quick decisions based on the available information, allowing them time to collect and adapt their decisions if needed (Bourgeois III 1981). Thus, unabsorbed slacks allow firms to absorb and apply new information (Zahra and George 2002).

Scandals entail organizational change and transitions that are always challenging to manage, and firms often suffer from the liability of newness (Mouri, Sarkar, and Frye 2012). If used properly, slacks assist in decreasing resistance to internal change (Piderit 2000). More precisely, unabsorbed slacks help allocate funds to managers to support the firm's decisions. Thus, these available resources can (1) be a political instrument to obtain fund allocation in the short term, (2) resolve internal conflicts by responding positively to the requests of the different parties in the firm (Cyert and March 1963), and (3) provide the TMT resources with extra payments for employees to retain them and make them adapt to the new conditions.

At the same time, unabsorbed slacks can increase a firm's competitive advantage by enabling strategic flexibility in environmental uncertainty (Reed and DeFillippi 1990). These resources in excess help build synergies between business activities (Grewal and Tansuhaj 2001). A scandal can hurt the entire firm or a part of it, probably by decreasing its revenues and increasing its expenses. Highly liquid and close to cash, unabsorbed slacks can be allocated to innovation activities in a turbulent environment (Voss, Sirdeshmukh, and Voss 2008). By having the possibility to innovate in the short term, the firm can keep its products competitive despite a scandal.

The firm needs to make quick modifications in the internal structure and reorganize its position in the market in the face of a scandal. Unabsorbed slacks are tailored for such time constraints. Holding unabsorbed slacks informs investors that the firm can deal with the scandal promptly. It can hence be argued that the unabsorbed slacks will increase the firm value in the short term after the scandal occurs. Thus,

> H1a: *Unabsorbed slacks mitigate the negative impact of a corporate scandal on firm value in the short term.*

4.1.2. Absorbed slacks

In general, slacks produce opportunity costs, as these resources could have been invested in profitable activities instead of being kept (Nohria and Gulati 1996). More specifically, absorbed slacks are available resources but not ready to be redeployed within the organization. Other resources might be connected with absorbed slacks, which increases the difficulty for managers to reallocate them without impacting the process of other resources (e.g., Suzuki 2018). In a scandal's situation where liquidity is a critical need (Adut 2008), firms will incur costs for converting absorbed slacks from non-liquid to liquid assets (Kline and Brown 2021). Moreover,

absorbed slacks cannot meet the urgency in reallocating resources during a scandal, unlike unabsorbed slacks.

However, unlike unabsorbed slacks, which contribute to day-to-day operations, absorbed slacks can play a role in reassuring investors that the firm has the potential to survive until returning to a more favourable situation, similar to what the marathonist does during the long way to the finish line. Absorbed slacks can protect the firm from collapsing (Daniel et al. 2004). Previous studies argue that managers implement more projects when there is an excess in flexibility (i.e., slacks), even if they should not have invested or terminated them promptly (Marlin and Geiger 2015). As absorbed slacks are integrated into the firm, managers will not have the possibility to reallocate them easily to other possibly unfruitful investments.

Moreover, slacks are an important part that helps in increasing the firm's business capacity: inventory surplus, extra machine capacity, and indirect workforce are some examples of absorbed slacks (e.g., Greve 2003; Suzuki 2018; Tan and Peng 2003). They are strongly attached to the firm's activities and widely spread along with the firm's structure (Greve 2003). They allow continuity in increasing sources of income when needed, which investors well appreciate. The firm can be ready to compensate the losses in one part of the firm hit by the scandal with an increase of another business activity. Here, the enabling mechanism of absorbed slacks could play an important role in reassuring the market. As resources not ready to be redeployed, aborted slacks might have unexpected effects on short-term firm value via specific reallocations of resources. Thus,

> H1b: *Absorbed slacks mitigate the negative impact of a corporate scandal on firm value in the short term.*

4.2. Firm value – long-term effect

Marlin and Geiger (2015) suggest that slacks affect firm performance and that bundling slacks by their types is important. It is, therefore, useful to consider the roles of unabsorbed as well as absorbed slacks on firm value in a long-term horizon. Even if unabsorbed slacks can be quickly invested, it does not mean that they are ineffective in the long term. In a stable environment, all types of slacks are beneficial to long-term performance (Marlin and Geiger 2015), in addition to the short-term help that unabsorbed slacks provide. Extensive available resources might push a firm to react more strategically, as managers have multiple ways to go through a scandal.

4.2.1. Unabsorbed slacks

When a firm holds organizational slacks during normal times, investors question less management's decisions (Thompson 1965) and are more willing to accept them (Moses 1992). Also, unabsorbed slacks can decrease the pressure on managers, and they can be more coherent in their decisions in the long term (Bizzi 2017). Unabsorbed slacks can be used to resolve daily and short-term issues, but also issues that have more long-term implications that need to be solved quickly. Thus, unabsorbed slacks can spread their buffering abilities. In addition, with changes in customer preferences in response to the firm's image modified during a scandal, unabsorbed slacks can help with available resources to adapt the customer relationship strategies to the new requirements. For instance, in the case of a scandal resulting from accounting fraud, these changes could have an impact on the internal processes with implementation of auditing controls. In a product recall, these modifications could imply product quality controls and modifications in suppliers. All these actions need resources to be deployed promptly.

While absorbed slacks have a more long-term effect for recovering from a scandal due to their long-term horizon characteristics, unabsorbed slacks might have the effect of dealing with daily unexpected expenses/investments due to the scandal, gathering their buffering effect. Investors

will be reassured by managers' daily actions towards the long-term sustainable advantage of the firm, even after a scandal.

Unabsorbed slacks can also help the firm make long-term investments in partnerships and alliances (e.g., Greve et al. 2010). Bizzi (2017) finds that having extra cash (i.e., unabsorbed slacks) encourages firms to form strategic alliances because they decrease the probability of alliance failure. For instance, by investing in alliance projects, a firm relies not only on its internal resources but also on partners, since alliances enable sharing resources (e.g., Chan et al. 1997), new market entries (e.g., Das, Sen, and Sengupta 1998), and new technology projects (e.g., Boone and Ivanov 2012; Gomes-Casseres, Hagedoorn, and Jaffe 2006). Even in market uncertainty, firms are motivated to engage resources to keep their alliance partners (Cui 2013). In this way, a firm facing a scandal will have the incentive to continue the relationship. Also, the partner not facing a scandal is not impacted by the scandal, bringing the certainty of income via the partnership that is not affected. Often firms have a portfolio of alliances; in most of them, the expected future cash flows are independent of the scandal. Thus, this part of the firm cash flow is secured by keeping its partnerships. That is why the firm will benefit from investing its unabsorbed slacks in creating new partnerships for stability in long-term revenues.

Additionally, scandals happen not only suddenly but also in waves (Adut 2008). After the first hit, a firm might expect cascades of new developments. Investors are aware of the shape of the events. If a firm holds unabsorbed slacks, investors count on them to help the firm in this series of unexpected future shocks. As the scandal happens, investors also focus on managers' decisions that bear long-term implications besides the immediate solutions to put the fire out quickly. For the reasons mentioned above, I hypothesise that the market will react positively to firms holding unabsorbed slacks for their daily applications extended in the long term. Thus,

> H2a: *Unabsorbed slacks mitigate the negative impact of a corporate scandal on firm value in the long term.*

4.2.2. Absorbed slacks

Firms targeting long-term survival and holding high-quality organizational slacks will prefer to expand their business by investing rather than protecting their resources (Voss, Sirdeshmukh, and Voss 2008). In the case of a scandal, investors wait for signals that the firm will implement changes in its organization to avoid future incidents impacting the firm. For instance, exploration activities can bring profound and long-term modifications to a firm. In this sense, Mishina et al. (2010) find that absorbed slacks decrease a firm's probability of misbehaving. These decisions of allocating absorbed slacks to long-term implications protect the firm from the market changes and competitors after the scandal and improve its sustainable competitive advantage with new product development and new business activities. Through the enabling mechanism of absorbed slacks, the level of expectation in future cash-flows will improve because investors foresee changes through absorbed slacks allocated to long-term activities such as exploration and innovation. Thus,

> H2b: *Absorbed slacks mitigate the negative impact of a corporate scandal on firm value in the long term.*

4.3. Firm risk – long-term effect

Holding slacks is a way to be ready for investment opportunities and unexpected expenses (Bourgeois III 1981) and, thus, managing upcoming situations that might increase firm risk. As another measure of long-term impact, studies use firm risk. Combining risk analysis with long-term firm value analysis introduces a complementary point of view, as firms have the willingness to increase firm value and, at the same time, decrease uncertainty as much as possible (Pfeffer and Salancik 2003). Analysis of firm risk can reveal which strategies a firm can implement to stabilize its future incomes. Also, the firm risk goes hand in hand with firm value because investments might be too risky compared to the opportunity of returns, producing biases in the performance evaluation (Fama and French 1993; Markowitz 1952).

Related to the vulnerability and uncertainty of future cash flows, the level of firm risk is proportionate to the financing costs, thus the stock returns, which are an indicator for the investors' expectation of future cash flows. A scandal is a source of risk because it decreases expected future cash flows. In addition to the supported arguments for the effects of slacks on long-term firm value, I suggest a few extra elements specific to a scandal's potential impact on firm risk. These form an important parameter in the analysis of corporate scandals. It has been proven that the stock price volatility of a firm facing a scandal increases during the days of the revelation of the scandal (Jory et al. 2015).

4.3.1. Unabsorbed slacks

Managers should not hesitate to release slacks if doing so is required to protect the firm against an increase in its risk. As the risk directly impacts stock wealth in the long term (Luo and Bhattacharya 2009), it is important to keep this risk low. Serving as a shock-absorber role, organizational slacks are efficient when a firm suffers from external threats it does not have much control over (Cheng and Kesner 1997). In particular, unabsorbed slacks reduce internal conflicts between departments because resources are available for an extensive range of projects and activities (Bourgeois III 1981). It means that the firm can handle internal strategic modifications (i.e., factors related to firm risk) that a corporate scandal might bring. The firm will be able to use the buffering capacity of the absorbed slacks while recovering from the scandal. The firm signals to investors that it is possible to manage the volatility of the business caused by the scandal through internal changes. With less volatility in future cash flows, the level of firm risk will follow a decreasing trend. Thus,

> H3a: *Unabsorbed slacks mitigate the negative impact of a corporate scandal on firm risk.*

4.3.2. Absorbed slacks

Unlike unabsorbed slacks, absorbed slacks help managers make decisions beyond the short term. These non-liquid resources can be allocated to focus on new directions for the long term, such as developing and releasing new products, innovating with new activities, and entering new markets (Nohria and Gulati 1996). Also, absorbed slacks help bring stability (versus volatility). Firms with a substantial level of absorbed slacks are more inclined to focus on resolving issues that might have long-lasting consequences (Peng et al. 2010). Absorbed slacks reduce the probability of an increase in firm risk, which is directly negatively related to firm performance (Miller and Leiblein 1996). The buffering effect of absorbed slacks encourages experimentation, as it protects from downside risk (Singh 1986).

Thus, absorbed slacks help innovate and provide a long-term perspective (Cyert and March 1963). Firms with absorbed slack are more committed to sustainability programs (Boso et al. 2017), and CSR activities are a way to increase expected future cash flows (Mackey, Mackey, and Barney 2007). There is a strong probability that a firm holding absorbed slacks is invested in socially responsible actions before the scandal. The firm will probably persist in these CSR activities during and after a scandal because the absorbed slack resources cannot be reallocated easily. Their allocation is already included in the firm's global strategy and helps to decrease firm risk. If or when a scandal happens, investors will see the firm as having a solid foundation and resources for the long term (i.e., low volatility). These absorbed slacks will represent a pool of resources that are available to inhibit variability and uncertainty in such a situation (Moses 1992). Thus,

H3b: *Absorbed slacks mitigate the negative impact of a corporate scandal on firm risk.*

Chapter 3: Methodology

This thesis relies on empirical analysis to investigate if corporate scandals influence short- and long-term firm values and firm risk and if holding slacks can mitigate possible negative effects. This chapter describes the data collection process and sets the different steps from the raw data to the final sample used for my analysis. I use five data sources to create a unique dataset. Then, I explain the different methodologies I used to compute the short- and long-term firm values and the firm risk. Finally, I proceed to estimate the role of slacks in a corporate scandal by using regression analysis after detailing the different variables and their measurements that compose this model.

1. Empirical context

I test the hypotheses by using international corporate scandals related to ecological, social, and governance (ESG) incidents from 2012 to 2015 and across multiple industries, excluding finance, insurance, and real estate (SIC 60 – 67). Firms are publicly traded and listed in the S&P 500 index and have U.S.-based headquarters. Five databases are used to compose the data sample: (1) corporate scandal events are part of the events reported in and retrieved from RepRisk (RR),[1] which covers different types of negative incidents at a corporate level; (2) for media data and dating events from Factiva,[2] which retrieves information and global news in 28 different languages from 200 countries; (3) for the stock market price of firms from the Centre of Research in Security Prices (CRSP),[3] which provides daily historical stock market prices of listed firms on North American indices such as NYSE, AMEX, and NASDAQ; (4) for firm's

[1] Data are accessible on the RepRisk website (https://www.reprisk.com) and through Wharton Research Data Services (https://wrds-www.wharton.upenn.edu).
[2] Data are accessible on the Dow Jones website (https://professional.dowjones.com/factiva/).
[3] Data are accessible on the CRSP website (https://www.crsp.org) and through Wharton Research Data Services (https://wrds-www.wharton.upenn.edu).

financial data from Compustat,[1] a global database that provides fundamental and historical data on financial and statistical information of 98 percent of the world's total market capitalization; and (5) Kenneth French's database[2] provides the data of the different components for the computation of firm risk.

2. Data on corporate scandals

The following sections describe the data sources, define the specificities of the data, and discuss the procedures to process them into a consistent and reliable sample.

2.1. Events' identification and selection

As no comprehensive and reliable database listing corporate scandals is available, I created a unique database suitable for my thesis topic. Part of the detection process of corporate scandal events relies on the information supplied by RR, a data provider covering different types of negative news on firms from the media. RR is a Swiss-based entity created in 1998. It is one of the first ESG-related data science providers. Since 2007, it has been building the largest comprehensive database by scanning media, stakeholders, and other information sources. It uses AI and machine learning combined with the expertise of 90+ highly trained analysts to confirm the retrieved information. Using an algorithm, RR retrieves the data by screening information from 100,000+ public sources and stakeholders and analyses 500,000+ documents daily, including printed and online media, social media, blogs, government bodies, regulators' publications, think tanks, newsletters, and many other online sources (e.g., RepRisk 2020a). It lists each article from these media that refers to a firm in a negative way. RR defines negative incidents as any event damageable to the firm's reputation based on the information in the media. Incidents can refer to a new event as well as an update of a firm's misbehaviour

[1] Data are accessible on the S&P website (https://www.spglobal.com/marketintelligence/) and through Wharton Research Data Services (https://wrds-www.wharton.upenn.edu).
[2] I thank the authors of the website for sharing these essential data used in my study. For more detailed information, see http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_mom_factor.html.

(RepRisk 2020b). However, not all the listed incidents are scandals, as some incidents do not reflect the intensity and consequences that a scandal usually provokes.

In their methodology documentation, RR describes in detail the processes that make it possible to build a reliable database and the characteristics of the data. RR builds various constructs such as (1) the date of the incident, (2) the language in which the news is reported, (3) the severity level of the incident, (4) the source of reach level, (5) the novelty of the incident, and (6) the type of incident based on ESG-related topics (RepRisk 2020b):

The incident date is defined as the date that RR found the event reported in the media. The *date of the reported event* is one of the most important pieces of information in my analysis and must be precise to get reliable results from an event study.[1]

RR provider offers information scanned from documents published in 20 major business *languages* from media around the world (English, Arabic, Chinese, Danish, Dutch, Filipino, Finnish, French, German, Hindi, Italian, Indonesian, Japanese, Korean, Malaysian, Norwegian, Portuguese, Russian, Spanish, and Swedish).

Regarding the *severity of the incident*, RR classifies severity into three levels, showing the harshness of the focal firm's criticism by estimating the importance of the incident's negative impact on its reputation. Level 1 represents the lowest level, Level 2 medium, and Level 3 the highest of severity.

RR classifies information sources according to three *levels of reach* (i.e., readership), which comprise the influence of media sources where the corporate incident is reported and published. Level 1 is the less reachable, and Level 3 is the highest reachable media. Low reach concerns local newspapers, small Non-Governmental Organizations (NGOs), local government bodies,

[1] In Section 2.2 of this chapter, I describe the validation process to confirm that the date given by RR is accurate.

social media, and blogs accessible to less than 150,000 people; medium reach sources include most national and regional media, international NGOs, and state, national, and international governmental bodies, such as *The Guardian* (UK), *Handelsblatt* (Germany), *China Economic Weekly* (China), *Korea Herald* (South Korea), Greenpeace International (NGO); high reach media comprise only the main influential global media, such as the *Financial Times* (US), the *Wall Street Journal* (US), *New York Times* (US), BBC (UK), CNN International (US), *Forbes* (US) *South China Morning Post* (China), and others.[1]

The *novelty of the incident* relates to the newness of the ESG-related incidents happening in the same location. If the incident is unrelated to other past stories, the incident will be coded as "new." Otherwise, a new development of the same incident might appear. The information must relate to a past story reported in more influential media, and/or the incident happens again for the same firm in the same region within a six-week period. These are signals that the story is most likely unresolved, and the firm's risk profile is still evolving. In these cases, RR reports them as an update of an incident (RepRisk 2020b).

Finally, RR provides an analysis of each firm's risk and industry reputation based on ESG-related risks and business misconducts. This analysis includes 28 *issue types* that are "broad, comprehensive, and mutually exclusive" (RepRisk 2020b, p. 2). Incidents can relate to environmental misconducts such as local pollution and animal mistreatment, social misconducts such as impacts on communities and child labour, and governance misconducts such as tax evasion and anti-competitive practices. There is a fourth type of incident called *cross-cutting*. It represents incidents related to multiple types of misconduct, such as products (health and environmental issues) and violations of international standards. It obtains only when the incident is in conjunction with an incident from another or multiple categories. Moreover,

[1] This list is not exhaustive. RepRisk does not accept to share its full list of the information sources publicly, even after several attempts. Upon request, I provide RR's e-reply.

RR dispatches its classification of 28 incident types enlarging the research scope in 67 topic tags of ESG-related hot topics and themes, such as Arctic drilling, genocide/ethnic cleansing, plastics, and tax havens. Topic tags are more specific and can relate to multiple ESG-related incident types.[1]

After identifying the corporate scandals, the next step consists of ensuring that the data from RR conform to the data constraints from the other datasets and are relevant to the aim of my thesis.[2]

The availability of the data limited the initial list of corporate scandals, and the event study analysis involves constraints. First, the applied methodology measures the variation of stock market price; thus, only publicly traded firms compose my database. Second, CRSP and Compustat list only US-traded firms; I select firms listed on major U.S.-stock exchanges by retaining the firms listed in the CRSP and Compustat databases only. Third, I only consider firms from the S&P 500 index because they are leading firms from the U.S.'s most important industries. Their scandals are potentially easier to confirm more accurately because they "benefit" more from media coverage (Mishina et al. 2010). Finally, I exclude the "finance, insurance, and real estate" (SIC 60 – 67) industry from the sample because financial institutions have uniquely different accounting rule characteristics compared to other industries (e.g., Bronson, Carcello, and Raghunandan 2006; Francis, Reichelt, and Wang 2005).

For the selection process, I rely on the market efficiency hypothesis. It emphasizes that investors react instantly to the information as soon as publicly available (e.g., Malkiel and Fama 1970; Sorescu, Warren, and Ertekin 2017). The information must be surprising and important enough

[1] RR constantly adapts these themes depending on the emerging trends in ESG-related incidents and the clients' feedback. Therefore, I do not consider them in the theory and model building to keep consistency between the different years. On the other hand, each of the classifications described above will help define the constructs included in the regression model.

[2] Due to time and resources constraints, I apply several selection criteria to restrain the number of observations before applying my selection criteria. I search in the media manually only for observations relevant to my analysis.

to modify investors' future cash flow expectations (e.g., Mizik and Jacobson 2004). Otherwise, the stock market price will either vary marginally or stay unchanged (Warren and Sorescu 2017). Selecting firms' events that follow the criterion of importance ensures fit with the characteristics of the event study methodology.

In order to determine the *importance of information*, I apply three selection criteria. First, I use the RR's variable "language." It selects events discussed in at least one of the English language media. Suppose an incident is not reported in English. In that case, the information will not reach the investors' ears because the universal language for the business is English, and investors have an adequate understanding of the language. To a certain extent, media have a role in defining the importance of the information because they know that if the information is reported in the English language, it will spread more widely among investors. Thus, the incident reported in another language will not impact the stock price since the markets will not be aware of the incident.

Second, I keep only risk incidents that RR reports with a high reach level ("reach level 3"). The RR's data from Levels 1 and Level 2 media are blogs and local newspapers. These sources report frequent and irrelevant news for a worldwide audience. Only media with the highest level of reach will have an impact on firm performance because they appear on investors' "radars" (Warren and Sorescu 2017).

Third, the focus of my study is on corporate scandals, but RR lists any negative news that can be damageable to a firm's reputation. The intensity of these two types of events varies greatly. Thus, I remove manually all types of negative incidents that do not specifically reflect my definition of a corporate scandal, such as (1) failed, withdrawal, and unauthorized M&As; (2) bankruptcies; (3) drop in earnings; (4) low dividend distribution; and (5) drop in financial expectations.

2.2. Validation process

The next step of data creation is assuring the reliability[1] of the data. This phase is crucial to avoid any biased results.

2.2.1. Accuracy issues

RR provides millions of observations of risk incidents regarding a large type of firm. Industry firms mostly use RR to determine if it is safe to invest and build partnerships with other firms and assess whether these firms are trustworthy business partners. Recently, more and more academic studies are relying on RR to build analyses in various domains, such as corporate social responsibility on ESG-related events (e.g., Li and Wu 2020) and media coverage (e.g., Kölbel, Busch, and Jancso 2017). However, when I analysed the raw data of RR, I noticed that this database was not created entirely for academic research purposes. The constructs are not measured in a transparent way, the reported date of the incident is not precise, and the data might lack reliability.

First, RR does not fully describe how they collect the data and do not provide either a complete list of the media from which they collect their data or all the names of the media included in each reach level category. After contacting RR by email, the provider explained that this is part of their business secrecy and that they do not share this information. For these reasons, I manually searched each listed news item in secondary sources provided by Factiva to confirm the relevance of each observation. I explain the process in the next section.

Second, RR does not clearly define its coding rules of novelty for the same reasons as above. I think that the "six-week period" of RR's methodology rule is too restrictive and can be surpassed easily in certain situations involving trials, such as the scandal BP and Deepwater

[1] The questionable reliability of RR to report incidents casts some doubts on the study of Li and Wu (2020). The authors use the raw data of RR without considering that the incidents might not be accurately reported. They suggest an analysis based on an impressive number of observations; however, I am convinced that the results are based on partially irrelevant data. Thus, this might influence the validity of their results and discussion.

faced after the oil rig accident, which lasted several years. Hence, I decided to manually verify the novelty variable for each reported incident by comparing it with the data retrieved from Factiva.

Third, as RR is a relatively recent database in academic research, Kölbel, Busch, and Jancso (2017) proceeded to a manual search of 10 randomly selected firms to test the validity of the data. Their study states that they reported them without any sign of miss-categorization. I applied the same procedure to manually search 30 randomly selected cases reported in RR. I did not find more than 50 percent of the cases, and most were not accurately dated. This outcome reveals a non-accuracy in RR's data.

I suspect this lack of precision results from the following reasons: (1) RR uses artificial intelligence (AI) to find and select the reported risk incidents. Many observations are not relevant for the focal firm, creating analytical noise in the data. For instance, a risk incident is reported as involving firm A. However, the incident is related to firm B even if firm A is cited as an illustrative example in the newspaper article. (2) As previously mentioned, the main purpose of the provider is to orientate firms for business decisions; thus, the information might not be reported to accommodate academic research. (3) RR lists "risk incident" events and does not focus on corporate scandals (according to my definition of scandal). These elements might bring confusion and bias into the explanation of the results. For instance, a risk incident involving a multinational firm can be a local event and reported only in local media. However, depending on how RR reports it, the incident might seem to have the same weight as another incident involving a small firm and happening worldwide. (4) RR is not selective enough in its reporting. The data provider lists small and negligible events of a firm mentioned in the media, but these events are not corporate scandals (according to my definition of scandal). RR will report them and include them in the database, even though they do not affect the firm's viability. (5) Last but not least, RR does not give any explanation to enable precise understanding of their

selection criteria, for example, how the provider finds the information and how it is retrieved. No media list for each level of reach is available; thus, the researcher cannot verify the event from the original media sources. Also, RR does not provide either the text of the media source or the source of their reporting.

2.2.2. Event validation

RR covers any negative references related to focal firms from the media. Yet, they do not give details on their data collection methodology or provide their complete list of media. Thus, I follow two steps. First, I use the level of reach provided by RR and select only the observations with the highest score (i.e., Reach level = 3).[1] Then, I confirm their existence and severity by searching manually each risk incident in the U.S. top-ten media by circulation[2]: *The Wall Street Journal, USA Today, The New York Times, The Los Angeles Times, The New York Daily News, The San Jose Mercury News, The New York Post, The Washington Post, The Chicago Sun-Times,* and *The Chicago Tribune*.[3] I argue that if the incident appears in one of these ten main newspapers, investors will see it as an important piece of information. Information from a more "reachable" media source might influence public opinion more, thus increasing firm risk (Kölbel, Busch, and Jancso 2017). In such a case, the event will influence the stock price of the focal firm. I used Factiva to access each newspaper and searched specific firms by name in a [-2; +2] time window around the date reported in RR. I found related newspaper articles in one or more of the top ten newspapers by circulation for 72.5 percent of RR's risk incidents

[1] It allows tightening upstream the number of observations to search in the media manually to fit with the resource and time constraints of my doctoral studies.
[2] I consider the top list of 2013, as 2013 represents the median year between 2007 and 2019, which is the timeframe of the RR's data. In any case, this top 10 list does not vary massively, even in a ten-year range. Also, Factiva gives a list of "most relevant media," which does not vary much and is similar to the list I selected.
[3] I based my selection on several sources (e.g., the Huffington Post, the New Media Alliance, Statista, and the Audit Bureau of Circulations). The different sources list the same newspapers but not in the same order of importance. It depends on the month of the year the list was released. However, the ranking of the newspapers does not influence the selection and results. See also: https://eu.usatoday.com/story/money/2012/10/30/largest-us-newspapers/1669117/ and https://www.statista.com/statistics/205517/average-circulation-of-sunday-newspapers-in-the-united-states/.

("finance, insurance, and real estate" industries excepted). The other 27.5 percent of the risk incidents were either not reported in these newspapers or not in the [-2; +2] time window. The 72.5 percent represents 5181 out of 7142 cases. On these 5181 cases, I found 27,807[1] newspaper articles, as there can be more than one newspaper article per day on the same firm. During the coding process of manually reading the newspaper articles, these duplicates confirmed or disconfirmed that the reported incident was a corporate scandal. The incidents can include multiple unrelated events reported, multiple unrelated scandals, and multiple articles covering the same event.

Additionally, after selecting a list of events reported in English in the top ten newspapers by circulation, the procedure allowed me to gain precision in the selection of corporate scandals only. The outputs, such as newspaper articles, briefs, and reports, were manually read, compared with the information in RR, and coded to indicate whether the event was a) a scandal, b) a negative incident only, or c) RR's mistake. The difference between incident and scandal relies on the severity of the damage and the public audience's attention. "An incident is a minor, localized disruption" (Coombs 2014, p. 20); the routine of the firm is not affected, even if some of the daily operations have to be adapted (Coombs 2014). RR reports incidents but never gives a clear definition of *incident*. Thus, I decided not to rely on their conception of incidents.

RR only reports a negative incident on a certain day for a certain firm but does not give detailed information about either the source or the content of the incident. Thus, I searched in Factiva each observation listed in RR to find all the media information related to a specific firm in a range of [-2; +2] days surrounding the incident's date reported in RR. From the original newspaper article, I determine whether the event fits my definition of scandal.[2] To do so, I

[1] The newspaper articles unrelated to scandals are also included in this number.
[2] To be considered as a corporate scandal, the event must emerge from a corporate crisis that turns into a wide incident engaging intense and far-reaching public discussions that damage the reputation of the firm as a result of an assumed or proved violation of morality that has a significant economic impact on the firm and society.

consider that the firm must be the focus of the reported crisis or at least one of the key players to respect the importance of the information. Otherwise, the information will not be important for the firm and will not directly impact the focal firm. Similarly, I exclude all the cases where the article does not focus on the incident of the focal firm but rather mentions the crisis (1) as a side story or (2) gives an outdated incident as an example to illustrate the current scandal of the focal firm.[1] By manually coding the newspaper articles retrieved from Factiva related to the incidents listed in RR and relying on my definition of scandal, each event included in the sample fully shows all the specificities of a corporate scandal.

2.2.3. Date validation

After confirming that the observation is a scandal by manually finding the media announcement using Factiva, the next step determines if RR reports the dates of the risk incidents precisely.

Indeed, the precision of the reported date is crucial for my analysis, as I use event study analysis, and it depends on the variations in a firm's stock price.[2] The other concern is the average potential effect of a scandal on a firm's stock price. It might be dispersed over several days because (1) media do not always report the information instantly, (2) time differences between countries might affect the timing of the information release, and (3) parts of the information might leak before the event (e.g., Kothari and Warner 2007; Sorescu, Warren, and Ertekin 2017). Thus, I consider a time window and not the single day of the reported scandal when running the event study analysis.[3] This methodological choice provides a more realistic effect of the scandal on the firm's stock market price.

[1] For instance, in August 2011, the *Wall Street Journal* announced that Enterprise Products Partners' pipeline broke in the floodplain in Iowa and mentioned, as a side story, that Exxon Mobil's pipeline had leaked 1,000 barrels of crude into the flooded Yellowstone River one month before. I exclude this RR observation from our sample.

[2] It must be noted that if the information is released during a non-trading day, I consider the next trading day as the day of the event in the event study analysis, because the effect of the information will only be observable when the market opens (Werner 2010).

[3] I develop this process in Section 3 of this chapter.

To report the correct date of the scandal, I searched the scandal on Google with keywords derived from the topic of the newspaper article found in Factiva. Then, I searched for the first date that the information of the scandal was released in the media using Google's date definition function. I started the process based on the date of the newspaper article from the search on Factiva. After that, I went backward in time until no articles regarding the scandal appeared in the media. I report this date as the reference date for the event study analysis. On average, the date is quite accurate between the date of RR's incidents and the date found with Google's date definition function. There is a maximum of three- to four-day difference. However, around 20 percent of the observations have a larger time lag between the two dates. While I correct for the approximate reporting of the scandal's date for each observation, this other lack of accuracy in RR's data is worth mentioning.

2.3. Database merging process

After selecting accurate and relevant data provided by RR and carefully cleaning them with Compustat, CRSP, and Kenneth French's website,[1] I built a unique database by merging them. This unique database contains information on the U.S.-listed firms facing a scandal from 2012 to 2015.[2] The merging process needs to be done in a certain order since each database has different firm identifiers. The main issue is to find common constructs for maximizing the matching process.

First, I merged RR and Compustat. RR provides only the International Bank Account Number (IBAN) to identify firms. The IBAN is a 10-digit number and contains the Committee on Uniform Securities Identification Procedures (CUSIP) 6-8-9 digits number. The IBAN is a more detailed identifier than the CUSIP and derives from the CUSIP. The former is principally

[1] The Factiva database is used to confirm the relevance of RR's reported risk incident, and the process is explained in the previous sections.
[2] I cannot confirm that all the scandals are listed. However, all the scandals reported in RR are part of the analysed final database.

used in the European markets and the latter mainly in the U.S. markets. Therefore, I retrieved the CUSIP identifier from the IBAN to merge RR with the Compustat database. Then, I proceeded with the 6-, 8-, and 9-digit CUSIP identifiers and the firm's name for each selected firm; this maximizes the matching rate. I used the calendar year of the scandal as the reference date.

Second, I added CRSP to the master file using PERMNO identifiers provided by Compustat. Both files have the PERMNO[1] identifier, a unique and permanent stock level identification number assigned by CRPS to each firm included in the database, and the Global Company Key (GVKEY) identifier, a unique assigned number for each firm listed in Compustat.[2]

Third, I merged the master file with Kenneth French's database, using PERMNO identifiers and the day of the scandal.

Accordingly, RR provides data on corporate scandals' specificities; Compustat provides data to measure any variables based on firms' financial outputs, such as slacks, firm size, and market growth; CRSP provides data for the short- and long-term event study analyses; and Kenneth French's database provides data to compute firm risk. The procedures are detailed in the next sections.

2.4. Final sample

After the cleaning and merging process, my unique database contains all the necessary information to run the short- and long-term event study analyses – computing the effect of a scandal on firm value – and to build a regression model reflecting the best approximation of the role of slacks during a scandal. The sample of 262 observations contains publicly traded firms

[1] Firms might have more than one PERMNO, as they can be traded at different prices and in different marketplaces. Only firms with the principal PERMNO are considered.
[2] Since 2020, Compustat and CRSP have provided a file that contains both databases. Before that, the merging was done using a file containing the PERMNO and GVKEY only. As a result, the match was less precise, losing a higher rate of unmatched observations in the merging process (CRSP - Center For Research in Security Prices 2020; Library of Stanford GSB 2020).

in the U.S. markets that faced a scandal on a defined day. For the short-term and long-term event study analyses, 90[1] U.S.-traded firms compose the final sample related to 257 corporate scandals from 2012 to 2015. For the firm risk analysis, the final sample contains 90 U.S.-traded firms related to 250 corporate scandals from 2012 to 2015.

3. Measures

A firm's financial situation can be evaluated with different measures such as its value defined by the market and the risk related to future activities by the firm. Analysing the firm and shareholder values is a common way to measure a phenomenon's impact on a firm with different tools borrowed from accounting and finance (Srinivasan and Hanssens 2009). Many studies in management, finance, accounting, and marketing find firm and shareholder value relevant and reliable (e.g., Brooks and Oikonomou 2018; Edeling and Fischer 2016; Pérez-González and Yun 2013; Servaes and Tamayo 2013). In the corporate scandal literature, studies commonly use a firm's performance and shareholder value to measure the impact of a scandal on the firm from both internal and external perspectives (e.g., Chung, Judge, and Li 2015; Knittel and Stango 2014; Wang and Chou 2018). For publicly traded firms, their value is measured by their market capitalization, equal to the number of shares outstanding multiplied by the share price. Stock returns represent an immediate estimation of stockholder value (Prince and Rubin 2002) and the ratio of change in a firm's stock price based on the investors' expectation of future cash flows (e.g., Fama 1990).

As a highly accurate approach to estimate the market reactions to announcements, the researcher considers that the industry and market-wide influence the firm's stock market price. The stock markets contribute the new information that investors consider impactful for the

[1] A firm might face more than one scandal. However, I only keep one observation if more than one scandal happens on the same day.

firm's future performance (e.g., Brown and Warner 1985; MacKinlay 1997).[1] If investors see new information on the event – here, corporate scandal – as informative, they will react to it, which will impact the value of the shares on the day when the information is released. Thus, if scandals have a negative impact on firm value, we can expect that there will be a decrease in the firm's share value on the day the scandal is announced. Also, the variation of its value on the market will be one of the indicators to analyse the firm's financial situation, influencing its investors' future reactions.

In this section, I explain the methodologies I used to compute (1) the three dependent variables, short- and long-term firm values and firm risk, (2) the two independent variables, the unabsorbed and absorbed slacks, and (3) the control variables. They all compose the regression model.

3.1. Event study methodology and stock return

Theory in finance argues that a firm's stock price is defined by considering the fully available information about firms in capital markets (e.g., Malkiel and Fama 1970). On that basis, measuring the effect of an event on a firm's stock price determines how much a specific event alters the future of the firm. This analysis can be done with an event study that consists of analysing investors' reactions when expected or unexpected events occur.[2] The methodology assumes that the market is efficient with stock returns, accurately reflecting the economic impact of an event (i.e., capital market efficiency). Thus, all relevant information available in the market is part of the stock price. The fluctuation in the stock market price of a firm captures new information and reveals the investors' decisions instantly (Malkiel and Fama 1970;

[1] These two studies provide a detailed review of the methodology.
[2] Sorescu, Warren, and Ertekin (2017) for the marketing literature and McWilliams and Siegel (1997) for the management literature give interesting and comprehensive reviews of the event study methodology.

McWilliams and Siegel 1997), and the event is unexpected and has not yet been factored into the stock price.

The statistical procedure determines the stock returns in excess that investors perceive stemmed from an event revealed by new information. Excess (i.e., abnormal) returns are defined as the difference between observed and expected returns. While the expected returns are determined using an adequate benchmark asset pricing model, the abnormal stock returns reflect the changes in expected future cash flows of a firm on the basis of the new information that ensues from the event (Fama 1991).

This methodology has become increasingly popular among scholars because of its ability to examine the implications of discrete events (Madsen and Rodgers 2015). The effect of events began to be applied by James Dolley in 1933; he studied stock price reactions to stock splits. In the 1960s, several event studies started to appear in business and economics reviews (Sorescu, Warren, and Ertekin 2017). The methodology has been used in finance and accounting research, starting with Ball and Brown (1968) and Fama et al. (1969), and is still widely used in these disciplines (Corrado 2011). Its efficiency and precision have been proved in many other fields, such as management (e.g., McWilliams and Siegel 1997; Yang, Zheng, and Zaheer 2015), economics (e.g., Lee and Mas 2012), and marketing (e.g., Gielens et al. 2018; Sorescu, Warren, and Ertekin 2017). This popularity is probably due to its straightforward and basic design. It "uncovers empirical regularities, many surprising, that enrich our understanding of investment, financing, and corporate-control events, and give rise to interesting theoretical work" (Fama 1991, p. 1607), when an impact on the financial value of the firm at a precise moment must be measured with a publicly available firm stock price (e.g., Akbas 2016; Beckers, Van Doorn, and Verhoef 2018; Park 2004; Warren and Sorescu 2017; Wiles and Danielova 2009).

In the corporate scandal literature, event study methodology is applied in many investigations focusing on specific types of scandals such as product recalls and product harms with which

the identification of the involved entities and the timing of the released information is easily accessible(e.g., Chen, Ganesan, and Liu 2009; Hsu and Lawrence 2016; Thirumalai and Sinha 2011). However, it is not common to use this method when analysing multiple types of scandals impacting a firm's financial value (e.g., Paruchuri and Misangyi 2015). As already mentioned, defining the date of a corporate scandal precisely is challenging, which might cause the unattractiveness of this method in such context.

Also, there are some requirements regarding the data considered in the analysis (e.g., Sorescu, Warren, and Ertekin 2017): (1) the firm's stock must be traded frequently, (2) the trading volume must be sufficient, (3) the time series of prices between the stock and the reference match, (4) there is no information leakage prior to the event, (5) there is no other event responsible for the stock price changes during the event window, (6) the reference index best correlated to the firm's stock price is chosen, (7) and the relationship between the reference index and the firm's stock price does not change over the estimation period.

Nevertheless, the event study method has three characteristics relevant for the goals of my thesis: (1) it analyses firms' daily stock returns during a specific event enables estimating its exact impact on short- and long-term firm values compared to other performance measures on a monthly/quarterly/yearly basis (e.g., Tobin's Q, return-on-asset, sales growth, and return-on-equity), (2) the stock market price reflects the future expectation of investors as a forward-looking measure of performance (Beckers, Van Doorn, and Verhoef 2018), and (3) the short-duration analysis limits reverse causality problems because the stock price considered in the event analysis will not reflect the strategic decisions following its fluctuations[1] (Srinivasan and Hanssens 2009).

[1] For example, Shin, Sakakibara, and Hanssens (2008) find that an unexpected drop in a firm's stock market price urges managers to decrease marketing and R&D expenses.

Based on the aims of my thesis, the event study method is even more appropriate because I use media coverage to determine the precise date of the event. In this sense, Fang and Peress (2009) find an influence of media coverage on stock returns. Thus, I consider that the information related in the media (1) will influence the stock market price of the firm facing a scandal, and (2) the stock price will aggregate the new information based on the market efficiency theory. For these reasons, an event study analysis to measure the impact of a corporate scandal on a firm is warranted.

Consequently, I use event study methodology to capture the impact of a scandal on a firm and understand how the market and stakeholders react to this event. I analyse the fluctuations in the market share value of a focal firm from the short term and the long term, depending on the existence of organizational slacks within the firm.

3.2. Dependent variable – short-term firm value

3.2.1. Short-term event study

Depending on the length of the event window, the event study has a short-term or long-term horizon. Usually, short-term event study considers an event window of 2 to 5 days before and 0 to 5 days after the event and defines a pre-event period of estimation.[1] It provides the immediate effect of an event on the firm's value based on the variation of the stock market price (e.g., Swaminathan and Moorman 2009; Swaminathan, Murshed, and Hulland 2008).

3.2.2. Short-term event study design

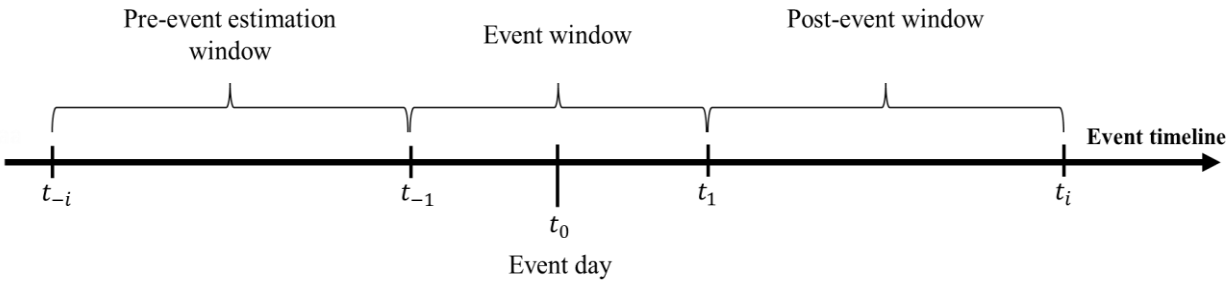
The design of a short-term event study goes through six main steps: (1) sampling definition, (2) event criteria definition, (3) treatment of confounding events, (4) choice of the model, (5) computation of short-term normal returns and short-term abnormal returns (ARs), and (6) tests of significance and robustness.

[1] Refer to Figure 5.

3.2.2.1. Sampling definition

In the first step, sampling definition is the procedure I followed to identify and select the corporate scandals[1]: a sample must be defined, and the types of events determined (i.e., the event of interest) from a release of new information. It is essential to consider each event of the sample in the same way (Sorescu, Warren, and Ertekin 2017). The sample must be large enough in the number of events and firms to allow confident results for every data analysis method. The event window must be defined – the period over which the firm's stock price affected by the event will be analysed (Campbell, Lo, and MacKinlay 1997). In addition, the firm must have existed for a long enough time before the scandal and be publicly traded. Also, the consistency in date definition is crucial in an event study, as the results are based on timing. The "D-day" must be the day when the information becomes public for the firm; the time and the source of information must be reliable (Sorescu, Warren, and Ertekin 2017).

Figure 5: Time-window components



Adapted from Campbell, Lo, and MacKinlay (1997)

3.2.2.2. Event criteria

The second step consists of deciding the event criteria[2] to frame the analysis. I determine the criteria of the scandals (event of the focal firm), firm, and industry. I include in the analysis; firm size, types of industries, the topic of events, and trade volumes are some of them (Johnston 2007). Regarding scandals, I follow RR's nomenclature and consider all ESG-related scandals

[1] See Section 2 of this chapter.
[2] See Section 1 and Section 2 of this chapter for more details on the sample and data.

happening from 2012 to 2015, irrespective of their severity, novelty, and the country where the scandal occurs. Regarding industry specifications, I consider all industries, excluding financial, utilities, and insurance sectors, which are often set aside, as they are in the service and have different accounting practices.

3.2.2.3. Confounding events

The third step consists of focusing on the confounding events. An event study is based on the analysis of how a specific event influences the stock market price of a firm (positively or negatively). Investors define the stock market price, which reflects the expectations of future cash flows of the firm. It is assumed that the stock price absorbs all the information the market knows, reacting instantly to any new information that can be used to predict economic changes in future cash flows of a firm (Malkiel and Fama 1970). However, it can happen that, at the same time as the focal event, another event happens to the firm, such as new product release (Warren and Sorescu 2017), CEO recruitment, mergers (Morck and Yeung 1992), or annual financial performance release. These are simultaneous events (often on the days surrounding the event) and affect the same firm as the focal event. In this sense, the researcher must be certain that the confounding event does not influence the stock market price together with the focal event. The results would be biased.

On the one hand, most authors argue that confounding events must be carefully considered (e.g., Elberse 2007; Park 2004; Sood and Tellis 2009). Depending on research purpose, they often use Factiva, Lexis Nexis, and Bloomberg to identify the confounding events. For instance, McWilliams and Siegel (1997), as well as (Park 2004, p. 661), explain four methods for controlling confounding events: "(1) excluding firms with confounding events from the sample, (2) partitioning the sample by grouping firms with the same confounding events, (3) excluding firms from the sample on the day of the confounding event, and (4) subtracting the financial impact of the confounding event when estimating the sample's [short-term] abnormal returns."

Another approach to control for confounding events would be to reduce the probability of an event happening concurrently by shortening the event window as much as possible. The most often applied solution is to consider one day before the event to control for information leakage and one day after to be certain that the new information is embedded in the stock evaluation (Brown and Warner 1980; Malkiel and Fama 1970).

On the other hand, confounding events should not be an issue and not influence the final results of the event study; the mean of the short-term ARs' distribution should be zero for these events, as some have a positive impact, and some have a negative impact. This implies that their happening will have no impact on the ARs of the chosen events (Sorescu, Warren, and Ertekin 2017). This assumption relies on the efficiency of the market. The ARs will always be equal to zero for expected future events. McWilliams and Siegel (1997) also note that not many studies give details in their methodological procedure about whether they control for confounding event effects.

The relevance of controlling for confounding events has two sides. On the positive side, the values of the ARs reflect the exact impact of the event only. The statistical noise from other events does not influence the reported effect. However, dropping observations related to confounding events reduces the sample size (Tipton, Bharadwaj, and Robertson 2009). It implies that a smaller sample size decreases the statistical power of the analysis; thus, an event might significantly impact the returns with insignificant test results due to too-small sample size. Also, controlling for confounding events can be methodologically and timely challenging without sufficient added value. For instance, chasing confounding events might be time-consuming; and partitioning the sample by groups of firms related to the same type of confounding events can become impossible when the sample contains many different types of confounding events.

Considering the data selection of this study and the confirmation of each event by searching the releasing day of the information by the media, the approach of Sorescu, Warren, and Ertekin (2017) seems the most appropriate (i.e., on average, confounding events do not affect the average ARs related to the focal event). Moreover, determining which event is confounded is hard:(1) as the determination of incident dates relies on press coverage, the date can be precise only with ±1 day due to time differences, (2) the same type of event can happen in multiple countries (i.e., markets) without leading to a similar impact, (3) the stock might not react in the same way when the event happens in a different industry,[1] and (4) any publicity of the focal firm in the media during the event window might not influence the effect of the focal event. Finally, confounding events should have a marginal effect on final results because of the use of a wide enough sample size of 257 observations (Sorescu, Warren, and Ertekin 2017).

It must be noted that repetitive announcements of scandals for the same firm might introduce reliability issues in the results. The first announcement of the scandal could have more impact than the following ones. The first wave might contain most of the information; the next waves might not produce a signal with similar strength since the announcement will not contain as much information. The variation of the returns will react accordingly to the amount of expectation level (Le Nagard-Assayag and Manceau 2001). Thus, the novelty of the event needs to be controlled in the regression model.[2]

3.2.2.4. Model-based event study

The choice of the model is used to estimate the expected returns. The model gives hypothetical returns that the firm would have without the occurrence of the event. Different models have

[1] For instance, a launch of a new high-tech product does not have the same effect on market price as a new product in the fast consumer goods sector.

[2] It must be noted that Sood and Tellis (2009) find that the subsequent announcements should have the same impact as the first one. They argue that the recall of the information compensates for its decreasing value because it reinforces the investors' beliefs in the information. However, I decide to still control for the novelty of the scandal, considering the inconsistent findings in the research topic.

been developed. Some are statistical models, such as the *mean-adjusted model*, the *market model*, and the *market-adjusted model*, based on the linear relationship between returns of the market portfolio and returns of a single stock (Brown and Warner 1980). Others are economics models, such as the *Fama-French three-factor model*, *Carhart's four-factor model*, and *Fama-French five-factor model*. I present only the most comprehensive and used ones in the literature (Sorescu, Warren, and Ertekin 2017):

Regarding the statistical models, the mean-adjusted model is the simplest, even if it often produces results similar to those of more advanced models. It consists of the average returns during the estimation window:

$$E(R_{it}) = K_i, \tag{1}$$

where R_{it} is the realized rate of the stock return of the firm i at time t; $E(R_{it})$ is the estimated stock returns of the firm i at time t in the absence of the event; and K_i is a constant which can vary across firm stocks. This model conforms to the Capital Asset Pricing Model (CAPM), as the CAPM also argues that the expected return is constant if the stock has constant systematic risk and the efficiency frontier remains unchanged (Brown and Warner 1980).

A more advanced model, the market model, considers the risk-free rate of return R_{ft}at time t and the risk factor β estimated from a regression on at least 100 days before the event date (Brown and Warner 1985):

$$E(R_{it}) = R_{ft} + \beta(R_{mt} - R_{ft}), \tag{2}$$

where R_{it} is the realized rate of the stock return of the firm i at time t; $E(R_{it})$ is the estimated stock returns of the firm i at time t in the absence of the event; R_{mt} is the average rate of return of all stocks trading in the stock market (i.e., the market index) at time t; R_{ft} is the risk-free rate of the return at time t; and β the risk factor. This model considers that the returns come

from a single factor market model. The coefficients of the regression allow computing the abnormal return for a firm i at time t by subtracting the expected returns $E(R_{it})$ from the actual return R_{it}. The main advantages of the market model are that it considers the market-wide movement during the estimation period and the level of risk related to each firm's stock (Werner 2010).

Concerning the differences in results using one model or another, Brown and Warner (1985) conclude that any models are relevant with similar robustness when defining a short-term window. The reason for these similar results is that expected returns, $E(R_{it})$, are close to zero when considering a single-day period; on the other hand, studies are interested in events with a variation of more than 1 (one) percent of the returns; thus, there is no influence on deducing a small number to a number greater than 1 (one) percent. However, this might become an important issue on a long-term analysis. The following models are intended for the long-term horizon, although they are also used in the short-term analysis in some studies (Sorescu, Warren, and Ertekin 2017).

On the side of the economics models, first, Fama and French (1993) suggest an augmented benchmark asset-pricing model compared to the CAPM with a single beta-factor that explains the correlation between the firm's stock and the market (e.g., Sharpe 1964): the Fama-French three-factor model considering two additional risks: the size factor SMB_t (small minus big stock returns) – which is the subtraction of the large capitalization stock market portfolio during the day of the event t to the return rate of a small capitalization – and the value factor HML_t (high minus low value stock returns) – which is the difference of returns between high and low book-to-market stock market portfolio during the day of the event t.

After more than two decades of improvement, Fama and French (2015) suggested the most comprehensive economics model by adding two more risk factors to the three-factor model: the

RMW_t – which is the difference between the returns on diversified portfolios of stocks with robust profitability and the ones with weak profitability – and the CMA_t – which is the difference between the returns on diversified portfolios of the stocks of conservative investments and the ones with more aggressive investments. The model is estimated as follows:

$$E(R_{it} - R_{Ft}) = \alpha_i + b_i(R_{Mt} - R_{Ft}) + s_i(SMB_t) + h_i(HML_t) + r_i(RMW_t) + c_i(CMA_t) + e_{it}, \quad (3)$$

where R_{it} is the realized stock return for portfolio i at time t; R_{Ft} is the realized risk-free rate of return; $E(R_{it} - R_{Ft})$ is the estimated stock return R_{it} for portfolio i at time t minus the estimated risk-free rate of return R_{Ft} in the absence of the event; R_{Mt} is the average market rate of return; SMB_t is the difference between the return rate of a small capitalization and a large capitalization stock market portfolio (small minus big stock returns); HML_t is the return on a value-weighted portfolio of high book-to-market stocks minus the return on a value-weighted portfolio of low book-to-market stocks (high minus low-value stock returns); RMW_t is the difference between the returns on diversified portfolios of stocks with robust and weak profitability; and CMA_t is the difference between the returns on diversified portfolios of the stocks of low and high investment firms (i.e., conservative vs. aggressive). If the exposures to the five factors, b_i, bs_i, h, r_i and c_i, capture all variation in expected returns, the intercept α_i is zero for all securities and portfolios i (Fama and French 2015). The difference between zero and the value of α_i represents the abnormal returns, which are non-existent in an efficient market situation (Hsu, Fournier, and Srinivasan 2016). To estimate the returns from this model, I use the daily stock market price from CRSP and the $(R_{Mt} - R_{Ft})$, SMB_t, HML_t, RMW_t, and CMA_t from the Kenneth French's website. Among other data freely available to academic

researchers, the website provides the data of the different components of the model (French 2020). [1]

It must be noted that the five-factor model, made to capture the size, value, profitability, and investment patterns in average stock returns, gives better approximations than the last other two models, as it reduces the unexplained average returns. This outperformance is mostly valid when a portfolio tilts on size, value profitability, and investment premiums (Fama and French 2015).

Choosing the model is an important step because each measure of expected return can be more or less precise and biased. Depending on the bias of the analysed sample, all of these models will yield certain biases in the results (Ahern 2009). These biases can influence the results and properties of the ARs' results. For instance, Banz (1981) shows that the CAPM underestimates the returns when the sample contains a large proportion of small firms; thus, the event study will give inflated ARs.

For the short-term event study analysis, I chose to apply the market model to estimate expected returns because (1) Brown and Warner (1985) recommend using the market model or the market-adjusted model after studying statistical proprieties of the different available models and (2) this asset price model has a more significant efficiency of estimating event effect than the constant mean return model (Srinivasan and Bharadwaj 2004). Also, it considers the risk-free rate of the return R_{ft}at time t and the risk factor βestimated from a regression on, at least, 100 days before the event date (Brown and Warner 1985). Moreover, the market model is the

[1] *Rm-Rf*: the excess return on the market, value-weight return of all CRSP firms incorporated in the U.S.; *SMB*: the average return on the nine small stock portfolios minus the average return on the nine big stock portfolios; *HML*: the average return on the two value portfolios minus the average return on the two growth portfolios; *RMW*: the average return on the two robust operating profitability portfolios minus the average return on the two weak operating profitability portfolios; *CMA*: the average return on the two conservative investment portfolios minus the average return on the two aggressive investment portfolios (French 2020).

most commonly applied model in finance, management, and marketing (e.g., Chen, Ganesan, and Liu 2009; Gao et al. 2015; Wiles and Danielova 2009).

Regarding the economics models presented, I rely on Sorescu, Warren, and Ertekin (2017) recommending avoiding these models for short-term studies. Although these models can be applied in a short-term event study (e.g., Borah and Tellis 2014; Tipton, Bharadwaj, and Robertson 2009), they are designed for long-term windows. They measure returns on a monthly instead of a daily basis for the market model and market-adjusted model. The researcher can apply these models to daily data; however, no study was able to confirm the validity of their statistical properties for short-term windows (Sorescu, Warren, and Ertekin 2017).

3.2.2.5. Computation of the returns

The fifth step consists of determining the extraordinary impact of the event on stock returns by measuring the short-term abnormal stock returns.

The event window defines the abnormal returns (ARs)[1] by capturing an event's effect (before and after the event), assuming that the incremental value added to the firm's stock price represents new information related to the event (Sorescu, Warren, and Ertekin 2017). Thus, the ARs can be defined as the realized *ex-post* stock returns (measured empirically) minus the *ex-ante* expected normal returns of the stock (measured by estimation).

The period of estimation – the *estimation window* – determines the average normal returns of a firm in a regular period of trade. The estimation period can be more or less broad, depending on the research approach and the needs of the analysis. The length of the estimation period is also based on the asset price history of the firms considered in the analysis. The literature recommends 200 to 600 days of market trading days before the event for a short-term event

[1] The stock market returns for each firm are based on the daily returns on the equally-weighted index, including all stocks listed in the CRSP database.

study. However, there is no rule to follow to define the length of the estimation period (Ahern 2009). I chose to use a pre-scandal estimation period of 252 days (representing the average number of trading days in a year) ending 10 days before the scandal happens, as it is usually applied (Janney and Gove 2011; Swaminathan and Moorman 2009). I do not consider firms that do not have available data for at least 200 days before the scandal.

The result of this difference is the "effect of the event" (e.g., Brown and Warner 1980; Campbell, Lo, and MacKinlay 1997; Sorescu, Warren, and Ertekin 2017):

$$AR_{it} = \frac{P_{it} - E(P_{it})}{P_{it-1}} = R_{it} - E(R_{it}), \quad (4)$$

where P_{it} and P_{it-1} are the dividend-adjusted price of the stock of firm i at time t and $t-1$, respectively; R_{it} is the effective stock return of firm i at period $[t-1;\ t]$; and $E(R_{it})$ is the expected return of stock i at period $[t-1;\ t]$ under the condition that no event is observed in the event window.

Apart from analysing the ARs on the surrounding days of the event, it is worthwhile considering the ARs in a time interval, including the event – the *event window*. It allows determining whether the mean of the ARs is equal to zero due to (1) the anticipation level of the event which implies that some of the ARs will appear before the event, and (2) the market efficiency level which must be empirically tested by measuring the adjustment speed of the market to the new information released at the date of the event (Kothari and Warner 2007). The literature on event study methodology is relatively sparse regarding the size of the event window. It allows the researcher to analyse a certain time period during which the information is fully integrated into the stock price. In some cases, the day of the event is considered in finance, as in earnings announcement analysis. In other cases, the event window is extended to two days (i.e., the day of the announcement plus the day after the event). This process allows capturing the effect of the event on the stock price after the markets close. However, an extended period might be

valuable as a complementary analysis to encounter information leakage before the event (Campbell, Lo, and MacKinlay 1997). In management and marketing, the event window is usually 2 to 5 days before and 0 to 5 days after the event for a short-term event study, and it can be from 45 to 90 days prior to and after the event in a long-term event study (Johnston 2007; Kalaignanam, Kushwaha, and Eilert 2013; Swaminathan, Murshed, and Hulland 2008). The literature advises that the window be as small as possible, as the stock market price instantly captures the new information (Fama et al. 1969). A short window accounts for possible information leakage before the event (Swaminathan and Moorman 2009) and a possible delay in realizing that the information is available (Raassens, Wuyts, and Geyskens 2012; Sood and Tellis 2009).

The cumulative abnormal returns (CAR) are the sum of daily ARs in a specific event window. CARs determine the aggregate effect of the event (negative or positive) on the stock price of the firm, i.e., the total change of the stock value related to the new information issuing from the event, thus the total impact of the event (Brown and Warner 1985):

$$CAR_{it} = \sum_{t-k}^{t+p} AR_{it}, \tag{5}$$

where AR_{it} is the abnormal return for firm i at time t and CAR_{it} is the cumulative abnormal return computed with the sum of ARs for firm i at time t. As I define the event window as longer than one day, I measure the short-term shareholder component – the CARs. The most common event window is usually a three-day period (i.e., one day before and after the event). To determine the most promising event window for regression analysis, I compute the cumulative average abnormal returns (CAARs). They are the mean of the CARs of the entire sample on a specific event window:

$$CAAR_{it} = \frac{1}{n}\sum_{t-k}^{t+1} CAR_{it}, \tag{6}$$

where $CAAR_{it}$ is the cumulative average abnormal return for the sample at time t; CAR_{it} is the cumulative abnormal return, computed with the sum of abnormal returns for firm i at time t; and n equals the number of observations in the sample.

Some studies show that certain events, such as earnings announcements, extend their effect after the event window (e.g., Bernard and Thomas 1990; Chan, Jegadeesh, and Lakonishok 1996). This period is called the *post-event window*. In my analysis, I note that RR collects the information in the media, and the information is worldwide events. Thus, I measure different combinations of event widows from -3 to +3 days of CAARs and test their significance. Also, using Sorescu, Warren, and Ertekin (2017), I test -2 to +1 windows for information leakage and -1 to +2 for information dissemination. I use the *t-test* as well as the *standardized cross-sectional test* (Boehmer, Masumeci, and Poulsen 1991). The standardized cross-sectional test is robust to (1) any additional variance from the event and (2) any distribution of the ARs across the event window. I consider the event window with the highest significance. Even if I have confirmed the release date of the information by searching the media manually, the major media might not release the information concurrently as a result of, for instance, time differences between parts of the globe; specialized newspapers might release the information a few hours faster than other media. However, the small spectrum of readers might influence investors who are aware of the information. Choosing a maximum of 3 days before and after the scandal guarantees the minimum of noise in considering the precise date of the corporate scandal and ensures that the information is spread out enough among the investors. Following other studies, I empirically choose the most significant window (e.g., Sorescu, Warren, and Ertekin 2017).

3.2.2.6. Tests of significance and robustness

The last step of this event study consists of testing the significance and robustness of the results. Usually, the tests are applied on the mean of the ARs (i.e., the average abnormal returns, noted as AARs) or the mean of the CARs (i.e., the cumulative average abnormal returns, noted as

CAARs) to analyse the distribution of the data.[1] They indicate if the mean is not equal to zero, which indicates that the results are significant. For event studies, statistical tests are applied to analyse the significance of the results with the null hypothesis (H_0) – the ARs are equal to zero – in a defined event window. The alternative hypothesis (H_1) is that CAARs are not equal to zero (e.g., Homburg, Vollmayr, and Hahn 2014; Swaminathan and Moorman 2009; Wiles and Danielova 2009). There are two groups of tests available: the parametric and the non-parametric tests. Each of these groups includes a large range of specific tests. They have their pros and cons depending on the types of analysed data, the sample, and the use of the event study results (in case CAARs are simply interpreted as such or used as a dependent variable in a regression analysis).

Parametric tests assume that CARs are normally distributed; non-parametric tests do not. In research, scholars commonly use both groups of tests to validate that the results are not affected by outliers. Outliers might influence the parametric tests' outcomes but not affect the non-parametric tests' (Schipper and Smith 1983). The most popular parametric tests in academic research are *Patell's test* (Patell 1976) and the *standardized cross-sectional test* (Boehmer, Masumeci, and Poulsen 1991); the most popular non-parametric tests, the *Corrado rank-test* (Corrado and Zivney 1992), and the *Cowan sign-test* (Cowan 1992).

The choice of using a specific test will depend on the research setting and the expected statistical issues in relation to the type of data analysed. More specifically, using an event study with data with clusters might create issues of cross-sectional correlation with the reported ARs and distortions from volatility variations due to the event. As my sample is clusters of firms facing a scandal (i.e., multiple scandals per firm), I must consider the choice of the statistical tests carefully. On the one hand, the sudden effect of the scandal will create high variations in

[1] N.B. – Tests are applied on AARs (ARs) and CAARs (CARs), and I consider the significance of CAARs (CARs) in my analysis. However, I refer to both AARs (ARs) and CAARs (CARs) when CAARs (CARs) are mentioned if not specified. This allows lightening the structure of the text.

volatility, causing problems when the data are clustered. On the other hand, I have already limited cross-sectional correlation issues because I do not have observations of multiple scandals of one firm on the same day.

However, one or the other might affect the standard error of parametric tests and provoke the artificial inflation of the test statistics' results, thus causing liberal inference. Hence, if the H_0 is rejected with a higher probability of the true significant level of the statistical test, the result is an over-assumption of the effect in the data, while the effect would not reflect the reality (Kothari and Warner 2007; Schimmer, Levchenko, and Müller 2015).

The optimal choice between parametric and non-parametric tests has been widely studied, and the data distribution is an important part of this choice. Considering that the distribution of any daily stock returns tends not normally to be fat-tailed with high skewness or kurtosis (e.g., Fama 1965; Officer 1972), the non-parametric tests are generally preferred. In addition to their other specificities, the *Sign test* and the *Rank test* are advised because they are robust against data with non-normal distribution (Schimmer, Levchenko, and Müller 2015).

To test for the significance, I use various tests to confirm the robustness of my results, enabling me to choose the best-appropriated CAR window as the dependent variable of the estimation model. I base my decisions on the t-test and standardized cross-sectional test's significance score. The $p - value$ of these tests should not exceed $p = 0.1$ to be selected as a potential-dependent variable.

Finally, to ensure accuracy of the time window and the results, I compute the mean of CARs in various time intervals before and after the corporate scandal date to guarantee the minimum of noise by using the precise date of the corporate scandal (Das, Sen, and Sengupta 1998). To compute the CARs, I use the market model, given the advantages of this model mentioned above. I confirm the results by using the market-adjusted model and find similar results.

3.3. Dependent variable – long-term firm value

3.3.1. Long-term event study

The long-term event study works with a similar idea of information represented by the market price, but the event window is from several weeks to several years. This procedure is mainly used when the study aims to understand market efficiency and applied in the capital market research (Brown and Warner 1980). While a short-term analysis will define the magnitude of the impact due to the event by tracking the stock market price, the long-term analysis of an event shows the persistence of the ARs after a consequential period of time (Werner 2010). In my thesis, I use a long-term approach to understand the difference in timing efficiency between the different types of slacks. I set a specific relevant estimation window. In the finance literature, research has largely assessed that some events faced by firms create ARs in a time range between one to five years. In almost half of the studies, the authors chose a time window of one year or more (Kothari and Warner 2007). I choose to follow the most-used estimation window – 252 days after the event – suggested in other studies using long-term event analyses.

Also, using a large event window resolves the issue of estimating the precise timing of the scandal. Even if the day when investors are aware of a scandal does not coincide exactly with the first day reported in the media, the wide event window of one year counteracts any precision issue (Hung, Wong, and Zhang 2015).

Finally, as an important topic of methodological dissonance in the short-term event study literature, the discussion on confounding events does not apply to long-term ARs. The long-term event analysis assumes that there will be a certain number of confounding events due to the large estimation window. In this sense, the mean distribution of ARs for all the confounding events will be equal to zero. Therefore, it will not interact with the ARs of the focal event (Sorescu, Warren, and Ertekin 2017).

3.3.2. Methods of long-term event study

There are two approaches to define the long-term impact of an event, thus the long-term ARs. First, the *Buy-and-Hold Abnormal Return* method relies on a benchmark to find the firm's buy-and-hold abnormal returns (BHARs) during the event, a measure of long-term ARs. The null hypothesis stands when the average BHARs are equal to zero. The other approach is the *calendar-time portfolio* (CTP). Based on an asset price model, this method consists of building a portfolio of firms that faced a similar event before the event of the focal firm. It is the equivalent of the estimation window in the short-term event study. The null hypothesis is verified when the regression's intercept of the monthly portfolio returns is equal to zero (Lee and Lee 2015).

3.3.2.1. Buy-and-Hold abnormal returns

The BHAR analysis is a characteristic-based matching approach, as it is usually called (e.g., Barber and Lyon 1997; Lyon, Barber, and Tsai 1999). BHARs represent "the average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a prespecified holding period versus a comparable strategy using otherwise similar non-event firms" (Mitchell and Stafford 2000, p. 296). It can be used as an event study method and an investment strategy, and it is based on an analysis of the change in stock price. Investors buy a stock and hold it according to a long-term perspective. The measurement of the long-term ARs consists of the difference between the normal buy-and-hold returns and effective returns. The following formula under the market adjusted[1] expresses the measurement of the BHARs of an event firm i for any time interval t to T within the event or post-event window:

$$BHAR_{i,t,T} = \prod_{t=1\ to\ T}(1 + R_{i,t}) - \prod_{t=1\ to\ T}(1 + R_{B,t}), \quad (7)$$

[1] I do not use the market approach because I use Eventus to compute the BHARs measuring long-term ARs, which has a market-adjusted approach exclusively and does not propose to use other market models.

where R_{it} is the effective buy-and-hold return of an event firm i at time t; and $R_{B,t}$ is either the return on a non-event firm that is matched to an event firm i at time t, or the return on a matched benchmark portfolio. The measurement of the BHARs relies on a benchmark based on a reference portfolio or a unique firm. This choice depends on the characteristics of the data. Generally, if Carhart's four-factor model (Carhart 1997) seems to be relevant to measure the expected returns, the matching of the event firm with a non-event firm similar in size, book-market ratio, and returns should be applied. Otherwise, characteristic portfolio matching might be more appropriate. The method consists of matching the portfolios of all non-event firms similar to the event firm in size, book-to-market, and momentum (e.g., Lyon, Barber, and Tsai 1999). Studies apply either parametric or non-parametric statistical tests to test the null hypothesis.

As with the purpose of the average ARs (i.e., AARs), it is interesting to analyse the average buy-and-hold abnormal returns (ABHARs) of the sample for any time interval t to T within the event or post-event window:

$$ABHAR_{t,T} = \frac{1}{n}\sum_{i=1}^{N} BHAR_{i,t,T}, \tag{8}$$

where $BHAR_{i,t,T}$ is the BHARs of an event firm i for any time interval t to T within the event or post-event window; and n equals the number of observations in the sample. This analysis enables to (1) determine if the event influences the shareholder wealth on average, (2) test economics models, and (3) gain insights on the sign of the effect on average for hypothesis testing. Other parameters of the long-term ARs' cross-sectional distribution need to be considered. For instance, the researcher can rely on the median effect to ascertain whether the data contain extreme observations. In this case, the mean effect might be biased. The median buy-and-hold abnormal returns, $MBHAR_{r_1,r_2}$, can serve as a robustness check to confirm the non-existence of bias (Barber and Lyon 1997; Werner 2010).

As already discussed, the main issues with this method are when events are redundant and clustered in time or by industry (Liu, Shankar, and Yun 2017). When firm-specific characteristics do not thoroughly cancel the correlation between firms associated with an event, results and models might be biased with cross-correlation issues. Bad model problems appear when the chosen benchmark does not properly estimate a non-event firm's returns (Fama 1998; Mitchell and Stafford 2000). For instance, some of the corporate scandals in my data sample are related to previous scandals in the same firm. They can influence each other and create cross-correlations between long-term ARs.

3.3.2.2. Calendar-time portfolio

The alternative to measuring the impact of an event on a long-term horizon is the CTP approach, also known as the Jensen-alpha approach. Like the BHAR approach, the CTP is based on matching firms but with a risk adjustment on the computation of the long-term ARs (e.g., Fama 1998; Mitchell and Stafford 2000). The first step consists of building a portfolio of firms by groups with similar characteristics, such as experiencing the same type of event. A firm is added to the portfolio when the event happens and stays in the portfolio during the measurement window's length. The latter can be from six months to several years. Then, the portfolio's monthly returns are regressed on variables that are able to estimate stock returns. Size, book-to-market, and momentum are usually selected for the prediction (Sorescu, Warren, and Ertekin 2017). Thus, the CTP approach differs from the BHAR methodology because the researcher needs to choose an appropriate asset-pricing model and estimation techniques. Most of the studies rely on the Fama-French three-factor (Fama and French 1993) or Carhart's four-factor (Carhart 1997) models (Lee and Lee 2015). Only recently, studies have started to apply the most comprehensive model, the Fama-French five-factor model (Fama and French 2015).

Issues in long-term ARs' evaluation might arise from using the CTP approach when events happen during mispricing of the stock price. In this sense, it is not rare that managers provoke

events to take advantage of the misevaluation of their firm's stock price. Considering the CTP approach's measurement characteristics, the timing decisions of the managers will be underweighted, and the other observations over-weighted (Kothari and Warner 2007). However, there is no study to date that clarifies the reliability of this approach. For instance, Mitchell and Stafford (2000) are particularly enthusiastic about using this method, while Loughran and Ritter (2000) are more cautious because of a possible lack of consistency between the results and market efficiency. According to these authors, the CTP approach results in low power, thus a high probability of encountering a *type II* error. As for the BHARs, results must be confirmed with alternative measures and significance tests to ensure robustness.

The literature has still not define which of the two methods gives the most reliable results: "Both have low power against economically interesting null hypotheses, and neither is immune to misspecification" (Kothari and Warner 2007, p. 23). However, following the literature recommendations on choosing the approach that best suits the data, I use the BHAR approach: First, my sample exclusively contains firms from the S&P 500 index. The massive size of the firm allows an accurate matching process and avoids a biased estimate of the firm's expected returns. As the matching process is size-based, having smaller firms might introduce additional issues (Ang and Zhang 2004; Lee and Lee 2015).

Second, as BHARs maintain rank order, this method fits especially with the cross-sectional analysis of the data used in my research (e.g., Markovitch and Golder 2008; Sorescu, Chandy, and Prabhu 2007).

Third, as the CTP approach relies for its analysis on groups of firms (i.e., portfolios) exclusively and is not based on individual firms, there is no possibility to compute long-term ARs for each individual event separately (Sorescu, Warren, and Ertekin 2017). This specific element would create a methodological issue for the next step of my analysis, as individual long-term ARs are mandatory to run a regression analysis with the long-term ARs as the dependent variable. Even

if the CTP could partially avoid the risks of cross-sectional correlation, the aforementioned reasons tend to confirm that the BHAR approach is more appropriate for this particular study.

3.3.3. Tests of significance

After measuring the ARs related to the event in the long term, the researcher must test the null hypothesis. The same significance tests and processes are applied to the long-term event study, depending on the characteristics of the analysis. This choice is crucial for obtaining reliable results and avoiding two types of errors. The first happens when the null hypothesis is rejected because of an inappropriate choice of benchmark. Many rejections of the null hypothesis are false because the benchmark discards the long-term ARs from zero.

On the other hand, the null hypothesis is accepted because the test is not statistically powerful enough to point out that the mean of the long-term ARs is equal to zero (Lee and Lee 2015). Thus, not only is the choice of the suitable benchmark important, but the significance test must be statistically appropriate enough to avoid or minimize both error types. A parametric t-test seems to be a straightforward choice in this particular kind of event analysis as a significance estimator.

3.4. Dependent variable – firm risk

3.4.1. Types of firm risk

Managers and investors consider the level of firm risk as another measure of the value of a firm. It is one of the main components of the firm value and is involved in evaluating the shareholder value by the financial markets (Barber and Odean 2000). Firm risk is another component that influences firm value because it shows the vulnerability and uncertainty of the future cash flows of a firm. Studies have shown a positive relationship between risk and expected returns. Thus, risk must be considered when analysing performance because investments might be too risky compared to the opportunity of returns, misdirecting the performance evaluation (Fama and

French 1993; Markowitz 1952). The level of risk influences stock returns as the increase of firm risk increases financing costs. Managers and investors tend to define an optimal ratio of expected returns and level of risk, as risk can affect stock wealth on a long-term basis (Luo and Bhattacharya 2009). Thus, investors will expect higher compensation if the stock is evaluated as riskier. The total risk of a firm can be decomposed into two distinct parts – idiosyncratic and systematic.

Idiosyncratic risk[1] determines the risk associated with the firm, depending on its strategic choices, after considering variation in the whole market. By definition, idiosyncratic risk of the firm, also known as residual risk, is the amount of stock volatility that the market cannot explain by its movements. It is influenced by firm-specific circumstances and characteristics, such as R&D expenditures, modifications in the top management team, and advertisement expenditures (Hsu, Fournier, and Srinivasan 2016). The highest the level of idiosyncratic risk is, the highest is the level of uncertainty of the expected cash flows. The firm returns' variability increases the chances of failure (Bloom and Milkovich 1998). A high level of risk can be fatal for a firm; thus, managers and employees need to be cautious about level of risk on an ongoing basis (e.g., Hillier, Grinblatt, and Titman 2012). Investors determine a price for the idiosyncratic risk of a firm as follows: "there is a strongly significant difference of -1.06 percent per month between the average returns of the quintile portfolio with the highest idiosyncratic volatility and the quintile portfolio with the lowest idiosyncratic volatility stocks" (Ang et al. 2006, p. 261). This means that this kind of risk is related to firm value and performance (e.g., Bloom and Milkovich 1998; Brown and Kapadia 2007). As it is only related to the firm and its decisions, idiosyncratic risk can decrease in regard to the level of diversification within an investment portfolio (e.g., Levy 1978; Lintner 1965; Merton 1987).

[1] In this section, I use the terminology "idiosyncratic risk" to avoid confusion.

The other type of risk – the **systematic risk**[1] – represents a firm's sensitivity to the market's changes; thus, the degree of the function between the firm's stock returns and the market returns. The changes will impact all stocks and mitigate the whole market, such as macroeconomic and industry risks (e.g., change in inflation, regulations, and market returns). In other words, the systematic risk represents a firm's stock returns as a function of market returns. It is the risk of the economy as a whole. Therefore, this type of risk is non-diversifiable (Germann, Ebbes, and Grewal 2015).

Both idiosyncratic and systematic risks are important measures for investors and managers (Ferreira and Laux 2007). However, the idiosyncratic part of risk holds more than 80 percent of concern in a firm's stock variance and volatility. The other part of the firm's total risk, less than 20 percent, is the systematic risk (Gaspar and Massa 2006; Goyal and Santa-Clara 2003). Thus, managers and investors ensure that the firm manages its idiosyncratic risk well, as multiple factors, such as asymmetric information, market inefficiency, and transaction costs, can modify the level of this type of risk (Brown and Kapadia 2007). Usually, market analysts should base their investment risk evaluation on the idiosyncratic risk of the stock to capture the full information (Lui, Markov, and Tamayo 2007). An important part of the empirical literature shows the importance of idiosyncratic risk as a valuable risk metric (e.g., Ang et al. 2006; Guo and Savickas 2008). In this sense, Luo and Bhattacharya (2009) observe that the idiosyncratic risk of firms became an essential topic in finance and is related to various other topics, such as growth options and corporate governance.

Thus, I focus my analysis exclusively on the most specific part of the risk for the firm since studies in the marketing and management literature generally focus more on the idiosyncratic

[1] Also called market risk or beta, depending on the research field. In the management and marketing literature, it is labelled "systematic risk."

(firm-specific) and less on the systematic risk (market-related) (Jacobson and Mizik 2009).[1] Moreover, slacks are internal resources, and the market and all stakeholders outside the firm do not influence these types of internal resources. Hence, slacks will not have any effect on the systematic risk of a firm. Finally, considering that my study provides three types of measures from three different event study methods, adding an analysis of systematic risk might confuse the reader without adding any value to the discussion of the results.[2]

To sum up, my study analyses the instant variations of firm financial value to perceive the impact of a scandal; and the detailed arguments of Tuli and Bharadwaj (2009),[3] the crucial role of understanding the shareholders' firm value, and the major role of this metric in finance literature (Hamilton 1994) make it pertinent to use measures representing firm value on the market and firm risks, both reacting instantly to new information. Thus, I include the measure of idiosyncratic risk in addition to stock market price evaluation in my analysis.

3.4.2. Event study methodology and risk

The event study methodology relies mainly on returns to measure the financial impact of an event on a firm. However, other variables can be considered to measure other forms of impact, such as return volatility, risks, trading volumes (e.g., short sale volume), and accounting measures of performance (Werner 2010). As my thesis defines the causal link between slacks and shareholder components, I follow Mizik and Jacobson's recommendations (2009) by using stock returns and firm risk as the long-term event measures to avoid cross-correlation issues. Thus, after determining the long-term ARs with the BHAR approach, I focus on how a corporate scandal influences firm risk during such an event.

[1] Nevertheless, there is still a debate on the relevance of using idiosyncratic and systematic risks as a tool to predict and analyse the different facets of firm value (Fama and French 1992; McAlister, Srinivasan, and Kim 2007).
[2] I nevertheless analysed the systematic risk, but it does not contribute any interesting insights to the conclusions of the analysis.
[3] See Tuli and Bharadwaj (2009) for a detailed argument about the importance of considering firm risks to analyse stock returns and predict firm value.

Consequently, I apply the rolling prediction error (RPE) approach recently used in the finance literature (e.g., Bessembinder, Cooper, and Zhang 2019; Bessembinder and Zhang 2013; Han, Kolari, and Pynnonen 2020). In a long-term event study after an important corporate event, this rolling estimation window method is able to correct for time-varying risk parameters in asset pricing models. The predictors are measured for the post-event period and are usually estimated between a month to five years after the event (Han, Kolari, and Pynnonen 2020). Studies apply the rolling estimation window approach to determine the short-term ARs (e.g., Sharpe 1963) and only recently on a long-term perspective (e.g., Baker 2016; Han, Kolari, and Pynnonen 2020; Sehgal, Banerjee, and Deisting 2012). I use the RPE approach to measure the firm risk from the different factors given by any Fama-French market models; I choose the most comprehensive asset pricing model in the finance literature, the Fama-French five-factor model (Fama and French 2015).[1] Based on Mani and Luo (2015), I estimate the Fama-French five-factor model[2] for each firm with a daily rolling window regression on 252 days – the average number of trading days in a year. The reference point is the day of the scandal – D_0. In line with previous practices (e.g., Luo and Bhattacharya 2009; Mishra and Modi 2016),[3] the standard deviation of daily firm residuals obtained from the regression measures the idiosyncratic risk (IR)[4] for each firm using Equation (9):

$$IR_i = \left[\frac{1}{252}\sum_{id=1}^{252}(e_{id} - \overline{e_{id}})^2\right]^{\frac{1}{2}}, \quad (9)$$

where e_{id} is the standard deviation of the residuals measured daily estimated for each firm i on day d; and $\overline{e_{id}}$ is the mean of the standard deviation of the residuals measured daily estimated for each firm i on day d.

[1] I tested using the Fama-French three-factor model (Fama and French 1993) and Carhart's four-factor model (Carhart 1997), And I found robust results.
[2] See a detailed description of the model in the above section.
[3] Previous studies used a monthly measure of the residuals. I decided to increase the precision of the measure with daily data.
[4] From here, any mention of "firm risk" or "risk" relates to the idiosyncratic risk (IR) if not otherwise specified.

3.5. Independent variables – organizational slacks

Slacks are a form of excess capacity that efficiently help a firm face disruption (e.g., Chopra and Sodhi 2004; Kleindorfer and Saad 2005; Tang 2006). As already discussed in the literature review section, I found many different denominations, measures, and types of slacks in the literature. From the first studies mentioning slacks, authors have developed their own definitions. However, from analysing and considering their measurements, most measures of organizational slacks are still based on the three original main types suggested by Bourgeois III and Singh (1983) – absorbed, unabsorbed, and potential slack.[1]

The measurement for unabsorbed slacks represents liquid resources that can be reallocated quickly, such as cash, cash equivalent, securities, and sort-term investments and resources (e.g., Ahuja 2000; Argilés-Bosch et al. 2018; Bizzi 2017; George 2005; Greve 2003; Hambrick, Cho, and Chen 1996; Kim, Kim, and Lee 2008; Palmer and Wiseman 1999; Vanacker, Collewaert, and Paeleman 2013; Voss, Sirdeshmukh, and Voss 2008). Their level is usually compared with long-term and inflexible resources, such as total assets and investments. These denominators consider the firm's size but also allow the researcher to isolate the liquid resources from the other types of resources. Additionally, some authors either subtract or divide the liabilities from the liquid resources to measure unabsorbed slacks (e.g., Ahuja 2000; Bergh and Lawless 1998; De Jong, Zacharias, and Nijssen 2021; Kim, Kim, and Lee 2008; Mishina, Pollock, and Porac 2004; Palmer and Wiseman 1999; Yanadori and Cui 2013). This reflects that unabsorbed slacks are internal resources held by the firm and are not external resources, such as debts. Not considering short-term liquid debts as unabsorbed slacks might be due to (1) the obligations in certain debt contracts to allocate them to fixed activities and (2) the differences in accounting reports between external and internal available resources.

[1] For a more detailed list of slack measures, see also Daniel et al. (2004).

For absorbed slacks, they are represented either by resources that are difficult to reallocate due to their nature of complexity, such as working capital, inventories, and properties (Argilés-Bosch et al. 2018; Bourgeois III and Singh 1983; De Jong, Zacharias, and Nijssen 2021; Hendricks, Singhal, and Zhang 2009; Mellahi and Wilkinson 2010; Miller and Leiblein 1996; Mishina, Pollock, and Porac 2004; Reuer and Leiblein 2000). These resources are all investments that need a relatively long process to transform into cash, or relatively stable expenses, such as R&D, advertising, employee, and SG&A (Selling, General and Administrative) expenditures. These are non-production related and can be an indirect source of future revenues with R&D activities, attracting new customers.

Potential slacks represent "the capacity of the organization to generate extra resources from the environment, as by raising additional debt or equity capital" (Bourgeois III and Singh 1983, p.43). Similar to the other types of organizational slacks, they are used as a buffer for the firm's activities based on external resources. However, they are less reliable than other slacks as they are external to the firm. The market situation influences their costs and availability, such as interest rates, inflation/deflation, and exchange rates. Also, there is a significant variance in changes regarding lending conditions during extreme economic situations. Finally, my thesis focuses on internal resources only. Thus, potential slacks are not discussed in this thesis.

From a wide range of measures, choosing the best one is one of the main discussions in the slack literature. The right choice will depend on the other variables included in the data analysis. The first goal is to avoid multicollinearity. I select the most used in the top-rated academic journals and include the measure of financial ratios that best represent the aspects of the different theoretical characteristics between unabsorbed and absorbed slacks. I measure both types of slacks using financial ratios similar to past studies based on the postulate that financial data accurately reflect management behaviours. Frequently, previous studies tend to rely on multiple measures in a single study (e.g., Alessandri, Cerrato, and Depperu 2014; Bromiley

1991; Chen and Miller 2007). I retain one preferable measure for each unabsorbed and absorbed slack by considering the most cited measures in the literature and containing financial variables that represent the short- and long-term characteristics of each type of slacks with a low risk of multicollinearity in the model.[1]

It must be noted that there is a discussion regarding using a dynamic or static measure of slacks. Is it more relevant to measure a change in the level of slacks in a specific period or the level of slacks at a certain time (e.g., Bourgeois III and Singh 1983; Marino and Lange 1983; Moses 1992)? I choose static measures of slacks because they are more suitable when the analysis aims to consider the deployment of slacks in a period of over two years (e.g., Marino and Lange 1983; Mishina, Pollock, and Porac 2004). Compustat is the data source used in computing the following measurement of slacks.

3.5.1. Unabsorbed slacks

The measurement of unabsorbed slacks must reflect prompt availability and limited effort to extract these resources from a firm's activities. Some studies use the most disposable resources of a firm as a proxy of available slacks, such as cash (e.g., Bizzi 2017; George 2005; Kim and Bettis 2014; Paeleman, Fuss, and Vanacker 2017). Others apply highly liquid indicators such as the current ratio (e.g., Hambrick, Cho, and Chen 1996; Malen and Vaaler 2017; Wang and Jiang 2017) and the quick ratio (e.g., Palmer and Wiseman 1999; Smith et al. 1991). Based on the most recent literature, I use the following measure to compute unabsorbed slacks of firm i at time t[2]:

$$USLK_{it} = \frac{TCA_{iy}}{TCL_{iy}}, \quad (10)$$

[1] I tested the robustness of my results by using different measures of each type of slacks that represent the theoretical characteristics of unabsorbed and absorbed slacks in the financial ratios –short- and long-term availability (e.g., Bourgeois III 1981; Bourgeois III and Singh 1983; De Jong, Zacharias, and Nijssen 2021). I obtain similar results.

[2] N.B. – "time t" is included in "year y"

where TCA_{iy} is the total current asset of firm i in year y, and TCL_{iy} is the total current liabilities of firm i in year y. Also, this measure of unabsorbed slacks has been highly cited in the top-ranked academic journals in management and marketing until recently and represents one of the most applied proxies of unabsorbed slacks in the literature (e.g., Ahuja 2000; Hambrick, Cho, and Chen 1996; Malen and Vaaler 2017; Palmer and Wiseman 1999; Wang and Jiang 2017). In accounting, the current ratio is a liquidity ratio that represents a firm's ability to pay short-term obligations (i.e., less than one year). It indicates to investors how a firm can maximize the current assets on its balance sheet to manage its current liabilities. In the slack literature, this measure has been used since the early studies on slacks (e.g., Hitt et al. 1991) until recently (e.g., Malen and Vaaler 2017; Wang and Jiang 2017) without discontinuity, compared to other measures of absorbed slacks that were left aside at a certain point or suggested recently (e.g., Baucus and Near 1991; Paeleman, Fuss, and Vanacker 2017).

3.5.2. Absorbed slacks

The selected measure for absorbed slacks must reflect that these resources need time to be redeployed in a firm's other activities, as when slacks are allocated to R&D activities and then reallocated to advertising activities. As these resources are integrated into different parts of the firm, their reallocation implies effort, and their lack of liquidity slows down the process (e.g., Voss, Sirdeshmukh, and Voss 2008). I consider absorbed slacks of firm i at time t[1] as:

$$ASLK_{it} = \frac{RE_{iy}}{TA_{iy}}, \quad (11)$$

where RE_{it} is the retained earnings of firm i in year y, and TA_{it} is the total assets of firm i in year y. This measure of absorbed slacks has been very popular and recently cited in the top-ranked journals in management and marketing (e.g., Fang, Palmatier, and Steenkamp 2008; Lee

[1] N.B. – "time t" is included in "year y"

and Grewal 2004; Zuo, Fisher, and Yang 2019). The numerator represents the amount of resource that the firm keeps for unexpected expenses and new strategy implementation (Bourgeois III 1981). Closely related to the idea of organizational slacks, the accounting concept of retained earnings represents surplus profits that are not distributed as dividends but retained by the firm to reinvest for internal growth. Accounting for size with the total assets in the denominator means that larger firms have a higher level of retained earnings. Thus, the retained earnings to total assets ratio implies that better-performing firms have a higher level of slacks (Nohria and Gulati 1996; Singh 1986).

3.6. Control variables

I control for alternative factors that operate as standard control variables in the literature of organizational slacks (e.g., George 2005) and media coverage (e.g., Kölbel, Busch, and Jancso 2017), as well as those that are specific to this study context (e.g., Galbreath 2013; Mishina et al. 2010). These variables might influence both the short-term and long-term ARs and the firm risk (e.g., Hendricks, Singhal, and Zhang 2009). In the next sections, I explain the choice of the different scandal-specific, firm-specific, and industry-specific control variables in the regression model. Each variable represents the situation of the firm/industry at the current moment of the related scandal.

3.6.1. Scandal-specific covariates

For scandal-specific control variables, I follow the RR's nomenclature and measurement methodology.

First, I control for the **severity of the scandal**. RR determines the harshness of the criticism. It estimates the future negative effect on the reputation of the focal firm. The categorical variable *severity* (harshness) of the risk incident has three levels of gravity. RR assesses the severity by text mining analysis. Three components determine the classification: (1) the consequences of

the incident considering health and safety, the amount of suffering or damage, and whether the consequences will go further; (2) the extent of the impact, which is the number of people concerned by the consequences – one person, a group of people, or many people); and (3) the cause of the incident – an accident, negligence, by intention, or a systematic issue. As its business targets clients from the industry, RR reports the harshness of the crisis to sensitize their clients to how much the firm's reputation might face a negative impact and how deeply the incident will affect the firm (RepRisk 2020b). RR defines the severity level exclusively based on the reported information; thus, it might contain false accusations and misleading information. RR only has the role of reporting the information and not judging its veracity (Kölbel, Busch, and Jancso 2017). However, the harshness of the criticism in the media might increase the perceived risk of the firm by investors who follow it. Even if the scandal is based on wrong accusations, it will increase the negative impact of the scandal, disregarding the veracity of the information (Kölbel, Busch, and Jancso 2017).

Second, I control for the **novelty of the scandal** with a dummy variable. According to Kölbel, Busch, and Jancso (2017), the attractiveness of publishing information decreases if the information is not new. A scandal related to a previous story (or information) will not have the same impact on investor reaction, influencing the scandal's effect on firm value and risk. Thus, I control for information novelty.

Third, I control for the **topics and types of scandal**: *Ecological-*, *social-*, and *corporate governance*-related (ESG). On the one hand, ecological, social, and corporate governance activities are valuable to create a competitive advantage for the firm. However, if the situation is negatively related to these topics, they can raise shareholders' fears about investing in the firm (Galbreath 2013). Also, the level of debt might have an impact on an ESG-related firm's investments (e.g., Patel, Pearce II, and Oghazi 2021). Thus, depending on the topic, the scandal can have a different impact in strength and length on firm value and risk. The majority of studies

focus on one or some of these factors. Only a few consider multiple categories of misbehaviour in their scandal analyses.[1] Additionally, RR includes a fourth topic called *crosscut*-related.[2] It includes scandals that fit with more than one of the three previous topics and has a proper definition as a category on its own.

Finally, regarding the location of the scandal, certain laws might be more flexible, especially in developing countries (Li and Wu 2017). It can influence investors in the sense that a scandal in one of these countries could be perceived as "normal." I thus use a **country-fixed effect** with a value of '1' if the scandal happened in the U.S. territory and '0' if it happened outside the U.S. Even if this study analyses U.S.-traded firms only, the scandal might not happen inside the U.S. RR lists the countries where each scandal unfolded.

3.6.2. Firm-specific covariates[3]

For firm-specific covariates, I control for the common factors in the management and marketing literature, such as firm size, age, and profitability. I consider each variable representing a potential size effect on short- and long-term firm values and firm risk and identify it as an element influencing financial risk (Fama and French 1988; Rao, Agarwal, and Dahlhoff 2004). it refers to the product recall, misconduct, and corporate crisis research streams because literature on corporate scandals is methodologically and empirically restrained *per se*. Additionally, slacks do not influence a firm as an absolute value but rather on a relative level that the firm aims to reach. Thus, it is mandatory to include firm- and industry-specific controls when analysing the effect of slacks on a firm (e.g., Bromiley 1991; March and Shapira 1987).

[1] See Jory et al. (2015) and Yu, Zhang, and Zheng (2015).
[2] RR considers 30 types of issues classified into four categories: ecological, social, corporate governance, and crosscut. An issue is categorized as crosscut when it relates to types included in multiple categories (i.e., ecological, social, and corporate governance). These 30 types are listed with detailed definitions in Appendix.
[3] It must be noted that some control variables that are widely used in the related literature are not considered because of the elements that constitute the measures of slacks (e.g., debts, SG&A, and cash holding).

Also, because of the large scope of contexts included in this study, the target level of slacks[1] might vary depending on the industry and firm types (Bradley, Shepherd, and Wiklund 2011).

First, the potential difference in **firm size**[2] is related to relative power and can cause differences in ARs (Fang et al. 2016): (1) large firms have more media coverage (e.g., Bansal and Clelland 2004) and tend to have more resources for public relations to ensure recovery after corporate scandals (Boyd and Spekman 2008; Das, Sen, and Sengupta 1998); (2) dominant firms in an industry that announce a scandal have to expect a stronger effect as they usually receive more attention through their dominant position than do other firms in the same industry (Akhigbe, Madura, and Whyte 1997; Warren and Sorescu 2017); (3) concerning scandals, managers of big firms tend to misbehave more easily because the operating mechanisms of the firm are more complex in a bigger structure (Harjoto 2017). The size of the firm also plays a role in the level of slacks. Large firms have easier access to credit markets and advantages on financing costs (e.g., Beck and Demirguc-Kunt 2006; Martinelli 1997), which implies more available resources to invest in reliable projects (e.g., Noci 1995). Also, the size of the firm lowers the financial risk (Tong and Reuer 2007). On the other hand, smaller firms are more flexible, less bureaucratic, more resource allocation efficient, and more versatile (i.e., unabsorbed vs. absorbed slacks) (e.g., Baker and Nelson 2005; Knight 1996; You 1995). However, even if small firms generally reach a higher growth rate than larger firms, the former are financially unstable and less likely to attain profitability (Argilés-Bosch et al. 2018). I measure the firm size using firm's total assets from Compustat data. The natural logarithm is used to decrease the potential effect of extreme values. As a robustness test, I consider the natural logarithm of sales and number of employees as other measures of firm size. However, these measures of

[1] Studies to date have not thought to include a possible target level, with a few exceptions, such as Miller and Leiblein (1996).
[2] Even if I consider how the firms in the S&P 500 index are studied, their sizes still differ among them.

firm size are more correlated to the measures of slacks and the other controls. These might not be the optimal variables considering a possible increase of multicollinearity in the model.

Second, I control for **firm age**. A firm might have a history that can potentially introduce extraneous effects. The probability of these effects is higher for old firms than young firms (Wu et al. 2015). The firm age variable also controls for the effect of organizational cycle and evolution on firm risk. The number of days from the day the firm is listed in Compustat until the day of the corporate scandal is the firm age (Luo and Bhattacharya 2009).[1] It is important to include this variable in the model when slacks are part of the analysis because slacks play a different role depending on the firm's maturity. Organizational slacks can be redeployed when needed but are also unused resources with an opportunity cost. As long as some resources are underused, the firm misses returns that these resources could have brought if invested. This aspect is especially a concern for young firms. They prefer not to hold too many unused resources in order to boost their development and growth (De Jong, Zacharias, and Nijssen 2021; Read et al. 2009). Young firms tend to hold fewer slacks than older firms, as having a high level of resources is more critical for young firms (Vanacker, Collewaert, and Zahra 2017).

Third, I control for firm profitability by including **return on assets** (ROA) in the model (e.g., Luo, Homburg, and Wieseke 2010; Rego, Billett, and Morgan 2009) because managers of profitable firms have less tendency to misbehave to keep their shareholders satisfied (Harjoto 2017). Moreover, ROA can influence predicted stock returns by carrying financial information on future cashflow streams for investor decisions (Chauvin and Hirschey 1993; Ferreira and Laux 2007).

[1] N.B. – Luo and Bhattacharya (2009) consider the first day that the firm is listed in CRSP. I use Compustat as the main database to compute all the firm's accounting-related measures, thus, it is more relevant use Compustat for firm age as well.

Finally, I consider the **firm's credit rating** as a control variable because financial difficulties are often the cause of corporate misconduct. Credit rating indicates the overall risk of each firm before a corporate scandal (Thomaz and Swaminathan 2015). I rely on RR's rating as a proxy. It represents a benchmark against similar firms from the same sector. Additionally, it integrates ESG-related and business conduct risks of the firm's business processes.

3.6.3. Industry-specific covariates

On the industry level, I control for time and firm affiliation, such as industry concentration, year-fixed effect, and firm industry sector. **Industry concentration** is measured with the Herfindahl index (HHI) (e.g., Lee and Grewal 2004; Lin and Chang 2012). It allows controlling for the effect of the industry competition level (Rao, Agarwal, and Dahlhoff 2004). The industry concentration might influence a firm's average stock return. Also, a high industry concentration might affect the capacity of a firm to create value from the marketplace (Lang and Stulz 1992). I use the market share squared of each firm belonging to the same Standard Industrial Classification (SIC) code industry and, then, sum the resulting numbers (Hou and Robinson 2006). A higher (lower) value of HHI subtracted to '1' indicates a more (less) competitive industry.

Business opportunities for firms differ depending on **market growth**, which might positively impact the financial performance measures. Firms from every industry (except finance, insurance, and real estate) are included in this study. Thus, I need to consider that firms in industries with a higher overall growth rate tend to possess more opportunities than industries with lower growth rates (e.g., Gruca and Rego 2005). I measure market growth as the annual percentage change in sales for each two-digit SIC code industry.

Similarly, **technological turbulence** measures the dynamism of R&D within an industry. Industries are defined at the level of two-digit SIC codes (Kurt and Hulland 2013). I define

technological turbulence as the ratio of R&D expenditures of the focal firm to sales of the other firms in the same SIC code (e.g., Bendig et al. 2018). In a technologically stable environment, firms do not need to invest in R&D highly. Thus, R&D expenditures should be lower in the whole industry (Saboo and Grewal 2013).

Market turbulence shows the volatility of consumer preferences and expectations in a defined market. Following the marketing and management literature (Boyd 1990; Cannella Jr, Park, and Lee 2008; Carpenter and Fredrickson 2001; Dess and Beard 1984; Gruca and Rego 2005; Jindal and McAlister 2015), the first step consists in computing market sales by the sum of sales of all firms in the same industry j based on the same two-digit SIC code in year y:

$$SALES_{jy} = \sum_{i \in j} sales_{iy}, \tag{12}$$

where $Sales_{jy}$ is sales for industry j in year y, and $sales_{iy}$ is sales for firm i in year y.

The second step is to measure the sales growth coefficient, λ_{1jy}, for the industry j in year y by regressing $SALES_{jy}$ in time for the last five years:

$$SALES_{j,y+\tau-6} = \lambda_{0jy} + \lambda_{1jy} + \epsilon_{jy}, \tag{13}$$

where $\tau = (1, \dots, 5)$ and $\epsilon_{jy} \sim N(0, \sigma^2)$. I calculate the market turbulences as the standard error of the estimated sales growth coefficient, $\hat{\lambda}_{1jy}$, from the regression of Equation (13) divided by the five-year sales average for industry j:

$$Turb_{jy} = \frac{std.error(\hat{\lambda}_{1jy})}{(\frac{1}{5})(\sum_{s=y-5}^{y-1} SALES_{js}}. \tag{14}$$

Marketing-related activity expenditures should be low in industries with stable consumer preferences and expectations. Such firms do not have a high need to invest in product development, market research, and promotions (Saboo, Chakravarty, and Grewal 2016).

Regarding a potential year-specific effect due to abnormal events and global market crises in the year of the scandal, I use a year dummy to include the **year-fixed effect**. Systematic events might provoke differences in numbers of misconducts and scandals (e.g., Mishina et al. 2010). The variable is the year when the media report the corporate scandal.

Industries might differ in various ways, such as the level of risk exposure and cost of capital (Sharfman and Fernando 2008). I include an industry-fixed effect variable to control industry specificities and avoid any heterogeneity at the industry level. I use the two-digit SIC code as a classification and create groups with similar SIC code activities.

Finally, I account for the specificities of the industry sector with the **litigation risk** dummy variable and the **socially contested industry** dummy variable. The former dummy takes a value of '1' (otherwise '0') when the firm's business is in one of the following industries based on the SIC code: biotechnology (2833–2836), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retailing (5200–5961). Previous studies (e.g., Ali and Kallapur 2001; Francis, Philbrick, and Schipper 1994; Matsumoto 2002) suggested that these industries represent a high level of litigation risks and determined them by analysing the number of security litigation incidents. The socially contested industry variable is a dummy that represents firms belonging to the "unpopular" or "sin" industries: alcoholic beverages, firearms, defence, gambling, forestry, mining, and tobacco (Koh, Qian, and Wang 2014). These industries are assumed to be unprincipled compared to others. This variable controls for the risk of scandal and the reputation of the firm before the scandal. The variable has a value of '1' with firms in one of these industries and with all others is coded '0'.

To sum up, Table 3 gives an overview of the variables I consider in the estimation process, their definitions, from which database they are retrieved, and examples of previous studies that used the same database.

Table 3: Variables and data sources

Variable names	Meanings and measurements	Data sources	Reference examples
Dependent variables			
Cumulative abnormal returns (market model)	The cumulative abnormal returns (CARs) are the sum of daily abnormal returns (ARs) in a specific event window.	CRSP (Eventus)	Brown and Warner (1980); Sorescu, Warren, and Ertekin (2017)
Buy-and-hold abnormal returns (market-adjusted model)	BHARs are the average multiyear return based on a strategy of investing in each firm that faced an event and selling at the end of a predetermined time window as opposed to a similar strategy of investing in a similar non-event firm.	CRSP + Kenneth French's	Barber and Lyon (1997); Lyon, Barber, and Tsai (1999)
Idiosyncratic risk (Fama-French five-factor model)	The idiosyncratic risk is the risk associated with the firm, depending on its strategic choices, after considering variation in the whole market.	CRSP (Eventus)	Fama and French (2015)
Independent variables			
Unabsorbed slacks	Unabsorbed slacks are quickly available resources as they are not entirely integrated into the firm's complex design. Measure: current ratio.	Compustat	Hambrick, Cho, and Chen (1996); Palmer and Wiseman (1999); Wang and Jiang (2017)
Absorbed slacks	Absorbed slacks are resources that are integrated into the firm already and reserved for specific usages. Measure: retained earnings/total assets.	Compustat	Lee and Grewal (2004)
Control variables			
Socially contested industry	Socially contested industry is a dummy variable which represents firms belonging to the "unpopular" or "sin" industries: alcoholic beverage, firearms, defence, gambling, forestry, mining, and tobacco industries. Value of '1' with firms in one of these industries, otherwise '0'.	Compustat	Matsumoto (2002)
Litigation risk	Litigation risk is a dummy variable taking a value of 1 (otherwise 0) when the firm's business is in one of the following industries based on the SIC code: biotechnology (2833–2836), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retailing (5200–5961).	RepRisk	Koh, Qian, and Wang (2014)
Related country	Related country is a dummy variable which takes a value of '1' if the focal event happened in the U.S. and '0' if outside the U.S.	RepRisk	Li and Wu (2017)
Environmental-related	Environmental-related incidents are events, including local pollution and animal mistreatment (see the full list in Appendix).	RepRisk	Galbreath (2013)
Social-related	Social-related incidents are corporate events, such as impacts on communities and child labour (see the full list in Appendix).	RepRisk	Galbreath (2013)
Governance-related	Governance-related incidents are corporate events, such as tax evasion and anti-competitive practices (see the full list in Appendix).	RepRisk	Galbreath (2013)
Cross-cutting	Cross-cutting incidents are related to multiple types of misconduct, such as products (health and environmental issues) and violations of international standards (see the full list in Appendix).	RepRisk	Galbreath (2013)

Severity level	Severity level is the harshness of the criticism estimating the future negative effects on the reputation of the focal firm, where '1' is low, '2' is medium, and '3' is high criticism.	RepRisk	Kölbel, Busch, and Jancso (2017)
Novelty	Novelty variable takes a value of '1' if the incident is reported for the first time in the media, and '0', if the media reports an informative update on the same previous incident. The information must relate to a past story, reported in a more influential media source, and/or the incident happens again for the same firm in the same region within a six-week period.	RepRisk	Kölbel, Busch, and Jancso (2017)
Firm age	Firm age is the number of days since the firm was listed in Compustat until the first day of the focal event.	Compustat	Luo and Bhattacharya (2009); Wu et al. (2015)
Firm size	The size is measured as the natural log of the firm's total assets.	Compustat	Fang et al. (2016); Harjoto (2017)
Return on assets (ROA)	Return on assets is the firm profitability measured as the ratio of the net income on total assets.	Compustat	Harjoto (2017); Luo, Homburg, and Wieseke (2010)
HH Index	Herfindahl index is the industry concentration measured by the squared sum of market share of each firm belonging to the same SIC codes industry.	Compustat	Lee and Grewal (2004); Lin and Chang (2012)
Market turbulences	Market turbulences variable represents the volatility of consumer preferences and expectations in a defined market. The measure is the standard error of the estimated sales growth coefficient (i.e., regression of the sum of sales of all firms in the same industry on time for the last five years) divided by the five-year sales average for the same industry.	Compustat	Jindal and McAlister (2015)
Technology turbulences	Technology turbulences variable represents the dynamism of R&D within an industry measured as the ratio of R&D expenditures of the focal firm to sales of the firms in the same SIC code.	Compustat	Bendig et al. (2018); Saboo and Grewal (2013)
Market growth	Market growth is the annual percentage change in sales for each SIC code industry.	Compustat	Gruca and Rego (2005)
ESG-related risk rating	Credit rating indicates the overall risk of each firm integrating ESG-related and business conduct risks of the firm business processes before a corporate scandal.	RepRisk	RepRisk (2020b)
Industry-fixed effect	Industry-fixed effect is a dummy variable that regroups firms in baskets with similar SIC code activities.	Compustat	Sharfman and Fernando (2008)
Year-fixed effect	Year-fixed effect is a dummy variable that reports the year when the corporate scandal happens.	Compustat	Mishina et al. (2010)

4. Estimation – regression models

After measuring the dependent variables with the short- and long-term event studies (i.e., firm value) and the RPE approach (i.e., firm risk), I determine the impact of organizational slacks on each firm in a scandal situation. Following previous studies, I use an ordinary least squares (OLS) regression approach on CARs, BHARs, and IR in three different models. I create the following equations to explain the effect of unabsorbed and absorbed slacks on firm value and risk in the short- and long-term horizons:

$$CAR_n = \beta_0 + \beta_1 USLK_{it} + \beta_2 ASLK_{it} + Controls + \varepsilon_n; \quad (15)$$

$$BHAR_n = \beta_0 + \beta_1 USLK_{it} + \beta_2 ASLK_{it} + Controls + \varepsilon_n; \quad (16)$$

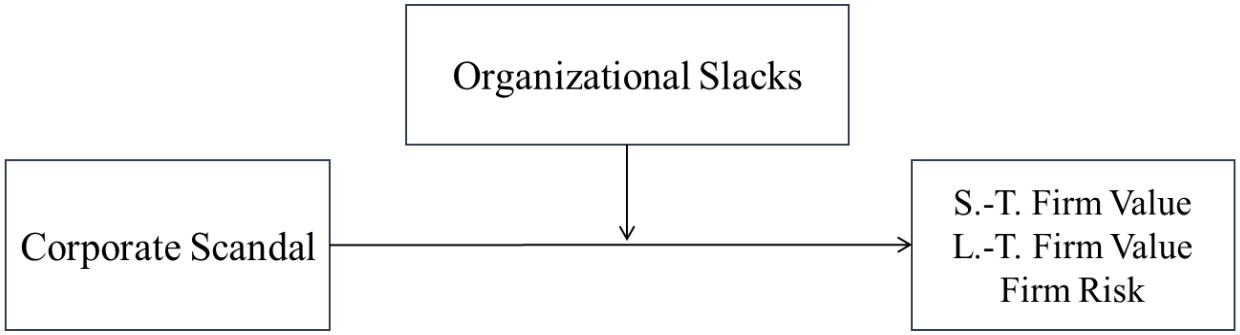
$$IR_n = \beta_0 + \beta_1 USLK_{it} + \beta_2 ASLK_{it} + Controls + \varepsilon_n, \quad (17)$$

where β_0 is the intercept; CAR_n is the cumulative abnormal returns of firm i for event n at time t from the first stage regressions; $BHAR_n$ is the buy-and-hold abnormal returns of firm i for event t from the first stage regressions; IR_n is the idiosyncratic risk of firm i for event n from the first stage regressions; $USLK_{it}$ is the unabsorbed slacks of firm i at event t; $ASLK_{it}$ is the absorbed slacks of firm i at event t; $Controls$ is a vector of the control variables described above (socially contested industry, litigation risk, related country, environmental-related, social-related, governance-related, cross-cutting, severity level, novelty, firm age, firm size, return on assets, Herfindahl index, market turbulences, technology turbulences, market growth, RepRisk rating, industry-fixed effect); and ε_n is an error term. Equations for short-term and long-term shareholder components are similarly specified.

Because the dataset has a structure with scandals nested in firms, I use the clustered standard error by firm in the regression analysis. It ensures that the significance of the coefficients is not due to an error term.

Represented through a conceptual model in Figure 6, these three models determine the relationship between two different types of resources, unabsorbed and absorbed slacks, and short- and long-term firm values and risk varying during a scandal. In other words, they aim to determine whether the strategic flexibility of a firm influences its short- and long-term performance and modifies its investors' future expectations. The control variables specific to scandals, firms, and industry address the possibility of influencing the relationship between slacks and short- and long-term firm values and firm risk in case of scandal.

Figure 6: Conceptual framework



Scandal-specific covariates
- Source of reach
- Severity
- Novelty
- Topics and types
- Location
- Year-fixed effect

Firm-specific covariates
- Size
- Age
- Return on assets
- Credit rating

Industry-specific covariates
- Industry concentration
- Market growth
- Technological turbulence
- Market turbulence
- Industry-fixed effect
- Litigation risk
- Socially contested industry

Chapter 4: Results

This section describes my results and examines their robustness in relation to different models and specifications. It is organized as follows: First, I introduce the results from the event study analyses on short- and long-term firm values and firm risk as detailed in Table 4, Table 5, and Table 6, respectively. Second, the summary statistics and correlation matrix are presented in Table 7 and Table 8. Then, I integrate the event study results into a regression framework. I describe the regression results for unabsorbed and absorbed slacks and CARs in Table 9, BHARs in Table 10, and IR in Table 11. Table 12 provides an overview of the results and significance of the hypotheses tested. Finally, the results of the different robustness tests are presented from Table 13 to Table 18.

1. Event study results

The event study results on a total sample of 257 observations[1] show a direct and significant effect of a scandal on the stock price. I test the significance of the results with a standardized cross-sectional test (Boehmer, Masumeci, and Poulsen 1991) and a t-test. These two tests are applied to seek volatility modifications due to the event. Table 4 reports that the AARs are negative (-0.29 percent) and significant ($p < 0.10$) on the scandal day (i.e., D_0). These results confirm that the manual search of the scandal's day is accurate and precise. However, the AARs are negative (-0.16 percent) and significant ($p < 0.10$) two days before the scandal (i.e., D_{-2}), which can be attributed to information leakage. Information leakage is a plausible cause

[1] The number of observations after the event study is 257. However, Compustat does not comprehensively report accounting variables for each firm and each year. When I use the list-wise approach deletion of missing values as suggested in (Little and Rubin 2019), I end with a sample of 243 observations in the regression analysis.

(McWilliams and Siegel 1997) and can occur with "market chatter" or an unofficial announcement (Sorescu, Warren, and Ertekin 2017).

Table 4: Short-term event study results – AARs

Day	*N*	*AARs*	*Positive : Negative*	*Std. c-sect. test*	*t-test*
-5	257	0.11%	127:130	1.024	0.151
-4	257	0.03%	118:139	0.272	-0.972
-3	257	0.01%	127:130	0.261	0.151
-2	257	-0.16%	116:141	-1.762*	-1.222
-1	257	-0.07%	118:139	-1.628	-0.972
0	257	-0.29%	115:142	-1.844*	-1.346
1	257	-0.11%	113:144	-0.598	-1.596
2	257	0.14%	133:124	1.113	0.900
3	257	0.01%	120:137	-0.183	-0.722
4	257	0.07%	133:124	0.756	0.900
5	257	0.04%	119:138	0.480	-0.847

**** p<0.01, ** p<0.05, * p<0.1*

Next, I tested various event windows, such as [-1; +1], [-2; +2], [-3; +3], [0; +1], and [-1; 0]. As with the AARs, I compute the CAARs to determine if a corporate scandal significantly affects a firm stock price on average in a certain time interval. Table 5 shows that the CAARs are negative (between -0.26 percent and -0.36 percent) for all of the above event windows. For the standardized cross-sectional test, CAARs are significant for [-1; +1], [-2; +2], [-3; +3], and [0; +1]. For the t-test, CAARs are significant for [-2; +2], [-3; +3], and [-1; 0]. Thus, this provides evidence that corporate scandals have a negative impact on short-term firm value. These results align with studies showing the negative effect of specific types of scandals, such as financial frauds, misconduct, and product recalls (e.g., Bernile and Jarrell 2009; Chen, Ganesan, and Liu 2009; Fich and Shivdasani 2007; Jory et al. 2015).

Table 5: Short-term event study results – CAARs

Event window	*N*	*CAARs*	*Positive : Negative*	*Std. c-sect. test*	*t-test*
[-1; +1]	257	-0.47%	117:140	0.0208**	0.2727
[-2; +2]	257	-0.48%	112:145	0.0247**	0.0853*
[-3; +3]	257	-0.46%	111:146	0.0618*	0.0650*
[0; +1]	257	-0.40%	115:142	0.0857*	0.1782
[-1; 0]	257	-0.40%	110:147	0.0133**	0.0488**

*** p<0.01, ** p<0.05, * p<0.1*

A higher number of firms in the sample have negative rather than positive CARs, which is consistent with the results and might indicate a low probability of outliers in the observations. Finally, for the analysis in what follows, I decided to retain the most significant event window for the regression analysis: [-1; 0], based on the two significant tests.[1]

By looking at the long-term horizon, the results in Table 6 show that the scandal's effect on long-term firm value is negative and highly significant for both tested event windows [0; +252] and [0; +504]. Thus, these outputs highlight that corporate scandals have a long-lasting effect on firm value. The BHARs also jump from -7.2 percent at the end of the first year to -24.18 percent two years after the scandal. They triple in the second year compared to the previous year. These results are in line with previous studies on corporate scandals and their influence on the market and long-term firm performance (e.g., Bernile and Jarrell 2009; Jory et al. 2015).

Table 6: Long-term event study results – BHARs

Event window	*N*	*BHARs*	*Positive : Negative*	*Std. c-sect. test*	*t-test*
[0; +252]	257	-7.20%	103:154	<.0001***	0.0045**
[0; +504]	257	-24.18%	102:155	0.0247**	0.0030**

*** p<0.01, ** p<0.05, * p<0.1*

[1] I tested the other significant CAARs and found similar results. See more details in Section 5 of this chapter.

2. Summary statistics

Before integrating the event study results into a regression framework, I report the descriptive statistics used in the model in Table 7. The dependent variables CARs and BHARs are negative (-0.004 and -0.072, respectively), and the IR is positive (+0.016). These outcomes indicate that the scandal decreases the returns on short- and long-term horizons and increases firm risk.

Table 7: Descriptive statistics

	N[1]	*Mean*	*Std. Dev.*	*Min*	*Max*
CARs [-1;0]	249	-.004	.024	-.179	.081
BHARs [0; +252]	249	-.072	.324	-1.355	.753
IR [0; +252]	248	.016	.019	.005	.122
Unabsorbed slacks	243	1.492	.887	.517	4.582
Absorbed slacks	249	.33	.315	-.766	1.213
Socially contested industry	249	.064	.246	0	1
Litigation risk	249	.426	.495	0	1
Related country	249	.94	.238	0	1
Environmental-related	249	.084	.278	0	1
Social-related	249	.329	.471	0	1
Governance-related	249	.546	.499	0	1
Cross-cutting	249	.767	.424	0	1
Severity level	249	1.337	.482	1	3
Novelty	249	1.317	.466	1	2
Firm age	249	47.048	17.32	4	65
Firm size	249	11.063	1.262	6.95	13.222
ROA	249	.084	.068	-.071	.326
HH Index	249	.093	.1	.019	.461
Market turbulences	249	.023	.043	.005	.316
Technology turbulences	249	.036	.037	0	.096
Market growth	249	-1.663	9.6	-36.776	27.476

[1] The number of observations reported in this table differs from Table 4, Table 5, and Table 6 because some collected events happen when the market exchanges are close, or events of the same firm happen on the same day.

3. Correlation between numerical variables

Table 8 depicts the correlations between the variables for the regression analysis. In the correlation matrix, all measures are well below $|.8|$ (the highest being .543). These results reduce concerns about multicollinearity (e.g., Cleeren, Van Heerde, and Dekimpe 2013; Judge et al. 1988). Multicollinearity occurs when at least two independent variables highly correlate. It might produce biases in the model and influence the accuracy of the results. I also test the variance inflation factor (VIF) of the regression on all variables in models without and with the squared-term of the unabsorbed slack variable. The values are well below '10' points, as recommended; all the coefficients are lower than '3' points, except the litigation risk dummy variable, which stands at '6.5' points.

Table 8: Correlation matrix

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(1) CARs [-1; 0]	1.000																				
(2) BHARs [0; +252]	0.096	1.000																			
(3) IR [0; +252]	0.073	0.214***	1.000																		
(4) Unabsorbed slacks	0.034	0.126*	0.001	1.000																	
(5) Absorbed slacks	-0.032	0.115*	-0.028	0.214***	1.000																
(6) Socially cont. ind.	0.006	0.039	-0.021	-0.110*	-0.054	1.000															
(7) Litigation risk	0.055	-0.040	0.115*	0.311***	0.200***	-0.235***	1.000														
(8) Related country	0.133**	-0.066	-0.012	-0.003	-0.057	-0.001	-0.015	1.000													
(9) Environmental-r.	-0.013	0.050	-0.058	-0.018	0.037	0.036	-0.213***	0.079	1.000												
(10) Social-r.	0.086	0.100	0.074	0.010	0.030	-0.041	0.068	0.141**	0.164**	1.000											
(11) Governance-r.	0.020	-0.104*	0.066	0.093	-0.079	0.002	0.199***	-0.125*	-0.169***	-0.401***	1.000										
(12) Cross-cutting	0.029	-0.060	0.033	0.097	-0.025	-0.012	-0.069	-0.019	-0.005	-0.376***	0.103*	1.000									
(13) Severity level	-0.050	0.027	-0.022	-0.064	-0.041	-0.053	-0.065	-0.134**	0.052	0.053	0.088	0.110*	1.000								
(14) Novelty	0.140**	-0.153**	-0.086	0.009	-0.040	-0.037	-0.149**	-0.011	-0.082	-0.105*	0.100	-0.093	-0.227***	1.000							
(15) Firm age	-0.039	0.061	-0.133**	-0.388***	0.086	0.071	-0.492***	-0.066	0.054	-0.040	-0.224***	0.078	0.159**	-0.037	1.000						
(16) Firm size	0.132**	0.020	0.030	-0.244***	-0.167***	-0.027	0.146**	0.092	-0.054	0.100	0.078	-0.084	0.054	-0.146**	0.061	1.000					
(17) ROA	0.002	-0.207***	0.143**	0.161**	0.298***	-0.158**	0.437***	0.133**	-0.214***	-0.145**	0.191***	0.088	-0.131**	0.132**	-0.345***	0.137**	1.000				
(18) HH Index	0.012	-0.008	-0.082	-0.179***	0.042	0.015	0.261***	0.061	-0.045	0.209***	-0.244***	-0.150**	-0.219***	-0.050	-0.043	-0.105*	-0.045	1.000			
(19) Market turb.	-0.025	-0.062	0.023	0.052	-0.021	0.057	-0.138**	0.071	0.024	0.010	-0.049	0.010	-0.163**	0.238***	-0.093	-0.284***	0.062	0.234***	1.000		
(20) Technology turb.	0.009	-0.003	0.138**	0.327***	0.182***	-0.089	0.543***	-0.226***	-0.234***	-0.193***	0.345***	0.142**	0.217***	-0.143**	-0.189***	0.134**	0.324***	-0.391***	-0.247***	1.000	
(21) Market growth	-0.003	-0.134**	0.016	0.144**	-0.149**	-0.208***	0.306***	-0.060	-0.349***	-0.110*	0.110*	0.069	-0.092	0.044	-0.325***	-0.154**	0.250***	0.150**	0.267***	0.217***	1.000

*** *p<0.01, ** p<0.05, * p<0.1*

4. Regression results

In the following section, I report the results of the OLS regressions for each of the three dependent variables (CARs, BHARs, and IR), determine from the significance of the results if my six hypotheses suggested in Chapter 2 are supported, and propose potential explanations of the findings, drawing on the related literature.

4.1. Firm value – short-term effect

Table 9 presents the results for Equation 15 for the unabsorbed and absorbed slacks regressed on CARs. Model (1) presents the baseline results of the model, including only the control variables. All the coefficients of the control variables point in the expected direction except the high severity level, which positively and significantly affects the CARs. Only the variables "related country," "cross-cutting," "high severity,"[1] and "novelty" are significant. The industry specificities controlled with the variables "industry-fixed effect" and "socially contested industry" do not significantly affect CARs in this context.

Models (2) and Model (3) add the independent variables and the unabsorbed and absorbed slacks separately. In each model, both types of slacks are not significant ($p > 0.1$) when included separately. When adding both in the same model (Model (4)), the coefficients are not significant ($p > 0.1$). Hypothesis 1a is not supported in arguing that unabsorbed slacks positively affect firm value on a short-term evaluation. Moreover, as absorbed slacks have no significant ($p > 0.1$) effect on the CAR window [-1; 0], Hypothesis 1b is not supported. On the linear approach, I conclude that investors are not convinced of the short-term utility of slacks on firm value during a scandal. Holding absorbed slacks will not influence the negative impact of a scandal on the firm's stock market price. Considering the linear analysis, firms should not

[1] See Section 5.6 of this chapter for more details.

hold slacks with a view to helping them face a scandal. Since slacks are a cost for firms, managers should decrease costs by using these resources differently.

Table 9: Regression models – CARs [-1; 0]

VARIABLES	(1) CARs [-1; 0]	(2) CARs [-1; 0]	(3) CARs [-1; 0]	(4) CARs [-1; 0]	(5) CARs [-1; 0]	(6) CARs [-1; 0]
Unabsorbed slacks		-0.001		-0.001	0.012	0.012
		(0.003)		(0.003)	(0.008)	(0.008)
Absorbed slacks			0.002	0.004		0.004
			(0.006)	(0.006)		(0.006)
Unabsorbed slacks x unabsorbed slacks					-0.003*	-0.003*
					(0.002)	(0.002)
Socially contested industry	0.002	0.000	0.003	0.001	0.002	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
Litigation risk	0.005	0.005	0.005	0.005	0.006	0.006
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Related country	0.010*	0.009	0.010*	0.009	0.009	0.009
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Environmental-related	-0.000	-0.001	-0.001	-0.001	-0.002	-0.002
	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)
Social-related	0.007	0.008	0.007	0.008	0.007	0.007
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)
Governance-related	0.004	0.004	0.004	0.004	0.004	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Cross-cutting	0.008**	0.009**	0.008**	0.009**	0.009**	0.009**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Medium severity	-0.002	-0.002	-0.002	-0.002	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
High severity	0.017***	0.018***	0.018***	0.019***	0.018***	0.018***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Novelty	0.010**	0.010**	0.010**	0.010**	0.010**	0.010**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Firm age	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	0.003	0.004	0.003	0.004	0.004	0.004
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ROA	-0.039	-0.039	-0.044	-0.047	-0.037	-0.045
	(0.049)	(0.048)	(0.048)	(0.049)	(0.050)	(0.051)
Medium ESG-related risk	-0.011	-0.011	-0.011	-0.012	-0.011	-0.011
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
High ESG-related risk	-0.007	-0.010	-0.008	-0.011	-0.009	-0.010
	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
HH Index	0.003	0.011	0.003	0.012	0.014	0.015
	(0.028)	(0.031)	(0.028)	(0.031)	(0.031)	(0.031)
Market turbulences	-0.031	-0.029	-0.031	-0.030	-0.039	-0.040
	(0.052)	(0.052)	(0.053)	(0.053)	(0.054)	(0.054)
Technology turbulences	-0.096	-0.089	-0.097	-0.089	-0.109	-0.109
	(0.079)	(0.085)	(0.079)	(0.084)	(0.088)	(0.088)
Market growth	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.054	-0.058	-0.056	-0.061	-0.074*	-0.077*
	(0.040)	(0.042)	(0.039)	(0.041)	(0.040)	(0.040)
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.134	0.141	0.134	0.143	0.150	0.151
Adjusted R-squared	0.0322	0.0335	0.0282	0.0308	0.0385	0.0353
Observations[1]	249	243	249	243	243	243

*** p<0.01, ** p<0.05, * p<0.1 *Standard error in parenthesis*

[1] The number of observations differs between models due to the availability of financial data in Compustat, especially for the computation of unabsorbed slacks.

4.2. Firm value – post hoc analysis on short-term effect

My predictions on unabsorbed slacks in the short-term analysis align with previous studies on the effective buffering role of slacks, especially in facing difficult times (e.g., Bradley, Shepherd, and Wiklund 2011; Voss, Sirdeshmukh, and Voss 2008; Wan and Yiu 2009). With both Hypotheses 1a and 1b not supported and based on the negative effect of unabsorbed slacks, I explore the possibility of a curvilinear effect. Previous studies have found a curvilinear relationship between firm performance and slacks (e.g., George 2005; Modi and Mishra 2011; Mousa and Reed 2013; Tan and Peng 2003; Tan and Wang 2010).[1] Thus, I sought to investigate whether slacks have a curvilinear effect on firm value by including a quadratic term for unabsorbed slacks in addition to the unabsorbed and absorbed slack linear terms. I created the following OLS regression to test whether an optimal level of unabsorbed slacks exists in a situation of scandal:

$$CAR_n = \beta_0 + \beta_1 USLK_{it} + \beta_2 (USLK_{it} \times USLK_{it}) + \beta_3 ASLK_{it} + Controls + \varepsilon_n, \qquad (18)$$

where β_0 is the intercept; CAR_n is the cumulative abnormal returns of firm i for event n at time t from the first stage regressions; $USLK_{it}$ is the unabsorbed slacks of firm i at event t; $(USLK_{it} \times USLK_{it})$ is the squared term of $USLK_{it}$; $ASLK_{it}$ is the absorbed slacks of firm i at event t; $Controls$ is the same vector of control variables as in the previous regression models; and ε_n is an error term. Models (5) and Model (6) in Table 9 provide interesting refinements regarding Hypothesis 1a and its related primary results. The curvilinear model shows significant results on unabsorbed slacks with an inverted U-shape effect. The results are negative and significant $(\beta = -0.003;\ p < 0.1)$. The inverted U-shape of the relationship between unabsorbed slacks and short-term firm value reflects that unabsorbed slacks positively affect the firm up to a certain level and, after that, they negatively affect short-term firm value.

[1] See also Tan and Wang (2010), who discuss organizational slacks through a firm's capacity of "flexibility" and its implications for performance in the context of Chinese state-owned enterprises.

Moreover, the statistical fit of the curvilinear model is improved compared to the linear model: the $Adjusted\ R^2$ increases from 0.030 to 0.035. The model is thus improved by adding a squared term of unabsorbed slacks. To facilitate the interpretation of the non-linear estimation, Figure 7 illustrates the curvilinear relationship.

However, before concluding an inverted U-shape effect, I follow the three-step procedure of Haans, Pieters, and He (2016) to provide evidence for the relationship.[1] First, β_2 needs to be significant, which is the case as described above. Second, the slopes at the lower and upper bounds must be significant and sufficiently steep with the appropriate sign. As the relation is an inverted U-shape, the slope of the lower bound needs to be positive and negative for the upper bound. The tests reveal that both significance and signs of the slopes are respected ($\beta = 0.009;\ p < 0.1$). Also, the overall test of the presence of an inverted U-shape is significant at $p < 0.1$. Third, it is important that the turning point is situated well within the distribution of the data. The turning point represented with the red line in Figure 7 stands at 2.25 and is situated on the 85th percentile of the data distribution. I process an additional robustness check suggested by Haans, Pieters, and He (2016) to provide stronger support in the curvilinear relationship. I test if the relationship is an S-shape instead of a U-shape by including a cubic term ($USLK_{it}{}^3$) in the regression model[2]:

$$CAR_n = \beta_0 + \beta_1 USLK_{it} + \beta_2 (USLK_{it} \times USLK_{it}) + \beta_3 (USLK_{it} \times USLK_{it} \times USLK_{it}) + \beta_4 ASLK_{it} + Controls + \varepsilon_n, \quad (19)$$

The coefficient of the cubic term is not significant ($p > 0.1$), and this additional term does not improve the model fit (the $Adjusted\ R^2$ decreases from 0.0353 to 0.0323). Based on the results of these four tests, I have strong evidence that the relationship between unabsorbed and CARs

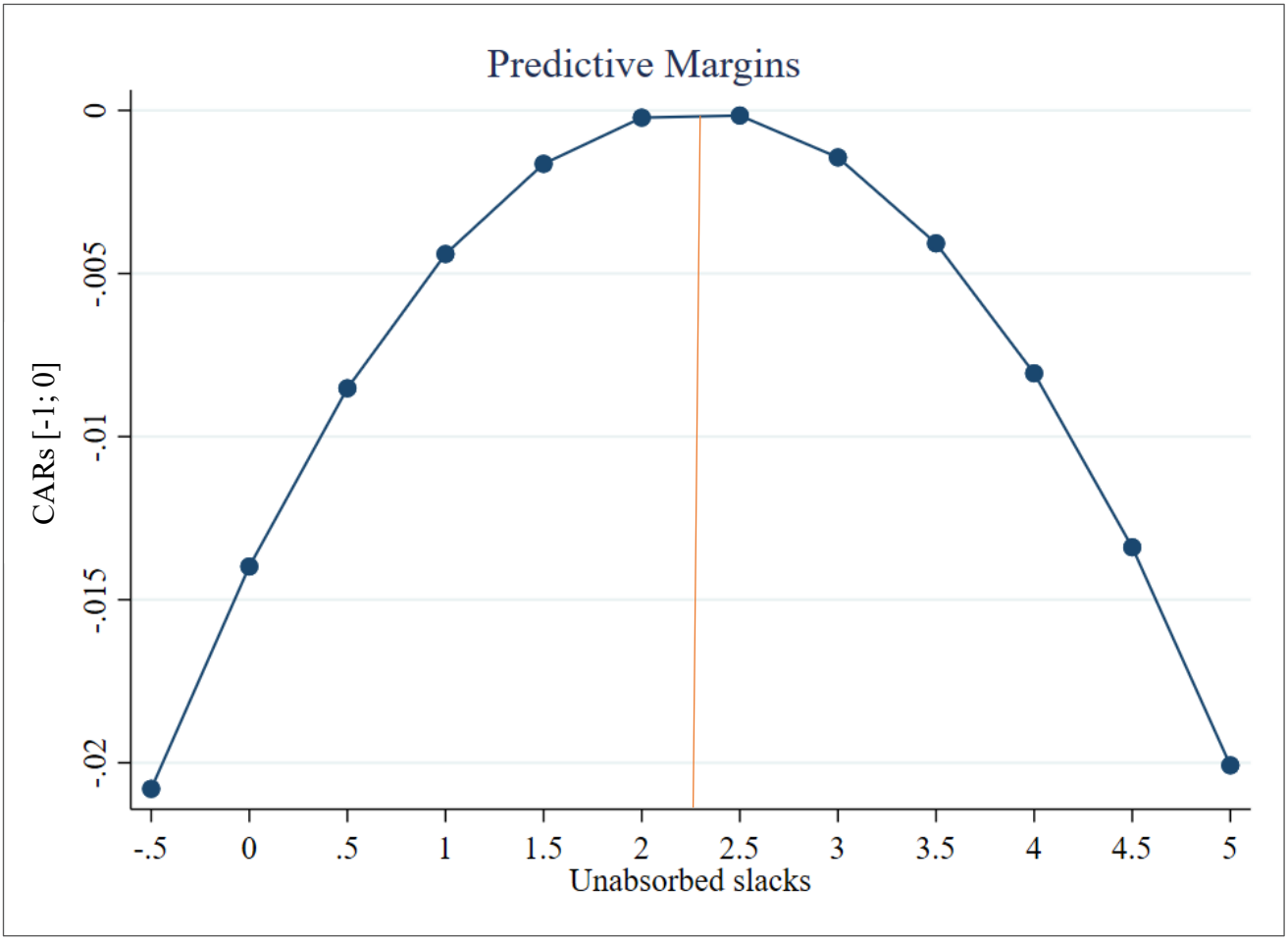
[1] I thank an anonymous examiner of my thesis for this valuable suggestion.
[2] The other variables stay the same as in Equation (18).

is curvilinear. These findings give complementary indications that unabsorbed slacks are, to a certain extent, useful to hold on to a short-term horizon effect.

When facing a scandal, holding unabsorbed slacks is profitable for the firm value in the short term until a certain level of slack is reached. Moreover, the inverted U-shape is not surprising, as Mishina, Pollock, and Porac (2004) describe the same relationship between slacks and firm growth in a shock-free environment. The firm aims to reach this optimal point without exceeding it. The consequences are well documented in the slack literature from analysing the efficiency level of slacks in other contexts. Research finds that slacks are not positive for the firm until an optimal level is reached (e.g., Nohria and Gulati 1996; Tan 2003; Voss, Sirdeshmukh, and Voss 2008; Wiseman and Bromiley 1996). For instance, if this optimal level is not reached, slacks encourage managers to make risky strategic decisions and delay their actions on terminating bad investments (Wu and Tu 2007). Tan (2003) even argues that slacks should not be held unless the optimum can be reached. The controversy around holding slacks and the effect on firm performance might be because unused resources can be seen as wastage of resources.

For absorbed slacks, results do not provide significant evidence that they follow a curvilinear relationship. I tested this by including a quadratic term of the absorbed slacks as well as quadratic terms for both unabsorbed and absorbed slacks in the same model. I did not find any significant results. These outcomes confirm that absorbed slacks do not bring any additional value to the firm in the short term during a scandal. Hypothesis 1b does not hold for either linear or quadratic terms.

Figure 7: Graphic representation – Unabsorbed slacks' curvilinear effect on CARs [-1; 0]



4.3. Firm value – long-term effect

The investigation of organizational slacks' effect on firm value for a long-term horizon (Equation 16) is presented in Table 10. The models contain the same independent and control variables as the models with CARs and BHARs as dependent variables. As in the previous table, Model (1) presents the baseline model, including only the control variables. All the coefficients report an expected sign, except severity again. I would expect a negative effect on firm value if the scandal's severity were high. Only "severity" and "market growth" are significant. Similar to short-term results, industry specificities – "industry-fixed effect" and "socially contested industry" control variables – do not significantly affect the dependent variables in this context. The fraction of explained variance reported by the R^2 is 17.1 percent.

In Models (2) and (3), the unabsorbed and absorbed slacks are regressed separately on the BHARs. Model (4) contains the results of the regression model, including both unabsorbed and absorbed slacks. The relationship between unabsorbed slacks and BHARs is positive and significant ($\beta = 0.066;\ p < 0.1$), but between absorbed slacks and BHARs is not significant. Hypothesis 2a is supported, while Hypothesis 2b is not.

These results suggest that holding unabsorbed slacks increases firm value in a long-term horizon when facing a scandal. The ratio between total current assets and total current liability is an important factor to consider when facing a scandal. Thus, the short-term perspective of unabsorbed slacks (e.g., Bradley, Shepherd, and Wiklund 2011; Chattopadhyay, Glick, and Huber 2001; Nohria and Gulati 1996) has a role in decreasing the negative effect of a scandal on long-term firm value. It may be that this "short-term/long-term" capacity in buffering issues during and after a scandal would reassure investors. As scandals are generated by "waves" of new information (Adut 2008), unabsorbed slacks' properties fit this context. They allow managers to have more independence in their decisions (Thompson 1965), increase investors' acceptance in their decisions (Moses 1992), and decrease the pressure on managers (Bizzi 2017).

The decrease in pressure allows managers to react more promptly and confidently to these waves of scandal updates and probably improve their managerial efficiency during and after the scandal's shock.

On the other hand, investors do not consider that absorbed slacks have any curative role in the same context. It seems that investors might be more sensitive to the immediate effects on the firm that are provided by unabsorbed slacks. As absorbed sacks are already allocated to specific departments and long-term operations (e.g., Lin et al. 2019; Suzuki 2018; Voss, Sirdeshmukh, and Voss 2008), such as R&D activities, the effect takes more time to become visible. Even if the long-term vision of expanding the firm's business is necessary (e.g., Thompson, Zald, and Scott 2003), the enabling mechanisms of absorbed slacks are probably not the investors' primary concern. After a scandal, managers need to make sweeping changes in the organization's structure to avoid frequent future scandals; absorbed slacks have the ability to decrease the probability of misbehaviour (Mishina et al. 2010). Again, this argument for absorbed slacks' utility probably does not convince investors. They might believe that the actual scandal needs to be managed first, and then, the firm will have enough resources to invest in more long-term activities. Thus, absorbed slacks do not deserve the opportunity costs compared to their utility after a scandal.

Additionally, as previously done for the relationship with the CARs in a post hoc test, I investigated a possible curvilinear relationship between BHARs and slacks. I did not find any significant results for either type of slacks – unabsorbed and absorbed. The relationship between long-term firm value and slacks is linear and for unabsorbed slacks only.

Table 10: Regression models – BHARs [0; +252]

VARIABLES	(1) BHARs [0; +252]	(2) BHARs [0; +252]	(3) BHARs [0; +252]	(4) BHARs [0; +252]
Unabsorbed slacks		0.070*		0.066*
		(0.037)		(0.036)
Absorbed slacks			0.144	0.125
			(0.110)	(0.107)
Socially contested industry	-0.057	-0.030	-0.039	-0.021
	(0.062)	(0.071)	(0.067)	(0.074)
Litigation risk	-0.012	-0.038	-0.013	-0.039
	(0.121)	(0.118)	(0.124)	(0.122)
Related country	-0.079	-0.080	-0.067	-0.072
	(0.104)	(0.100)	(0.102)	(0.098)
Environmental-related	-0.049	-0.042	-0.056	-0.050
	(0.116)	(0.112)	(0.118)	(0.115)
Social-related	0.034	0.000	0.021	-0.008
	(0.077)	(0.083)	(0.080)	(0.086)
Governance-related	-0.054	-0.052	-0.052	-0.049
	(0.041)	(0.040)	(0.041)	(0.040)
Cross-cutting	0.010	-0.012	0.013	-0.009
	(0.071)	(0.073)	(0.072)	(0.074)
Medium severity	-0.024	-0.010	-0.019	-0.008
	(0.049)	(0.048)	(0.049)	(0.048)
High severity	0.132*	0.131*	0.157*	0.151*
	(0.077)	(0.077)	(0.081)	(0.080)
Novelty	-0.071	-0.070*	-0.067	-0.068*
	(0.043)	(0.042)	(0.041)	(0.040)
Firm age	0.001	0.001	0.000	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Firm size	0.029	0.039	0.038	0.047
	(0.026)	(0.028)	(0.026)	(0.028)
ROA	-0.811	-0.791	-1.101*	-1.040*
	(0.493)	(0.493)	(0.609)	(0.603)
Medium ESG-related risk	-0.030	-0.019	-0.056	-0.042
	(0.082)	(0.085)	(0.082)	(0.086)
High ESG risk-related	-0.074	-0.072	-0.092	-0.094
	(0.103)	(0.112)	(0.098)	(0.108)
HH Index	0.025	0.205	0.053	0.246
	(0.489)	(0.498)	(0.433)	(0.455)
Market turbulences	0.869	0.693	0.822	0.661
	(0.666)	(0.673)	(0.628)	(0.646)
Technology turbulences	0.622	0.504	0.569	0.490
	(1.593)	(1.631)	(1.691)	(1.709)
Market growth	-0.009**	-0.010**	-0.007	-0.008
	(0.004)	(0.004)	(0.005)	(0.005)
Constant	-0.166	-0.409	-0.267	-0.501
	(0.305)	(0.325)	(0.300)	(0.330)
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
R-squared	0.171	0.187	0.181	0.195
Adjusted R-squared	0.0743	0.0852	0.0814	0.0892
Observations[1]	249	243	249	243

**** p<0.01, ** p<0.05, * p<0.1* *Standard error in parenthesis*

[1] Again, the number of observations differs between models due to the availability of financial data in Compustat, especially for the computation of unabsorbed slacks.

4.4. Firm risk – long-term effect

Table 11 introduces the effect of organizational slacks on firm risk. As before, Model (1) reports the baseline model considering only the control variables. Their coefficients have expected signs with only "novelty," "firm size," and "high ESG-related risk" as significant control variables. Again, the sign of "severity" is not as expected because it is negative. However, the effect is not significant. Moreover, the variables which consider the possible effects of industry specification – "industry-fixed effect" and "socially contested industry" – on IR are not significant in this context. The fraction of explained variance reported by the R^2 is at 13.9 percent. In Models (2) and Model (3), unabsorbed and absorbed slacks are added to the control variables separately. They are negative and significant with $\beta = -0.004$ ($p < 0.05$) and $\beta = -0.012$ ($p < 0.001$), respectively. Model (4) includes both types of slacks in the same model: the unabsorbed slacks are negative and significant ($\beta = -0.003;\ p < 0.05$) and the same for the absorbed slacks ($\beta = -0.011;\ p < 0.01$). Thus, both slacks decrease firm risk in a situation of scandal. Hypotheses 3a and 3b are supported. From the negative sign of the results, investors would perceive holding unabsorbed and absorbed slacks as a way to protect expected future cash flows from a corporate scandal. As a scandal has an immediate negative effect on stock price volatility (Jory et al. 2015), unabsorbed slacks help by being quickly available.

Using them as a shock absorber in complex situations (Cheng and Kesner 1997), managers will be able to control firm risk rapidly. In other words, unabsorbed slacks reduce risk by retaining these available and quick disposable resources for unexpected daily events. In the long term, the firm allocates absorbed slacks to sustainable competitive advantage activities, such as explorative innovation (e.g., Nohria and Gulati 1996), and organizational changes to correct long-lasting challenges (e.g., Peng et al. 2010). For instance, as exploration is a long-term innovation-based activity, a firm should be ready to innovate after facing a corporate scandal. Innovation activities will smooth the uncertainty generated by the scandal. These actions signal

to the market that the volatility of future cash-flows will decrease or at least stabilize. Thus, firm risk will follow the same trend. The buffering effect is efficient in managing the scandal.

It could be concluded that both types of slacks positively influence investors' appreciation of the situation by showing that the firm is stable in both the short and long terms. The probability of a disruption in expected future cash flows can be avoided by using unabsorbed and absorbed slacks in different timeframes. Thus, the firm will remain stable from the beginning until it recovers from the scandal. Managers should use slacks to decrease the importance of the shock when facing a scandal. Additionally, investing in slacks as a safeguard can be positive for a firm not only when facing a scandal and its resulting direct costs; but, also to decrease the cost of financing after the scandal because a higher risk increases the cost of debts.

As in the prior analyses, I tested possible a quadratic relationship between firm risk and both unabsorbed and absorbed slacks. I did not find any significant curvilinear effect for either type of slacks, unabsorbed and absorbed. The relationship between IR and both types of slacks is linear.

Table 11: Regression models – IR [0; +252]

VARIABLES	(1) IR [0; +252]	(2) IR [0; +252]	(3) IR [0; +252]	(4) IR [0; +252]
Unabsorbed slacks		-0.004**		-0.003**
		(0.002)		(0.002)
Absorbed slacks			-0.012***	-0.011***
			(0.004)	(0.004)
Socially contested industry	-0.002	-0.003	-0.003	-0.004
	(0.004)	(0.003)	(0.003)	(0.003)
Litigation risk	0.003	0.004	0.003	0.004
	(0.006)	(0.006)	(0.006)	(0.006)
Related country	0.001	0.001	-0.000	-0.000
	(0.004)	(0.004)	(0.004)	(0.004)
Environmental-related	-0.005	-0.006*	-0.005	-0.005
	(0.004)	(0.004)	(0.003)	(0.003)
Social-related	0.007	0.008	0.008	0.009
	(0.007)	(0.008)	(0.007)	(0.008)
Governance-related	0.002	0.002	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Cross-cutting	0.003	0.004	0.003	0.004
	(0.003)	(0.004)	(0.003)	(0.004)
Medium severity	-0.002	-0.003	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)
High severity	-0.000	-0.001	-0.002	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Novelty	-0.004*	-0.004*	-0.004*	-0.004**
	(0.002)	(0.002)	(0.002)	(0.002)
Firm age	-0.000	-0.000*	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	-0.003***	-0.003***	-0.003***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
ROA	0.019	0.018	0.043**	0.041**
	(0.019)	(0.016)	(0.020)	(0.016)
Medium ESG-related risk	0.004	0.003	0.006*	0.005*
	(0.003)	(0.003)	(0.003)	(0.003)
High ESG-related risk	0.009***	0.009***	0.010***	0.011***
	(0.003)	(0.003)	(0.003)	(0.003)
HH Index	-0.015	-0.021	-0.017	-0.024
	(0.018)	(0.017)	(0.015)	(0.017)
Market turbulences	0.042	0.052	0.047	0.056*
	(0.032)	(0.034)	(0.029)	(0.031)
Technology turbulences	-0.003	0.010	0.001	0.011
	(0.070)	(0.071)	(0.071)	(0.072)
Market growth	-0.000	-0.000	-0.000**	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.042***	0.052***	0.051***	0.060***
	(0.010)	(0.011)	(0.010)	(0.012)
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
R-squared	0.139	0.150	0.159	0.168
Adjusted R-squared	0.0375	0.0432	0.0559	0.0584
Observations[1]	248	242	248	242

**** p<0.01, ** p<0.05, * p<0.1* *Standard error in parenthesis*

[1] Again, the number of observations differs between models due to the availability of financial data in Compustat, especially for the computation of unabsorbed slacks.

To sum up, this section detailed the results found after the analyses of the regression on the three dependent variables – CARs, BHARs, and IR. First, I find a significant inverted U-shape effect for unabsorbed slacks and no significance for absorbed slacks on CARs. Second, unabsorbed slacks express a positive and significant relationship with BHARs; however, there is no significant relationship between absorbed slacks and BHARs. Finally, both unabsorbed and absorbed slacks have a negative and significant relationship with IR. Table 12 gives an overview of the signs and significance of the findings and shows whether the hypotheses are supported.

Table 12: Overview – results and hypothesis significance

	Short-term firm value	**Long-term firm value**	**Firm risk**
Unabsorbed slacks	Non- significant (H1a: not supported but sig. with *inverted U-shape*)	Positive and significant (H2a: supported)	Negative and significant (H3a: supported)
Absorbed slacks	Non-significant (H1b: not supported)	Non-significant (H2b: not supported)	Negative and significant (H3b: supported)

5. Robustness checks

In this section, I examine the robustness of my findings from the main analysis by using different event windows for each dependent variables – CARs, BHARs, and IR – and the sensitivity to the outliers in the OLS regression models.

5.1. Summary statistics and correlation matrix

The same dependent variables are used – CARs, BHARs, and IR. I additionally test ARs on the day of the scandal (D_0). Table 13 reports the descriptive statistics of the dependent variables used for testing the robustness of the model as well as the data sample. Regarding the other variables that compose the model, I do not report them because their statistical descriptions are already in Table 7. As with the main analysis, the short-term ARs, CARs, and BHARs are negative, and the IR is positive. It means that, on average, scandals: (1) decrease short-term returns on the day of the scandal (i.e., D_0) and on the event windows [-2; +2] and [-3; +3] surrounding the scandal, (2) decrease long-term returns on a two-year event window after the scandal, (3) and increase firm risk on a two-year event window after the scandal.

It should be noted that these results are equal in sign compared to my results in the main analysis.

Table 13: Robustness check – descriptive statistics

	N	*Mean*	*Std. Dev.*	*min*	*max*
CARs [-2; +2]	249	-.005	.031	-.123	.122
CARs [-3; +3]	249	-.004	.037	-.171	.126
ARs (D_0)	249	-.003	.021	-.143	.082
BHARs [0; +504]	249	-.239	.717	-4.078	1.745
IR [0; +504]	244	.016	.016	.005	.087

Table 14 depicts the correlations between the five additional dependent variables – ARs (D_0), CARs [-2; +2], CARs [-3; +3], BHARs [0; +504], and IR [0; +504] – and the variables included

in the model – unabsorbed and absorbed slacks and the control variables. I do not report the correlations between the other variables as they are already given in Table 8.

Table 14: Robustness check – correlation matrix

VARIABLES	CARs [-2; +2]	CARs [-3; +3]	ARs (D0)	BHARs [0; +504]	IR [0; +504]
CARs [-2; +2]	1.000				
CARs [-3; +3]	0.816***	1.000			
ARs (D_0)	0.539***	0.444***	1.000		
BHARs [0; +504]	0.111*	0.175***	-0.011	1.000	
IR [0; +504]	0.137**	0.082	0.075	0.218***	1.000
Unabsorbed slacks	-0.037	-0.031	0.031	0.139**	0.039
Absorbed slacks	-0.046	-0.066	-0.045	0.089	0.009
Socially contested industry	-0.004	0.060	-0.041	0.121*	-0.037
Litigation risk	0.040	0.039	0.081	-0.101	0.150**
Related country	0.074	0.075	0.157**	-0.128**	-0.214***
Environmental-related	-0.023	-0.002	0.083	0.001	-0.064
Social-related	0.003	0.000	0.158**	-0.018	0.003
Governance-related	0.136**	0.162**	-0.027	-0.077	0.117*
Cross-cutting	0.026	-0.008	0.037	-0.022	0.083
Severity level	-0.035	-0.015	0.004	-0.045	0.044
Novelty	0.107*	0.087	0.051	-0.073	-0.029
Firm age	-0.058	-0.083	-0.025	0.054	-0.164**
Firm size	0.127*	0.125*	0.247***	-0.034	0.014
ROA	0.013	-0.010	0.054	-0.178***	0.164**
HH Index	0.010	-0.016	-0.022	-0.050	-0.098
Market turbulences	-0.021	-0.012	-0.009	-0.064	-0.004
Technology turbulences	0.010	0.026	0.016	-0.008	0.212***
Market growth	-0.035	-0.064	-0.012	-0.092	0.027

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

5.2. Event study windows

As shown in Table 4 and Table 5, I test different days and event windows before and after the scandal. For the main analysis, I chose the most significant window for both tests – [-1; 0]. To test the robustness of these results, I selected the two other windows with the most significant t-test value, namely [-2; +2] and [-3; +3], as well as the ARs on the day of the scandal – D_0. I tested each of them as a dependent variable distinctively with the same OLS regression models of the main analysis. I detail the results in the following section.

For the BHARs, I chose the significant two-year window ($p < 0.05$) after the scandal, which is 504 trading days after the scandal, as reported in Table 6. I tested the robustness of the OLS regression by including this event window's results as the dependent variable.

5.3. Firm value – short-term effect

I used the [-2; +2] and [-3; +3] event windows reported in Table 5 that are significant with the t-test (both with $p < 0.10$) and the standardized cross-section test ($p < 0.05$ and $p < 0.10$, respectively). I consider these event windows as the dependent variable of the OLS regression. The results are reported in Table 15 with Models (1) and Model (2) for the [-2; +2] event window and with Models (3) and Model (4) for the [-3; +3] event window. I did not find any significant results for either event window measure for the linear models (Models (1) and Model (3), respectively) or the curvilinear models (Models (2) and Model (4), respectively). It appears that the results of the main analysis are not robust when the event window's duration is widened.

However, as reported, Models (5) and Model (6) with the day of the scandal (D_0) as the dependent variable yield results similar to those of the main analysis: While the linear model still does not reflect significance (Model (5)), the curvilinear model shows negative and significant results on the unabsorbed slacks ($\beta = -0.003;\ p < 0.05$) with an inverted U-shape (Model (6)). Thus, my main findings are supported.

Additionally, it is important to notice that the significance increases in comparison to the main analysis from $p < 0.10$ to $p < 0.05$. The fraction of explained variance reported by the $Adjusted\ R^2$ is at 0.107 (see Model (6) in Table 15), which is higher than the 0.035 of the same model with the [-1; 0] event window (see Model (6) in Table 9).

Table 15: Robustness check – models with CARs [-2; +2]; CARs [-3; +3]; ARs (D_0)

VARIABLES	(1) CARs [-2; +2]	(2) CARs [-2; +2]	(3) CARs [-3; +3]	(4) CARs [-3; +3]	(5) ARs (D_0)	(6) ARs (D_0)
Unabsorbed slacks	-0.004	0.004	-0.004	0.002	0.000	0.013*
	(0.003)	(0.008)	(0.003)	(0.012)	(0.002)	(0.007)
Absorbed slacks	0.007	0.006	0.008	0.008	-0.004	-0.004
	(0.007)	(0.007)	(0.009)	(0.009)	(0.005)	(0.005)
Unabsorbed slacks x unabsorbed slacks		-0.002		-0.001		-0.003**
		(0.002)		(0.002)		(0.001)
Socially contested industry	-0.004	-0.003	0.005	0.005	-0.004	-0.003
	(0.005)	(0.005)	(0.007)	(0.007)	(0.004)	(0.004)
Litigation risk	-0.005	-0.005	0.001	0.002	0.008*	0.008**
	(0.010)	(0.009)	(0.012)	(0.012)	(0.004)	(0.004)
Related country	0.009	0.009	0.012	0.012	0.006	0.006
	(0.007)	(0.007)	(0.009)	(0.009)	(0.005)	(0.005)
Environmental-related	-0.007	-0.007	-0.006	-0.007	0.006	0.005
	(0.008)	(0.008)	(0.007)	(0.008)	(0.004)	(0.004)
Social-related	0.004	0.004	0.004	0.004	0.009*	0.008*
	(0.007)	(0.007)	(0.007)	(0.007)	(0.005)	(0.005)
Governance-related	0.010**	0.010**	0.012**	0.012**	0.003	0.003
	(0.005)	(0.005)	(0.006)	(0.006)	(0.004)	(0.004)
Cross-cutting	0.009**	0.009**	0.006	0.006	0.008***	0.008***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.003)	(0.003)
Medium severity	-0.003	-0.003	-0.002	-0.002	-0.000	-0.001
	(0.005)	(0.005)	(0.006)	(0.006)	(0.002)	(0.002)
High severity	0.019***	0.019***	0.045***	0.045***	0.002	0.002
	(0.007)	(0.007)	(0.008)	(0.008)	(0.003)	(0.003)
Novelty	0.008*	0.008*	0.007	0.007	0.005*	0.005
	(0.004)	(0.004)	(0.006)	(0.006)	(0.003)	(0.003)
Firm age	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	0.005*	0.005*	0.004	0.004	0.005**	0.005**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)
ROA	-0.031	-0.029	-0.065	-0.064	-0.002	0.001
	(0.047)	(0.047)	(0.061)	(0.061)	(0.035)	(0.036)
Medium ESG-related risk	-0.011	-0.011	-0.013	-0.013	-0.000	0.000
	(0.008)	(0.008)	(0.010)	(0.010)	(0.006)	(0.006)
High ESG-related risk	-0.011	-0.011	-0.011	-0.011	-0.004	-0.003
	(0.010)	(0.010)	(0.012)	(0.012)	(0.008)	(0.008)
HH Index	0.002	0.003	0.020	0.022	-0.023	-0.020
	(0.034)	(0.034)	(0.043)	(0.043)	(0.015)	(0.016)
Market turbulences	0.019	0.014	0.028	0.023	0.008	-0.001
	(0.046)	(0.047)	(0.063)	(0.065)	(0.031)	(0.032)
Technology turbulences	0.076	0.065	0.068	0.059	-0.156**	-0.176**
	(0.129)	(0.129)	(0.156)	(0.158)	(0.065)	(0.068)
Market growth	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.077**	-0.086**	-0.067	-0.074	-0.081***	-0.096***
	(0.034)	(0.033)	(0.046)	(0.047)	(0.027)	(0.027)
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.120	0.122	0.108	0.109	0.203	0.214
Adjusted R-squared	0.00499	0.00226	-0.00849	-0.0124	0.0991	0.107
Observations	243	243	243	243	243	243

*** $p<0.01$, ** $p<0.05$, * $p<0.1$ *Standard error in parenthesis*

5.4. Firm value – long-term effect

For the moderating role of slacks on long-term firm value, I used the BHARs based on a two-year window (see Table 6) as the dependent variable in the OLS regression model. I report the results in Table 16. I obtained similar results compared to those of the main analysis. The effect of unabsorbed slacks is positive and significant ($\beta = -0.137;\ p < 0.05$), and the results are not significant for the absorbed slacks. Thus, these outcomes suggest that the results of the main analysis are robust.

Table 16: Robustness check – models with BHARs [0; +504]

VARIABLES	(1) BHARs [0; +504]	(2) BHARs [0; +504]	(3) BHARs [0; +504]	(4) BHARs [0; +504]
Unabsorbed slacks		0.145*		0.137*
		(0.082)		(0.081)
Absorbed slacks			0.306	0.255
			(0.236)	(0.222)
Socially contested industry	0.146	0.225*	0.183	0.244*
	(0.132)	(0.130)	(0.147)	(0.144)
Litigation risk	-0.102	-0.128	-0.105	-0.130
	(0.259)	(0.248)	(0.270)	(0.259)
Related country	-0.292	-0.294	-0.267	-0.277
	(0.268)	(0.262)	(0.268)	(0.263)
Environmental-related	-0.049	-0.029	-0.064	-0.045
	(0.304)	(0.301)	(0.305)	(0.302)
Social-related	-0.021	-0.069	-0.050	-0.086
	(0.184)	(0.193)	(0.190)	(0.198)
Governance-related	-0.123	-0.126	-0.118	-0.120
	(0.100)	(0.098)	(0.100)	(0.098)
Cross-cutting	0.027	-0.009	0.034	-0.002
	(0.158)	(0.163)	(0.159)	(0.165)
Medium severity	-0.161	-0.130	-0.152	-0.126
	(0.109)	(0.105)	(0.107)	(0.105)
High severity	0.209	0.214	0.262	0.255
	(0.181)	(0.179)	(0.197)	(0.193)
Novelty	-0.060	-0.052	-0.051	-0.047
	(0.100)	(0.097)	(0.096)	(0.094)
Firm age	0.001	0.003	0.000	0.002
	(0.004)	(0.004)	(0.004)	(0.004)
Firm size	0.008	0.015	0.026	0.032
	(0.053)	(0.053)	(0.053)	(0.054)
ROA	-1.433	-1.426	-2.050	-1.938
	(1.197)	(1.181)	(1.438)	(1.429)
Medium ESG-related risk	-0.106	-0.120	-0.160	-0.167
	(0.188)	(0.194)	(0.191)	(0.200)
High ESG-related risk	-0.050	-0.040	-0.089	-0.084
	(0.203)	(0.230)	(0.202)	(0.231)
HH Index	0.917	1.050	0.978	1.134
	(1.205)	(1.218)	(1.104)	(1.164)
Market turbulences	0.172	-0.163	0.071	-0.229
	(1.576)	(1.536)	(1.482)	(1.478)
Technology turbulences	2.029	1.268	1.916	1.238
	(3.263)	(3.214)	(3.472)	(3.379)
Market growth	-0.017*	-0.015	-0.013	-0.012
	(0.010)	(0.010)	(0.011)	(0.012)
Constant	0.324	0.007	0.109	-0.182
	(0.589)	(0.648)	(0.576)	(0.660)
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
R-squared	0.168	0.182	0.177	0.189
Adjusted R-squared	0.0704	0.0796	0.0767	0.0824
Observations	249	243	249	243

**** p<0.01, ** p<0.05, * p<0.1* *Standard error in parenthesis*

5.5. Firm risk – long-term effect

As for the firm values, the robustness of the firm risk can be tested using different event windows. To do so, I measure the firm risk based on a two-year event window (i.e., 504 trading days) after the scandal. I obtained similar results compared to the main analysis. Both unabsorbed and absorbed slacks' effects are positive and significant with $\beta = -0.003$ ($p < 0.10$) and $\beta = -0.009$ ($p < 0.05$), respectively. Thus, the main analysis' results with the IR as a dependent variable seem robust considering the outputs reported in Table 17.

Table 17: Robustness check – models with IR [0; +504]

VARIABLES	(1) IR [0; +504]	(2) IR [0; +504]	(3) IR [0; +504]	(4) IR [0; +504]
Unabsorbed slacks		-0.003*		-0.003*
		(0.002)		(0.002)
Absorbed slacks			-0.009**	-0.009**
			(0.004)	(0.004)
Socially contested industry	-0.002	-0.003	-0.003	-0.004
	(0.004)	(0.003)	(0.003)	(0.003)
Litigation risk	0.001	0.002	0.000	0.001
	(0.005)	(0.005)	(0.004)	(0.004)
Related country	-0.011**	-0.010**	-0.011**	-0.011**
	(0.005)	(0.005)	(0.005)	(0.005)
Environmental-related	-0.004	-0.005	-0.004	-0.004
	(0.003)	(0.003)	(0.003)	(0.003)
Social-related	0.004	0.005	0.005	0.006
	(0.005)	(0.006)	(0.005)	(0.006)
Governance-related	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Cross-cutting	0.004	0.005	0.004	0.005
	(0.003)	(0.004)	(0.003)	(0.003)
Medium severity	0.000	-0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
High severity	0.002	0.002	0.000	0.000
	(0.002)	(0.003)	(0.002)	(0.002)
Novelty	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Firm age	-0.000	-0.000**	-0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	-0.002**	-0.002***	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
ROA	0.024	0.024	0.043*	0.042**
	(0.021)	(0.018)	(0.023)	(0.020)
Medium ESG-related risk	0.004	0.004	0.005	0.005*
	(0.003)	(0.003)	(0.003)	(0.003)
High ESG-related risk	0.009***	0.010***	0.010***	0.011***
	(0.003)	(0.003)	(0.003)	(0.003)
HH Index	-0.008	-0.016	-0.009	-0.019
	(0.013)	(0.013)	(0.011)	(0.013)
Market turbulences	0.037	0.047*	0.041*	0.050*
	(0.023)	(0.027)	(0.022)	(0.026)
Technology turbulences	0.026	0.037	0.037	0.046
	(0.057)	(0.057)	(0.057)	(0.056)
Market growth	-0.000	-0.000	-0.000*	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.040***	0.051***	0.046***	0.058***
	(0.010)	(0.011)	(0.010)	(0.011)
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
R-squared	0.238	0.255	0.255	0.272
Adjusted R-squared	0.147	0.160	0.162	0.174
Observations	244	238	244	238

**** p<0.01, ** p<0.05, * p<0.1* *Standard error in parenthesis*

5.6. Sensitivity to outliers

It is well known that mean and standard deviation are two metrics that can be influenced by extreme outliers when determining the location of the centre of a distribution and the spread of the observation. Winsorizing is a statistical transformation of the data to limit such extreme values. The aim is to reduce the effect of possible faulty outliers that might influence the results. The percentage of winsorization sets the threshold from which extreme values of the distribution are recoded to less-extreme values. This improves the accuracy in measuring the mean and the standard deviation of the sample (Frey 2018). In my analysis, the independent and control variables of the models are winsorized.

I determine whether my results are sensitive to outliers by not winsorizing any variables included in the OLS regressions with CARs, BHARs, and IR. As reported in Table 18, there are similar and significant results for short- and long-term firm values and firm risk (Model (1), Model (2), and Model (3), respectively). The outliers seem not to influence my findings when they are included in the dataset. Thus, the outliers do not drive the results.

5.7. Variable characteristics' testing

Some variables included in the regression models have characteristics that might bias the reliability of the results. Focusing on their specificities, I process the following robustness checks.

First, I test if the model is robust to the different control variables that might be redundant, such as controlling for "socially contested industries," "litigation risk," "industry-fixed effect," and "firm-fixed effect." I estimate models with all, some, and none of these potentially redundant variables included. I find the same results.

Second, it must be noted that the variable "high severity" is significant and in the opposite sign as expected in the models with short- and long-term firm values as dependent variables. As

there is only one observation that is defined as highly severe, this observation is probably an outlier. I process testing to validate the implications and direct influence of its coding on the results in two ways: (1) I drop the observation (i.e., "severity = 3") from the dataset or (2) modify the variable "severity" as a dummy with a value of '0' if the scandal is not severe and '1' if the scandal is severe including the unique observation with "severity = 3" as observation with "severity = 2". I find similar results for the independent variables, and "severity" becomes not significant in both robustness tests.[1]

[1] I thank an anonymous examiner of my thesis for this valuable comment.

Table 18: Robustness check – main models without winsorization

VARIABLES	(1) CARs [-1; 0]	(2) BHARs [0; +252]	(3) IR [0; +252]
Unabsorbed slacks	0.012*	0.071**	-0.003*
	(0.007)	(0.035)	(0.002)
Absorbed slacks	0.001	0.071	-0.007*
	(0.007)	(0.115)	(0.004)
Unabsorbed slacks x unabsorbed slacks	-0.002*		
	(0.001)		
Socially contested industry	0.001	-0.040	-0.004
	(0.005)	(0.074)	(0.003)
Litigation risk	0.006	-0.083	0.007
	(0.005)	(0.113)	(0.006)
Related country	0.009	-0.089	0.001
	(0.006)	(0.095)	(0.004)
Environmental-related	-0.001	-0.028	-0.006*
	(0.006)	(0.113)	(0.003)
Social-related	0.008	-0.000	0.008
	(0.006)	(0.083)	(0.008)
Governance-related	0.004	-0.051	0.001
	(0.004)	(0.041)	(0.002)
Cross-cutting	0.009**	-0.020	0.005
	(0.004)	(0.073)	(0.004)
Medium severity	-0.002	-0.004	-0.003
	(0.003)	(0.047)	(0.003)
High severity	0.018***	0.142*	-0.002
	(0.004)	(0.077)	(0.002)
Novelty	0.010**	-0.075*	-0.003
	(0.004)	(0.041)	(0.002)
Firm age	0.000	0.001	-0.000
	(0.000)	(0.002)	(0.000)
Firm size	0.004	0.047	-0.004***
	(0.003)	(0.029)	(0.001)
ROA	-0.030	-0.532	-0.001
	(0.024)	(0.418)	(0.020)
Medium ESG-related risk	-0.011	-0.044	0.005
	(0.008)	(0.091)	(0.003)
High ESG-related risk	-0.010	-0.090	0.010***
	(0.010)	(0.112)	(0.003)
HH Index	0.013	0.265	-0.022
	(0.032)	(0.471)	(0.018)
Market turbulences	-0.043	0.653	0.054
	(0.055)	(0.686)	(0.034)
Technology turbulences	-0.119	0.810	-0.010
	(0.094)	(1.609)	(0.066)
Market growth	0.000	-0.008	-0.000*
	(0.000)	(0.005)	(0.000)
Constant	-0.077*	-0.537	0.060***
	(0.042)	(0.351)	(0.013)
Industry F.E.	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
R-squared	0.152	0.183	0.156
Adjusted R-squared	0.0360	0.0763	0.0451
Observations	243	243	242

**** p<0.01, ** p<0.05, * p<0.1* *Standard error in parenthesis*

Chapter 5: Discussion

To address the question of whether organizational slacks affect the impact of a scandal on firm value in the short and long terms and on firm risk, I went through the following steps in this thesis:

After introducing the topic of my thesis and an overview of its structure in Chapter 1, Chapter 2 conducts a detailed literature review on (1) corporate scandals and (2) organizational slacks. I begin by employing the concept of corporate scandals in the literature as a base and add two complementary literature streams – the socio-political scandal approach and the corporate crisis literature. Creating this research structure allows me to provide a comprehensive definition of corporate scandal.

Then, I review the literature on organizational slacks and focus on their multifaced aspects relevant to situations of corporate scandals. I provide a general understanding of the different characteristics, usages, and roles of slacks in firms' organizational structure. More specifically, I explain two types of organizational slacks – unabsorbed and absorbed – and their roles in the firms' structure.

Synthesizing the gaps of both the organizational slack and corporate scandal literature streams, I define two research questions that frame the goals of my thesis:

(1) Does holding organizational slacks affect the impact of a scandal on firm value in the short term and firm value in the long term? (2) Does holding organizational slacks affect the impact of a scandal on firm risk?

From these two research questions, I developed six hypotheses on the mitigating effects of slacks on short- and long-term firm values and firm risk. I consider two types of slacks – unabsorbed and absorbed.

In Chapter 3, I describe the process of elaborating a unique dataset, detail my methodological approach to computing the different dependent variables, and justify my choices in the selected measures of the unabsorbed and absorbed slacks and control variables. Finally, I adopt an OLS regression approach to estimate the capacity of both types of slacks to mitigate a scandal's effect on short- and long-term firm values and firm risk.

Chapter 4 presents the results from the short- and long-term event study analyses, the RPE approach, and the outcomes from the regression analyses with the three dependent variables – CARs, BHARs, and IR. The results confirm that a corporate scandal decreases the firm value in the short and long terms and increases firm risk. Also, I find that a relationship between slacks and short- and long-term firm values and firm risk exists in a situation of corporate scandal. The results indicate that holding organizational slacks helps firms reduce the negative effects of scandals on short- and long-term firm values and firm risk.

However, the mitigating effects vary according to the type of slacks. In the short term, unabsorbed slacks do not significantly help the firm linearly. Nonetheless, I find a curvilinear relationship between unabsorbed slacks and short-term firm value. This finding indicates that unabsorbed slacks are useful until they reach an optimal level. Thus, Hypothesis 1a is partially supported. Absorbed slacks do not have a significant effect on firm value in the short term, which does not support Hypothesis 1b. In the long term, unabsorbed slacks have a positive and significant linear effect on firm value during a corporate scandal. Hypothesis 2a is supported. However, holding absorbed slacks does not help increase long-term firm value in a scandal situation, which does not support Hypothesis 2b. Finally, both types of slacks are helpful by decreasing firm risk during a scandal, which supports Hypotheses 3a and 3b. These results are in line with the theory that organizational slacks minimize the effects of critical, extreme, and unexpected changes in the firm's environment (Bourgeois III 1981) and serve as a financial

cushion to cover unexpected losses during negative situations (e.g., Alessandri, Cerrato, and Depperu 2014).

Previous studies have covered negative events such as general crises (e.g., Wan and Yiu 2009), economic crises (e.g., Grewal and Tansuhaj 2001), and environmental threats (e.g., Bradley, Shepherd, and Wiklund 2011), which are long-term-oriented events. My findings add elements to this list by proving evidence that the cushioning characteristics of slacks are valuable in case of corporate scandals; and, if they are held up to a certain level, unabsorbed slacks can help in the short term during such negative events.

In response to my thesis' research questions, these outcomes provide evidence that holding organizational slacks does mitigate the impact of a corporate scandal on short- and long-term firm values and firm risk, depending on the type of slacks and the level held by the firm.

Appealing to the existing literature and my findings, I now discuss my thesis's theoretical contributions, methodological and empirical extensions, and managerial and economic implications in the next sections.

1. Theoretical contributions

Prior literature has examined the impact of slacks on firm performance in various environmental contexts (Daniel et al. 2004; Hill, Hitt, and Hoskisson 1992; Wu and Tu 2007). Both positive and negative effects of slacks on firm value have been described (Alessandri, Cerrato, and Depperu 2014; Bourgeois III 1981; Phan and Hill 1995). Surprisingly, no study has investigated the role of sacks in the context of corporate scandals. My thesis aims to fill this gap and demonstrates the utility of organizational slacks during such context as a way of mitigating the negative effects of a corporate scandal on a firm in the short and long terms. Additionally, I go a step further by analysing unabsorbed and absorbed slacks separately because they are two close concepts with distinct underlying mechanisms.

1.1. Organizational slacks in corporate scandals

Extending previous research that studies slacks in contexts such as firm crises (e.g., Wan and Yiu 2009), environmental threats (e.g., Bradley, Shepherd, and Wiklund 2011), and economic crises (e.g., Grewal and Tansuhaj 2001), I provide insights about the utilisation of slacks in the hitherto unexplored context of corporate scandals. I show that slacks are useful resources and act as a cushion in a corporate scandal situation. Furthermore, I highlight that not using slacks is one of the reasons why some firms suffer more from a scandal than others, and I show why other firms are more able to compensate their losses from a similar scandal. My thesis in part aims to respond to studies calling for research in this domain (Moore, Stuart, and Pozner 2010).

In particular, I go a step further by determining the efficiency of slacks by measuring their mitigating roles in both short- and long-term timeframes and consider the two types of slacks discussed in the related literature: unabsorbed and absorbed.

1.2. Differentiations in mitigating roles

1.2.1. Types of slacks

Defining the effects of organizational slacks in a particular context implies analysing these resources with their types and specificities. Not all studies on the use of slacks in extraordinary situations develop an analysis of both types based on empirical financial data. Some tend to focus either on unabsorbed slacks (e.g., Bradley, Shepherd, and Wiklund 2011; Grewal and Tansuhaj 2001; Wan and Yiu 2009) or absorbed slacks (e.g., Geoffrey Love and Nohria 2005). Based on the vast literature of organizational slacks, my analysis of empirical data distinguishes unabsorbed and absorbed slacks and relies on accounting outputs and firm financial data. These methodological choices ensure extensive, reliable, and quantitative findings on the role of each type of slacks in a situation of scandal.

1.2.2. Timeframes

Going further, I determine the efficiency of slacks in the short- and long-term by considering unabsorbed and absorbed slacks. I consider both types because they have different timeframes of use and availabilities. Unabsorbed slacks can be quickly deployed because they are liquid resources; and, absorbed slacks have a reliable effect on long-term activities, as they are resources that are already allocated to firm activities and need more time to be redeployed (e.g., Bourgeois III and Singh 1983; Bradley, Shepherd, and Wiklund 2011; Suzuki 2018; Voss, Sirdeshmukh, and Voss 2008). To establish the importance of resource allocations during a corporate scandal, I uncover the respective and unique effects of unabsorbed and absorbed slacks on firm value and firm risk. It is important for future research on organizational slacks to differentiate their effects based on their buffering and enabling mechanisms' specificities in other contexts. More specifically, the context of corporate scandals is interesting because they are not single and simple events but have a complex structure from their first to their last day. Thus, understanding the relation between slacks' mechanisms and scandals' complex structure based on different timeframes allows managers to tailor these resources to mitigate the effects of scandals on their firm in the short and long terms.

1.3. Firm value – short-term analysis

1.3.1. Impact of unabsorbed slacks

For the unabsorbed slacks, I first uncover their positive effect on firm value in the short term. Instead of a linear relationship that I expected, unabsorbed slacks follow curvilinear effects on short-term firm value during scandal announcements. These findings fit with previous research on organizational slacks that describe their curvilinear effect on firm performance and confirm this effect of slacks in the hitherto unexplored situation of corporate scandals. This means that holding an optimal level of these resources has an impact on firm performance (e.g., Argilés-Bosch et al. 2018; Nohria and Gulati 1996; Tan 2003; Voss, Sirdeshmukh, and Voss 2008;

Wiseman and Bromiley 1996). Thus, increasing the level of slacks has a positive effect on short-term firm value, but this effect gradually diminishes after reaching an optimal level. After that, increasing unabsorbed slacks has a negative effect on short-term firm value. More specifically, by differentiating the types of slacks in my analysis, I determine that only unabsorbed slacks produce the curvilinear effect in the short term. In contrast, absorbed slacks do not show any effect.

1.3.2. Impact of absorbed slacks

For absorbed slacks, I do not find any effect in the short term. My results are not surprising, as this type of slacks tends to detain long-term-oriented specificities. On the other hand, studies have found that absorbed slacks are useful in the short term. For instance, Mishina, Pollock, and Porac (2004) argue that absorbed slacks have an effect on revenue growth in the context of firm growth logic. They found an inverted U-shape relationship between slacks and business expansion. However, in a situation of scandal, absorbed slacks do not significantly help the firm. The context of my analysis might account in part for the differences in the findings on absorbed slacks' effects. This example shows the importance of (1) differentiating the types of slacks when analysing the effect of such firm resources and (2) observing that slacks and their effects are sensitive to the context of their use.

1.4. Firm value – long-term analysis

1.4.1. Impact of unabsorbed slacks

As unabsorbed slacks are not entirely integrated into the firm's design, they will be available in the short term without disturbing the whole structure of the firm (e.g., Bradley, Shepherd, and Wiklund 2011; Chattopadhyay, Glick, and Huber 2001; Nohria and Gulati 1996; Voss, Sirdeshmukh, and Voss 2008). Thus, they affect firm value immediately after the beginning of a scandal, in line with the slack literature that regards the use of slacks as a resource with short-term efficiency. However, different from previous studies and as hypothesised, my results

report that unabsorbed slacks can also impact long-term measures through their role in resolving daily issues after a scandal.

1.4.2. Impact of absorbed slacks

My findings on the impact of absorbed slacks show a decrease in firm risk – long-term measure. Aligned with previous studies, my research brings further understandings of how investors might see their potential use in a context of scandal, not only in terms of future revenues but also of the probability of attaining these revenues.

Previous literature argues that absorbed slacks are efficient in the long term because they are integrated into the firm operations and allocated to specific activities, such as R&D (e.g., Greve 2003; Suzuki 2018; Tan and Peng 2003). Absorbed slacks should enable managers to mitigate the impact of a scandal on firm value during the scandal. According to my results, absorbed slacks only decrease firm risk, while the effects on short- and long-term firm values are not significant. For short-term firm value, the long-term-oriented characteristics of absorbed slacks might explain these results. Still, absorbed slacks should influence the long-term measure of firm value – the long-term ARs. However, my findings unexpectedly show no significant effect of absorbed slacks on firm value in the long term.

These results might be because long-term ARs are not appropriate to analyse the relationship between absorbed slacks and corporate scandals due to the divergence in these three concepts. On the one hand, absorbed slacks are resources with a long-term horizon effect. The activities in which absorbed slacks are implemented require time and imply slow processes before revealing their effect. Similar in time scope, long-term ARs estimate excepted future cash flows in the long term. On the other hand, the specificities of scandals include suddenness and high magnitude. Absorbed slacks, long-term ARs, and corporate scandals differ in terms of velocity and intensity of their effects, applications, and measures. Thus, investors might not have the

necessary long-term vision to evaluate the outcomes of activities from absorbed slacks' allocations. For instance, product development can take years, depending on the product and the industry. Also, while unabsorbed slacks can be easily identified, absorbed slacks are difficult to detect and quantify because of their complexity (Suzuki 2018). Finally, investors might encourage firms to have enough resources to maintain healthy cash-flows in the short term than in the long term (e.g., Chen, Ganesan, and Liu 2009).

Nevertheless, absorbed slacks mitigate a scandal's effect on the firm risk because holding such resources reassures investors regarding the uncertainty that scandals can cause on the expected future cash-flows. Absorbed resources could be seen as pillars and have the psychological effect of assuaging investors. In other words, investors estimate the negative impact of a scandal on expected cash-flows; absorbed slacks reassure investors on the probability of variation of the scandal's negative effects on the firm without completely convincing them that these resources can offset these effects. Thus, holding slacks decreases the perception that the volatility of the expected future cash-flows will not increase the level of these cash flows. Relying on the basic meaning of these two long-term measures, these unexpected findings allow researchers and managers to specifically define the subtle differences in the mitigating mechanisms of absorbed slacks in such timeframe.

Essentially, my thesis makes significant contributions to the corporate scandal and organizational slack literature streams by advancing insights into how to react to corporate scandals, which resources managers need to build before a scandal, which resources to use during a scandal, and when these resources are the most appropriate in decreasing the scandal's impact.

2. Extensions of methodological and empirical scopes

Besides theoretical contributions, my thesis provides several methodological elements that might help to stimulate a better empirical understanding of corporate scandals and their mechanisms.

Corporate scandals are sudden and intense events, and their effects can happen in multiple waves (Adut 2008). To accommodate these characteristics, I create a unique dataset that is precise in terms of event date estimation using media coverage. Manually collecting the data and individually reading the newspaper articles on the events reported in the top-ten media by circulation allows high accuracy in (1) confirming the reliability of the information, (2) assuring that the reported event is a scandal, and (3) pinpointing at which stage of the scandal the information occurs. This accuracy makes it possible to measure the corporate scandal's impact in the short and long terms with financial data.

While some studies tackle scandals' impacts on firms from a financial perspective with different timeframes, the results are mixed, and firm value and risk are not conjointly analysed. For instance, Jory et al. (2015) explore investors' reactions to scandals related to CEOs. Both short- and long-term timeframes are covered, and interesting conclusions are drawn on the impact of a corporate scandal. Similarly, Bernile and Jarrell (2009) analyse stock option manipulations on both timeframes but only find significance in the short-term time window. Murphy, Shrieves, and Tibbs (2009) discuss the effect of misconduct allegations on firm risk, measured by stock market volatility. I analysed changes in short- and long-term firm values and firm risk from the same dataset, which enabled me to obtain more comparable and reliable results on vulnerability and expected future cash-flows than if they had been based on a different dataset. Also, firm value and risk are complementary measures for managers and investors (e.g., Barber and Odean 2000; Duffee 1995; Luo and Bhattacharya 2009). From these results, I can observe whether a scandal has an additional impact on the opportunity of returns compared to investment risk. As

an analytical comparison of both measures is available, misleading performance evaluation can be avoided.

In addition, my thesis includes a wide scope of analyses by considering multiple types of scandals. Previous research focuses on a specific type of scandal. In the academic literature, financial fraud and product recall represent a large part of the event study and financial data analyses (e.g., Bonini and Boraschi 2012; Harjoto 2017; Kang, Germann, and Grewal 2016; Liu, Shankar, and Yun 2017; Zona, Minoja, and Coda 2013). However, implications from these studies might not be applicable to other situations. My thesis considers all ESG-related types of corporate scandals, including product recalls, accounting frauds, and CEOs' misconducts. ESG-related incidents bring the attention of the public and investors via the media to suspicious behaviours and product-harm scandals, thus impacting firm value due to social control and legitimacy (Aouadi and Marsat 2018). Considering any type of corporate scandal based on the ESG classification extends previous studies focusing on one scandal or remained vague on the context (e.g., Clemente and Gabbioneta 2017; Haunschild, Polidoro Jr, and Chandler 2015). It enables unpacking the mechanisms and consequences of scandals from various forms, causes, and implications, regardless of the business context and transgressors.

Furthermore, my thesis is a cross-sectional study. Previous similar research tends to analyse how a corporate scandal affects a firm and its stakeholders, focusing on one product in one industry (e.g., Backhaus and Fischer 2016; Chen and Miller 2007; Cleeren, Dekimpe, and Helsen 2008). For instance, scholars study mainly "popular" industries such as the automotive and medical/pharmaceutical industries (Cleeren, Dekimpe, and Van Heerde 2017) and specific industries (e.g., Durand and Vergne 2015). Large-scale cross-sectional studies are uncommon, as previous research analysed mainly the consequences of scandals within a particular field (e.g., Piazza and Jourdan 2018). My analysis enlarges the focus of previous research by considering multiple industries, including the often-neglected ones, such as the toy, food, and

clothing industries. Thus, with a sample containing wide and granular types of scandals from various media sources, a large cross-sectional reporting of countries, industries, and firm types, I expand the context of research in corporate scandals.

To sum up, my thesis extends the methodological and empirical scopes compared to previous research on scandals. First, an event study on a precise dataset gives accurate results on the scandals' effects and slacks' mitigating roles with an accuracy of one day around the scandal. Second, analysing firm values and risk in the same study allows drawing more robust conclusions on the short- and long-term effects of scandals on firms. Finally, an analysis based on cross-sectional panel data by considering (1) multiple types of scandals and (2) scandals across multiple industries brings comprehensive findings that future studies on corporate scandals, corporate crises, and organizational slacks may find useful.

The methodological choice processes applied in my thesis imply a high level of precision, accuracy, and reliability in the results on slacks' mitigating effects. This may generate interest not only among scholars but also practitioners and, in particular, financial analysts to predict the financial future of firms for investment decisions.

3. Managerial implications

Generally, investors are risk-averse, and corporate scandals bring uncertainty to the future of a firm's performance. Investors can be concerned about the decision-making capabilities and the reactions of managers who face scandals to avoid bankruptcy. Will managers decide to respond to the scandal's situation? Will they do nothing and just wait for the consequences? Or will they restructure not only their short-term but also their long-term activities to recover from the corporate scandal? Scandal management strategies and decisions are often unclear to investors and corporate boards.

My findings draw conclusions on how managerial approaches to scandals impact firms and how retaining organizational slacks helps firms survive scandals. Managers need to increase the level of organizational slacks during periods of shock-free environment and use them when facing a scandal to decrease its impact on the firm. For more detail, I encourage firms' decision-makers to consider the following discussion and, if necessary, adapt their strategic decisions accordingly.

3.1. Short- and long-term managerial visions

In practice, the short-term vs. long-term vision is particularly relevant because managers need to make decisions that consider both time perspectives, what I call both time-scope reactions in short. For instance, a product recall represents an immediate impact from the consumer and a drop in the stock market price of the recalling firm as soon as the information on the recall goes public. However, recalling a product also implies legal expenses, impacts sales, and decreases firm value, bringing significant difficulties to the firm and its brands (Chen, Ganesan, and Liu 2009; Thirumalai and Sinha 2011). Managers need to consider the long-term negative repercussions on the firm's reputation and the brand, depending on the characteristics of the recall (Cleeren, Dekimpe, and Van Heerde 2017).

Thus, managers should understand that they need to react promptly and be proactive in building a strategy to face the immediate and long-lasting consequences of a scandal. As it takes time to build an effective scandal management strategy, managers need to spend resources to plan procedures to protect the firm in case of scandal, such as building appropriate levels of slacks with strict allocation processes during the event. In the pre-scandal stage, these expenses in preventing scandals are necessary, but corporate boards and stockholders might consider them as wastage of resources. In this sense, managers cannot avoid facing a scandal at some point, and the high complexity of an organization does not allow success in preventing every type of scandal (Coombs 2014). Holding organizational slacks and having an existing scandal

management strategy planned by a dedicated team before the scandal will help the firm face the shock.

Also, managers must be aware that the consequences of scandals last, depending on their intensity, gravity, and complexity; and that they have to be prepared to deal with different kinds of scandals (Adut 2008; Clemente, Durand, and Porac 2016). Thus, flexibility in decisions and resource allocations are important to manage scandals appropriately, and organizational slacks are a way to gain flexibility (e.g., Lee and Grewal 2004). This flexibility can be an advantage in adapting strategies to the specificities of an ongoing scandal.

3.2. Organizational slacks in corporate scandals

Managers can be very effective in a shock-free period but inefficient in a shock period because decision-making processes are different. They may not be capable of reacting quickly and making adequate decisions in a period of uncertainty with strong pressure and based on a low level of information (Craig and Thomas 1996; Crandall, Parnell, and Spillan 2013; Kalavar and Mysore 2017). My results reveal that organizational slacks can help the firm during scandals. Previous studies showed that (1) managers create slacks when the market is in a growing tendency to use these resources when the market is trending downward (e.g., Bourgeois III 1981), (2) slacks can work as a shock absorber in a disruptive phase (e.g., Daniel et al. 2004), and (3) slacks protect the firm from decreasing firm value and increasing firm risk (e.g., Bradley, Shepherd, and Wiklund 2011; Miller and Leiblein 1996; Wan and Yiu 2009; Wiseman and Bromiley 1996).

In addition to the importance of slacks for managers in various positive or negative contexts described in the literature, my findings show that holding slacks is beneficial for the firm during a scandal. The buffering capabilities of these resources are effective in this particular context – they decrease the uncertainty in investors' perceptions. Holding these disposable resources will

reassure investors by sending a strong signal that the scandal will have a manageable impact on the firm. The buffering mechanism of slacks will help decrease uncertainty in the short and long terms. Thus, it might be interesting for managers to reveal and "promote" the total amount of slacks the firm holds.

Moreover, slacks can help to make investments in attractive but unexpected opportunities through their enabling mechanisms. They bring flexibility to the firm's decisions (e.g., Lee and Grewal 2004). In a negative economic trend and environmental shock, slacks can be helpful to create opportunities for internal and external growth (e.g., Wan and Yiu 2009). The benefit of holding slacks is more significant and crucial during a negative economic trend than in shock-free environments because firms with more slacks will be able to diversify their activities (Alessandri, Cerrato, and Depperu 2014). This advantage is also useful in harsh conditions because investments in innovation will positively impact innovation growth for firms holding more slacks (Zona 2012). In this way, during a scandal, managers might allocate a part of the slacks to continue certain activities that participate in sustaining competitive advantage, such as R&D for product innovation. In contrast, the rest of the sacks can serve to face the immediate difficulties of such a situation.

My thesis reiterates the managerial importance of slacks in this unexplored context of corporate scandal. The multi-sided allocation aspects of slacks contribute to managerial insights on the significance of considering the continuity of the firm's activities while handling the on-going situation caused by the scandal. In turn, this leads to the importance of distinguishing the types of slacks and their specific allocation.

3.3. Role of unabsorbed vs. absorbed slacks

Going into detail about the slacks' specificities, I determine which type of slacks mitigate the effects of a scandal on expected future revenues and which types are likely to impact the volatility versus stability of the firm, depending on the timeframe.

Managers evaluate the role and particularities of any kind of resource before their allocation. They must also consider the type of slacks during a scandal because of their unique proprieties. By conducting a separate analysis for each type of slacks, my findings ensure appropriate usage of these specific resources in terms of allocation timing in a corporate scandal's context. Doing so provides a distinctive use of slacks depending on their type. As the scandal already weakens the firm, managers need to use all their resources in efficient and effective ways. My results suggest that managers need to utilise unabsorbed slacks as soon as the scandal starts and continue to use them for the long term. Unabsorbed slacks will serve as a daily shock absorber against each new "wave" of the scandal.

On the other hand, absorbed slacks should be implemented as a resource to stabilize the long-term activities of the firm. Managers should find a way to measure the level of their absorbed slacks, as absorbed slacks are usually hard to quantify for investors (Suzuki 2018). It might be a way to provide additional evidence to investors that the firm is financially strong enough to survive the on-going scandal.

There is no doubt that the role of slacks in helping firms to face a scandal must not be underestimated and that distinguishing the types of slacks clarifies the role of each in a precise manner. A better understanding helps improve the efficiency of their allocation and avoid wasting these resources during a scandal. Furthermore, knowing the role of each type of slacks provides managers with evidence that a long-term perspective beyond the scandal is necessary, even if such an emergency situation might present the temptation to think in the short term.

3.4. Optimal level of organizational slacks

My findings on the curvilinear effect of unabsorbed slacks on firm value in the short term contribute valuable insights not only for managers but also for investors. As previous studies in the slack literature show, holding slacks can lead to success but might also bring inefficiency, depending on the context (e.g., March and Simon 1959; Wiseman and Bromiley 1996). My results reveal a similar effect: holding unabsorbed slacks during a scandal positively helps the firm until reaching an optimal level; then, overreaching this optimal level and holding unabsorbed slacks becomes detrimental for the firm. *Per se*, slacks might help the firm work more effectively, bringing positive outcomes; but firms holding a high level of unabsorbed slacks will be less efficient than firms holding fewer slacks in a scandal situation.

My findings on unabsorbed slacks bring additional insights to this undefined ambivalent effect of holding slacks during a corporate scandal. They contribute to alerting investors to the necessity of closely estimating the slack levels of a firm. Investors should be assured that the level of slacks, and particularly that of the unabsorbed ones, is adjusted optimally before, during, and after a scandal. A misestimation of the level of unabsorbed slacks might mislead investors' predictions on the financial future of a firm. I encourage managers to make sure that investors and corporate board members are widely and precisely informed about the level of unabsorbed slacks held by the firm because it can reassure them during a scandal.

To sum up, my study provides useful practical insights to managers to help with decision-making, strategic decisions, and scandal management applications by reflecting on the exact impact of a scandal on similar firms. In addition, managers should keep in mind that available resources – particularly organizational slacks that the firm holds–seem to have an important role during corporate scandals. These specific resources will help decrease immediate negative impact and long-term consequences of a scandal. Managers should not understate their importance and must not hesitate to release them if required by the situation, such as a scandal,

to protect the firm against an increase in risk, which can directly impact stock wealth in the long term (Luo and Bhattacharya 2009). For these reasons, managers need to plan carefully and invest resources in the post-corporate scandal process before the next scandal, where the firm (1) reviews the consequences of the scandal and (2) learns from mistakes and well-managed strategies.

4. Economic implications

In addition to the theoretical, empirical, and practical aspects described above, parts of my thesis have economic implications. Results also need to be interpreted beyond the statistical perspective to draw conclusions in a context of corporate shock where firms suffer highly.

4.1. Financial impact of corporate scandals

My findings confirm that corporate scandals negatively affect firms' financial performance in the short and long terms. In contrast to previous studies, I rely on precisely dated observations of scandal events. This approach enables me to determine the exact moment when firms start to lose value. I show that the stock price reacts immediately after the information has been released based on a daily precision surrounding the scandal.

My results indicate that a firm loses on average nearly 0.3 percent of its value the same day of the scandal (i.e., ARs (D_0)) and more than 0.5 percent in two days (i.e., CARs). While these numbers might not seem dramatically high, the nominal value depends on the firm's capitalization. Consider my sample composed of S&P 500 index firms. This small percentage can represent millions of dollars for the 500 most-capitalized U.S.-traded firms. In concrete numbers, in September 2021, the market capitalization of all firms in the S&P 500 index totals more than US$ 37 trillion (i.e., US$ 37,000 billion), and the total market capitalization of the 90 firms from my sample was around US$ 13.615 trillion in 2020. My sample contains, for instance, Apple with US$ 2.55 trillion market capitalization (September 2021), Berkshire

Hathaway and its US$ 631 billion market capitalization (September 2021), and Pfizer with US$ 262 billion market capitalization (September 2021). On average, these firms would respectively lose US$ 7.65 billion, US$ 1.89 billion, and US$ 786 million in a day in a situation of scandal. The numbers are even more dramatic in the long term, with a drop of 7.2 percent after one year and 24.18 percent after two years from the beginning of the scandal. That is, respectively, more than US$ 183 billion and US$ 616 billion of loss for Apple.

Thus, scandals can have heavy economic consequences for firms in the extremely short term as well as in the long term. Even with a diversified portfolio of investments, corporate scandals are an important variable to consider for investors. This parameter places managers in a difficult position, as they need to make quick and effective decisions to negate a scandal's effects.

My thesis supports previous research on the financial impact of a scandal and further adds important insights on the quantified impact on short- and long-term firm values. I also prove the need for urgency and long-term determination in reacting to corporate scandals. My findings show that using slacks can fill the requirement of both time-scope reactions and uncover which time scope fits the best with the type of slacks – unabsorbed or absorbed. Organizational slacks are one of the economically powerful tools that managers have to reduce the impact of a scandal on their firm.

4.2. Importance of managing firm risk

Managers should fully consider the effect of slacks on firm risk during a scandal. As my results show, a scandal increases firm risk with long-lasting consequences. The volatility perceived by investors has repercussions both for the present and the future of the firm. Srinivasan and Hanssens (2009, p. 299) point out that risk "induces higher costs of capital financing, thus damaging firm valuation in the long run." Higher risk also increases the costs of debts (Luo and Bhattacharya 2009). Firms would face more difficulties in borrowing external resources that

might serve long-term growth activities, such as product development. Thus, keeping the firm's risk low is crucial. My results show that slacks influence risk. Thus, competitive advantage and growth can be maintained during and even after a scandal.

4.3. Economic significance of slacks in corporate scandals

Based on my empirical results and my extensive investigation of the related literature, it is not certain that absorbed slacks are essential to firms in cases of scandal.

First, firms with more slacks are less willing to take risks to reach or maintain their expected financial performance. Managers will have less need to commit illegal acts (e.g., Cyert and March 1963; Greve 2003). However, the type of slacks differently influences the (mis)behaviour of the firm, possibly leading to other scandals. On the one hand, holding unabsorbed slacks increases the likelihood of misbehaving. On the other hand, holding absorbed slacks makes a firm less liable to commit illegal activities (Mishina et al. 2010).

Second, unabsorbed slacks mitigate the firm value positively in the short and long terms and decrease firm risk during a scandal. Absorbed slacks only mitigate the risk and have no effect on short- and long-term firm values for various reasons mentioned above. Holding absorbed slacks seems to engage substantial costs for a substitutable tool that is not always efficient. Holding absorbed slacks in addition to unabsorbed slacks might not be worth the additional costs, such as opportunity costs (e.g., Bromiley 2009; Thompson 2000). If the firm has the resources to create and hold slacks, I suggest managers focus fundamentally on unabsorbed slacks.

For these reasons, I would advise managers to carefully evaluate whether holding absorbed slacks is necessary and, otherwise, focus exclusively on holding unabsorbed slacks. Doing so still should be a decision that takes into account the other aspects and contexts where absorbed slacks might be highly useful.

5. Limitations and future research

While my thesis has broken new ground and introduced helpful indications for managers on how to face scandals using firm resources, it must be interpreted in the light of its limitations, some of which might provide opportunities for future research.

5.1. Reliability in long-term measurements

The first limitation relates to the estimation of long-term effects and the reliability of results based on such a timeframe. While many studies apply the same long-term measures, scholars are still sceptical about the accuracy of an event study extended to a yearly basis because an event study is sensitive to various parameters: event samples, market and stock volatility, and firm characteristics (Sorescu, Warren, and Ertekin 2017). Long-term ARs do not follow the efficient market hypothesis (i.e., new information is reflected in the stock market price in not more than a few days). If risk adjustment, cross-correlation in returns, and modifications in volatility occur during the event window, the results will be skewed. The possibility of error in risk adjustment is more important in the long-term than in the short-term window. In the short term, a little error on the risk adjustment does not affect the estimation of the short-term ARs; however, it can cause a critical economic misestimation in a long-term horizon. Precise risk estimation is hard to justify because event studies usually base their analysis on (1) events happening after an uncommon performance, such as stock splits followed by high performance; (2) firms with extreme attributes, such as low level of capitalization, low stock market price, and high book-to-market ratio; and (3) events based on extraordinary previous performance, such as contrarian investments. These risk-related issues are among the major problems in long-term estimation because past performance influences stock risk (Kothari and Warner 2007). Thus, the computations of long-term ARs need to rely on post-event and not historical risk evaluation (e.g., Ball, Kothari, and Shanken 1995). Also, the reliability of the ARs' results in a long-term study depends greatly on the applied model because long-term horizons amplify

systematic errors due to imperfections in the expected return proxies (e.g., Kothari and Warner 2007; Lee and Lee 2015).

However, “the evidence against market efficiency from the long-term return studies is fragile. Reasonable changes in the approach used to measure [long-term] abnormal returns typically suggest that apparent anomalies are methodological illusions” (Fama 1998, p. 285). Other authors argue that the choice of methodology influences the statistical inference in long-term event studies (e.g., Barber and Lyon 1997; Kothari and Warner 1997). Thus, the researcher needs to understand the different characteristics of each methodology of long-term analysis before choosing one. Additionally, stock returns and risks from an asset price model, such as the Fama-French five-factor model, depend on estimated long-term event window parameters. The risk-free rate of returns on Kenneth French's website is given on a monthly basis, and the other parameters vary slowly (Hsu, Fournier, and Srinivasan 2016).

These elements could have implications for the relevance of my data analysis. However, the fact that most studies analysing firm value and risk from a long-term perspective use the same criticized measurements gives a marginal possibility of issues with my results. I partially resolve this questioning on the reliability of long-term analysis by testing the robustness of the results with a different approach in computing long-term ARs using the alpha of the regression from the RPE methodology. Future research might replicate my analysis using other asset price models to confirm or disconfirm my results.

5.2. Sample size

One of the principal components of my empirical analysis, the data sample, might present a few limitations.

First, the sample size could impact the generalizability of the findings. As no database reporting corporate scandals exists, I had to construct a unique dataset from scratch. The process of

finding events of scandals is time-consuming. For each event, it involves (1) finding the event reported by RR in the media based on a date and the firm name, (2) reading all the articles that I find in the Factiva database related to the search, (3) coding the event to indicate if it is a scandal, and (4) searching for the precise date of the scandal by using Google. Time and financial constraints did not allow me to build a larger dataset, including more years of observations. However, I plan a future extension of my thesis that will incorporate an increased number of observations.

Second, my sample considers only U.S.-traded firms due to the constraints in the data availability. I did not have access to any database that lists the traded firms outside the U.S. market. The information on firms' financial data was mandatory for using an event study analysis as well as for computing event studies and measuring organizational slacks. Also, focusing on firms from the S&P 500 index is restrictive, and a lack of variance in the firms' clusters could be expected. However, these firms are the most capitalized firms in the market which allows simplifying the search for scandals because they are covered more thoroughly by the media. Again, time and financial constraints played a role in the decision of considering only the biggest firms.

As my dataset is focused on one market and firms with similar size, future studies might analyse scandals in an international context beyond the U.S. market. In the same vein, the analysis could focus on small- and medium-capitalization firms. This focus might provide additional insights by comparing the effects of firm size and resources during a scandal and define which types of firms go through a scandal with fewer consequences. For instance, Coffee Jr (2005) determines the specificities of scandals in the U.S. considering the governance systems of other countries. An empirical comparison between different countries of scandals' characteristics and their impact might enhance additional insights for policy makers. However, the feasibility of these studies will depend on the availability of the data.

5.3. Estimation biases

My estimation of effects might suffer from reverse causality and omitted variable biases.

First, reverse causality issues exist when the exposure causes changes in the regressor. I had access to data that allows analysing whether holding slacks mitigates the effects of a scandal on a firm. However, I am not able to confirm if (1) firms already increased their level of slacks by anticipation of a potential scandal, (2) a firm increased its slacks because of a previous scandal, and (3) holding slacks did not influence the scandal to occur. While the literature suggests that slacks induce managers' misconduct (Bergh 1997), no research studies whether organizational slacks increase the probability of corporate scandal. These elements might lead to bias in my estimation of the relationship between slacks and scandals.

Second, omitted variables can bias the results of estimating the relationship between slacks and short- and long-term firm values and firm risk. Even if I tried to measure and include every variable that might play a role in the estimation, there is still the possibility that some unobserved characteristics of managers might be correlated with the level of slacks. For instance, a more focused analysis on the specific role of absorbed slacks, such as extra workforce, could investigate the behaviour of the TMT and the way to communicate with the employees regarding the level of relocation to other departments after a scandal. These variables could be influential in the analysis of the changes in working capital structure during a corporate scandal.

On the other hand, these potential biases go beyond my research questions and empirical data. However, these limitations might also be research opportunities for future studies.

First, it is still unclear if holding slacks increases the probability of facing a scandal or whether it encourages firms to increase their level of slacks afterward. Determining this might explain the role of slacks in the probability of facing a scandal, comparing the levels of slacks in

different firms with and without scandals. Does a high level of slacks influence managers' behaviours? The opposite can also be interesting to determine. As for the curvilinear effect on their mitigating role in a scandal's impact, slacks could also have an optimal level to decrease the probability of misconducts, thus potential scandals. Being able to predict the probability of facing a scandal would be highly valuable for investors and allow them to adapt their strategy accordingly.

Second, in my thesis, I analysed the role of slacks depending on their types and timeframes. Doing this provides insights on the optimal quantities, the levels of buffering effects, and which types of slacks are the most efficient in which timeframe. However, it does not give any indication on which specific slacks in each type, how they are utilized, and which departments use more slacks during a corporate scandal. A qualitative investigation can provide answers to these questions through interviews with CEOs, managers, and investors on how they are prepared for and react to scandals. There is also the possibility that some management boards never considered that their firm might face a scandal one day or another.

Finally, as an extension of my thesis, it would be interesting to compare which type of slacks has the higher effect against scandals, thus, defining the magnitude rather than the significance of the effect. This investigation can be realized empirically with similar tools presented in this study. It might be worthwhile for managers to know which of the unabsorbed and absorbed slacks is the most effective to use against a scandal's shock.

6. Conclusion

Even if scandals may be accidental, firms need to be prepared for these inevitable events by implementing internal and external upstream procedures to decrease the severity, duration, and impact on their financial health and improve the recovery process. It allows managers to react promptly with adequate actions as soon as a scandal appears. Also, they must be ready to face

a level of damage proportional to the liability of their firm for the cause of the scandal (Bundy et al. 2017).

My conclusions offer several theoretical contributions, managerial and economic implications, as well as extend the methodological and empirical scope in the literature.

First, my thesis highlights different timeframes of analysis of firms' financial aspects that show how strategic flexibility is important for firms when facing an unavoidable event leading to serious consequences. My results from a regression analysis on three dependent variables – short- and long-term firm values and firm risk – are robust to other lengths of event windows, and outliers do not influence the significance of the findings.

Also, previous studies in the corporate scandal literature use too many definitions drawn from the concept of socio-political scandals. I believe that having a better understanding of corporate scandals' characteristics will encourage researchers in the field to develop further concepts that (1) contrast with the literature streams on socio-political scandals and corporate crises and (2) bring to the fore topics that allow for more consideration across the different niches of the corporate scandal literature.

Not being prepared for the worst is still a challenge most firms face. For managers, the question is not if the firm will face a scandal but when the scandal will happen (e.g., Bundy et al. 2017; Coombs 2014). Thus, managers need to be prepared at any time and ready to react to such a shock. When dealing with corporate scandals, managers must deal with both internal and external elements to communicate appropriately with stakeholders. I hope that my thesis helps managers build better resource allocation strategies when preparing plans to face future scandals and make better decisions in terms of problem-solving when facing a scandal by considering the relationship between types of resources and time horizons.

Finally, corporate boards and managers can rely on the insights of my thesis to allocate part of their resource surplus to specific types of slacks and define their appropriate level based on the potential needs of their firms. In this sense, my findings provide specific guidance on the negative aspect of holding organizational slacks, aware of which corporate boards and stockholders can be attentive to how managers utilize their resources.

Appendix

Classification and definitions of the ESG-related incidents from RepRisk

Environmental Issues	
Issue	**Definition**
Animal mistreatment	- This issue refers to the torture, mistreatment or abuse of animals through experiments, husbandry, trophy hunting, etc.
Climate change, GHG emissions, and global pollution	- This issue includes pollution, mainly atmospheric, that has negative impacts beyond the surroundings in which the emissions occur. - This includes, for example, criticism related to climate change, carbon and other greenhouse gas emissions, coal-fired power plants, gas flaring, carbon credits, etc.
Impacts on landscapes, ecosystems, and biodiversity	- This issue covers impacts of company activities on ecosystems or landscapes such as forests, rivers, seas, etc., contamination of groundwater and water systems, deforestation, impacts on wildlife, etc.
Local pollution	- This issue covers pollution into the air, water, and soil that has a primarily local effect, including oil spills, etc.
Overuse and wasting of resources	- This issue refers to a company's overuse, inefficient use of waste from renewable and non-renewable resources, such as energy, water, commodities, etc.
Waste issues	- This issue relates to inappropriate disposal or handling of waste from the company's production processes or projects, as well as waste trafficking.
Social Issues	
Issue	**Definition**
Child labour	- This issue refers to the use of child labour by an employer, according to the ILO Conventions. - This includes, for example, child prostitution, child pornography, child trafficking, etc., for those under 18 years old.
Discrimination in employment	- This issue refers to treating people differently or less favourably because of characteristics that are not related to their merit or the inherent requirements of the job, such as gender, religion, nationality, age, etc. - Discrimination can arise either when gaining access to employment or once employees are at work.
Forced labour	- This issue refers to the use of forced or compulsory labour by an employer. - This includes, for example, bonded labour, prison labour, exploitative practices, full or partial restrictions on freedom of movement, withholding of wages, threats of deportation for illegal workers, etc.
Freedom of association and collective bargaining	- This issue refers to violations of workers' rights to organize and bargain collectively. - This includes, for example, interfering with union formation and participation, retaliation against striking workers, refusal to comply with union agreements, etc.
Human rights abuses, corporate complicity	- This issue is involved when a company is accused of committing or being complicit in human rights abuses. - This includes, for example, violence against individuals, threat of violence, child and forced labour, human trafficking, organ trafficking, privatization of water sources, privacy violations, supporting oppressive regimes or terrorist organizations, trading in "blood diamonds" or "bush gold," etc.
Impacts on communities	- This issue relates to a company's activities that lead to problems or worries for a community, such as a village or a town or a group of people with common interests, values, preferences, social background, etc. - This includes, for example, land- and water-grabbing, negative impacts on a community's livelihood/employment opportunities, relocation of communities, safety impacts, access to lifesaving drugs, etc.
Local participation issues	- This issue covers instances in which local communities or individuals are not appropriately consulted about the activities of a company, do not benefit appropriately from their activities, or when companies use unethical tactics, such as imprisonment or harassment, to silence their critics
Occupational health and safety issues	- This issue refers to health and safety matters in the context of employee relations within a company. - This includes, for example, lack of safety for employees at work, occupational accidents related to poor health and safety measures, sickness among workers related to production processes, negligence resulting in work-related accidents, etc.
Poor employment conditions	- This issue refers to poor employment conditions. - This includes, for example, "slave-like" working conditions, "sweatshop" labour, harassment and mistreatment of employees (including sexual), issues related to labour contracts and/or pay, illegal employment, unfair dismissals, spying on employees, etc.
Social discrimination	- This issue refers to treating people differently or less favourably because of certain characteristics, such as gender, racial, ethnic, or religious, outside of an employment setting (such as customers). - See "Discrimination in employments" for discriminatory treatment of employees.

Governance Issues	
Issue	**Definition**
Anti-competitive practices	- This issue refers to business or government practices that prevent, reduce, or manipulate competition in a market. - This includes, for example, bid-rigging, dumping, exclusive dealing, price-fixing, dividing territories, government-granted monopolies, limit pricing, tying, resale price maintenance, collusion, etc.
Corruption, bribery, extortion, money laundering	- This issue refers to corruption, bribery, extortion, and money laundering. - The understanding of corruption is based on the 10th Principle of the UN Global Compact. - This includes, for example, the use of slush funds, aggressive lobbying, overcharging, nepotism, cronyism, connections to organized crime, etc.
Executive compensation issues	- This issue refers to top management's compensation (salary, bonus, and other remuneration), regardless of their performance. - This includes, for example, excessive bonuses, salaries, pensions, termination settlements, benefits, etc.
Fraud	- This issue refers to intentional deception made for personal gain or damage to another individual (lying with financial or legal impacts). - This includes, for example, counterfeiting, forgery, embezzlement, insider trading, fraud related to bankruptcy, investments or securities, breach of fiduciary duty, false advertising/billing/claims/documentation, misleading investors, stock price manipulation, etc.
Misleading communication	- This issue refers to when a company manipulates the truth in an effort to present itself in a positive light, and in the meantime, contradicts this self-created image through its actions. - It also refers to when a company misleads consumers about its products and services. - This includes, for example, “greenwashing,” false advertising, off-label marketing, “astroturfing,” etc.
Tax evasion	- This issue refers to general efforts not to pay taxes by illegal means. - This includes, for example, tax fraud, the use of tax havens, etc.
Tax optimization	- This issue refers to the practice of minimizing tax liability through tax planning. While not illegal, it may be associated with abuse of the law. - It is often criticized for robbing a state of potential tax revenues, particularly in developing countries. - This includes, for example, tax inversion, the relocation of a company’s headquarters to a low-tax country while retaining operations in a high-tax country, and tax avoidance, taking advantage of beneficial tax “loopholes.”
Cross-cutting Issues	
Issue	**Definition**
Controversial products and services	- This issue refers to the sale of products or services that provoke strong disagreement or disapproval. - This includes, for example, alcohol, weapons, drones, biofuels, drugs used for state executions, gambling, genetically modified organisms, nuclear power/fuel, palm oil, ozone-depleting substances, seed and/or animal patents, PCBs, pornography, socially controversial financial services, tobacco, tropical wood products, etc.
Products (health and environmental issues)	- This issue refers to providing a product or service which poses an unnecessary risk to the consumer’s health or the environment. - This includes, for example, recalls of toxic or dangerous products (including drugs), contaminated food, medical treatments leading to unintended health consequences, transportation services with safety risks to customers, etc.
Supply chain issues	- This issue refers to companies that are held accountable for the actions of their suppliers. - Both vendors and subcontractors are considered part of the supply chain.
Violation of international standards	- This issue refers to breaches of international standards set by: - International governmental organizations with a global nature that are open for all states to join, including all UN-related bodies. - International treaties with a global nature that are currently in force and that are, in principle, open for all states to sign. - International customary law.
Violation of national legislation	- This issue refers to the violation of national and state legislation in relation to an environmental, social, or governance issue. - This includes, for example, breaches of national or regional laws, breaches of bilateral or regional treaties, court actions by government agencies or other companies for questionable business practices, breaches of domestic laws for crimes committed abroad, business with nationally sanctioned countries, etc.

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