DIVESTITURE DILEMMAS

THE IMPACT OF CEO ORGANIZATIONAL IDENTIFICATION ON CORPORATE DIVESTITURE PROPENSITY, SIZE, AND SCOPE

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Abstract:

While previous research has shown that characteristics of CEOs can impact their reluctance towards engaging in divestiture activity, less is known about how CEO organizational identification (OI) influences their divestiture decisions. This study examines how CEO OI impacts a company's propensity to divest business units, the size of divestitures, and the scope of post-divestiture refocusing. Based on previous OI literature, we measure OI by creating a composite variable using four CEO characteristics: tenure, whether the CEO is the founder of the firm, equity ownership stake, and whether the CEO was internally promoted. Using a sample of CEOs and divestitures during the years 1997-2022 from S&P 1500 companies, we find a negative relationship between CEO OI and the likelihood of divestiture. Furthermore, our findings show that CEO OI is negatively associated with the size of divestitures. However, we find no evidence of a relationship between CEO OI and the divestiture scope. Our findings contribute to the divestiture literature by underscoring the importance of CEO OI as an explanation of why CEOs become reluctant towards engaging in divestiture activity. Furthermore, contrary to previous literature on the relationship between OI and corporate finance decisions, our findings suggest that higher levels of CEO OI may not always be associated with reduced agency costs.

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1. Introduction

1.1. Background

The idea that the emotions and characteristics of CEOs can influence the strategic decisions and organizational outcomes of companies has been well-documented in previous research. The upper echelons theory suggests that companies become reflections of the characteristics, backgrounds, and personalities of their CEOs (Finkelstein et al., 2009; Hambrick and Mason, 1984). In the context of corporate finance decision-making, differences in characteristics among CEOs have been shown to be strong predictors of variation in a variety of financial decisions (Bertrand and Schoar, 2003). As part of their corporate strategies, companies frequently adjust their portfolios of business units through divestitures, which involves selling off, spinning off, or carving out business units from the portfolio (Brauer, 2006). By engaging in divestiture activity, firms can refocus their operations around the core business of the company (Montgomery and Thomas, 1988) and secure improved financial outcomes by rectifying problems associated with overdiversification (Markides, 1992; Hoskisson and Johnson, 1992). Nevertheless, CEOs may be reluctant towards undertaking divestitures (McNamara et al., 2002; Donaldson and Lorsch, 1983; Dial and Murphy, 1995). In fact, this reluctance may even be prevalent in situations when shareholders would benefit substantially from divestitures (Pan et al., 2016). As such, the CEO characteristics that help in explaining the reluctance are crucial to understand from a corporate governance standpoint.

An example that illustrates how CEO characteristics influence the decision to divest was when General Electric, in 2015, announced that it would divest GE Capital, its banking division that had long accounted for half of the conglomerate's profit (Rushe, 2015). The 2008 financial crisis revealed the vulnerabilities of having such a massive financial arm tethered to an industrial conglomerate, and GE Capital's exposure to the financial markets made General Electric susceptible to the systemic risks of the banking sector. When General Electric's CEO Jeffrey Immelt – who had held the position as CEO of General Electric for 14 years – announced the divestiture, one financial analyst argued that "it should have been done a long time ago" (Clough, 2015). Another analyst commented that Immelt "comes across, though, as a painfully reluctant capital allocator – at least when allocating capital means selling businesses that he cares about" (Fox, 2015). Given that Immelt had spent almost his entire career at General Electric and had served on the board of GE Capital since 1997 (The Economist, 2014), it is not surprising that he had developed a strong attachment both to the company as a whole and to GE Capital specifically, rendering him highly reluctant towards divesting the business unit.

The influence of CEO characteristics in the divestiture decision has been comparatively less explored as antecedents of divestiture activity in previous literature (Kalasin, 2023), and calls have been made for more research on how differences in characteristics among managers can impact divestiture decision-making (e.g. Brauer, 2006; Kolev, 2016). In this thesis, we investigate the role of CEO organizational identification in the divestiture decision, which to the best of our knowledge no previous divestiture research has done before. Organizational identification (OI) is defined as the extent to which an individual identifies with his or her organization (Ashforth and Mael, 1989), and reflects the ways in which they define themselves through their membership in the organization (Cole and Bruch, 2006). As an individual begins identifying more with their organization, their perceived self-concept converges with that of the organization, ultimately depersonalizing their self-concept and transforming their view of themselves into becoming an interchangeable part of the organization (Dutton et al., 1994; Turner, 1985). In a managerial context, high levels of OI among CEOs can significantly affect their strategic decision-making (Akerlof and Kranton, 2000). As the identity of CEOs who experience high levels of OI is so intertwined with the identity of the organization, a strong alignment of interests between the CEO and the company is produced and, consequently, agency costs are reduced (Mael and Ashforth, 1992; Heinle et al., 2012; Boivie et al., 2011; Abernethy et al., 2017). Research has found that, resulting from this strong principal-agent relationship, corporate finance decisions made by CEOs with higher levels of OI focus more on the long-term value creation for shareholders (Zhou et al., 2021; Du et al., 2022). However, literature on the impact of CEO OI on corporate finance decisions is scarce.

The long-postponed divestiture of GE Capital by Jeffrey Immelt stands out as a possible scenario in which a CEO who identified strongly with his company, was reluctant towards undertaking a divestiture. Perhaps Immelt viewed GE Capital as an interchangeable part of himself and, consequently, experienced immense emotional costs in selling the business unit. The purpose of this thesis is to study this idea in a broader context, focusing on the impact of CEO OI on divestiture propensity, size, and scope of refocusing. We anticipate that CEOs with higher levels of OI will perceive their company's business units as integral components of their personal identity. This deep sense of identification may instill a reluctance to pursue divestitures, as such actions could be emotionally akin to parting with elements of their own identity. As such, we hypothesize that CEOs who more strongly identify with their companies are associated with a lower propensity to divest their business units. However, these CEOs may occasionally find themselves in situations where divestitures are unavoidable. This is common when restructuring of the company is required to ensure its future prosperity, for instance in the

events of overdiversification or financial distress (Brauer, 2006; Kolev, 2016). In instances where CEOs with high OI choose to engage in divestitures, we expect them to make smaller divestitures. This expectation is based on the idea that these CEOs would be less inclined to part with a substantial portion of their personal identity, favoring instead more modest divestiture strategies. Furthermore, when they divest, we expect their efforts to primarily target business units less aligned with their personal and the company's collective identity, whilst retaining those more closely connected to this shared identity. We suggest that divestitures of business units that are related to the company's core business should be associated with greater emotional costs for CEOs with high OI, as those business units represent parts of the core of the shared identity. As such, we expect high OI CEOs to focus their divestitures on business units that are unrelated to the core business. The choice between divesting related or unrelated business units has a profound impact on the company's diversification level, and this impact is referred to as a divestiture scope in previous research (Chiu et al., 2016). While divestitures of unrelated business units decrease the company's diversification level by concentrating revenue towards the core business, divestitures of related business units frequently increase the diversification level by more evenly distributing revenue across the company's segments (Chiu et al., 2016; Hoskisson and Johnson, 1992). Therefore, by focusing their divestiture activity on unrelated business units, we expect the divestitures made by CEOs with higher levels of OI to decrease the diversification level more compared to CEOs with lower level of OI.

We investigate the relationship between CEO OI and the propensity to divest business units, the size of divestitures undertaken, and the divestiture scope, using a sample of CEOs and divestitures during the period 1997-2022 from companies listed on the U.S. stock market index S&P 1500. The OI variable used as the independent variable in our regression models is measured by following the approach proposed by Abernethy et al. (2019). Out of the six OI components presented in their study, we use four components to construct our OI variable: tenure, founder status, equity stake, and insider status. Our findings indicate that there is a significant negative relationship between CEO OI and the propensity to divest business units. As such, CEOs who more strongly identify with their organizations are less likely to engage in divestiture activity. We further find evidence supporting a significant negative relationship between CEO OI and the size of divestitures made. This means that, while CEOs with high OI engage in fewer divestitures, when they do divest, they make smaller divestitures compared to their low OI counterparts. Finally, we do not find statistically significant evidence supporting a greater reduction in post-divestiture diversification level for CEOs with higher levels of OI.

1.2. Purpose and research question

The purpose of this study is to examine the impact of CEO OI on a company's propensity to divest business units, the size of divestitures made, and the scope of divestitures. To the best of our knowledge, no previous research has applied the concept of OI in a divestiture context. Although some existing research articles have investigated the relationship between the individual components of our OI variable and divestiture activity, the literature is scarce and the evidence is inconclusive. Additionally, by investigating the impact of a composite OI variable rather than each individual component, the study adds a unique psychological perspective that cannot be captured by individual factors. The insights obtained by this study can also be of practical value to companies and, in particular, to shareholders and boards designing and implementing corporate governance practices. Because CEOs who identify more strongly with their companies are associated with reduced principal-agent problems, the findings can provide insights into whether such agency costs are reduced also in a divestiture context. In summary, this thesis aims to answer the following research question:

How does CEO organizational identification impact the company's propensity to divest business units, the size of divestitures, and the divestiture scope?

1.3. Delimitation

Several delimitations have been made in this study. First, we chose to limit the study to CEOs of companies listed on the U.S. stock index S&P 1500 as of the time of writing this thesis, either through listings on the New York Stock Exchange or through NASDAQ. As U.S. CEOs frequently possess board membership and potentially even positions as chairmen of the board (Lightner and Francis, 2016), we suggest that their characteristics may be more fundamental as explanatory variables in strategic decisions compared to CEOs with comparatively less power. Second, the dataset includes data ranging from 1997 to 2022, with some additional financial variables from 1996 as a result of using some lagging variables in our study. Third, we limit the measurement of OI to only focus on four out of the six components proposed by Abernethy et al. (2019) because of unavailability of data surrounding other current and former positions held by CEOs in our sample. Despite this, the four variables used in our study still sufficiently capture the necessary facets of OI by encompassing both a top-down and bottom-up development of OI, which is consistent with the core methodology used by Abernethy et al. (2019). Fourth, the sample of divestitures used in this study is limited to revenue-generating business units and does not include other corporate assets, such as divestments of real estate. To ensure that we only include such business units, we limit the sample of divestitures to only

include those in which total sales of the divested business unit is disclosed. To further focus the sample on business units, we exclude real estate companies and investment companies from both the sample of CEOs and the sample of divestiture transactions, because the business model of such companies is to divest assets and interests in portfolio companies.

1.4. Disposition

Our thesis is structured as follows. First, we provide a review of existing research in the field of how CEO characteristics influence strategic decision-making and, in particular divestiture behaviors. Building on previous research, we develop our analytical framework and hypotheses. Second, we present the methodology used to test our hypotheses, including sample construction, statistical models, and variables used. Third, we present our results and our analysis, including theoretical contributions and implications for practice. Finally, we conclude the thesis by discussing the limitations of our study and potential avenues for future research in the field of OI and divestitures.

2. Literature review and hypotheses

2.1. Literature review

The literature review is divided into three sections. First, we introduce the upper echelons theory as an underlying explanatory theory for managerial corporate finance decision making. Second, we provide a detailed presentation of the existing body of research on the influence of CEO characteristics on divestiture decisions. Third, we present the theory behind the CEO characteristic of focus for this study, namely organizational identification (OI).

2.1.1. Upper echelons theory and corporate finance decisions

Previous literature has extensively shown that managerial characteristics play an important role in investment, financial and strategic decision-making in corporate settings (e.g. Bertrand and Schoar, 2003; Malmendier and Tate, 2005). According to the upper echelons theory, the psychological orientation of managers can influence their strategic behaviors and actions, consequently causing their organizations to become reflections of their backgrounds and personalities (Finkelstein et al., 2009; Hambrick and Mason, 1984). Strategic outcomes are, therefore, influenced by the values, cognitive biases, knowledge, experiences, and various other characteristics of the firm's managers (Carpenteret al., 2004; Finkelstein et al., 2009). In this study, we focus on the influence of these characteristics specifically in financial decision-making processes. Previous literature has examined this setting and found that differences in managerial traits among CEOs explain a substantial portion of the variation in firms' financial decisions, including capital structures, investment policies, cost-cutting strategies, R&D spending, diversification, and acquisitions (Bertrand and Schoar, 2003). Common CEO characteristics that previous research has examined in a corporate finance context include, among others, age (Jenter and Lewellen, 2015), overconfidence (Malmendier and Tate, 2005), ownership (Kim and Lu, 2011), tenure (Zhou et al., 2020), internally and externally promoted successor CEOs (Schepker et al., 2017), founders (Fahlenbrach, 2009), family relations (e.g. Gomez-Meija et al., 2018), and the education level and experience of CEOs (Bhagat et al., 2010; Hamori and Koyuncu, 2015)

The CEO is one of the most important and influential strategic decision-makers within an organization, hence why previous studies frequently focus on CEO characteristics rather than characteristics of the rest of top management team. However, the board of directors is the corporate body that is ultimately responsible for strategic decisions in the company (Finkelstein et al., 2009). Previous studies have shown that board characteristics can affect a variety of financial decisions (e.g. O'Reilly et al., 1988; Haunschild, 1993). Importantly, previous

research has shown that CEOs who also hold the position as Chairman of the Board have more influence over strategic decisions (Boyd, 1995), which is referred to as CEO duality. CEOs with duality have considerable influence over other board members, which allows them to control the agenda of board meetings (Finkelstein and D'Aveni, 1994). In the U.S. corporate environment, it is common for CEOs to be board members, and CEO duality is present in just under half of the companies listed on the S&P 500 index (Lightner and Francis, 2016). Therefore, CEOs in the U.S. market are likely to have more influence over strategic decisions compared to CEOs in many other countries, which means that variations in their characteristics are likely to have greater explanatory power in variations in strategic and financial decisions among different firms.

2.1.2. The influence of CEO characteristics on corporate divestiture decisions

As part of their corporate strategies, firms restructure their portfolios of business units in a variety of ways. Among the most common modes of portfolio restructurings are mergers, acquisitions, divestitures, and liquidations (Bowman, et al., 1999). This thesis focuses on divestitures, a strategy by which firms make adjustments to their business portfolio structure via a sell-off, spin-off or carve-out of a business unit, or through sale of corporate assets (Brauer, 2006). Divestitures allow firms to build their capabilities around their core business and refocus their operations (Montgomery and Thomas, 1988). Existing research has shown that the motivation behind divestitures can originate from external and internal factors (Kolev, 2016). External sources that can influence the divestiture decision include industry competition, innovation, and uncertainty (Chakrabarti et al., 2011; Hillier et al., 2009; Kolev, 2016), while internal factors include divestiture experience, prior performance, firm size, and diversification (Brauer, 2006; Kolev, 2016). Firms typically divest to proactively change a corporate strategy or to correct for overdiversification and previous mistakes by decreasing the firm's scope (Brauer, 2006; Markides, 1992). Gains from divestitures have, consequently, primarily been attributed to reversals of overdiversification, as problems associated with misallocation of resources within the firm are mitigated (Markides, 1992; Hoskisson and Johnson, 1992) and top executives are able to better focus on core operations (Penrose, 2009). Divestitures have further been associated with improved managerial ability to coordinate organizations (Hoskisson and Turk, 1990), increased profitability and financial performance (Haynes et al., 2002; Bergh, 1998), and enhanced R&D expenditure (Hoskisson and Johnson, 1992). Consequently, divestitures improve the internal organizational structure and boost the firm's competitive stance in the external landscape (Kolev, 2016; Chakrabarti et al., 2011).

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Despite the potential benefits associated with divestitures, executives can be hesitant towards pursuing divestitures as they are often found to be challenging (Feldman, 2014). Divestitures are described by previous literature as "the single most unpalatable decision managers have to make" (Porter, 1981), and that they "can sometimes feel like treason" for executives (Dranikoff et al., 2002). Moreover, divestitures frequently come at a personal cost to managers (Kolev, 2016), which is evident in several ways. First, divestitures may require managers to admit their prior mistakes and poor performing strategies (McNamara et al., 2002). Second, divestitures can conflict with the growth goals of managers (Donaldson and Lorsch, 1983). As managers engage in empire building and other forms of managerial opportunism that result in excessive amounts of large acquisitions, overdiversification arises (Haynes et al., 2002; Markides, 1995). CEOs often prefer managing large and highly diversified firms as they receive greater compensation, become considered as capable, and obtain higher visibility (Rose and Shepard, 1994). If the firm's conditions and governance forces do not necessitate refocusing of the firm, CEOs are reluctant to undertake divestitures as they directly shrink the size of the firm at the expense of the CEOs' personal growth objectives. Finally, divestitures can cause substantial resistance inside and outside of the company, as employees, shareholders, the board, and media could disagree with the CEO's decision to divest a business unit or subsidiary (Dial and Murphy, 1995). Due to these reasons, CEOs may become reluctant to divest assets, even when the firm is no longer the most suitable owner (Pan et al., 2016).

The reluctance of managers to divest business units, even in situations when it would greatly benefit shareholders, underscores the pivotal role that CEOs play in the divestiture decision. However, the influence of CEO characteristics on the divestiture decision has been relatively underexplored in previous literature (e.g. Kalasin, 2023). Previous studies have called for more research surrounding managerial differences to understand why firms facing similar conditions make very different divestiture decisions (e.g. Brauer, 2006; Kolev, 2016). Given the strategic weight of divestiture decisions, an understanding of the antecedents that either promote or obstruct divestitures would offer both theoretical and practical insights (Kolev, 2016). In fact, Pan et al. (2016) find that, although previous literature focus on external drivers of divestiture and investment behavior, management-related factors are quantitatively as important as external factors. Thereby, this thesis aims to shed more light on the characteristics of CEOs that could cause reluctance towards divestitures.

A commonly studied characteristic in the divestiture research, that has been shown to increase the CEO's reluctance towards organizational change, is tenure (Musteen et al., 2006). Tenure increases reliance on standard practices and traditions (Katz, 1982), and makes

managers less willing to take strategic risks (Wiersema and Bantel, 1992). As a result, longer tenured managers are more likely to become entrenched (Johnson et al., 1993). Hambrick and Fukutomi (1991) suggest that this entrenchment arises as longer-tenured CEOs are highly committed to their own paradigm of running the company, tend to avoid information that disconfirms this paradigm, and obtain greater power to avoid calls for change. In the context of corporate restructuring, CEOs with extended tenures often wield substantial power to resist restructuring pressures, even in the face of a pressing need for comprehensive organizational overhaul (Boeker, 1992; Ocasio, 1994). In contrast, new CEOs with short tenures are more likely to implement organizational changes, aiming to establish their reputation internally among the organization and externally among the outside stakeholders (Chiu et al., 2016; Darouichi et al., 2021). In comparison to CEOs with longer tenures, new CEOs tend to be more open to new goals, strategies, and practices (Miller, 1993), perform more organizational changes after succession (Ndofor et al., 2009), bring new perspectives that enhance the likelihood of restructuring activity (Wiersema, 1995), and are less likely to be committed to the strategies set out by their predecessors (Hutzschenreuter et al., 2012). Studies, accordingly, find that CEOs with a short tenure have a greater propensity to engage in corporate divestments compared to CEOs with long tenures (Pan et al., 2016; Feldman, 2014; Weisbach, 1995). Ali and Zhang (2015) find that, because new CEOs are concerned with their reputations and with conveying an image of competence, they tend to favor divestitures during the initial stages of their tenure. Similarly, Pan et al. (2016) document the existence of a CEO investment cycle, in which divestiture activity decreases over the CEO's tenure while investment activity increases. The authors explain the cycle using an agency theory lens, highlighting that CEOs with long tenures prefer to grow for personal gain and, consequently, become reluctant to reduce the size of the firm through divestitures. CEO succession, where a new CEO with no tenure steps in, increases the propensity to divest since new CEOs do not enjoy the same private benefits from assets acquired or established by their predecessor.

Longer tenured CEOs have, furthermore, been shown to be more susceptible to certain psychological biases that reduce the likelihood of divestitures. First, CEOs with long tenures are more likely to be constrained by the status quo bias (Hambrick et al., 1993). CEOs' commitment to the status quo is a prominent psychological bias that leads them to become strongly committed to current strategies, practices, and more reluctant to organizational change. Chiu et al. (2022) show that CEOs with status quo bias perform fewer divestitures. The authors also demonstrate that the CEO's power – originating from structure, ownership, and prestige – reduces the status quo-related resistance to undertake divestitures. Second, the familiarity

effect, which makes CEOs less likely to divest assets from familiar than from non-familiar business segments, is more prominent among CEOs with extended tenures (Ang et al., 2014). The familiarity effect arises from CEOs' preferences to manage familiar segments, as their superior understanding of a segment amplifies confidence in evaluating the quality of investment opportunities. Studies on the CEO's familiarity with business segments have shown that acquired assets that are strongly related to the company's main division are less likely to be sold off later (Maksimovic et al., 2011), that CEOs are less likely to divest divisions and lay off employees of divisions more proximate to headquarters (Landier et al., 2009), and that CEOs strive to enhance company performance by divesting divisions operating in industries where they lack work experience (Huang, 2014). Considering that long-tenured CEOs have accumulated significant political power over their years in office, they face fewer obstacles to implement their preferred divestiture choices and, consequently, choose to divest non-familiar business units (Ang et al., 2014; Xuan, 2009). Moreover, CEOs with long tenure are more prone to display an emotional attachment to the firm's original legacy business segment, given their long history and strong familiarity with that unit (Feldman, 2014). As a result, Feldman (2014) finds that long-tenured CEOs are less likely to undertake legacy divestitures compared to new CEOs.

The impact of the CEO's career origin on the propensity to make divestitures has also been explored by previous research. More specifically, in the event of CEO succession, studies have investigated the differences in implementation of organizational change by "insider" CEOs who were promoted from within an organization, and "outsider" CEOs who were recruited externally (Helmich and Brown, 1972; Wiersema, 1992). However, the evidence is highly inconclusive (Chiu et al., 2016). Previous studies regarding CEO succession origin indicate that external CEOs often bring a fresh start, enabling them to institute organizational changes (Finkelstein et al., 2009). Conversely, the appointment of internal CEOs tends to increase the likelihood of maintaining the firm's pre-existing strategy (Cao et al., 2006). On the other hand, more recent studies have found that, despite the expectation for new outside CEOs to initiate strategic change, they often fall short of achieving these goals due to an insufficient understanding of the firm's strategies, practices, and environment (Karaevli and Zajac, 2013; Zhang and Rajagopalan, 2010). The evidence provided by Chiu et al. (2016) in the specific context of corporate divestitures is consistent with these more recent studies. The authors find that new inside CEOs are associated with a greater number of divestitures, whereas new outside CEOs are associated with a greater reduction in the scope of the diversification level of the company. A recurring theme among both recent and past studies is, however, that they mostly

focus on the contrasting divestiture behaviors of outsider and insider CEOs at the specific event of CEO succession. As CEO tenure is strongly negatively related to the propensity to divest business units (Pan et al., 2016; Feldman, 2014), long-tenured insider CEOs may behave differently compared to the recent evidence on the behavior of insider successor CEOs. This thesis aims to shed more light on the combination of long tenure and an internal career origin.

The CEO's equity ownership stake in the company has been associated with a higher propensity to undertake divestitures in previous research. Studies have argued that, because divestitures often induce share price appreciation as a result of better focus on the core business (e.g. Markides, 1992; Markides and Berg, 1992), higher levels of CEO stock ownership results in an increased willingness to divest as the CEO benefits personally from such transactions (Dial and Murphy, 1995). These findings show that, because stock ownership is an effective internal corporate governance mechanism that reduces agency costs (Jensen and Meckling, 2019), CEOs will undertake divestitures to support the creation of shareholder value (Berger and Ofek, 1999). However, this incentive alignment logic does not capture the whole process as there is contradictory evidence that suggests that divestitures can also decrease shareholder value (Markides, 1992; Klein, 1986). Divestitures can lead to diminished employee morale, the depletion of crucial resources that other divisions depend on, and the recognition of substantial short-term accounting losses (Freeman and Cameron, 1993; Markides, 1995). Accordingly, Owen et al. (2010) find that CEO ownership stake is negatively related to the probability of divestitures, arguing that CEOs with greater ownership stakes wish to maintain the prestige associated with the control of a large company and thus become less likely to undertake divestitures. Similarly, Sanders (2001) finds that CEOs are less likely to engage in divestiture activity when they own stock. The author attributes these findings to the CEO's aversion against the potential risk that divestitures could reduce shareholder value. Due to the evident inconsistent results in previous literature, we attempt to provide a new theoretical perspective on how CEO ownership may influence the divestiture decision.

Previous literature exploring the divestiture behaviors of founder-CEOs is remarkably scarce. Abebe and Tangpong (2018) find that founder-CEOs are significantly more likely to implement successful turnaround strategies in declining firms. Within these strategies, the authors find that founder-CEOs utilize divestitures to a lesser extent compared to other CEOs, and instead prefer to use market-based strategies, which include acquisitions and organic growth initiatives that allow the firm to grow out of its decline. These market-based strategies are associated with significant risks and high outcome uncertainty (e.g. Hitt et al., 2009), which could be preferred by founder-CEOs because they have much higher risk-taking propensity

(Fahlenbrach, 2009). Divestitures are, in contrast, aimed at reducing expenditures and the size of the firm (Morrow et al., 2004). As such, founder-CEOs may see divestitures as less growth-oriented strategies that convey a negative organizational image and, accordingly, become less likely to utilize them (Abebe and Tangpong, 2018). Another potential explanation could, however, be that founder-CEOs are highly attached to their companies, making divestiture decisions difficult as they directly decrease the size of the founders' creations. Related research on the divestiture decisions by family firms has, on the contrary, been more active in applying this attachment perspective (e.g. Feldman et al., 2016, Kim et al., 2019). Family firms are characterized by a wish to preserve their socioemotional wealth, which comprises the nonfinancial aspects of the firm that satisfy the family's affective needs (Gómez-Mejía et al., 2007). These nonfinancial aspects are so important to the family firm owner-manager that they may resist losing them at the potential expense of financial wealth. By preserving socioemotional wealth, family firms engage in less divestitures than non-family firms (Feldman et al., 2016; Sharma and Manikutty, 2005).

2.1.3. An organizational identification view on corporate finance decision-making

Organizational identification (OI) is the extent to which an individual's self-identity is intertwined with the identity and attributes of their organization (Ashforth and Mael, 1989; Dukeric et al., 2002). It is a cognitive state in which the individual perceives a significant convergence between their self-concepts and the way they perceive the organization (Dutton et al., 1994). The self-perception of individuals with strong OI becomes depersonalized and they begin to view themselves an interchangeable representative of the firm (Dutton et al., 1994; Turner, 1985). Individuals with strong OI are, furthermore, more likely to act in the best interest of their organization (Akerlof and Kranton, 2000; Heinle et al., 2012), promoting decisions that enhance the image of the organization and avoiding decisions that could damage it (Dukerich et al., 2002; Dutton et al., 1994). Therefore, OI is an important psychological factor that influences the CEO's decision-making and behavior (Akerlof and Kranton, 2000). Given that CEOs are the chief strategists of their companies, and that their decisions have substantial implications on the performance of their companies (Finkelstein et al., 2009), CEO OI has a significantly stronger influence on firm decisions compared to the OI of other employees (Boivie et al., 2011). As such, when CEOs identify strongly with their companies, strategic decisions are considerably influenced by the CEOs' wish to protect and improve the image of their firms, despite any potential personal financial losses they may face (Cornelissen et al., 2007; Dutton et al., 1994). In accordance with this perspective, previous literature has shown

that higher OI can reduce agency costs and promote an alignment between the interests of the CEO and the firm. CEOs with high levels of OI share the firm's goals and missions (Davis et al., 2018), and thus interpret criticism of the firm as personal criticism (Mael and Ashforth, 1992). From an agency perspective, higher degrees of OI have been shown to incentivize CEOs to improve firm value and limit self-interested behavior in compensation design (Heinle et al., 2012; Boivie et al., 2011; Abernethy et al., 2017).

By virtue of reduced agency costs, high CEO OI has been associated with corporate finance decisions that improve shareholder value, albeit existing literature on the subject is limited. Zhou et al. (2021) find that CEO organizational identification is negatively associated with cash holdings. In general, firms may keep large cash reserves to support opportunistic behaviors of management or major shareholders (e.g. Dittmar et al., 2003). As such, the findings of Zhou et al. (2021) indicate that high CEO OI mitigates agency problems in corporate finance decision-making. Similarly, as CEOs with high OI are more likely to approach corporate decision-making from a long-term perspective (Boivie et al., 2011; Heinle et al., 2012), studies have provided evidence supporting a positive relationship between CEO OI and corporate innovation investment (Du et al., 2022). To the best of our knowledge, however, no previous study has investigated the relationship between CEO OI and divestitures.

Given that not all CEOs exhibit the same levels of OI (Ashforth and Mael, 1989), it is important to understand which CEO characteristics help in shaping the magnitude of OI. Abernethy et al. (2019) identify several CEO characteristics that act as archival proxies in constructing a CEO OI variable. The following six CEO characteristics were identified as variables that increase the likelihood of CEOs to identify with their organizations: founder status, tenure, equity ownership, career origin as insider or outsider, the number of functional roles held by the CEO, and if the CEO had served as a department manager before becoming CEO. First, if the CEO is also the founder of the company, they have actively been involved in shaping the fundamental elements of their organizations, including the organization's goals, missions, products, structure, strategies, target customers, and capital structure (Aldrich, 1999; Abernethy et al., 2019). Founder-CEOs often describe their companies as their "baby" or "legacy" (Cardon et al., 2005; Lee et al., 2020), and their personalities and identities are often strongly tied to their firms (Powell and Baker, 2014). As a result, founder-CEOs identify more strongly with their organizations (Abernethy et al., 2019). Second, longer tenure means that the CEO has chosen to remain in the company for an extended period, thus obtaining a greater feeling of distinctiveness and belongingness that translates into stronger OI (Whetten, 2006; Abernethy et al., 2019). Third, equity stake increases OI in accordance with the endowment

effect proposed by behavioral economics, which states that individuals place greater value in the things they own than in what they do not own (Kahneman et al., 1991; Abernethy et al., 2019). Fourth, internally promoted CEOs are more likely to identify with their organizations as they must outperform competitor-employees to obtain the CEO role. As CEOs participate in these promotion tournaments (Rosen, 1982), they develop stronger feelings of self-esteem and thus greater OI with their respective companies compared to externally hired CEOs (Abernethy et al., 2019). Finally, the number of functional roles and previous experience as department manager allow CEOs to interact with more employees and facets of their companies, thus increasing their OI (Ashforth and Mael, 1989; Cole and Bruch, 2006; Abernethy et al., 2019).

2.2. Analytical framework and hypotheses development
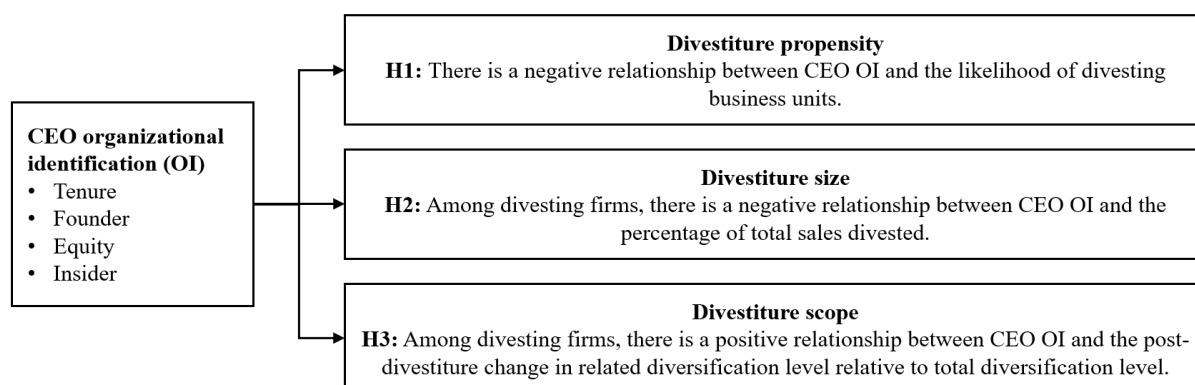
2.2.1. Analytical framework

Through the literature review, we identify three dimensions of corporate divestitures that have been researched in connection to CEO characteristics: divestiture activity (e.g. Chiu et al., 2022; Kolev, 2016; Pan et al., 2016), divestiture intensity (e.g. Hoskisson et al., 1994; Pathak et al., 2014), and divestiture scope (e.g. Chiu et al., 2016; Bigley and Wiersema, 2002). Divestiture activity refers to the extent to which CEOs choose to engage in divestitures, either measured as the likelihood of divesting (e.g. Feldman, 2014; Kim et al., 2019; Kolev, 2016) or as the total number of divestitures made (e.g. Sanders, 2001; Bettinazzi and Feldman, 2021). Divestiture intensity reflects the total level of divestiture activity a firm undertakes during restructuring (Hoskisson et al., 1994). As such, once the CEO has chosen to engage in divestiture activity, the divestiture intensity reflects the scale of the activity. Studies have defined divestiture intensity using three components measuring different aspects of the construct: the number of business units divested, the share of total firm sales divested, and the time required to restructure the company through divestiture activity (Hoskisson et al., 1994; Pathak et al., 2014). Divestiture scope represents a firm's level of refocusing after divestiture activity. It is measured as the change in diversification, resulting from divestitures of either more unrelated or more related business units from the firm's portfolio (Chiu et al., 2016). Related business units are those that are related to the company's core business operations, while unrelated business units share fewer commonalities with the core business (Bergh, 1995). The impact of divestitures on the diversification level of companies is important to study because one of the main aims of divestiture activity is to reduce overdiversification (Markides, 1992). Note that divestiture scope is a distinct construct from divestiture activity and intensity, as greater likelihood, size, or number of divestitures do not necessarily reduce the firm's level of diversification. This is

because a decrease in diversification level occurs when a company refocuses its portfolio of business units by divesting more unrelated business units than related business units (Chiu et al., 2016). Conversely, an increase in diversification level occurs when the company defocuses its portfolio by divesting more related than unrelated units (Hoskisson and Johnson, 1992), as the firm's total revenue would become more evenly spread out over the total number of business units. As such, more divestiture activity and more intensive restructuring activities would impact the diversification level negatively only if the divested units are unrelated to the company's core business, and positively only if the divested units are related.

In this study, we investigate the impact of CEO OI on specific components of divestiture activity and intensity, and on divestiture scope. For reasons that will be elaborated on in detail in section 3.3.1., we choose to measure divestiture activity using the likelihood of divestitures to capture the propensity of CEOs to divest. Furthermore, we choose to focus on the component of divestiture intensity that pertains to the size of divestitures undertaken. In keeping with previous research, we choose to measure divestiture size using the divested share of total firm sales (e.g. Hoskisson et al., 1994; Pathak et al., 2014). As will be discussed further in section 3.3.2., the OI variable is measured using four of the six CEO characteristics that Abernethy et al. (2019) documented as proxies for CEOs identifying with their firms: tenure, founder status, equity stake, and insider status. Through the hypotheses presented in the following section, we suggest that CEOs with higher OI are associated with lower levels of divestiture propensity and size, but greater levels of divestiture scope. The hypotheses are summarized through our analytical framework, presented in Figure 1.

Figure 1: Analytical framework

2.2.2. Hypotheses development

Divestiture literature has provided evidence supporting that CEOs tend to become reluctant towards undertaking divestitures and frequently find them challenging (e.g. Feldman, 2014;

Dranikoff et al., 2002). This reluctance has been found to arise as a result of a variety of CEO characteristics (e.g. Pan et al., 2016; Abebe and Tangpong, 2018; Chiu et al., 2016). Meanwhile, research on OI has shown that, as an individual increasingly identifies with their company, their self-perception becomes depersonalized and they begin to perceive themselves as an interchangeable part of the organization (Dutton et al., 1994; Turner, 1985). Hence, CEOs who strongly identify with their organizations may view a divestiture of a business unit as a divestiture of a part of their own identity. For this reason, we expect CEOs with higher levels of OI to be reluctant towards undertaking divestitures and, consequently, be less likely to divest business units. Given that such CEOs tend to be long-tenured and internally promoted, or potentially founders of their companies, they could have personally been involved in acquiring or establishing the company's business units and identity. In the process, they could also have established long-term relationships with stakeholders in various business units. By divesting business units, these CEOs would therefore risk losing a part their own creation, identity, and personal relationships. Therefore, our first hypothesis is:

> *Hypothesis 1 (H1): There is a negative relationship between CEO OI and the likelihood of divesting business units.*

Despite being less likely to divest, CEOs with higher OI may still find themselves in situations in which they have no other choice than to make divestitures, such as when investors demand extensive restructurings of business portfolios due to overdiversification or financial distress (Brauer, 2006; Kolev, 2016). An important consideration in such circumstances is the size of the divestitures made, as larger divestitures generally have more impact on the portfolio of business units and generate more substantial strategic and organizational change compared to smaller divestitures (Montgomery and Thomas, 1988). Following the reasoning behind Hypothesis 1, CEOs who more strongly identify with their companies should be less willing to lose a large part of their identity compared to losing a small part. As such, we propose that they should be less willing to undertake large divestitures that fundamentally alter the portfolio of business units, whereas small divestitures that do not vastly change the identity of the organization may be less difficult to undertake. Our second hypothesis is therefore as follows:

> *Hypothesis 2 (H2): Among divesting firms, there is a negative relationship between CEO OI and the percentage of total sales divested.*

A smaller divestiture size does not automatically equate to a smaller divestiture scope, as firms can make divestments of smaller unrelated business units that could substantially decrease the

firm's diversification level by increasing focus on the core business (Hoskisson and Johnson, 1992; Chiu et al., 2016). When CEOs with higher levels of OI make smaller divestitures as suggested by Hypothesis 2, these divestitures could have more or less impact on the firm's level of diversification depending on whether or not the divested business unit was related or unrelated. We expect that CEOs who more strongly identify with their organizations should be more inclined to divest unrelated business units than related business units. This is because a company's core business units are pivotal in defining its identity (Feldman, 2014; Dranikoff et al., 2002). As such, CEOs with high levels of OI could perceive the core business as a fundamental part of their own identity and, consequently, become emotionally attached to related business units. Prior literature on CEO tenure has shown that, because CEOs with longer tenure are more emotionally attached to their companies and more beholden to the interests of individuals and coalitions within their firms, they are less likely to undertake divestitures of legacy business units (Feldman, 2014). Given that the legacy business often represents the core business of companies, we suggest that the emotional attachment experienced by CEOs who strongly identify with their companies could, similarly, make them less willing to divest business units that are related to the core business compared to CEOs with lower levels of OI. Instead, they are more likely to divest parts of the company that they are not equally emotionally attached to, namely unrelated business units. By contrast, CEOs with lower levels of OI should be comparatively less constrained by emotional attachment towards the core business, making it easier for them to undertake divestitures of related business units. By making relatively fewer related divestitures, and relatively more unrelated divestitures, we expect CEOs with high OI to be associated with a greater divestiture scope compared to CEOs with low OI. In other words, the number of unrelated segments, or sales attributable to unrelated segments, should decrease more after divestitures are made by high OI CEOs. As a consequence, the share of the company's total diversification level that originates from related segments should increase more when divestitures are undertaken by CEOs with higher OI. Our third hypothesis is therefore:

Hypothesis 3 (H3): Among divesting firms, there is a positive relationship between CEO OI and the post-divestiture change in related diversification level relative to total diversification level.

3. Method

In this section, the research methodology is presented. We begin by presenting the approach used to collect our data. We then describe the statistical models used to test our hypotheses. Afterwards, we describe the dependent, independent and control variables used in the statistical models. Finally, we present the descriptive statistics of these variables.

3.1. Sample data

The sample in this study consists of data on CEOs and divestments between the years 1997-2022 from publicly traded companies on the S&P 1500 index. Datasets were collected from a variety of sources and subsequently merged to create a single dataset that is used to test our hypotheses. We started by collecting historical organizational data over the period of 1997 to 2022 for companies that, as of the time of writing this thesis, were listed on the S&P 1500 index. As such, the time period of our sample spans over 25 years, corresponding to approximately 5 business cycles (Zarnowitz, 1992), which we deem adequate for this study. The data was gathered from the ExecuComp database, which tracks annual executive compensation data and specific CEO characteristics such as start dates and age. The second dataset was collected from CapitalIQ and consists of data on divestitures of business units made by the firms in our sample. We allowed for any business unit divestiture mode, including sell-offs, spin-offs, and carve-outs. A business unit refers to a part of a company that focuses on a specific market or product line. It functions within the larger corporate structure but is responsible for its own financial results. To ensure that our sample of divestitures only contains units with financial results, we choose to only include divestitures where revenue of the divested business unit was disclosed. This assures that the business units in our sample are revenue-generating entities and not tangible or intangible fixed assets, such as real estate, machines, financial assets, brands, product lines, or patents. There may be exceptions, however, as a brand or product line could be divested as a separate entity that generates revenue on its own. However, we acknowledge the limitation that arises from excluding any divestitures from our sample with undisclosed sales values. The third and final dataset, which was collected from Compustat, contains historical financial data for the companies in our sample. To be able to calculate one-year lagging variables, we collected this data for an additional year, thus covering the period of 1996-2022. In all these datasets, we excluded real estate companies (SIC code: 6798) and asset management firms (SIC code: 6282) who divest as part of their core operations, thereby ensuring that our sample only contains divestitures of operational business units.

After collecting all the necessary datasets, we merged them using organizational identifiers to match companies. We proceeded by removing any observations with incomplete data. The final dataset contains all the relevant data needed for testing our hypotheses and is structured as panel data, with one CEO-year observation per row. The gathered CEO data includes the CEO's name, a unique CEO identifier, the start date as CEO, the start date at the company regardless of initial position, the CEO's equity stake, the CEO's age, whether the CEO was part of the board of directors during the year, and whether the CEO was the chairman during the year. By comparing the CEO's start date with the final year that the person held the position as CEO of their company, we can calculate the full tenure of the CEO over their entire mandate. In cases where the CEO is the current CEO, we compare the start date with the observation year. In both cases, we assume that the date of the current observation year is the 31st of December. We then use this full tenure variable to remove interim CEOs from our sample, who are defined as those with one year or less in full tenure. Data on divestitures encompasses the announcement date of the divestiture and the total sales of the divested business unit. Company-level data includes organizational identifiers, industry identifiers (SIC codes), the year the company was founded, as well as financial data comprising the book value of total assets, the book value of total liabilities, total sales, EBIT, the dollar value of M&A activity, the number of segments, and segment sales. By merging the datasets, we can estimate several additional variables relevant for the purpose of this study, which will be explained in detail in section 3.3.

The final sample consists of a panel dataset with 5,043 CEO-year observations, covering 498 unique firms and 686 unique CEOs. As will be explained in more detail in section 3.3.1., multiple divestitures made during a single year are combined to create one observation during the year. After doing this, the final sample of divestitures encompasses 226 observations.

3.2. Statistical models

To test the hypotheses established in section 2.2.2, we utilize two different types of regression models. For Hypothesis 1, we use a logit regression model, and for Hypotheses 2 and 3, we use multiple linear ordinary least squares (OLS) regression models. In both these models, we control for industry and year fixed effects to avoid any distortion in the regression results due to trends across industries and time. Because companies in certain industries – such as technology and financials – are more prone to engage in divestiture activity (Deloitte, 2023), we choose to account for these differences using industry fixed effects. Year fixed effects are included to reduce the influence of variation in divestiture activity over time, which might arise

as a result of financial constraints during crisis periods that induce CEOs to divest non-core business units. This is particularly important as our sample spans over 25 years of data and roughly 5 business cycles (Zarnowitz, 1992). By including both industry and year fixed effects in our models, we reduce the potential risk of heterogeneity from omitted-variable bias.

3.2.1. Logit regression model

Logistic regression is a statistical model commonly used for binary classification problems, where the outcome variable is categorical, continuous, and has two classes (Menard, 2010). In our first hypothesis, the binary dependent variable *Divested* is tested against our independent variable, OI, where *Divested* equals to 1 if the company made one or more divestitures of business units during a given year, and 0 if no divestitures were made during the year. Unlike linear regression, which predicts continuous outcomes, logistic regression models the probability of an event occurring (Cox, 1958). Logistic regression models offer several strengths over linear regression: first, it is less sensitive to outliers, thereby generating less biased estimates; second, it has no assumption of normality, thereby becoming more robust to situations where normality does not hold; and third, it is more robust to multicollinearity compared to linear regressions, thereby decreasing the risk of inflated standard errors and unstable coefficient estimates (Menard, 2010). Considering the probability P that there is a divestment, we get the following equation to predict the outcome:

$$P\big(Divested_{i,t} \mid x\big) = L\big(\beta_0 + \beta_1 OI_{i,t} + \beta_2 Diversification\ level_{i,t} + \beta_3 CEO\ age_{i,t} + \beta_4 Firm\ age_{i,t} + \beta_5 Firm\ size_{i,t} + \beta_6 Leverage_{i,t} + \beta_7 ROA_{i,t} + fe_{k,t} + \epsilon_{i,t}\big) \quad [1]$$

where L is the logit function, the dependent variable is *Divested*, the main independent variable is *OI*, and the control variables are *Diversification level, CEO age, Firm age, Firm size, Leverage* and *ROA* (see detailed explanations in section 3.3. and Appendix 2). Robust standard errors are clustered by firm, and we include industry k and time t fixed effects in the equation. As the coefficients generated from logit regression models do not directly indicate the marginal effect of a one-unit increase in the independent variable on the outcome of the dependent variable (Hoetker, 2007; Wiersema and Bowen, 2009), we choose to calculate marginal effects after performing the logit regression. Marginal effects in logit regression models refer to the change in the predicted probability of the dependent variable resulting from a one-unit change in an independent variable, while holding other variables in the model constant at their means (Greene, 2012). These effects are particularly relevant in logit regressions due to the non-linear nature of the logistic function.

3.2.2. Multiple linear OLS regression model

Multiple linear OLS regression is a statistical modeling technique used to analyze the relationship between a dependent variable and two or more independent variables (Menard, 2010). In our second and third hypotheses, we test the continuous dependent variables *Divestiture size* and *Divestiture scope* with OLS regression models, thus testing the following:

$$Divestiture\ size_{i,t} = \beta_0 + \beta_1 OI_{i,t} + \beta_2 Diversification\ level_{i,t} + \beta_3 CEO\ age_{i,t} +$$
$$\beta_4 Firm\ age_{i,t} + \beta_5 Firm\ size_{i,t} + \beta_6 Leverage_{i,t} + \beta_7 ROA_{i,t} + fe_{k,t} + \epsilon_{i,t} \qquad [2]$$

$$Divestiture\ scope_{i,t} = \beta_0 + \beta_1 OI_{i,t} + \beta_2 M\&A\ intensity_{i,t} +$$
$$\beta_3 Diversification\ level_{i,t} + \beta_4 CEO\ age_{i,t} + \beta_5 Firm\ age_{i,t} + \beta_6 Firm\ size_{i,t} +$$
$$\beta_7 Leverage_{i,t} + \beta_8 ROA_{i,t} + fe_{k,t} + \epsilon_{i,t} \qquad [3]$$

where *Divestiture size* and *Divestiture scope* denotes the dependent variables, using the same main independent variable (OI) and control variables as in the logit model. We add an additional control variable called M&A intensity when testing H3, which will be elaborated on in detail in section 3.3.3. Like in the logit model, we cluster robust standard errors by firm and include industry k and time fixed effects t.

3.3. Description of variables

3.3.1. Dependent variables

Divested: To measure divestiture propensity for our first hypothesis, we use a dummy variable taking on a value of 1 if the company divested one or more business units during the year, and 0 if the company did not undertake any divestitures during the year. With this measure, we aim to capture the divestiture activity of CEOs and subsequently infer their willingness or reluctance towards engaging in such activity. Although some previous research articles have measured divestiture activity as a discrete variable for the number of divestitures made throughout a year (e.g. Sanders, 2001; Bettinazzi and Feldman, 2021), we argue that measuring the likelihood of divestitures using a binary variable is more relevant for the purpose of this study. Weisbach (1995) argued that "any statistical test should measure the probability of a divestiture in a given period, not just the total number of divestitures", and a body of divestiture research has used a binary variable (e.g. Feldman, 2014; Kim et al., 2019; Kolev, 2016). We see two primary reasons for using a binary variable to measure divestiture activity for the specific purpose of our study. First, a variable measuring the number of divestitures may overvalue the propensity to divest, as some companies may choose to split up their divestitures into multiple transactions.

By using a binary variable that captures all divestitures made during a single year, this effect is mitigated. Second, we analyzed our data and found that, in approximately 90% of the CEO year observations where one or more divestitures were made, only one divestiture was made. Multiple divestitures during a single year is therefore a rare occurrence in our data, meaning that a binary variable fits the data well.

Divestiture size: To test Hypothesis 2, we measure divestiture size as a continuous variable by dividing the LTM (last twelve months) total sales of all divested business units during a given year by the total sales of the divesting company for the preceding year. This metric has often been used in previous divestiture literature as a component of divestiture intensity, which refers to the total magnitude of restructuring activity (Hoskisson et al., 1994; Pathak et al., 2014). Divestiture size has, however, also been researched as a standalone dependent variable (e.g. Bethel and Liebeskind, 1993), which is the approach used in this study. Some previous studies have used transaction values to measure the size of divestitures instead of divested sales (e.g. Haynes et al., 2002; Klein, 1986). However, because the business units that are the focus of this study generate revenue, and because we only include divested business units with disclosed sales figures in our sample, the share of divested sales becomes a more natural choice.

An important consideration we had to make was how to account for years during which multiple divestitures had been made. As mentioned previously, approximately 90% of CEO-year observations with one or more divestitures only contain one divestiture, but the remaining years with multiple divestitures must consider the fact that multiple divestitures were made. To account for this, we followed the approach used by previous research that has utilized transaction values on an annual basis (Huang, 2014; Ang et al., 2014). This involves combining the sales of all divested business units during the year (e.g. Huang, 2014; Ang et al., 2014), and then dividing this by the total sales of the divesting firm to calculate the divestiture size:

$$Divestiture\ size_t = \frac{\sum_{i=1}^{n} S_{t,i}}{TS_{t-1}}$$

where n is the total number of divestitures in year t, $S_{t,i}$ is the LTM sales for divested business unit i in year t, and TS_{t-1} is the total sales for the divesting firm during the preceding year. We compare the sales of divested business units during a year with the previous year's total sales of the divesting firm so that the denominator is not impacted by the divested business units.

Another consideration involves divestiture programs. Previous research has either focused on divestitures as isolated, one-off activities (e,g, Kolev, 2016; Feldman, 2014), or as extensive divestiture programs that encompass multiple transactions over multiple years (e.g.

Chiu et al., 2016; Haynes et al., 2002). Although divestiture programs better capture the idea that subsequent divestitures could follow the same strategic logic and thus belong together, they are less appropriate for the purpose of this study as some of the CEO characteristics that shape the OI variable change over time. As divestiture programs can last for up towards approximately three years (Chiu et al., 2016), the OI variable could have changed substantially between the start and end points of the program due to changes in tenure and equity stake, or because of CEO succession at some point during the program's duration. As such, we choose to examine the divestitures in our sample as isolated activities, only combining the sales values for divestitures made within the same fiscal year. Although this approach may not capture all divestitures that follow the same strategic logic, it captures this effect for divestitures made within the same fiscal year.

Divestiture scope: To test Hypothesis 3, we use a continuous variable to measure the post-divestiture change in the share of total diversification originating from related diversification. Consistent with literature on divestitures and corporate refocusing (e.g. Chiu et al., 2016; Bigley and Wiersema, 2002), we measure the total level of diversification using the entropy index:

$$Total\ diversification\ (TD)_t = \sum_{i=1}^{n} P_{t,i} \ln\left(\frac{1}{P_{t,i}}\right)$$

where n is the number of segments in the company, $P_{t,i}$ is the share of sales for segment i relative to the total sales of the company, and $\ln\left(\frac{1}{P_{t,i}}\right)$ is the weight of each segment measured as the natural logarithm of the inverse of the segment's share of total sales. Because the focus of this thesis is on divestitures of operational business units and not of geographic segments, our entropy index calculations only consider operating segments. The entropy index has strong construct validity when compared to other measures of diversification (Chatterjee and Blocher, 1992; Hoskisson et al., 1994). By weighing segment sales across the number of segments, the measure acknowledges that not only the number of segments matters for the level of diversification, but also the distribution among segments (Jacquemin and Berry, 1979). As such, a firm with four segments with 25% of total firm sales each will receive a higher diversification level compared to a firm with eight segments in which one accounts for 90% of the sales. When one or more divestitures are made in a year that do not impact the number of segments, the entropy index still captures this by accounting for a reduction in sales for the affected segment. However, the segment sales and the number of segments could also increase due to M&A

activity performed by the divesting firm during the year, which in turn affects the diversification level. We therefore choose to control for M&A intensity, as discussed in section 3.3.3.

In line with Chiu et al. (2016), we split up the total diversification level into two components to account for related and unrelated diversification separately. The reason for doing this is that the original entropy index fails to capture that a company's diversification level could be substantially higher if a large portion of the company's sales are generated through segments unrelated to the company's core business. As such, divestments of unrelated business units should decrease the company's diversification level more compared to when related business units are divested, all else equal. The two components are calculated as follows:

$$Related\ diversification\ (RD)_t = \sum_{i=1}^{n} P_{t,i} \ln\left(\frac{1}{P_{t,i}}\right)_{Related}$$

$$Unrelated\ diversification\ (UD)_t = \sum_{i=1}^{n} P_{t,i} \ln\left(\frac{1}{P_{t,i}}\right)_{Unrelated}$$

Note that the segment share of sales used in the two individual components are relative to total sales in the firm, including both related and unrelated segment sales. As such, the sum of the two components equates to total diversification ($TD_t = RD_t + UD_t$). For the purpose of testing Hypothesis 3, we are interested in post-divestiture changes in the related diversification component relative to the total diversification level. In line with Chiu et al. (2016), we measure divestiture scope as changes in the ratio of related diversification to total level of diversification:

$$Divestiture\ scope_t = \frac{RD_t}{TD_t} - \frac{RD_{t-1}}{TD_{t-1}}$$

The divestiture scope variable measures the scope of a company's post-divestiture refocusing. When the ratio of related to total diversification increases after divestitures are made, the company becomes less diversified as segments related to the core business constitute a larger part of total sales. Conversely, when the ratio decreases, related segments comprise a smaller portion of total sales, making the company more diversified as sales are more evenly distributed over related and unrelated segments. In our third hypothesis, we expect the divestiture scope to be positive for CEOs with higher OI, as this would mean that the share of total diversification originating from related segments increases when unrelated business units are divested.

To identify related and unrelated operating segments, we followed the approach used by Chiu et al. (2016). Related business segments are defined as those which share the same two-digit industry group based on SIC codes as the company as a whole. For instance, if a company's primary SIC code is 5411 (grocery stores), and it has two segments with SIC codes

5412 (convenience stores) and 5400 (food stores), then those two segments are counted as being part of the company's core business and thus related segments. If the same company also has two segments with SIC codes 5712 (furniture stores) and 6500 (real estate), then because those segments do not share the same first two digits with the company, they are counted as unrelated to the core business.

3.3.2. Independent variable

The independent variable used in this thesis, *OI*, is a composite measure consisting of four variables: the CEO's tenure (*Tenure*), whether the CEO is the founder (*Founder*), the CEO's equity ownership (*Equity*) and if the CEO has been internally promoted (*Insider*). *Tenure* and *Equity* are continuous variables, while *Founder* and *Insider* are binary. Our selection of OI components is consistent with the archival OI proxies previously employed and validated by Abernethy et al. (2019). However, it is worth noting that Abernethy et al. (2019) also include two additional variables that are not incorporated into the OI variable used in our thesis, namely the CEO's number of functional roles and previous experience as department manager. We choose to exclude these variables as we find that there is a clear lack of reliable data available on the current and previous internal roles held by the CEOs in our sample.

Founders are identified by comparing the year when the CEO first joined the firm, regardless of the position obtained when joining, with the founding year of the company. If these data points were identical, the CEO is recognized as the company's founder. We calculated tenure by subtracting the year in which the CEO first took office from each observation year. Equity stake corresponds to the share of total shares outstanding owned by the CEO, excluding options. Internally promoted CEOs are identified by comparing the date when the CEO first joined the firm with the date they became CEO. Previous research on divestitures has recognized externally promoted CEOs as those for whom these dates are equal (e.g. Chiu et al., 2016; Bigley and Wiersema, 2002), which is also consistent with the approach used by Abernethy et al. (2019) to construct the OI variable. However, we choose to take a stricter approach in determining the status as insider CEO. We argue that the approach used by previous studies does not adequately capture the propensity of CEOs to identify with their organizations. For instance, if a CEO was employed by the company for only one year prior to becoming CEO, then the CEO is unlikely to identify with the company to the same extent as a CEO who had spent his or her entire career at the company prior to becoming CEO. By simply recognizing CEOs as insiders if they were employed at the company before becoming CEO, without considering the duration of pre-CEO employment, previous studies fail to capture a

core facet of OI. To address this issue, we choose to recognize CEOs as insiders only if they had worked at the company for at least 7 years prior to becoming CEO. 7 years corresponds to the median employment length of CEOs prior to taking office as CEO in our sample, allowing us to better separate CEOs with more and less internal firm experience. An additional benefit of this approach is that we may capture aspects of the two components of the OI variable presented by Abernethy et al. (2019) that we choose to exclude in this study. If a CEO has been employed by the company for 7 years prior to becoming CEO, they are likely to have held several different functional roles and, potentially, the role as department manager. As such, our insider variable may capture multiple aspects of the CEO's internal career at the firm that make them more likely to identify with the company.

The composite *OI* variable is constructed using the two-step approach suggested by Abernethy et al. (2019). The first step of the approach involves performing a principal component analysis (PCA) on the four selected components of OI and retaining factors with eigenvalues above 1. PCA is a statistical technique used for dimensionality reduction, which simplifies the complexity in high-dimensional data while retaining trends and patterns (Jackson, 2005). It works by identifying the directions, called principal components, along which the variation in the data is maximum. The first principal component accounts for the largest possible variance, and each succeeding component, in turn, has the highest variance possible. Because the four components of our OI variable have different scales, the components must first be standardized to ensure that no variable has a greater impact on the PCA than the others due to differences in scales. The PCA in SPSS, used in this study, standardizes the components automatically. Table 1a presents the factors produced by the PCA and the percentage of variance explained by each factor. Like the findings of Abernethy et al. (2019), we find that two factors have eigenvalues above 1, which are the factors that we keep for the construction of the OI variable. Table 1b shows how the different OI components load on these two factors. While the three variables *Founder*, *Tenure*, and *Equity* load on the first factor, *Insider* loads on the second factor. This is consistent with previous studies that have suggested that the development of OI can follow a top-down or a bottom-up process. The first factor corresponds to the top-down development of OI, where the CEO's identification originates from his or her foundational leadership role in the organization, through which the CEO has personally shaped, and potentially even created, the organization (Abernethy et al., 2019; Whetten and Mackey, 2002). The second factor captures the bottom-up development of OI, which grows through the CEO's career progression within the firm (Ashforth and Mael, 1989; Cornelissen et al., 2007). CEOs who were employed by the firm for an extended period prior to being internally promoted

to CEOs are more likely to identify with the firm as they have developed personal relationships with the firm's various stakeholders and obtained a strong feeling of belongingness.

Table 1a: Factors from principal components analysis

Factor	Eigenvalue	Proportion of explained variance	Cumulative explained variance
Factor 1	1.922	0.481	0.481
Factor 2	1.005	0.251	0.732
Factor 3	0.608	0.152	0.884
Factor 4	0.466	0.116	1.000

Table 1b: Factor loadings from principal components analysis

Variable	Factor 1	Factor 2
Founder	0.820	-0.213
Tenure	0.735	0.322
Equity	0.649	0.523
Insider	-0.538	0.759

The second step of the two-step approach involves combining the two factors to reduce the number of dimensions from two to one composite OI variable. Following Abernethy et al. (2019), the OI variable is calculated by using each factor's proportion of the total explained variance as the weight for each factor. The logic behind this calculation is that the more variance a factor explains, the more important it is in representing the construct. We multiply this weight with the factor value and add together the two weighted factors to obtain the OI variable. As shown in Table 1a, the total proportion of variance explained by the first two factors is 0.732, while the proportion of variance explained by the individual factors are 0.481 and 0.251, respectively for the first and second factors. Therefore, the weight for *Factor 1* is 0.481/0.732 = 0.657, while the weight for *Factor 2* is 0.251/0.732 = 0.343. The OI variable for each CEO-year is then calculated as *Factor 1* x 0.657 + *Factor 2* x 0.343.

Abernethy et al. (2019) conducted a variety of tests to ensure that the OI variable captured the intended underlying construct. First, discriminant validity was tested by examining the relationship between CEO OI and CEO power to ensure that the variable does not capture a different behavioral characteristic. Through pairwise correlations and multivariate analyses, the authors find no indications supporting that the OI variable should capture CEO power. Second, predictive validity was tested by investigating the OI variable's impact on the likelihood of financial restatements. Because firms that engage in restatements risk reputational damage (Hennes et al., 2008; Palmrose et al., 2004), CEOs who identify strongly with their

firms should avoid engaging in such behavior to avoid damage to their own identity. Abernethy et al. (2019) find significant evidence supporting the predictive power of OI in this relationship. Third, convergent validity was tested by counting the number of times the CEOs used the word "we" in conference calls and performing a regression between the OI variable and this frequency. In line with studies suggesting that CEOs with higher levels of OI more frequently use the word "we" (Boivie et al., 2011; Mael and Ashforth, 1992), the authors find support for a positive relationship in the regression. Finally, nomological validity was tested by replicating the study by Lange et al. (2015) using the composite OI variable instead of the survey-based approach used by the authors. The results were highly consistent, indicating that the OI variable developed by Abernethy et al. (2019) captures the same underlying construct as the traditional survey-based approach of measuring OI.

3.3.3. Control variables

Diversification level: Because overdiversification has been associated with poor performance and inefficiencies (Markides, 1992), it has been found to be a significant driver of divestiture activity as firms seek to resolve these inefficiencies by strengthening their capabilities around their core business (Brauer, 2006; Kolev, 2016). As noted previously, we use the entropy index to measure the total diversification level, and we choose to measure this index for the year prior to each CEO year to capture diversification level as an antecedent of divestiture activity:

$$Diversification\ level_{t-1} = \sum_{i=1}^{n} P_{i,t-1} \ln\left(\frac{1}{P_{i,t-1}}\right)$$

CEO age: Older CEOs have a stronger tendency to commit to the status quo and avoid risky decisions compared to younger CEOs (Belenzon et al., 2019). Because divestitures break the status quo (Chiu et al., 2022) older CEOs have been shown to engage significantly less in divestiture activity (Kalasin, 2023). Moreover, as CEO age is positively related to tenure (Belenzon et al., 2019), we want to control for any age-related aspects of the tenure component of our OI variable. We have, therefore, chosen to include the continuous variable *CEO age* to control for any age-related explanations of divestiture decisions.

Firm age: We measure the continuous variable *Firm age* as the number of years that the company has been incorporated since its founding year. Research has shown that younger firms are characterized by a liability of newness that increases the likelihood of bankruptcy (Freeman et al., 1983). One way of mitigating these problems is to divest assets. Accordingly, Kalasin (2023) shows that younger firms engage in more divestitures compared to older firms.

Firm size: The size of the firm has been found to be a significant determinant for the likelihood of divestiture. However, literature has argued for different directions of this impact. While some suggest that larger firms are more likely to divest because size is associated with diversified conglomerates (Chang and Singh, 1999), others suggest that, because larger firms can obtain competitive advantages as a result of economies of scale, CEOs may avoid divestitures that directly reduce the scale of the firm (Kalasin, 2023). Regardless of direction, the variable has an impact on the propensity to divest and, as such, we choose to include it as a control variable. In line with previous research (e.g. Kolev, 2016), we measure firm size as the natural logarithm of the company's book value of total assets.

Leverage: To capture financial distress as an antecedent of divestitures (e.g. Kolev, 2016), we include a control variable that measures the company's leverage. When faced with potential bankruptcy, a key concern for companies is to secure capital to pay down liabilities, which can be achieved through divesting business units. The more levered the company, the greater is the need for the CEO to improve the company's financial position, which may result in larger divestitures by companies in financial distress. We measure *Leverage* by dividing the company's total book value of liabilities by its total book value of assets at time t:

$$Leverage_t = \frac{Total\ liabilities_t}{Total\ assets_t}$$

ROA: As a company's poor financial performance influences the CEO's perceived need for organizational change in the company (Hambrick et al., 1993), it has been shown to be a crucial antecedent of divestiture activity (Kolev, 2016). As such, it could have a profound impact on not only the propensity to divest, but also on the size of divestitures as CEOs who manage poorly performing businesses may resort to larger divestitures to generate more strategic change. Because overdiversification has been associated with poor financial performance (Markides, 1995), the willingness to reduce the diversification level may also increase when companies are experiencing poor profitability. Therefore, ROA can be a potential explanatory variable in all our hypotheses. We measure *ROA* as EBIT divided by the company's total book value of assets. Because we want to measure the financial performance prior to divestiture activity, we use financial numbers for the year prior to divestitures in our calculation:

$$ROA_{t-1} = \frac{EBIT_{t-1}}{Total\ assets_{t-1}}$$

M&A intensity: To test Hypothesis 3, we include M&A intensity as a control variable. Some firms may engage in M&A activity during the sampling period, which could increase the total sales of the company. This would influence the divestiture scope as firms may enter new segments or increase sales in existing segments by acquiring business units. By including M&A intensity as a control variable, we aim to isolate the specific impact of divestitures on a firm's total sales and diversification level. In line with Chiu et al. (2016), we calculate M&A intensity as the dollar amount of M&A during a year divided by the company's total book value of assets:

$$M\&A\ intensity_t = \frac{Dollar\ value\ of\ M\&A_t}{Total\ assets_t}$$

Finally, we have chosen to *not* include board position or CEO duality as control variables. CEO board membership and CEO duality have substantial impacts on strategic decision-making (Boyd, 1995; Finkelstein and D'Aveni, 1994). Because a CEO's divestiture decisions often require board support, CEO duality has a moderating relationship between CEO characteristics and divestiture decisions (Chiu et al., 2022). However, measuring this moderating relationship in the context of OI is beyond the scope of this study.

3.4. Descriptive statistics

The descriptive statistics for CEO and firm characteristics are presented in Table 2a. The mean value of the OI variable is 0 because each component was standardized before the variable was constructed. An average CEO in our sample is 57.5 years old, has been in office for 11.7 years, and owns roughly 4% of the company's total shares outstanding. Although the average tenure is rather high, it exhibits substantial variation as indicated by its standard deviation of approximately 9 years, and ranges from as little as 0.1 years to as much as 57.0 years. Note that the minimum value for tenure is below 1 year even though we chose to exclude interim CEOs from our sample. This happens because we define interim CEOs as those with a full tenure of 1 year or less; as such, a newly recruited CEO with less than 1 year of tenure is not an interim CEO if their full tenure is greater than 1 year. As for equity stake, the maximum value is 0.69, meaning that there are some CEOs in our sample with substantial ownership in their respective companies. Furthermore, 18% of the CEOs in our sample are founders and 45% have been internally promoted to the position as CEO. The share of internally promoted CEOs is considerably lower compared to previous studies on OI (e.g. Abernethy et al., 2019), because of our more rigorous criteria for recognizing CEOs as insiders. Notably, 98% of the CEOs in our sample serve as directors on their respective companies' boards and 62% serve as chairpersons. We can, further, see that the range of total assets is considerable and thus our

sample comprises companies of substantially different sizes. Finally, the average time spent working at the company before becoming CEO is 9.7 years.

Table 2a: Descriptive statistics for the full sample

Variable	Mean	Median	Std	Min	Max
OI	0.00	-0.06	0.67	-0.90	3.92
Tenure	11.67	9.34	8.95	0.08	57.04
Founder	0.18	0.00	0.38	0.00	1.00
Equity	0.04	0.01	0.08	0.00	0.69
Insider	0.45	0.00	0.50	0.00	1.00
Diversification level	0.55	0.55	0.52	0.00	2.19
CEO age	57.54	58.00	7.43	34.00	88.00
Firm age	61.04	47.00	43.38	1.00	238.00
Total assets (USDm)	22,727	3,057	133,779	34	3,169,495
Leverage	0.55	0.56	0.23	0.04	2.31
ROA	0.10	0.10	0.09	-0.72	0.79
Board member	0.98	1.00	0.13	0.00	1.00
CEO duality	0.62	1.00	0.49	0.00	1.00
Pre-CEO employment	9.69	7.01	9.96	0.00	57.37

The full sample consists of 5,043 CEO-year observations from 498 unique firms and 686 unique CEOs during the period 1997-2022.

Table 2b includes CEO and firm characteristics for the CEO-years during which there were one or more divestitures made (i.e., where the *Divested* variable was equal to 1). In total, there were 226 CEO-year observations that matched our criteria, and this is the sample of divesting firms that will be used to test Hypotheses 2 and 3. This number would likely have been higher if we would not have excluded divestitures that did not disclose total sales figures. However, as explained in section 3.1., this was necessary to ensure that the divestitures were in fact divestitures of revenue-generating business units. By comparing Table 2a and Table 2b, we can see that the mean and median values for the OI variable are lower for companies that engaged in divestiture activity. CEOs who undertook divestitures during a year seem to, on average, be shorter tenured, are less commonly founders of their respective companies, and own less equity. They are, however, slightly more commonly internally promoted. Except for the statistics for the insider variable, these statistics are consistent with the expectations outlined in our first hypothesis, as CEOs with lower OI seem to be associated with more divestiture activity. This will, however, be tested for statistical significance in section 4.1.1. The average diversification level of companies that engaged in divestitures is substantially higher than the average diversification level of the total sample. There seems to be little difference between the age of

CEOs who divested and those who did not divest. The average age of companies that undertook divestitures is higher than the average firm age of the full sample. We further recognize that total assets and leverage on average are higher for divesting firms.

As for the divestiture size variable, the average total sales of divested business units are 6% of the company's pre-divestiture sales. As the maximum value of divestiture size is 92%, some firms in our sample likely undertook large-scale restructuring activities. The total number of divestitures within a single year in which more than one divestiture was made ranges from one to four divestitures. Because the median of this variable is equal to its minimum value, most observations in the divestiture sample only consisted of one divestiture. In fact, among the 226 CEO-year observations with one or more divestiture, 90% only encompassed one divestiture.

Finally, the mean and median values of the divestiture scope variable is 1% and 0%, respectively. This could indicate that, on average, divestitures in our sample have a negligible impact on the share of diversification level that is attributable to related business units. However, the high standard deviation, together with the extensive range between the minimum and maximum values, could suggest the average is close to 0% because the sample includes a wide distribution of divestitures of both related and unrelated business units.

Table 2b: Descriptive statistics for CEO years with divestitures

Variable	Mean	Median	Std	Min	Max
OI	-0.15	-0.15	0.50	-0.88	1.75
Tenure	10.39	8.96	8.37	0.50	43.03
Founder	0.08	0.00	0.27	0.00	1.00
Equity	0.01	0.00	0.04	0.00	0.26
Insider	0.48	0.00	0.50	0.00	1.00
Diversification level	0.91	1.00	0.59	0.00	2.04
CEO age	57.91	58.00	5.99	44.00	78.00
Firm age	79.63	75.50	53.26	9.00	228.00
Total assets (USDm)	69,418	7,077	271,396	233	2,264,909
Leverage	0.63	0.63	0.17	0.07	1.08
ROA	0.09	0.08	0.06	-0.15	0.34
M&A intensity	0.03	0.00	0.07	0.00	0.52
Divestiture size	0.06	0.03	0.10	0.00	0.92
Divested sales (USDm)	1,551	141	6,469	2	61,810
Number of divestitures	1.15	1.00	0.43	1.00	4.00
Divestiture scope	0.01	0.00	0.14	-0.83	0.80

The sample for divestitures consists of 226 observations in which one or more divestitures were made during the period 1997-2022 (i.e., the CEO-year observations in which the Divested variable was equal to 1).

4. Results

This section presents our tests and results for the hypotheses outlined in section 2.2.2. using the regression models presented in section 3.2. Furthermore, results from robustness tests are presented. The statistical software Stata is used for the tests.

4.1. Regression results

4.1.1. Regression results for Hypothesis 1

In this section, we apply the logit regression model described in section 3.2. to test if there is a negative relationship between OI and the likelihood of divesting business units. We use four different regression models to test the hypothesis: in Regression 1, we only test the relationship between *OI* (the independent variable of interest) and the dependent variable *Divested*; in Regression 2, we also include the control variables *Diversification level*, *CEO age*, *Firm age*, *Firm size*, *Leverage*, and *ROA*; in Regression 3, we include control variables as well as year fixed effects; and in Regression 4, we include control variables and both year and industry fixed effects. The results of these regression models are presented in Table 3.

In the first regression, the coefficient for OI is negative and significant at the 1% level. When adding control variables Regression 2, and fixed affects in Regressions and 3 and 4, the coefficients become even more negative and remain highly statistically significant at the 1% level. These results indicate that there is a negative relationship between CEO OI and the propensity to divest business units. As the level of OI increases, CEOs are less likely to undertake divestitures. Therefore, Hypothesis 1 is supported. As for the control variables, the coefficient for the diversification level is positive and statistically significant on the 1% level in all regression models, indicating that firms with greater levels of diversification are more likely to divest business units. Similar results are found for firm size, as larger firms are associated with a significantly greater propensity to divest. Leverage and ROA were only statistically significant when including fixed effects in the third regression model. Therefore, Leverage and ROA may be associated with a higher and lower likelihood of divestiture, respectively, but the results are not consistent enough to make any definitive assertions.

Table 3: Logit regression results for Hypothesis 1

Dependent variable: Divested

Variable	Regression 1	Regression 2	Regression 3	Regression 4
OI	-0.425***	-0.469***	-0.464***	-0.537***
	(-2.99)	(-2.74)	(-2.83)	(-3.14)
Diversification level		1.007***	0.996***	0.881***
		(4.69)	(4.69)	(4.88)
CEO age		-0.001	0.002	0.006
		(-0.08)	(0.17)	(0.46)
Firm age		0.001	0.001	0.000
		(0.41)	(0.40)	(-0.06)
Firm size		0.223***	0.237***	0.336***
		(4.39)	(4.30)	(5.37)
Leverage		0.403	0.342	0.880**
		(0.96)	(0.79)	(2.39)
ROA		0.395	0.140	-1.506*
		(0.48)	(0.17)	(-1.86)
Constant	-3.092***	-6.016***	-20.453***	-20.902***
	(-29.98)	(-6.96)	(-21.51)	(-17.59)
Industry fixed effects	No	No	No	Yes
Year fixed effects	No	No	Yes	Yes
Observations	5,043	5,043	5,043	5,043
Pseudo R-squared	0.01	0.09	0.11	0.14

Table 3 presents four logit regressions with the binary dependent variable Divested (1 if one or more divestitures were made during the year, 0 if not divestitures were made). The independent variable of interest for H1 is OI. All variables are measured in time t, except for Diversification level and ROA, which are measured in time t-1. Year fixed effects correspond to time t. The definitions and descriptions of all dependent, independent, and control variables used in the regression models are presented in section 3.3. and summarized in Appendix 2. All regressions are conducted using robust standard errors, clustered by firm. The Z-scores are presented in parentheses below the coefficients.

Note: *p < 0.1; **p < 0.05; ***p < 0.01

Because logit regression coefficients do not directly indicate the marginal effect of a one-unit increase in the independent variable on the outcome of the dependent variable (Hoetker, 2007; Wiersema and Bowen, 2009), we calculate the marginal effects separately. The marginal effects are presented in Table 4. In the full model, including control variables and fixed effects, the marginal effect of a one-unit increase in OI on the probability of divestiture is -1.7%. at the mean of OI. At the 25th and 75th percentiles of the OI variable, a one-unit increase in OI decreases the likelihood of divestiture by -2.2% and -1.5%, respectively. The marginal effects produced by the other three regression models are very similar to Regression 4. These results suggest that a one-unit increase in OI has a greater negative impact on the propensity to divest when the CEO has low levels of OI, and the effect of increases in OI is smaller for CEOs who identify more strongly with the organization.

Table 4: Marginal effects of OI on the likelihood of divestiture at different levels of OI

OI	Regression 1	Regression 2	Regression 3	Regression 4
25th percentile	-0.022**	-0.019**	-0.018**	-0.022**
	(-2.52)	(-2.15)	(-2.10)	(-2.42)
Mean	-0.018***	-0.015**	-0.015**	-0.017***
	(-3.02)	(-2.59)	(-2.59)	(-2.95)
75th percentile	-0.016***	-0.013***	-0.013***	-0.015***
	(-3.36)	(-2.89)	(-2.66)	(-3.34)

Table 4 shows the marginal effects on the likelihood of divestiture when increasing OI with one unit, keeping all other independent variables (control variables) at their means. The marginal effects are estimated at the 25th percentile, mean, and 75th percentile of OI. The numbers in the table represent changes in likelihood resulting from a one-unit increase in OI. The marginal effects are calculated from the logit regression models presented in Table 3. Z-scores are presented in parentheses below the marginal effects.

Note: *p < 0.1; **p < 0.05; ***p < 0.01

4.1.2. Regression results for Hypothesis 2

To test Hypothesis 2, we use a multiple linear OLS regression model to analyze the relationship between CEO OI and divestiture size, with the expectation that higher levels of OI should be associated with a smaller size of divestitures as measured by the share of total firm sales divested. Like we did for Hypothesis 1, we run regression models using only the OI variable (Regression 1), using all control variables (Regression 2), year fixed effects (Regression 3) and both year and industry fixed effects (Regression 4). The results are presented in Table 5.

We find a negative relationship between OI and divestiture size. The relationship is statistically significant at the 5% level, and the negative coefficient is highly consistent across all four regression models. In the full model (Regression 4), a one-unit increase in OI leads to a 3.4% decrease in divestiture size. As such, CEOs with higher levels of OI make smaller divestitures compared to CEOs with lower OI, confirming our second hypothesis. Also, note that no control variables have significant relationships to divestiture size in the full model.

The R-squared values of the regression models increase as more control variables and fixed effects are added to the models, indicating that our control variables help in improving the explanatory power of the models. In the full model with control variables and fixed effects included, the R-squared value is 0.21, but the adjusted R-squared is only 0.04. Because none of the control variables in our sample are significantly related to divestiture size in the full model, the low adjusted R-squared value is likely a result of some control variables in our models not contributing much to the explanation of variance in divestiture size. The low adjusted R-squared values thus do not render the models invalid, although we do recognize that the models are characterized by substantial unexplained variance.

Table 5: Multiple linear OLS regression results for Hypothesis 2

Dependent variable: Divestiture size

Variable	Regression 1	Regression 2	Regression 3	Regression 4
OI	-0.032**	-0.034**	-0.040**	-0.034**
	(-2.40)	(-2.17)	(-2.43)	(-2.17)
Diversification level		-0.019	-0.011	-0.012
		(-1.04)	(-0.59)	(-0.66)
CEO age		0.001	0.001	0.000
		(0.70)	(0.62)	(-0.07)
Firm age		0.000*	0.000	0.000
		(1.89)	(1.44)	(1.33)
Firm size		0.001	0.002	0.001
		(0.09)	(0.34)	(0.20)
Leverage		-0.041	-0.042	-0.022
		(-0.66)	(-0.71)	(-0.49)
ROA		-0.205*	-0.207**	-0.173
		(-1.93)	(-2.07)	(-1.62)
Constant	0.059***	0.035	0.002	0.041
	(9.96)	(0.45)	(0.02)	(0.57)
Industry fixed effects	No	No	No	Yes
Year fixed effects	No	No	Yes	Yes
Observations	226	226	226	226
R-squared	0.03	0.06	0.15	0.21
Adjusted R-squared	0.02	0.03	0.01	0.04

Table 5 presents four multiple OLS regressions with the continuous dependent variable Divestiture size. The independent variable of interest for H2 is OI. All variables are measured in time t, except for Diversification level and ROA, which are measured in time t-1. Year fixed effects correspond to time t. The definitions and descriptions of all dependent, independent, and control variables used in the regression models are presented in section 3.3. and summarized in Appendix 2. All regressions are conducted using robust standard errors, clustered by firm. The t-stats are presented in parentheses below the coefficients.

*Note: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$*

4.1.3. Regression results for Hypothesis 3

Table 6 shows the results of our multiple linear OLS regression to test the third hypothesis, namely if there is a positive relationship between CEO OI and the post-divestiture change in related diversification level as a share of total diversification. We use the same control variables for this test as for the test of Hypothesis 2. In addition to the control variables used when testing Hypothesis 1 and 2, we also include M&A intensity as a control variable for Hypothesis 3 to account for increases in total firm sales coming from M&A activity by the divesting firm. We test the effect of M&A intensity as a control variable in isolation in Regression 2, and subsequently include all control variables (Regression 3), year fixed effects (Regression 4) and both year and industry fixed effects (Regression 5).

We find no statistically significant relationship between CEO OI and divestiture scope, measured as the change in the ratio of related to total diversification. The coefficient for OI is negative in all five regression models. While this indicates a negative relationship, which is the opposite of the relationship proposed by Hypothesis 3, the absence of statistical significance prevents any conclusive interpretation. Therefore, we find no support for Hypothesis 3. Similarly, very few control variables were significantly related to the divestiture scope.

Table 6: Multiple linear OLS regression results for Hypothesis 3

Dependent variable: Divestiture scope

Variable	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5
OI	-0.023	-0.024	-0.030	-0.018	-0.020
	(-0.88)	(-0.90)	(-1.17)	(-0.82)	(-0.90)
M&A intensity		-0.039	-0.012	-0.037	-0.099
		(-0.67)	(-0.17)	(-0.40)	(-0.94)
Diversification level			0.013	0.008	-0.003
			(0.78)	(0.49)	(-0.12)
CEO age			0.003**	0.003	0.003*
			(2.21)	(1.89)	(1.76)
Firm age			0.000**	0.000	0.000
			(2.41)	(1.60)	(1.18)
Firm size			-0.011*	-0.013	-0.011*
			(-1.90)	(-1.99)	(-1.78)
Leverage			-0.037	-0.011	-0.005
			(-0.60)	(-0.18)	(-0.08)
ROA			-0.073	-0.081	-0.075
			(-0.58)	(-0.57)	(-0.55)
Constant	0.008	0.009	-0.062	-0.241	-0.182
	(0.80)	(0.85)	(-0.72)	(-2.69)	(-0.94)
Industry fixed effects	No	No	No	No	Yes
Year fixed effects	No	No	No	Yes	Yes
Observations	226	226	226	226	226
R-squared	0.01	0.01	0.05	0.19	0.21
Adjusted R-squared	0.00	-0.01	0.01	0.06	0.04

Table 6 presents five multiple OLS regressions with the continuous dependent variable Divestiture scope. The independent variable of interest for H3 is OI. All variables are measured in time t, except for Diversification level and ROA, which are measured in time t-1. Year fixed effects correspond to time t. The definitions and descriptions of all dependent, independent, and control variables used in the regression models are presented in section 3.3. and summarized in Appendix 2. All regressions are conducted using robust standard errors, clustered by firm. The t-stats are presented in parentheses below the coefficients.

Note: *p < 0.1; **p < 0.05; ***p < 0.01

4.2. Robustness tests

We employ multiple robustness tests to evaluate the robustness of our models and to ensure that our findings are not overly sensitive to our assumptions, methodologies, or data sample.

4.2.1. Alternative OI measurements

One of our main concerns is the robustness of our OI variable calculation. As a robustness test, we run all three full regression models in line with our hypotheses, using an alternative measurement of OI. First, we run regressions using an OI variable calculated as the average of the standardized versions of the four components of OI *(Tenure, Founder, Equity, Insider)*. Thereafter, we run the same regressions, now using the individual components of OI to test the statistical significance of each component.

In evaluating the first hypothesis through the logit regression, the new estimated OI, computed by taking the average of standardized versions of the four components *(Tenure, Founder, Equity, Insider),* demonstrates statistical significance and a higher coefficient compared to our PCA-estimated OI (See Appendix 3a). However, for Hypothesis 2 and 3, no statistical significance is observed (See Appendix 3b and 3c). This means that Hypothesis 2 is not supported under this simpler approach of estimating OI. However, it is worth noting that this methodology has not been tested for robustness or validity in shaping the OI variable, whereas the PCA-based approach has been thoroughly tested by Abernethy et al. (2019). As such, these findings do not invalidate our results for Hypothesis 2, although they indicate that the results could be sensitive to this alternative methodology of combining components of OI into a single variable.

Testing the four OI component variables individually in our regressions mostly yield non-significant results (See Appendix 4a, 4b, and 4c). In the test of the first hypothesis, *Equity* is significant at the 5% level and *Insider* is significant at the 10% level. In the second hypothesis, only *Insider* is significant at the 1% level. Finally, in the third hypothesis, only *Equity* is significant at the 10% level. This demonstrates that the composite OI variable employed in this study is more effective in explaining divestiture propensity and size than the individual OI components. A possible interpretation of this finding is that the OI variable measures a different theoretical concept compared to each individual component, providing support for the use of a more sophisticated approach in estimating OI, like the approach used in this study.

4.2.2. Multicollinearity

Another concern is the degree of multicollinearity among our independent variables across the three regression models. Multicollinearity occurs when two or more independent variables in a

regression model are highly correlated, leading to issues in estimating the individual contributions of each variable to the dependent variable (Greene, 2011). High multicollinearity can result in inflated standard errors of regression coefficients, making it challenging to identify the true relationships between predictors and the dependent variable (Ibid). Variance inflation factor (VIF) measures the degree of multicollinearity among independent variables where high VIF values (e.g., VIF > 5 or 10) suggest high multicollinearity (See Appendix 5a, 5b, and 5c). None of the results stand out to be highly correlated as the VIF values are around 1 and utmost at 2.

4.2.3. Alternative regression model for Hypothesis 1

Lastly, in addition to the logit regression model used to test Hypothesis 1 in section 4.1.1., we also run a multiple linear OLS regression model in this section as a robustness test. The results of this test are presented in Appendix 6. The full regression model, including both control variables and fixed effects (year and industry), shows a statistically significant negative relationship between OI and the likelihood of divestiture. As such, this alternative regression model generates the same overall conclusion as the logit regression model, providing further support for Hypothesis 1. The regression coefficient for OI is -1.3% in the full linear OLS regression model, which is very close to the marginal effect of -1.7% produced by the full logit model at the mean of OI. The statistical significance and signs for the control variables are, furthermore, similar to the results from the logit regression model. Note, however, that the adjusted R-squared value for the full OLS regression model is only 0.05, indicating that the model explains only a small proportion of the variance in the dependent variable.

5. Analysis

5.1. Analysis of results and theoretical contributions

Our first hypothesis suggested that there should be a negative relationship between CEO OI and the firm's propensity to divest business units. The full regression model for H1 with *Divested* as the dependent variable and with all control variables and fixed effects included, showed that the independent variable *OI* had a coefficient of -0.54 and a Z-score of -3.14. The marginal effect of increasing OI with one unit leads to a 1.7% decrease in the probability of divestiture, measured at the mean of OI. The test therefore provided statistically significant evidence supporting that CEOs who more strongly identify with their organizations are less likely to engage in divestitures. This relationship further holds when using a multiple linear OLS regression model instead of a logit regression model as a robustness test, and the regression coefficient in the OLS model is very similar to the marginal effects in the logit model. Previous research on OI has found that the self-perception of individuals with stronger firm identification becomes depersonalized to the extent where their identity converges with the identity of the organization (Dutton et al., 1994). As such, our findings can be attributed to the idea that CEOs with high OI may view the firm's business units as parts of their own identity, which adds substantial emotional costs to the divestiture decision and increases the reluctance to divest.

Because no previous study has, to the best of our knowledge, explored the impact of CEO OI on divestiture activity, these findings add OI as an explanatory variable to research on CEO characteristics as antecedents in the divestiture decision. Although longer CEO tenure and founder-CEOs have been associated with a stronger reluctance towards divestiture activity in previous research (Pan et al., 2016; Abebe and Tangpong, 2018), findings concerning the other two components of our OI variable – insider status and equity stake – have been highly inconsistent and inconclusive (e.g. Berger and Ofek, 1999; Owen et al., 2010; Chiu et al., 2016). Our findings provide a new understanding of the influence of these four variables on the divestiture decision, because when they are combined into one OI construct, a completely new theoretical viewpoint is obtained. First, the theoretical reasoning behind the negative relationship between CEO tenure and divestiture activity has mostly consisted of different arguments related to agency theory (e.g. Pan et al., 2016; Weisbach, 1995). However, as tenure is also an explanatory variable of a CEO's propensity to identify with his or her organization (Abernethy et al., 2019), our study sheds light on a different interpretation of the variable's impact on divestiture decisions. Second, the findings are in line with previous research on founder-CEOs and divestiture decisions (e.g. Abebe and Tangpong, 2018). Third, while Chiu

et al. (2016) find that insider CEOs engage in more divestiture activity, they only focus on the specific event of CEO succession and do not consider the divestiture behavior of longer-tenured insider CEOs who may, in contrast, engage in less divestiture activity than outsider CEOs. Our OI variable, which consists of both tenure and insider status, is indeed instead negatively related to the likelihood of divestiture. Although we cannot attribute this specifically to the interaction between tenure and internal promotion as our OI variable consists of two additional components, this does indicate that OI brings a new explanation of the divestiture behaviors of internally promoted CEOs that has not been considered by previous research. Fourth, although previous studies on the impact of CEO equity ownership on the divestiture decision have produced inconsistent results, the results of these studies have mostly been interpreted using different perspectives of agency theory (e.g. Berger and Ofek, 1999; Sanders, 2001). By instead incorporating equity ownership into a composite OI variable, a new theoretical perspective on how equity ownership relates to divestiture propensity is obtained.

In our second hypothesis, we anticipated that CEOs who more strongly identify with their organizations should make smaller divestitures. We found statistically significant support for this expectation, with a regression coefficient of -0.03 and a t-stat of -2.17 for the independent variable *OI* against the dependent variable *Divestiture size*. This shows that, although CEOs with higher OI are less likely to divest, when they choose to divest, they make smaller divestitures compared to their lower OI counterparts. We interpret these findings as an increased reluctance of high OI CEOs towards divesting a large part of their own identity due to increased emotional costs, as opposed to divesting only a small part that may come at lower emotional costs.

In Hypothesis 3, we argued that greater levels of CEO OI should be associated with a smaller divestiture scope. In the full regression model with the dependent variable *Divestiture scope*, including control variables and fixed effects, the independent variable *OI* only had a coefficient of -0.02 and a t-stat of -0.90. Our results were therefore insignificant. The hypothesis built on the argument that CEOs with higher OI should identify more strongly with related business units as these are part of the core identity of the company. Consequently, we expected such CEOs to refrain from divesting related business units and therefore produce a positive effect on the share of diversification level originating from related business units. We see three different possible interpretations for the insignificant results. First, new external CEOs, who are characterized by low levels of OI (Abernethy et al., 2019), have been shown to focus their divestiture activities on unrelated business units because of limited internal firm knowledge (Chiu et al., 2016). As such, even if CEOs with high levels of OI do focus their divestiture

activity on unrelated business units, their low OI counterparts may engage in similar divestiture behaviors but for different reasons. Second, even if our prediction of a positive relationship between OI and divestiture scope would be true, it is possible that the results of Hypothesis 2 are counteracting this effect. Even if high OI CEOs concentrate their divestiture activity on unrelated business units, the relatively smaller size of these divestitures could result in only a marginal impact on the company's post-divestiture diversification level. Third, CEOs with higher levels of OI may not prefer to divest unrelated business units. Perhaps high OI CEOs identify so strongly with the total company that divestitures of unrelated business units carry the same emotional cost as divestitures of units related to the core business. As a result, these CEOs would have no preference for divesting a specific type of business unit. Although the results of our study do not provide any evidence in support of these explanations, they could be theoretical reasons that prevent our third hypothesis from being supported.

When combining the findings and analyses for our hypotheses, we see interesting implications for OI theory in a managerial context. Because high CEO OI is associated with a reduced willingness to divest and smaller divestitures, we provide a potentially contrasting perspective to previous research that claims that OI is associated with reduced agency costs (e.g. Heinle et al., 2012; Boivie et al., 2011; Abernethy et al., 2017) and, consequently, more value-creating corporate finance decisions (e.g. Zhou et al., 2021; Du et al., 2022). For instance, in a scenario where divestitures are necessary for the continued prosperity of the firm, a lower propensity to divest, and a reduced willingness to undertake large-scale divestitures, may not be in the best interest of shareholders. We therefore suggest that, at least in the context of divestitures, CEOs who more strongly identify with their organizations may not be associated with reduced agency costs. However, because this study did not focus on the specific scenario of restructuring or financial distress, we cannot claim that the relationships found through our tests of H1 and H2 hold in these specific contexts. In previous studies with a similar general context as the setting of our study, evidence on the shareholder value-creation of divestitures is mixed, with some literature suggesting it creates value (e.g. Markides, 1992; Markides and Berg, 1992) and some suggesting it could decrease value (e.g. Markides, 1992; Klein, 1986). As such, agency costs may not be increased by OI as it is contested whether divestitures are, in general, in the interest of shareholders. The insignificant results obtained for H3 could further support this idea, as we did not find support for our expectation of high OI CEOs focusing their divestitures solely on related business units. This may indicate that, in situations where high OI CEOs must divest, although they make smaller divestitures, they seemingly have no preference against divesting parts of the core business to ensure the survival or continued prosperity of the

firm. If these CEOs identify more strongly with the core business, this suggests that their divestiture reluctance does not negatively affect shareholders in situations where divestitures of related business units are necessary.

We recognize that there may be several alternative explanations for the significant results we find for H1 and H2. Most importantly, there could be alternative ways of interpreting the OI variable. Even though the variable has been thoroughly tested for robustness and validity in shaping OI by Abernethy et al. (2019), the variable's individual components could potentially also be used to explain the CEO's power. CEOs with extended tenures possess substantial power relative to the board (Shen, 2003; Evans et al., 2010); founder-CEOs may gain power through increased long-term relationships with board members and other important stakeholders (Finkelstein, 1992); CEOs with significant shareholdings in the firm can exert more control over strategic decisions (Finkelstein, 1992); and internally promoted CEOs have more firm-specific knowledge than outsider CEOs (Puffer and Weintrop, 1991). Therefore, when combined, these variables may create a metric of power rather than a metric of OI. The results for H1 and H2 could thus instead indicate that CEOs with greater power make fewer and smaller divestitures. However, this would be contradictory to the findings of Chiu et al. (2022), who suggest that CEO power decreases the reluctance to undertake divestiture activity. As such, it is unlikely that our OI variable predicts CEO power, which could potentially support its validity in explaining the psychological factor that this study aims to examine.

5.2. Practical implications

Our study can contribute with practical implications in the context of organizational behavior and corporate finance decision-making, particularly regarding CEO characteristics and their impact on divestiture decisions. The findings underscore the importance for company boards to understand the psychological and emotional factors that influence the CEO's decision to divest. Boards must consider that CEOs who strongly identify with their organizations may be reluctant towards undertaking divestitures in general, and towards larger divestitures in particular. If this reluctance emerges in situations where divestitures are in the best interest of shareholders, such as in events of overdiversification, restructuring, or financial distress, it might hinder the firm's ability to generate value for its shareholders. As such, corporate boards should not take for granted that higher levels of OI always lead to reduced agency costs in all corporate finance decisions that CEOs engage in.

6. Conclusion

The purpose of this study has been to examine how CEO OI impacts a company's propensity to divest business units, the size of divestitures made, and the scope of divestiture activity. Our findings reveal a statistically significant negative relationship between OI and the likelihood of divestiture, supporting our first hypothesis that CEOs with greater levels of OI should be less likely to engage in divestiture activity. We attribute this finding to the idea that a CEO who more strongly identifies with his or her company, views the company's business units as individual components of his or her own identity, which enhances their reluctance towards parting ways with the business units. We further find statistically significant evidence of a negative relationship between CEO OI and divestiture size, meaning that CEOs who identify more strongly with their companies make smaller divestitures, as measured by the share of sales divested. Finally, we do not find a positive relationship between OI and divestiture scope.

The study makes three primary contributions to literature and practice. First, the study provides the divestiture literature with a new perspective on how CEO characteristics can impact the divestiture decision. While previous studies have examined the impact of specific characteristics on divestiture propensity, size, and scope, no previous study has to the best of our knowledge investigated the influence of CEO OI on divestitures. Second, in contrast to literature on OI that frequently suggests that CEOs with higher levels of OI are associated with reduced agency costs in strategic and corporate financial decisions, our study highlights that this may not necessarily be the case in the specific context of divestitures. Third, because of these potential agency costs, corporate boards cannot assume that CEOs who strongly identify with their organizations always make decisions that maximize shareholder value.

6.1. Limitations

Similar to previous literature that draws on theoretical explanations from behavioral literature, this study faces the challenge of empirically testing the impact of psychological factors on decision-making. Of particular interest for this study is the CEO's level of identification with his or her company, which is measured using the PCA-based two-step approach developed by Abernethy et al. (2019). While Abernethy et al. (2019) tested the robustness and validity of the OI variable (see section 3.3.2.), there could still be alternative interpretations when a variable is constructed using various archival proxies. Furthermore, studies on CEO OI prior to the paper by Abernethy et al. (2019) have primarily measured OI through surveys. Even though Abernethy et al. (2019) tested the nomological validity of the OI variable, it is possible that a survey-based methodology would have produced different results from those presented in this

study. These considerations are particularly important in this study, as we only use four out of the six components of the OI variable presented by Abernethy et al. (2019) due to a lack of reliable data on the two remaining components. The two excluded variables are the CEO's previous experience as department manager and the number of functional roles held by the CEO. However, we argue that our four variables still capture both of the fundamental aspects OI development, namely top-down and bottom-up development. As such, our OI measurement is still consistent with the core idea behind the OI variable presented by Abernethy et al. (2019). Our OI variable also builds on a more rigorous definition of internally promoted CEOs, allowing us to capture aspects of the excluded components.

Another possible critique of the construction of our OI variable concerns the weights used for the factors produced by the PCA. In line with Abernethy et al. (2019), we use the proportion of explained variance for each factor as its weight in the calculation of the OI variable. This builds on the assumption that a greater portion of explained variance implies a greater importance in explaining an underlying construct. While this may be a reasonable assumption, it may not accurately reflect the relative importance of each factor in theoretical terms. For instance, Boivie et al. (2011) find that CEO status as founder or founding family member has a stronger correlation with their survey-based OI variable compared to CEO tenure. This could indicate that more weight should have been allocated to the *Founder* component of our composite OI variable.

To account for some of the issues related to the measurement of OI, we conduct a robustness test using a simplified OI variable constructed through standardizing the four components and calculating an average. When using this variable as the independent variable in our regression models, the results for Hypothesis 1 remain highly significant, but the coefficient for Hypothesis 2 is no longer significant. It is important to remember that, in contrast to the PCA-based two-step approach formulated by Abernethy et al. (2019), this approach has not been tested for validity and its interpretations should, therefore, warrants a cautious consideration. Nevertheless, it could also indicate that, under simpler assumptions that do not depend on weights based on proportions of explained variance, CEOs with higher OI do not make smaller divestitures. However, we refrain from drawing this conclusion due to the lack of reliable validity of the variable.

Another limitation of our study is that it does not fully consider that there may be a strategic consistency across a series of divestitures through divestiture programs (Chiu et al., 2016). Pathak et al. (2014) note that "focusing solely on single transactions does not allow researchers to examine a sequence of transactions that are linked". However, because

divestiture programs can last for several years (Chiu et al., 2016), the OI variable used in our study could change significantly during the program's duration. We considered incorporating divestiture programs into the study by instead using the CEO's level of OI at the start of the program, but we recognized that this relied on the assumption that decisions to make certain divestitures within the program would be made potentially years in advance. Because we deemed this to be unlikely, we chose to instead follow the approach of a different body of previous divestiture research and examine divestitures as isolated, one-off events. Note however that we combine any divestitures made during the same fiscal year, allowing us to partly capture the strategic consistency of divestitures.

We furthermore acknowledge that the sample of divestitures is limited to business units with disclosed values for total sales. This may be problematic when testing Hypothesis 1, because when the sample does not encompass the entire population of divestitures made by the CEOs in our sample, some potentially important data points may be left out. However, we made the decision to limit our divestiture sample to business units with disclosed sales to ensure that our sample only contained revenue-generating entities, in line with the focus of this thesis. Had we not made this decision, the sample could potentially have included corporate assets that may be of less emotional value to high OI CEOs, such as buildings or machines. As such, we argue that the decision improved the reliability and accuracy of our sample. Nonetheless, the reader should note that the results of this thesis are based on a sample of divestitures made by the CEOs in our sample, not on all their divestitures.

To test Hypothesis 3, we followed the approach used by Chiu et al. (2016) to measure the impact of our independent variable on the divestiture scope. However, an alternative approach could have been to first measure the CEO's propensity to divest related or unrelated business units, and thereafter measure the impact of such divestiture activity on the firm's level of related diversification. In the approach used in this study, we cannot ascertain that the underlying explanation for changes in the share of related diversification level is divestitures of specific types of business units. Other explanations may include increases in total firm sales and number of business units through M&A activity, organic growth initiatives, or even macroeconomic factors influencing demand. Although we control for M&A intensity in our tests, we do not control for changes in firm sales or business unit composition resulting from other strategic initiatives or from industry cyclicality. By instead first conducting tests on the relatedness of business units divested, the interpretation of the statistical insignificance found for the third hypothesis could potentially have been facilitated.

6.2. Future research

While writing this thesis, we identified several compelling avenues for future research. A potential area of interest would be to explore the influence of CEO OI on divestitures of legacy business units. Our third hypothesis, for which we found no statistically significant evidence, built on the logic that CEOs with higher levels of OI should avoid divesting core business units as they would identify stronger with parts of the company's core business. Although we found no statistically significant evidence for this in the context of changes in diversification levels, it is possible that high OI CEOs may still focus divestiture activity on a specific type of business unit. Future research could, instead of directly measuring the impact of divestitures on the related diversification level, investigate the relationship between OI and the propensity to divest related business units. Of particular interest for future research could be how CEO OI influences the decision to divest legacy business units. Such business units are not only part of the company's core business, but also represent the original line of business and the firm's oldest routines (Feldman, 2014). As a result, CEOs with strong attachments to their companies may find it exceedingly difficult to divest legacy business units.

The context of this study created limitations in our ability to interpret the psychological factors that explain the results. Future research could conduct case studies of situations in which the psychology of a CEO with a high OI score is more closely examined, which may determine the root cause of divestiture reluctance. This could, for instance, reveal that power is the true explanatory CEO characteristic in the reluctance to divest. Another contextual limitation of our study is that consequences of this reluctance may only arise in situations where shareholders would benefit from divestitures. Future research could focus on these specific situations by limiting the sample of divesting companies to those in financial distress or restructuring.

Our sample was characterized by a high share of board member-CEOs, largely due to the U.S. geographical focus of this study. The study could possibly be replicated in a different geographical market where it is less common for the CEO to hold board membership. Because the board is ultimately responsible for strategic decisions in the company (Finkelstein et al., 2009), studies may find that board membership has a power-driven moderating role in the relationships between CEO OI and divestiture propensity and size. This power perspective could, in fact, even be tested in a U.S. context. We determined that it was beyond the scope of this study to investigate the moderating role of CEO duality on divestiture decisions, yet approximately half of our sample consisted of CEOs who were also chairmen. Therefore, future studies could replicate our tests by using CEO duality as a moderating variable.

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Appendix

Appendix 1: Distribution of observations across industries

Industry	Full sample	Divestitures
Construction and mining	236	8
Finance and insurance	605	21
Manufacturing	2,230	117
Non-classifiable	17	9
Retail and wholesale trade	610	25
Services	902	33
Transportation, communications, electric, gas and sanitary service	443	13
Total	**5,043**	**226**

Note: Real estate and investment companies are not included in the sample.

Appendix 2: Description of variables

Variable name	Description	Database
Divested	The binary variable *Divested* is the dependent variable in the regression for H1. 1 if one or more divestitures were made, 0 if not.	CapitalIQ
Divestiture size	The sales of the divested business unit(s) divided by the divesting firm's total sales for the preceding fiscal year.	CapitalIQ, Compustat
Divestiture scope	The change in the firm's ratio of related diversification to total diversification, as measured using entropy indices. The calculations for the entropy index for related diversification and unrelated diversification, respectively, are: $$Related\ diversification\ (RD)_t = \sum_{i=1}^{n} P_{t,i} \ln\left(\frac{1}{P_{t,i}}\right)_{Related}$$ $$Unrelated\ diversification\ (UD)_t = \sum_{i=1}^{n} P_{t,i} \ln\left(\frac{1}{P_{t,i}}\right)_{Unrelated}$$ where *n* is the number of segments in the company, $P_{t,i}$ is the share of sales for segment *i* relative to the total sales of the company, and $\ln\left(\frac{1}{P_{t,i}}\right)$ is the weight of each segment measured as the natural logarithm of the inverse of the segment's share of total sales. These are subsequently added together, and the divestiture scope becomes the change in the ratio between RD and TD between time t and t-1: $$Total\ diversification\ (TD)_t = RD_t + UD_t \qquad Divestiture\ scope_t = \frac{RD_t}{TD_t} - \frac{RD_{t-1}}{TD_{t-1}}$$	Compustat
Founder	Binary variable, taking a value of 1 if the starting year of the CEO (regardless of starting position) is equal to the founding year of the company, and 0 if not.	Execucomp, CapitalIQ
Tenure	The number of years since the CEO took on the role as CEO. Calculated as the difference between the current year (assuming the current date to be 31st of December) and the date that the CEO first took office.	Execucomp
Equity	The number of shares owned by the CEO (excl. options) divided by the total number of shares outstanding.	Execucomp

Insider	A binary variable taking on a value of 1 if the CEO had been employed at the firm for at least 7 years before becoming CEO, and 0 otherwise. Measured by subtracting the date on which the CEO took office from the date on which the CEO first joined the firm (regardless of position), and if the result is greater than 7 years, the CEO is recognized as an insider.	Execucomp
OI	A composite variable consisting of the Founder, Tenure, Equity, and Insider variables. Calculated using PCA by weighing the two factors with eigenvalues above 1 using the proportion of explained variance as weights.	Execucomp, CapitalIQ
Diversification level	A continuous variable measured using the entropy index in period t-1: $$Diversification\ level_{t-1} = \sum_{i=1}^{n} P_{i,t-1} \ln\left(\frac{1}{P_{i,t-1}}\right)$$ where n is the number of segments in the company, $P_{t,i}$ is the share of sales for segment i relative to the total sales of the company, and $\ln\left(\frac{1}{P_{t,i}}\right)$ is the weight of each segment measured as the natural logarithm of the inverse of the segment's share of total sales.	Compustat
CEO age	Continuous variable retrieved directly from Execucomp.	Execucomp
Firm age	Continuous variable measuring the age of the firm, calculated by subtracting the founding year of the company from the current year.	Execucomp, CapitalIQ
Firm size	Continuous variable measured as the natural logarithm of the total book value of assets.	Compustat
Leverage	Continuous variable calculated as the total book value of liabilities divided by the total book value of assets.	Compustat
ROA	Return on assets (ROA) is a continuous variable measured as EBIT divided by the total book value of assets. ROA is measured in period t-1.	Compustat
M&A intensity	Continuous variable measured as the total dollar value of M&A activity during the year divided by the total book value of assets.	Compustat
Board member	Binary variable taking a value of 1 if the CEO was a board member during the year, 0 if not.	Execucomp
CEO duality	Binary variable taking a value of 1 if the CEO was chairman of the board during the year, 0 if not.	Execucomp
Pre-CEO employment	The number of years the CEO was employed at the company prior to becoming CEO. Pre-CEO employment is a continuous variable calculated by subtracting the date on which the CEO first joined the firm (regardless of position) from the date that the CEO took office.	Execucomp
Total assets	Continuous variable measured as the dollar value of the total book value of assets.	Compustat
Divested sales	Continuous variable measured as the dollar value of sales in the divested business unit.	CapitalIQ, Compustat
Number of divestitures	Discrete variable measuring the number of divestitures made during the year.	CapitalIQ

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Appendix 3a: Logit regression results for Hypothesis 1 using alternative OI

Dependent variable: Divested

Variable	Regression
Alternative OI	-0.691***
	(-3.00)
Diversification level	0.867***
	(4.86)
CEO age	0.008
	(0.59)
Firm age	-0.001
	(-0.44)
Firm size	0.343***
	(5.49)
Leverage	0.836**
	(2.32)
ROA	-1.618*
	(-1.95)
Constant	-21.538***
	(-18.26)
Industry fixed effects	Yes
Year fixed effects	Yes
Observations	5,043
Pseudo R-squared	0.14

The alternative OI variable is measured by standardizing all components of the OI variable (Tenure, Founder, Equity, Insider) and calculating an average of the components. This new OI variable is tested against the dependent variable Divested using the full logit regression model presented in section 4.1.1., including control variables as well as industry and year fixed effects. The Z-scores are presented in parentheses below the coefficients.

*Note: *p < 0.1; **p < 0.05; ***p < 0.01*

Appendix 3b: OLS regression results for Hypothesis 2 using alternative OI

Dependent variable: Divestiture size

Variable	Regression
Alternative OI	-0.030
	(-1.58)
Diversification level	-0.014
	(-0.74)
CEO age	0.000
	(-0.19)
Firm age	0.000
	(1.22)
Firm size	0.001
	(0.14)
Leverage	-0.021
	(-0.48)
ROA	-0.182
	(-1.64)
Constant	0.055
	(0.74)
Industry fixed effects	Yes
Year fixed effects	Yes
Observations	226
R-squared	0.20
Adjusted R-squared	0.03

The alternative OI variable is measured by standardizing all components of the OI variable (Tenure, Founder, Equity, Insider) and calculating an average of the components. This new OI variable is tested against the dependent variable Divestiture size using the full OLS regression model presented in section 4.1.2., including control variables as well as industry and year fixed effects. The t-values are presented in parentheses below the coefficients.

Note: *p < 0.1; **p < 0.05; ***p < 0.01

Appendix 3c: OLS regression results for Hypothesis 3 using alternative OI

Dependent variable: Divestiture scope

Variable	Regression
Alternative OI	-0.015
	(-0.42)
M&A intensity	-0.095
	(-0.90)
Diversification level	-0.003
	(-0.17)
CEO age	0.002
	(1.59)
Firm age	0.000
	(1.13)
Firm size	-0.011
	(-1.84)
Leverage	-0.004
	(-0.06)
ROA	-0.080
	(-0.58)
Constant	-0.170
	(-0.84)
Industry fixed effects	Yes
Year fixed effects	Yes
Observations	226
R-squared	0.20
Adjusted R-squared	0.03

The alternative OI variable is measured by standardizing all components of the OI variable (Tenure, Founder, Equity, Insider) and calculating an average of the components. This new OI variable is tested against the dependent variable Divestiture scope using the full OLS regression model presented in section 4.1.3., including control variables as well as industry and year fixed effects. The t-values are presented in parentheses below the coefficients.

*Note: *p < 0.1; **p < 0.05; ***p < 0.01*

Appendix 4a: Logit regression results using component variables for Hypothesis 1

Dependent variable: Divested

Variable	Regression
Tenure	0.012
	(1.01)
Founder	-0.565
	(-1.40)
Equity	-7.499**
	(-2.35)
Insider	-0.355*
	(-1.75)
Diversification level	0.899***
	(4.87)
CEO age	-0.005
	(-0.42)
Firm age	-0.001
	(-0.33)
Firm size	0.337***
	(5.19)
Leverage	0.801**
	(2.12)
ROA	-1.678*
	(-1.96)
Constant	-20.280***
	(-19.22)
Industry fixed effects	Yes
Year fixed effects	Yes
Observations	5,043
Pseudo R-squared	0.14

The Tenure, Founder, Equity, Insider independent variables (the components of the OI variable) are tested against the dependent variable Divested using the full logit regression model presented in section 4.1.1., including control variables as well as industry and year fixed effects. The Z-scores are presented in parentheses below the coefficients.

Note: *p < 0.1; **p < 0.05; ***p < 0.01

Appendix 4b: OLS regression results using component variables for Hypothesis 2

Dependent variable: Divestiture size

Variable	Regression
Tenure	0.000
	(0.31)
Founder	0.009
	(0.32)
Equity	-0.055
	(-0.53)
Insider	-0.049***
	(-2.73)
Diversification level	-0.008
	(-0.43)
CEO age	-0.001
	(-0.93)
Firm age	0.000*
	(1.72)
Firm size	0.003
	(0.47)
Leverage	-0.028
	(-0.63)
ROA	-0.159
	(-1.56)
Constant	0.156
	(1.79)
Industry fixed effects	Yes
Year fixed effects	Yes
Observations	226
R-squared	0.23
Adjusted R-squared	0.06

The Tenure, Founder, Equity, Insider independent variables (the components of the OI variable) are tested against the dependent variable Divestiture size using the full OLS regression model presented in section 4.1.2., including control variables as well as industry and year fixed effects. The t-values are presented in parentheses below the coefficients.

Note: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Appendix 4c: OLS regression results using component variables for Hypothesis 3

Dependent variable: Divestiture scope

Variable	Regression
Tenure	-0.002
	(-1.34)
Founder	0.055
	(0.75)
Equity	-0.523*
	(-1.93)
Insider	0.019
	(1.16)
M&A intensity	-0.081
	(-0.75)
Diversification level	-0.005
	(-0.26)
CEO age	0.004*
	(1.83)
Firm age	0.000
	(1.19)
Firm size	-0.013**
	(-2.12)
Leverage	0.015
	(0.23)
ROA	-0.050
	(-0.34)
Constant	-0.223
	(-1.13)
Industry fixed effects	Yes
Year fixed effects	Yes
Observations	226
R-squared	0.23
Adjusted R-squared	0.05

The Tenure, Founder, Equity, Insider independent variables (the components of the OI variable) are tested against the dependent variable Divestiture scope using the full OLS regression model presented in section 4.1.3., including control variables as well as industry and year fixed effects. The t-values are presented in parentheses below the coefficients

*Note: *p < 0.1; **p < 0.05; ***p < 0.01*

Appendix 5a: Multicollinearity test for logit regression model used for Hypothesis 1

Variable	VIF	1/VIF
OI	1.16	0.858
Diversification level	1.35	0.743
CEO age	1.21	0.823
Firm age	1.36	0.737
Firm size	1.85	0.541
Leverage	1.59	0.630
ROA	1.85	0.851

The multicollinearity test, Variance Inflation Factor (VIF), is conducted using the full logit regression model presented in section 4.1.1., including control variables as well as industry and year fixed effects. VIF can be interpreted as VIF of 1 indicating no correlation between independent and other variables, VIF between 1 and 5 suggesting moderate correlation, and VIF above 5 indicating high correlation with VIF values above 10 being considered problematic.

Appendix 5b: Multicollinearity test for OLS regression model used for Hypothesis 2

Variable	VIF	1/VIF
OI	1.55	0.646
Diversification level	1.94	0.515
CEO age	1.52	0.655
Firm age	2.09	0.477
Firm size	2.28	0.438
Leverage	1.72	0.581
ROA	1.40	0.715

The multicollinearity test, Variance Inflation Factor (VIF), is conducted using the full OLS regression model presented in section 4.1.2., including control variables as well as industry and year fixed effects. VIF can be interpreted as VIF of 1 indicating no correlation between independent and other variables, VIF between 1 and 5 suggesting moderate correlation, and VIF above 5 indicating high correlation with VIF values above 10 being considered problematic.

Appendix 5c: Multicollinearity test for OLS regression model used for Hypothesis 3

Variable	VIF	1/VIF
OI	1.16	0.641
M&A Intensity	1.35	0.740
Diversification level	2.01	0.498
CEO age	1.53	0.655
Firm age	2.09	0.477
Firm size	1.85	0.541
Leverage	1.73	0.579
ROA	1.40	0.438

The multicollinearity test, Variance Inflation Factor (VIF), is conducted using the full OLS regression model presented in section 4.1.3., including control variables as well as industry and year fixed effects. VIF can be interpreted as VIF of 1 indicating no correlation between independent and other variables, VIF between 1 and 5 suggesting moderate correlation, and VIF above 5 indicating high correlation with VIF values above 10 being considered problematic.

Appendix 6: OLS regression results for Hypothesis 1

Dependent variable: Divested

Variable	Regression 1	Regression 2	Regression 3	Regression 4
OI	-0.015***	-0.013***	-0.013**	-0.013***
	(-3.38)	(-2.52)	(-2.47)	(-2.62)
Diversification level		0.044***	0.044***	0.038***
		(4.77)	(4.77)	(4.60)
CEO age		0.000	0.000	0.000
		(-0.62)	(-0.31)	(-0.38)
Firm age		0.000	0.000	0.000
		(0.91)	(0.92)	(0.66)
Firm size		0.011***	0.012***	0.014***
		(4.06)	(4.00)	(4.75)
Leverage		0.001	-0.002	0.021
		(0.06)	(-0.13)	(1.24)
ROA		0.006	-0.003	-0.041
		(0.25)	(-0.11)	(-1.48)
Constant	0.045***	-0.062**	-0.090***	-0.129***
	(10.33)	(-2.02)	(-2.80)	(-3.24)
Industry fixed effects	No	No	No	Yes
Year fixed effects	No	No	Yes	Yes
Observations	5,043	5,043	5,043	5,043
R-squared	0.00	0.03	0.04	0.06
Adjusted R-squared	0.00	0.03	0.03	0.05

Appendix 6 presents four OLS regressions with the binary dependent variable Divested (1 if one or more divestitures were made during the year, 0 if not divestitures were made). The independent variable of interest for H1 is OI. All variables are measured in time t, except for Diversification level and ROA, which are measured in time t-1. Year fixed effects correspond to time t. The definitions and descriptions of all dependent, independent, and control variables used in the regression models are presented in section 3.3. and summarized in Appendix 2. All regressions are conducted using robust standard errors, clustered by firm. The t-values are presented in parentheses below the coefficients.

Note: *p < 0.1; **p < 0.05; ***p < 0.01