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Divestitures and CEO overconfidence

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ABSTRACT

Overconfident CEOs overestimate their ability to generate value. We investigate how this affects divestiture activity and whether it moderates a CEO's investment lifecycle. We hypothesize and find that overconfident CEOs are less likely to divest units and their divestment decisions are less sensitive to career lifecycle concerns. In addition, after a divestiture overconfident CEOs spend more on capital expenditures (Capex) and acquisitions than other CEOs. Overall, our results suggest that overconfident CEOs prefer to retain units and divest largely to maintain an investment trajectory. Our results further highlight the important role behavioral traits such as overconfidence play in corporate decision-making.

1. Introduction

We investigate the role CEO overconfidence plays in asset divestitures. Divestitures, along with mergers and acquisitions, involve the reallocation of corporate assets, with both playing an important role in shaping firm corporate policy and the economy, more generally. Divestitures are, however, distinct from, and not merely mirror images of, mergers and acquisitions (Brauer, 2006).

Managerial preferences, for instance, can differentially influence such decisions. While acquisitions are often regarded as the outcome of growth-oriented managerial preferences, divestitures are different. Managerial preferences may be less important in divestitures since managerial preferences may be overridden by financial, or strategic pressures to shrink the firm's asset base. Another difference is in the information environment that decision-makers face in acquisitions versus divestitures. In acquisitions, decisions are made by acquirers that are often at an information disadvantage with respect to target value. While there are information gaps in divestitures, the divestor, as decision-maker, is not at an information disadvantage.

There is a growing emphasis on how CEO behavioral traits influence corporate decision-making and this is especially important given the evidence that CEOs' investment decisions vary on average throughout their tenure lifecycle (Pan et al., 2016). While prior literature has documented some firm-level and industry-level factors that can shape divestiture activity, there is little evidence on how

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CEO behavioral traits influence such decisions.[2] We focus on the role of CEO overconfidence, premised on prior evidence that CEOs are often overconfident individuals with an overly-positive view of their ability, their firms' expected return-on-investments and can underestimate the risks associated with those investments (Dittrich et al., 2005; Malmendier and Tate, 2005). CEO overconfidence has been shown to distort investment activity (Hiller and Hambrick, 2005; Zhu and Chen, 2015), with overconfident CEOs exhibiting greater levels of Capex (Malmendier and Tate, 2005), takeover activity (Kolasinski and Li, 2013; Malmendier and Tate, 2008) and R&D (Hirshleifer et al., 2012). As Malmendier et al. (2023) show, CEO overconfidence (as opposed to other C-suite managers) is of central importance to firm investment decisions as CEOs are the prime decision-makers for firm investments. But how does CEO overconfidence influence disinvestment decisions, and does it change over a CEO's career lifecycle as Pan et al. (2016) document for CEOs in general?

Our sample of divestitures spans 1992–2020. While divestitures entail the sale of an asset, an action not usually associated with overconfident CEOs, we explore why overconfident CEOs undertake divestitures and whether the divestitures are merely a way of raising capital with which to undertake further investments. In other words, for overconfident CEOs, divestitures may not be as much about the sale of a division and asset reduction or increased focus – but rather as a means of switching to new assets. We focus on option-based measures of overconfidence, which are relatively standard in the literature (e.g., Malmendier and Tate, 2005; Hirshleifer et al., 2012; Humphery-Jenner et al., 2016).[3]

Our first set of tests look at the likelihood that overconfident CEOs divest assets. Our main hypothesis is that overconfident CEOs are less likely to divest premised on overconfident CEOs tendency to perceive lower levels of risk and higher levels of potential return from their investments. As such, they perceive less need to refocus their firms and to divest assets. Alternatively, it is also possible that overconfident CEOs overestimate their ability to restructure a firm and thus have an increased propensity to divest. Ultimately, it is an empirical question as to which channel dominates. We find that overconfident CEOs are less likely to divest, reflecting their overly-positive views of the firm's investments. Our regression estimates suggest that overconfident CEOs are between 12% to 16% less likely to divest a unit, on average, relative to non-overconfident CEOs. Moreover, the number of divestures is 19% to 28% fewer, on average, for overconfident CEOs. We further explore the relation between such divestitures and a firm's acquisition activity. We find that overconfident CEOs, relative to non-overconfident or 'rational' CEOs, are less likely to divest units after undertaking an acquisition, highlighting their confidence about the firm's investment prospects.[4]

We then explore how divesting decisions interface with CEOs' investment lifecycle. Pan et al. (2016) find that CEOs tend to invest more and divest less as their tenure increases. They argue that this reflects agency conflicts since long-tenured CEOs are more likely to be entrenched. Further, as CEOs approach the end of their tenure, they might focus on future careers, whereupon the finding in Harford and Schonlau (2013) that CEOs are disproportionately rewarded for growing the firm becomes relevant. We hypothesize and show that overconfident CEOs are less influenced by these career concerns: instead, they divest at lower levels regardless of their tenure. We argue that this is because overconfident CEOs are likely overconfident about their future job prospects, so are less likely to shape their investment (and disinvestment) decisions in accordance with their employment lifecycle.

We next investigate what overconfident CEOs do with the proceeds of their divestitures. We find that overconfident CEOs are more likely to acquire other firms following the divestiture. They are also more likely to increase Capex.

In additional analyses, we explore whether cash constraints and investment opportunities moderate the association between CEO overconfidence and low divestiture propensities. It is possible that if an overconfident CEO is optimistic about growth opportunities but lacks the internal funds to pursue such opportunities, they may actually become more inclined to divest existing units to free up capital.[5] We find that the reluctance of overconfident CEOs to divest is significantly more pronounced when firms have more cash. However, when firms are relatively cash-constrained and have high growth opportunities, overconfident CEOs' reluctance to divest moderates. We explore the consequences of overconfident CEOs' general lower propensity to divest and find suggestive evidence that it hurts firm performance. We also explore whether there are differences in the type of units overconfident CEOs divest relative to other CEOs. We find that overconfident CEOs' divestitures involve units in industries with relatively lower levels of innovation and take less time to complete their divestitures. This is consistent with the types of units that overconfident CEOs divest involving units in industries with relatively lower scope for value disagreement.

We perform a number of robustness tests. One potential concern is that our divestiture likelihood results are influenced by serial divestors. That is, a small number of repeat divestors could drive the association between overconfidence and divestiture likelihood. We mitigate this concern by rerunning our tests and eliminating any observation after the first divestiture and find consistent results. Another potential concern we address is that overconfident CEOs' firms are systematically different from those of other CEOs. For example, overconfident CEOs may manage firms that are simply of the type that are less likely to divest assets. We address this concern by using a propensity score matching procedure and find that our results are robust, suggesting that the differences in divestiture activity are not driven by the underlying economics or the fundamental nature of a firm's operations. To explore the sensitivity of our results to alternative overconfidence measures, we use two different option moneyness thresholds and also employ a media-based news

[2] An exception is Guenzel (2025), who shows that managers fail to ignore sunk costs when making divestiture decisions of previously acquired units.

[3] Option-based measures define a CEO as overconfident if s/he holds deep in the money vested options in multiple years (as opposed to the rational action of exercising such options and investing in a diversified portfolio).

[4] Divestitures can often occur after a takeover (Chang and Singh, 1999; Mata and Portugal, 2000). For example, CEOs can divest parts of the acquired firm in an attempt to restructure the firm and make it more efficient (Berger and Ofek, 1996; Boot, 1992).

[5] We thank an anonymous referee for this suggestion.

measure and find qualitatively similar results. To test for omitted variable bias, we perform an Oster (2019) test and find that our results are robust.

We make a number of contributions to the literature. Whereas prior studies have focused on how overconfident CEOs tend to grow their firms (e.g., through takeovers), there is a dearth of evidence on whether and under what circumstances they shed assets through restructuring and divestitures. This is despite 38% of divestors having overconfident CEOs. We connect this finding with prior literature showing that overconfident CEOs tend to overinvest and find that overconfident CEOs follow their divestitures with increased investment, suggesting that overconfident CEOs use divestitures as a tool to reshape corporate growth. In particular, overconfident CEOs reluctance to divest relative to other CEOs disappears when their firm is relatively cash-constrained and has high growth opportunities. We also contribute to the literature on how overconfidence moderates the impact of CEOs' lifecycle concerns on investment activity documented in Pan et al. (2016).

We also expand the literature on divestiture activity and on divestiture antecedents. The prior literature has analyzed industry-level and firm-level factors that can influence the decision to divest, and, to an extent, what to divest (Brauer, 2006). However, there is limited evidence on how CEOs' personal behavioral traits affect divestiture decisions. One exception is Guenzel (2025), who finds that CEOs suffer from the sunk cost fallacy, i.e., CEOs fail to ignore sunk costs when making divestiture decisions of previously acquired units. We present evidence on how another behavioral trait – CEO overconfidence – can influence divestitures. Overconfident CEOs' divestitures tend to be motivated by a desire to continue investing in core units to maintain their investment trajectory.

In addition, we contribute to the literature on whether CEOs divest previously acquired units. Exploring the relation between management turnover and divestitures of recently acquired divisions, Weisbach (1995) finds that incoming CEOs are associated with an increased probability of divesting an acquisition at a loss. Hayward and Shimizu (2006) emphasize that such post-acquisition divestitures require CEOs to overcome their prior beliefs about the wisdom of their prior actions. We analyze one behavioral characteristic that might influence this, namely CEO overconfidence, and find that it reduces the likelihood of a CEO divesting a unit after an acquisition.

The remainder of this paper proceeds as follows. In Section 2 we discuss the prior literature and formulate our hypotheses. In Section 3, we discuss our data and sample construction, including our measure of CEO overconfidence. We then present the empirical analysis in Section 4: we examine the likelihood that an overconfident CEO divests units and what they do with the proceeds. We present additional analyses and robustness tests in Section 5 and we offer concluding remarks in Section 6.

2. Hypotheses

The divestiture decision-making process is multifaceted and, we envisage, influenced by CEOs' behavioral traits. Divestiture decision-making involves at least three core issues: (1) whether to divest, (2) what to divest, and (3) what to do with the proceeds. The answer to these questions depends on the strategy that the firm wishes to pursue which, we argue, is influenced by the CEO's behavioral traits. As we detail below, we focus on CEO overconfidence. Malmendier et al. (2023) find that CEO overconfidence (as opposed to other C-suite managers) impacts firm investment decisions. We argue that overconfidence causes the CEO to pursue a more aggressive investment strategy, which shapes their divestiture activity. In short, we expect that such overconfidence – and the aggressive investment it entails – influences the nature of the units divested and causes CEOs to be more likely to use divestiture proceeds to engage in further investment rather than to repatriate proceeds to shareholders or to recapitalize.

We start by exploring the likelihood that overconfident CEOs divest units. The literature suggests that overconfident CEOs overestimate their own abilities to improve corporate performance (Johnson and Fowler, 2011) and are associated with increased investment in Capex and takeovers (Malmendier and Tate, 2005, 2008; Kolasinski and Li, 2013), which generally increases firm size. They are also associated with increased risk-taking (Galasso and Simcoe, 2011; Hirshleifer et al., 2012), which tends to push managers towards retaining and growing investment activities.

By contrast, divestitures generally signal reservations about the divested unit (Schlingemann et al., 2002). Divestitures sometimes occur following a management change, whereby an incoming CEO divests previously acquired units at a loss to reverse poor decisions made by prior management (Weisbach, 1995). To the extent that overconfident CEOs are overconfident about the units they acquire, they are likely more reluctant to divest units compared to newly appointed managers. Often divestitures occur at times of perceived business turbulence, when firms perceive a need to refocus (Bergh, 1995; Bergh and Lawless, 1998). As overconfident CEOs tend to perceive lower levels of risk and higher levels of potential return from their investments, they would perceive less need to refocus their firms and to divest assets. Thus, we expect that overconfident CEOs are less likely to divest units on average. We capture this in the following prediction:

Hypothesis 1. *Firms with overconfident CEOs are less likely to divest units.*

We note that it is also possible for overconfident CEOs to overestimate their ability to restructure a firm and this can lead to an increased propensity to divest. Ultimately, it is an empirical question as to which channel dominates.

We next explore how overconfident CEOs' divestiture decisions vary throughout the CEO's tenure cycle. Pan et al. (2016) find that CEO tenure influences investment decisions. In particular, they find that longer-tenured CEOs tend to invest more (and disinvest less) than other CEOs. They argue that this is because long tenured CEOs tend to get more deference from the board – and other executives – so can indulge in excessive investment. Further, to the extent that long tenured CEOs are looking for future positions, Harford and Schonlau (2013) suggest that merely growing the firm, even if that investment does not create value, can help future job prospects. We anticipate that this will be less of a concern for overconfident CEOs. This is because overconfident CEOs will tautologically be overconfident about their prospects of remaining at the firm. This implies they would feel less of a need to keep growing the firm

merely for future job-related reasons. Thus, we expect overconfident CEOs' divestiture activity to be relatively less affected by tenure concerns than other CEOs. This leads to the following hypothesis.

Hypothesis 2. *Overconfident CEOs' divestiture activity is affected less by CEO tenure than that of other CEOs.*

While we expect overconfident CEOs to be less likely to divest units, it begs the question of why, and under what circumstances, they will do so. Divestitures can often occur after a takeover (Chang and Singh, 1999; Mata and Portugal, 2000). For example, CEOs can divest parts of the acquired firm in an attempt to restructure it and make it more efficient (Boot, 1992; Berger and Ofek, 1996). Such divestitures could, in part, be designed to reverse past acquisition mistakes (Bergh, 1997; Hayward and Shimizu, 2006). This implies that a manger's tendency to make acquisition-mistakes might influence her tendency to divest following an acquisition. Overconfident CEOs tend to undertake more takeovers and these takeovers arguably create less value (Malmendier and Tate, 2008; Kolasinski and Li, 2013). This suggests that an overconfident CEO would be more likely to divest following an acquisition, which we capture in Hypothesis 3a.

Hayward and Shimizu (2006) argue that divesting an acquired unit requires executives to overcome their prior beliefs about the benefits of the acquisition, requiring them to "come to terms with" poorly performing actions. However, overconfident CEOs have excessively positive beliefs about their actions, leading them to overestimate the wisdom of their investments. In this case, an overconfident CEO might be less willing to divest some or all of that acquisition. Thus, under this alternative, as compared with a non-overconfident acquirer, an overconfident acquirer would be relatively less likely to divest units after an acquisition. We capture this prediction in Hypothesis 3b.

Hypothesis 3a. *Overconfident CEOs are more likely to divest units following an acquisition than are other CEOs.*

Hypothesis 3b. *Overconfident CEOs are less likely to divest units following an acquisition than are other CEOs.*

We next consider how CEOs use the proceeds of divestitures. Divestitures, in part, imply a portfolio approach to corporate assets whereby firms remove units that do not promote their core business strategy (Dranikoff et al., 2002a, 2002b). Thus, a CEO might wish to replace a divested unit with a new unit that fits her corporate strategy. Overconfident CEOs tend to spend more on Capex and acquisitions (Malmendier and Tate, 2008). Consequently, an overconfident CEO would be more likely to replace a divested unit with increased expenditure. Therefore, we expect that after a divestiture, overconfident CEOs will spend more on Capex and on takeovers than other CEOs. Thus, we make the following hypotheses:

Hypothesis 4. *After a divestiture, overconfident CEOs spend more on Capex and acquisitions than non-overconfident CEOs.*

3. Data and sample construction

We collect data on divestitures from 1992 to 2020. We obtain data on divestitures from SDC Platinum and require that the divestiture be completed and that the divestor is listed on a US stock exchange. We further require that the divestor be in Execucomp so that we are able to calculate measures of CEO overconfidence (which we describe below) and that the divestor is in the CRSP/Compustat universe of companies so that we can obtain data on the firm's accounting and stock price information.

3.1. Measure of CEO overconfidence

We focus attention on an option-based measure of CEO overconfidence. The logic behind this measure is that CEOs' personal wealth is undiversified, with both their human capital and financial wealth being tied to the firm's performance. Thus, a rational CEO would exercise deep in the money options, sell the shares so obtained and diversify her portfolio (Sen and Tumarkin, 2015). A CEO displays overconfidence if she retains deep in the money options on multiple occasions. One common way of analyzing this is the *Holder67* measure of overconfidence, which we construct following the approach in Malmendier et al. (2011) and Humphery-Jenner et al. (2016). In short, this measure classifies a CEO as overconfident if she retains vested options that were at least 67% in the money on at least two separate occasions. The logic is that such a decision represents overconfidence in her ability to continue creating shareholder value and that this offsets the potential diversification benefits obtained if she were to exercise the options.[6]

In Table 1 we break down the number of firms making divestitures per year based on whether the divesting firm's CEO is overconfident. It appears that divesting firms' CEOs tend not to be overconfident with a little over a third of divestitures involving overconfident CEOs. We also perform several robustness tests (documented below) to ensure that this measure of overconfidence does not simply reflect other corporate characteristics.

[6] We use the option-based measure of overconfidence rather than some alternative measures. One alternative measure is a trading-based measure of overconfidence (Kolasinski and Li, 2013). This measure classifies a CEO as overconfident if she purchases shares in her company in a given year and the stock price subsequently declines. However, because divestitures can come at times of declining market values, in our context, this measure might lead to a spurious relation between the overconfidence proxy and divestiture activity. Another alternative is a news based measure of overconfidence (Hirshleifer et al., 2012). This measure uses media reports to classify whether a CEO is overconfident. In our context, this measure might not be appropriate as divestitures often involve significant media coverage, potentially leading us to associate overconfidence with divestitures merely by virtue of the increased media scrutiny.

Table 1
Divestitures by year.

Year	Full Sample	Overconfident CEOs	Non-Overconfident CEOs
1992	115	16	99
1993	242	46	196
1994	275	73	202
1995	343	112	231
1996	349	144	205
1997	350	162	188
1998	389	178	211
1999	406	175	231
2000	359	153	206
2001	346	144	202
2002	328	108	220
2003	379	147	232
2004	357	122	235
2005	393	156	237
2006	442	179	263
2007	444	182	262
2008	389	134	255
2009	357	130	227
2010	322	113	209
2011	318	119	199
2012	336	122	214
2013	382	137	245
2014	364	164	200
2015	316	129	187
2016	340	128	212
2017	309	104	205
2018	285	100	185
2019	253	90	163
2020	160	51	109
Total	9648	3618	6030

This table contains the number of firms making divestitures each year of the sample split by whether or not the divesting firm's CEO is overconfident.

3.2. Control variables

We collect data on other corporate factors that might influence divestiture activity and divestiture decisions. In addition to these controls (described below) we include year fixed effects and either industry or firm fixed effects. The fixed effects help to control for the myriad time-invariant unobservable factors that might influence the decision to divest and for the general finding that divestiture decisions often correlate with other factors influencing business uncertainty (Chatterjee et al., 2003).

Firm size influences divestiture activity. Larger firms might suffer from "organizational inertia", which could delay divestiture decisions (Shimizu and Hitt, 2005). However, larger firms potentially have more assets to divest and face different competitive pressures than small firms. Larger firms have more scope to exit underperforming units in order to refocus on their primary businesses (Sembenelli and Vannoni, 2003). We use the natural log of the firm's book assets as our measure of firm size.

Corporate performance likely influences divestiture activity. Poor performance can motivate firms to divest assets (Markides, 1992). It can, for example, encourage firms to refocus on core activities and/or remove underperforming units. We capture corporate performance by analyzing the firm's EBIT/Assets and Tobin's Q, the latter reflecting the market's view of the firm's growth prospects.

R&D intensity is likely to influence divestiture intensity. R&D intensive firms might have a motivation to divest in order to obtain cash to continue with R&D activities. However, firms may face difficulties selling R&D intensive assets (Schlingemann et al., 2002). This stems, in part, from the difficulties that potential acquirers have in valuing assets with risky and long-dated cash flows (Martin, 2012). Thus, we expect that R&D intensity (captured by the firm's *R&D/Sales* ratio) is associated with reduced divestiture likelihood.

Capex intensity is likely to be associated with divestiture activity. Capex intensive firms tend to have more tangible assets, which are easier to liquidate in a divestiture (Schlingemann et al., 2002). These firms will also have developed more units/assets that they can divest. We capture the firm's Capex intensity using Capex/Sales and expect it to be positively associated with divestiture activity.

Financial leverage is likely to increase divestiture intensity. Divestitures can be used to relieve financial distress and reduce financial constraints. Thus, firms with greater financial leverage (proxied by the firm's book leverage scaled by assets) might be more likely to divest assets. Conversely, firms with greater cash holdings (i.e., cash scaled by assets) might be less likely to divest units.

When looking at the set of divestors, we also control for divestiture experience. We control for different types of divestiture (per Brauer et al., 2017): specifically the number of "non-core" divestitures (i.e., those not in the firm's main industry), divestitures of overseas assets, and the number of divestitures in general.

3.3. Sample description

We construct both a firm-year panel (i.e., all Execucomp firm-years) and a cross-sectional sample of divestors. We start with the firm-year panel. We use this sample to evaluate whether a firm is more (or less) likely to divest assets in a given year. The summary statistics for this sample are in Table 2. Approximately 44% of sample firms have an overconfident CEO (compared with only approximately 38% for the divestors' sample from Table 1). There are significant differences between firms with overconfident CEOs and those without overconfident CEOs. Overconfident CEOs undertake significantly fewer divestitures. However, overconfident CEOs undertake significantly more acquisitions, which is consistent with prior studies (Malmendier and Tate, 2008; Kolasinski and Li, 2013). Firms run by overconfident CEOs have differences along several other dimensions from other firms. Subsequently, we control for these factors when undertaking our regression analysis.

We report the characteristics for the cross-sectional sample of divestors in Table 3. Overconfident divestors are more likely to make acquisitions, and spend more on acquisitions, after the divestiture. They also appear to spend more on Capex after the divestiture. These univariate statistics are also consistent with our hypotheses that overconfident CEOs undertake divestitures to facilitate future investment expenditure.

4. Analysis

4.1. Are overconfident CEOs less likely to divest units?

Our first prediction (i.e., *Hypothesis 1*) is that overconfident CEOs are less likely to divest units than are other CEOs. The underlying logic is that overconfident CEOs overestimate their own abilities and the value of their companies' assets. This would induce the CEO to retain units in the potentially erroneous belief that they can manage a unit that other firms might divest.

We undertake this analysis by assessing both the likelihood that a firm divests (and the number of such divestitures) as a function of CEO overconfidence. To do this, we construct a firm-year panel sample in which the dependent variable is an indicator for whether the firm divests any units in year *t*, or the number of divestitures in year *t*.

The results are in Table 4. In Models 1–4 we analyze divestiture likelihood. We report logit models and linear probability models, which we estimate using OLS. In both cases, we report models that include either industry and year fixed effects or firm and year fixed effects. The fixed effects help to capture the myriad industry-related factors that can influence divestiture likelihood (see, e.g., Brauer, 2006; Brauer and Wiersema, 2012). We find that the *Overconfident* coefficient is negative and statistically significant across all specifications and the economic significance of the coefficients range from 12% to 16%. For example, in Model (1) where we employ a logit regression with year and industry fixed effects, the *Overconfident* coefficient of −0.209 (p-value<1%) translates to a marginal effect of −0.029. Given that 20.5% of firm-year observations involve a divestiture (see Table 2), this implies that overconfident CEOs are 14% (=0.029/0.205) less likely to divest. Similarly, in Model (4) where we employ an OLS regression with year and firm fixed effects, the *Overconfident* coefficient of −0.025 (p-value<1%) indicates that overconfident CEOs are around 12% (=0.025/0.205) less likely to divest units than are non-overconfident CEOs.[7]

In Models 5–7 of Table 4 we explore the number of divestitures. The *Overconfident* coefficient is negative and statistically significant across each specification. That is, overconfident CEOs are not only less likely to divest a unit in any given year, the number of divestitures is also smaller. For example, in Model (6) where we employ an OLS regression with year and industry fixed effects, the *Overconfident* coefficient of −0.114 (p-value<1%) indicates that overconfident CEOs, on average, divest 0.114 fewer units per year. Given the unconditional average number of divestitures is 0.403 (see Table 2), this implies that overconfident CEOs divest 28% (=0.114/0.403) fewer units, on average, per year. Similarly, in Model (7) where we employ an OLS regression with firm and year fixed effects, the *Overconfident* coefficient of −0.077 (p-value<1%) indicates that overconfident CEOs, on average, divest 19% fewer units, on average, per year.

The coefficients on the control variables are largely as expected. Large firms are more likely to divest units, reflecting the likelihood that such firms would have more units to divest. Strongly performing firms as measured by *EBIT* are less likely to divest units. This is consistent with the idea that some (though not all) divestitures arise following poor performance. Firms that have more debt are more likely to divest, potentially reflecting a recapitalization motive.

4.2. CEO tenure life-cycle, overconfidence, and divestitures

We hypothesize that overconfident CEOs are less sensitive to lifecycle and tenure concerns relative to other CEOs. We investigate this by adding *CEO Tenure* and an *Overconfident* × *CEO Tenure* interaction term to the Table 4 regressions. We report the results in Table 5. Consistent with Pan et al. (2016), the *CEO Tenure* coefficient is negative and statistically significant. That is, longer-tenured CEOs, in general, are associated with a reduced likelihood of divestiture. However, overconfident CEOs' divestiture activities are not statistically significantly affected by tenure. The negative *CEO Tenure* coefficient is almost completely offset by the positive *Overconfident* × *CEO Tenure* interaction coefficient. Thus, while overconfident CEOs are generally less likely to divest, as indicated by the negative *Overconfident* coefficient, this does not change with tenure and suggests that overconfident CEOs do not actively time their

[7] The *Overconfident* coefficient of −0.033 from Model (3) implies that overconfident CEOs are 16% (= 0.033/0.205) less likely to divest.

Table 2
Univariate statistics - firm-year panel.

Variable	Full Sample	Overconfident	Non-Overconfident	Difference
	[1]	[2]	[3]	[2]–[3]
Overconfident	0.438	1.000	0.000	
Does Divestiture (t)	0.205	0.176	0.228	−0.052***
#Divestitures (t)	0.403	0.315	0.473	−0.157***
Does Acq (t)	0.432	0.465	0.407	0.058***
#Acqs (t)	1.132	1.243	1.045	0.198***
Does Acq (t-1)	0.438	0.467	0.416	0.051***
#Acqs (t-1)	1.151	1.238	1.083	0.155***
ln(Assets (t-1))	7.555	7.455	7.633	−0.178***
EBIT/Assets (t-1)	0.084	0.097	0.073	0.024***
R&D/Sales (t-1)	0.043	0.051	0.036	0.014***
Capex/Sales (t-1)	0.074	0.079	0.076	0.004***
Debt/Assets (t-1)	0.201	0.188	0.212	−0.025***
Cash/Assets (t-1)	0.125	0.143	0.112	0.030***
Tobin's Q (t-1)	1.989	2.291	1.753	0.537***

This table contains summary statistics for the firm-year panel sample. The figures are sample averages, or differences therein (as indicated in the column title). See the Appendix for variable definitions. Superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table 3
Univariate statistics for the sample of divestiture observations.

Variable	Full Sample	Overconfident	Non-Overconfident	Difference
	[1]	[2]	[3]	[2]–[3]
Overconfident	0.375	1.000	0.000	
Capex/Sales (t + 1)	0.080	0.089	0.075	0.015***
Capex/Sales (t + 2)	0.079	0.087	0.074	0.014***
Capex/Sales (t + 3)	0.077	0.084	0.073	0.012***
Does Acquisition Indicator (t + 1)	0.568	0.601	0.548	0.053***
Does Acquisition Indicator (t + 2)	0.522	0.553	0.504	0.048***
Does Acquisition Indicator (t + 3)	0.481	0.504	0.467	0.037***
$Value Acquisitions (t + 1)	73.608	103.225	55.841	47.483**
$Value Acquisitions (t + 2)	67.200	84.213	56.993	27.22
$Value Acquisitions (t + 3)	53.755	56.551	52.077	4.474
Overseas Unit Indicator	0.210	0.210	0.209	0.001
Non-Core Unit Indicator	0.516	0.500	0.527	−0.027***
Days to Completion	48.746	46.090	50.340	−4.250**
Relative Unit Size	0.082	0.097	0.074	0.023**
ln(Assets (t-1))	8.617	8.543	8.661	−0.118***
EBIT/Assets (t-1)	0.077	0.092	0.069	0.023***
R&D/Sales (t-1)	0.029	0.033	0.027	0.006***
Capex/Sales (t-1)	0.083	0.091	0.078	0.013***
Tobin's Q (t-1)	1.713	1.948	1.572	0.376***

This table contains summary statistics for the cross-sectional sample of divestiture observations. The values are sample averages (or differences therein, as indicated in the column title). See the Appendix for variable definitions. Superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

expansion (and contraction) activities based on their tenure. That is, overconfident CEOs remain reticent to downsize throughout their tenure, and because they are overconfident about not needing to target future job prospects, do not feel the need to actively grow the firm to target such jobs (as would otherwise be the case per Harford and Schonlau, 2013).[8] Overall, the results in Table 5 support *Hypothesis 2* that overconfident CEOs' divestiture activity is less affected by CEO tenure than that of other CEOs.

4.3. CEO overconfidence divestitures and prior acquisitions

The next issue we explore is whether the motivation for overconfident CEOs' divestitures is related to prior takeovers (i.e., *Hypothesis 3a* & *Hypothesis 3b*). The underlying logic is that overconfident CEOs tend to spend more on takeovers (Malmendier and Tate, 2008; Kolasinski and Li, 2013), which arguably destroys value (Malmendier and Tate, 2008). In this case, overconfident

[8] As alternative specifications, in untabulated tests we partition the sample by whether or not the CEO is overconfident. For the overconfident CEO sample, the *CEO Tenure* coefficient is statistically indistinguishable from zero. In contrast, for the non-overconfident CEO sample, the *CEO Tenure* coefficient is negative and statistically significant in six out of the seven specifications (in the one regression where it is not statistically significant at conventional levels, the *p*-value is 10.3%).

Table 4
Overconfidence and divestiture activity.

Dependent Variable:	Does Divestiture (t)				#Divestitures (t)		
Estimation Model:	Logit	OLS	Logit	OLS	Tobit	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Overconfident	−0.209***	−0.033***	−0.150***	−0.025***	−0.436***	−0.114***	−0.077***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ln(Assets(t-1))	0.509***	0.080***	0.549***	0.074***	1.017***	0.263***	0.222***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
EBIT/Assets (t-1)	−1.185***	−0.215***	−3.121***	−0.338***	−2.679***	−0.676***	−0.826***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R&D/Sales (t-1)	0.164	0.005	−0.547	−0.071**	0.186	0.049	−0.180**
	[0.432]	[0.830]	[0.190]	[0.041]	[0.508]	[0.523]	[0.016]
Capex/Sales (t-1)	−0.236	−0.033	−0.628***	−0.078***	−0.380**	−0.071	−0.111
	[0.147]	[0.172]	[0.003]	[0.004]	[0.021]	[0.331]	[0.182]
Debt/Assets (t-1)	0.875***	0.089***	0.321**	0.026	1.450***	0.083	0.054
	[0.000]	[0.000]	[0.024]	[0.196]	[0.000]	[0.225]	[0.306]
Cash/Assets (t-1)	−0.126	0.042*	−0.934***	−0.071***	0.269	0.363***	−0.041
	[0.549]	[0.053]	[0.000]	[0.002]	[0.320]	[0.000]	[0.430]
Tobin's Q (t-1)	−0.008	0.004**	−0.052**	−0.001	0.002	0.030***	0.011**
	[0.646]	[0.039]	[0.020]	[0.517]	[0.932]	[0.000]	[0.030]
Constant	113.194***	17.472***		13.910***	217.019***	51.132***	43.389***
	[0.000]	[0.000]		[0.000]	[0.000]	[0.000]	[0.000]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	Yes	Yes	No
Firm FE	No	No	Yes	Yes	No	No	Yes
Observations	47,166	47,166	34,342	47,166	47,166	47,166	47,166
R-squared		0.123		0.018		0.126	0.019
Pseudo R-squared	0.126		0.0277		0.0904		

This table contains regression results analyzing the relation between CEO overconfidence and divestiture activity. The sample is a firm-year panel sample, where the unit-of-analysis is the firm-year observation. The dependent variable is either an indicator for whether the firm did a divestiture in year *t* or the number of divestitures the firm makes in year *t* as indicated in the column title. See the Appendix for variable definitions. The column header indicates the estimation approach and the column footer indicates the fixed effects used. The OLS models use standard errors clustered by firm. Brackets contain *p*-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 5
CEO overconfidence, tenure, and divestiture activity.

Dependent Variable:	Divestiture Indicator				#Divestitures		
Estimation Model:	Logit	OLS	Logit	OLS	Tobit	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Overconfident	−0.280***	−0.038***	−0.202***	−0.022***	−0.609***	−0.125***	−0.050***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.001]
CEO Tenure	−0.013***	−0.002***	−0.014***	−0.001***	−0.026***	−0.004**	−0.004***
	[0.003]	[0.001]	[0.001]	[0.003]	[0.000]	[0.024]	[0.001]
Overconfident x CEO Tenure	0.015**	0.002***	0.015**	0.001*	0.030***	0.005**	0.000
	[0.015]	[0.005]	[0.011]	[0.059]	[0.000]	[0.024]	[0.822]
Constant	64.824***	9.254***		3.784***	144.720***	29.853***	16.891***
	[0.000]	[0.000]		[0.000]	[0.000]	[0.000]	[0.000]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC2D FE	Yes	Yes	No	No	Yes	Yes	No
Firm FE	No	No	Yes	Yes	No	No	Yes
Observations	46,004	46,004	29,371	46,004	46,004	46,004	46,004
R-squared		0.085		0.013		0.092	0.012
Pseudo R-squared	0.0961		0.0276		0.0733		

This table contains regression results analyzing the relations among CEO overconfidence, CEO tenure, and divestiture activity. The sample is a firm-year panel sample, where the unit-of-analysis is the firm-year observation. The dependent variable is either an indicator for whether the firm did a divestiture in year *t* or the number of divestitures the firm makes in year *t* as indicated in the column title. See the Appendix for variable definitions. The column header indicates the estimation approach and the column footer indicates the fixed effects used. All models include the control variables from Table 4. The OLS models use standard errors clustered by firm. Brackets contain *p*-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

CEOs' divestitures might be intended to mitigate or reverse such takeovers. We assess this by using the same framework as in Tables 4 and 5. We interact the CEO overconfidence variable with either an indicator for whether the firm undertook an acquisition (*Does Acq*), or the number of such acquisitions (*#Acqs*).

The results, reported in Table 6, suggest that overconfident CEOs are not more likely to divest following an acquisition. Panel A focuses on the relation between divestitures in year *t* and acquisitions in year *t* while Panel B focuses on divestitures in year *t* and acquisitions in year *t*-1. We report models with industry and year fixed effects and models with firm and year fixed effects, as denoted by the column footer. As expected, acquirers are more likely to divest than non-acquirers. Both the *Does Acq* and *#Acq* coefficients are positive and statistically significant in eight out of 10 models in Panel A and in nine out of 10 models in Panel B. This suggests that some divestitures aim to mitigate prior acquisitions and/or rebalance the firm's unit-mix. Importantly, overconfident CEOs are less likely (relative to other CEOs) to divest after an acquisition. The relevant interaction terms of *Overconfident* and *Does Acquisition* activity (either *Does Acq* or *#Acq*) are negative and statistically significant in the majority of the cases. This suggests that overconfident CEOs prefer to retain units obtained through acquisitions and are relatively less likely to divest a unit after an acquisition, inconsistent with *Hypothesis 3a* but consistent with *Hypothesis 3b*.

4.4. Overconfidence and post-divestiture expenditure

We investigate whether overconfident CEO divestors spend more on Capex and acquisitions than non-overconfident CEO divestors (i.e., *Hypothesis 4*). We do this by undertaking cross-sectional regressions of post-divestiture expenditure. Here, we focus on the set of firms that undertake a divestiture in year *t*. We then look at Capex, the likelihood of an acquisition involving cash and acquisition expenditure in years $t+1$, $t+2$, and $t+3$. The results are in Table 7. The main finding is that overconfident CEOs in the years following a divestiture spend more on Capex (see columns 1–3), are more likely to undertake acquisitions (see columns 4–6) and spend more on acquisitions (see columns 7–9). This is both statistically significant in years $t+1$ and $t+2$ and economically meaningful. For example, overconfident CEOs spend approximately 6% more on Capex after divestitures than other CEOs.[9] Further, overconfident CEOs are more likely to undertake an acquisition involving cash one year after the divestiture than other CEOs and spend more on these acquisitions. Thus, consistent with *Hypothesis 4*, overconfident divestors spend significantly more after a divestiture than non-overconfident CEOs.

It is possible that some of the results from Table 7 stem from overconfident CEOs demanding a higher divestiture price to agree to sell a business, thus leading to greater proceeds available following a divestiture relative to other CEOs. We do not control for the divestiture proceeds in Table 7 because half of the divestitures do not report this number. However, in untabulated results we find that controlling for the natural log of the divestiture proceeds produces qualitatively similar results to those that we report. That is, our results are not driven by overconfident CEOs receiving greater divestiture proceeds and thus having more cash to spend post-divestiture.

5. Additional tests and robustness checks

In this section we perform a number of additional tests and robustness checks. We begin by exploring whether cash constraints moderates the association between CEO overconfidence and divestiture activity. We supplement this analysis with a firm's growth opportunities to see if this further moderates the association. We also attempt to measure the consequences of overconfident CEOs' divestiture reluctance. We employ a number of robustness tests including whether our results are driven by a few firms and whether the type of firms that overconfident CEOs manage drive our results.

5.1. Do cash constraints and outside investment opportunities matter

We explore whether the association between CEO overconfidence and low divestiture propensities are sensitive to the level of cash a firm has available. It is possible that low divestiture propensities are more pronounced for overconfident CEOs in cash-rich firms as such firms have the resources to pursue outside investment opportunities. To test this conjecture, we interact *Overconfident* with *Cash/Assets* and report the results in Panel A of Table 8. We find that the coefficient sign of the *Overconfident*×*Cash/Assets* interaction term is negative in all seven specifications and statistically significant at the 5% level in five of the seven specifications. That is, the evidence suggests that the reluctance of overconfident CEOs to divest is significantly more pronounced when firms have more cash.

We next explore whether the presence of investment opportunities further moderates the result. It is possible that if an overconfident CEO is optimistic about growth opportunities but lacks the internal funds to pursue such opportunities, they may actually become more, rather than less, inclined to divest existing units to free up capital. To test this, we use the firm's Tobin's Q as a measure of growth opportunities and explore situations when growth opportunities are relatively high but the firm may be relatively cash constrained. We report the results in Panel B of Table 8. We split the sample into *Low* cash level (below sample median *Cash/Assets*) and *High* cash level (above sample median *Cash/Assets*) groups. We create an indicator variable *Highest Quartile Q* that takes the value one if a firm's Tobin's Q is above the sample yearly upper quartile and interact it with *Overconfident*. We find that the *Overconfident*×*Highest*

[9] We calculate this by looking at the average *Capex/Sales* for all CEOs in the year after a divestiture (which is 0.08). The coefficient on *Overconfident* in Column 1 of Table 7 of 0.005 implies that overconfident CEOs' post-divestiture expenditure is 0.005/0.08 points higher than that of other CEOs.

Table 6
CEO overconfidence, divestitures, and prior acquisitions.

Panel A: Divestitures and acquisitions in the same year

Dependent Variable:	Does Divestiture (t)						#Divestitures (t)			
Estimation Model:	Logit	Logit	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Overconfident	−0.147***	−0.168***	−0.019***	−0.015***	−0.013***	−0.013**	0.046	−0.030**	0.010	−0.039***
	[0.001]	[0.002]	[0.000]	[0.004]	[0.004]	[0.013]	[0.184]	[0.016]	[0.380]	[0.004]
#Acqs (t)	0.107***		0.019***		0.001		0.172***		0.042***	
	[0.000]		[0.000]		[0.207]		[0.000]		[0.000]	
Overconfident x #Acqs (t)	−0.042**		−0.009***		−0.005***		−0.137***		−0.059***	
	[0.012]		[0.000]		[0.001]		[0.001]		[0.000]	
Does Acq (t)		0.542***		0.079***		0.001		0.239***		0.010
		[0.000]		[0.000]		[0.756]		[0.000]		[0.390]
Overconfident x Does Acq (t)		−0.088		−0.032***		−0.013*		−0.165***		−0.048***
		[0.181]		[0.000]		[0.060]		[0.000]		[0.006]
Constant	52.576***	53.940***	7.405***	7.791***	3.444***	3.421***	18.425***	26.184***	14.620***	16.345***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC 2D Industry FE	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes	No	No	Yes	Yes
Observations	47,166	47,166	47,166	47,166	47,166	47,166	47,166	47,166	47,166	47,166
R-squared			0.096	0.091	0.013	0.013	0.175	0.098	0.019	0.012
Pseudo R-squared	0.104	0.104								

Panel B: Divestitures in year *t* and acquisitions in year *t-1*

Dependent Variable:	Does Divestiture (t)						#Divestitures (t)			
Estimation Model:	Logit	Logit	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Overconfident	−0.144***	−0.201***	−0.019***	−0.017***	−0.013***	−0.016***	0.049	−0.029**	0.010	−0.040***
	[0.002]	[0.000]	[0.000]	[0.001]	[0.004]	[0.002]	[0.179]	[0.013]	[0.375]	[0.003]
#Acqs (t-1)	0.116***		0.021***		0.004***		0.179***		0.053***	
	[0.000]		[0.000]		[0.000]		[0.000]		[0.000]	
Overconfident x #Acqs (t-1)	−0.043**		−0.008***		−0.005***		−0.137***		−0.060***	
	[0.012]		[0.002]		[0.001]		[0.001]		[0.000]	
Does Acq (t-1)		0.584***		0.084***		0.007		0.259***		0.033***
		[0.000]		[0.000]		[0.148]		[0.000]		[0.006]
Overconfident x Does Acq(t-1)		−0.035		−0.028***		−0.006		−0.168***		−0.047***
		[0.604]		[0.001]		[0.393]		[0.000]		[0.007]
Constant	−0.144***	−0.201***	−0.019***	−0.017***	−0.013***	−0.016***	0.049	−0.029**	0.010	−0.040***
	[0.002]	[0.000]	[0.000]	[0.001]	[0.004]	[0.002]	[0.179]	[0.013]	[0.375]	[0.003]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC 2D Industry FE	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes	No	No	Yes	Yes

(*continued on next page*)

Table 6 (*continued*)

Panel B: Divestitures in year *t* and acquisitions in year *t-1*										
Dependent Variable:	Does Divestiture (t)						#Divestitures (t)			
Estimation Model:	Logit	Logit	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Observations	47,166	47,166	47,166	47,166	47,166	47,166	47,166	47,166	47,166	47,166
R-squared			0.098	0.093	0.013	0.013	0.187	0.099	0.022	0.012
Pseudo R-squared	0.106	0.106								

This table contains regressions that analyze the relations among CEO overconfidence, prior acquisition activity and future divestitures. The sample is a firm-year panel sample in which the unit of analysis is the firm-year observation. The dependent variable is either an indicator for whether the firm did a divestiture in year *t* or the number of divestitures the firm makes in year *t* as indicated in the column title. Panel A uses divestitures in year *t* and acquisitions in year *t* while Panel B uses divestitures in year *t* and acquisitions in year *t*-1. See the Appendix for variable definitions. The models are OLS models that include year fixed effects, and industry or firm effects (as indicated in the table footer). Standard errors are clustered by firm. Brackets contain p-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 7
Post-divestiture expenditure.

Dependent Variable:	Capex/Sales			Does Cash Acquisition Indicator (Logit)			ln(Acquisition Value +1)		
Year:	t + 1	t + 2	t + 3	t + 1	t + 2	t + 3	t + 1	t + 2	t + 3
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Overconfident	0.005***	0.005**	0.003	0.270***	0.206**	0.134	0.074**	0.074**	0.055
	[0.005]	[0.014]	[0.139]	[0.005]	[0.041]	[0.220]	[0.049]	[0.047]	[0.163]
ln(Assets(t-1))	0.001	0.001***	0.002***	0.104***	0.124***	0.149***	0.121***	0.121***	0.113***
	[0.107]	[0.010]	[0.006]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
EBIT/Assets (t-1)	−0.009	−0.022	0.014	1.701**	2.626***	2.248**	−0.546**	−0.210	−0.014
	[0.679]	[0.388]	[0.521]	[0.038]	[0.001]	[0.016]	[0.034]	[0.404]	[0.958]
R&D/Sales (t-1)	−0.054***	−0.068***	−0.070***	1.289	1.602*	1.873**	−0.404	−0.306	0.066
	[0.007]	[0.000]	[0.000]	[0.119]	[0.078]	[0.048]	[0.142]	[0.144]	[0.778]
Capex/Sales (t-1)	0.787***	0.744***	0.711***	−0.416	−0.769*	−0.818	0.154	0.067	0.151
	[0.000]	[0.000]	[0.000]	[0.372]	[0.091]	[0.102]	[0.168]	[0.522]	[0.273]
Debt/Assets (t-1)	0.011*	0.017***	0.014**	−0.469	−1.107***	−0.687*	0.129	0.179	0.040
	[0.063]	[0.008]	[0.050]	[0.196]	[0.002]	[0.090]	[0.224]	[0.110]	[0.731]
Cash/Assets (t-1)	0.024*	0.023*	0.014	2.047**	3.423***	1.575*	0.026	0.030	−0.289
	[0.073]	[0.075]	[0.282]	[0.011]	[0.000]	[0.064]	[0.908]	[0.884]	[0.157]
Tobin's Q (t-1)	0.001	0.001	−0.002*	−0.002	−0.111**	0.026	0.076***	0.039*	0.030
	[0.282]	[0.571]	[0.073]	[0.966]	[0.049]	[0.674]	[0.003]	[0.065]	[0.170]
#Non-Core Divest (past 3 years)	−0.001	−0.001*	−0.001**	0.019	0.041**	0.050**	0.038***	0.034***	0.046***
	[0.106]	[0.056]	[0.036]	[0.229]	[0.013]	[0.023]	[0.001]	[0.004]	[0.000]
#Divestitures (past 3 years)	0.001**	0.001	0.001	−0.019	−0.026	−0.032	−0.000	−0.001	−0.007
	[0.037]	[0.133]	[0.135]	[0.319]	[0.185]	[0.118]	[0.998]	[0.955]	[0.461]
#Overseas Divest (past 3 years)	−0.001**	−0.001	−0.001	0.047*	0.017	0.005	−0.010	−0.012	−0.022
	[0.040]	[0.419]	[0.492]	[0.093]	[0.601]	[0.869]	[0.509]	[0.451]	[0.172]
Does Cash Acq. (t-1)				0.386***	0.408***	0.274**			
				[0.000]	[0.000]	[0.011]			
ln(1+ Acquisition Value) (t-1)							0.094***	0.045***	0.066***
							[0.000]	[0.000]	[0.000]
Constant	0.152	0.492*	0.158	31.943**	48.281***	63.421***	43.401***	51.229***	39.758***
	[0.509]	[0.079]	[0.608]	[0.024]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	9266	8725	8166	2155	1983	1749	8863	8725	7646
R-squared	0.743	0.697	0.667				0.066	0.054	0.053
Pseudo R-squared				0.040	0.056	0.050			

This table contains OLS regressions that analyze expenditures 1, 2 and 3 years after the divestiture. The sample is a cross-sectional sample based around the divestiture event (that occurs in year *t*). The column header states the dependent variable and the year in which it is measured. *Does Cash Acquisition* is an indicator variable that takes the value one if the consideration for the acquisition involves cash and zero otherwise. See the Appendix for variable definitions. All regressions include industry and year fixed effects. Brackets contain p-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Quartile Q interaction term coefficient is positive and statistically significant only in the *Low* cash subsamples. That is, when firms are relatively cash-constrained and have high growth opportunities, the reluctance of overconfident CEOs to divest relative to other CEOs disappears. This is consistent with overconfident CEOs, who are presumably more optimistic about outside opportunities than their non-overconfident counterparts but lack the internal funds to pursue such opportunities, being inclined to divest existing units to free up capital to pursue those opportunities.

5.2. *Consequences of reduced divestiture activity*

It is difficult to quantify the consequences of reduced divestiture activity by overconfident CEOs as firms do not disclose sufficient segment data to measure a diversifying unit's performance and its impact on total firm performance. Moreover, it is difficult to measure what performance would have been had the firm divested sooner or more often.[10] Nonetheless, we attempt to do so with the following approach. First, we employ a probit regression to predict when firms with overconfident CEOs are likely to divest based on firm size, profitability, R&D investments, capital expenditures, leverage, cash, and growth opportunities as measured by Tobin's Q. We report the results in the Table 9 header. We find that larger firms, less profitable firms, firms with less capital expenditures, firms with greater leverage and firm's with fewer growth opportunities are more likely to divest.

[10] When we restrict the sample to divestures only, we find that overconfident CEO post-divestiture performance relative to other CEOs, as measured by return on assets and Tobin's Q, is positive and statistically significant.

Table 8
CEO overconfidence, cash level, growth opportunities and divestiture activity.

Panel A: Interacting Overconfident and Cash

Dependent Variable:	Divestiture Indicator				#Divestitures		
Estimation Model:	Logit	OLS	Logit	OLS	Tobit	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Overconfident	−0.099**	−0.022***	−0.092	−0.018***	−0.271***	−0.088***	−0.070***
	[0.012]	[0.000]	[0.128]	[0.004]	[0.001]	[0.000]	[0.000]
Cash/Assets (t-1)	−0.526***	−0.027	−0.566*	−0.045	−0.454	−0.239***	0.011
	[0.004]	[0.188]	[0.080]	[0.106]	[0.194]	[0.000]	[0.888]
Overconfident x Cash/Assets	−1.124***	−0.057**	−0.718**	−0.023	−2.210***	−0.165**	−0.059
	[0.000]	[0.019]	[0.045]	[0.446]	[0.000]	[0.034]	[0.467]
Constant	52.206***	7.708***		2.017**	127.132***	27.503***	11.128***
	[0.000]	[0.000]		[0.021]	[0.000]	[0.000]	[0.000]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC2D FE	Yes	Yes	No	No	Yes	Yes	No
Firm FE	No	No	Yes	Yes	No	No	Yes
Observations	47,166	47,166	27,015	47,166	47,166	47,166	47,166
R-squared		0.092		0.016		0.095	0.014
Pseudo R-squared	0.105		0.0335		0.0771		

Panel B: Segregating the Sample by Cash Level and Interacting Overconfident with Growth Opportunities

Dependent Variable:		Divestiture Indicator								#Divestitures				
Estimation Model:	Logit	Logit	OLS	OLS	Logit	Logit	OLS	OLS	Tobit	Tobit	OLS	OLS	OLS	OLS
Cash Level:	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Overconfident	−0.178***	−0.237***	−0.027***	−0.030***	−0.122**	−0.202***	−0.017*	−0.024***	−0.419***	−0.524***	−0.105***	−0.119***	−0.076**	−0.074***
	[0.002]	[0.000]	[0.001]	[0.000]	[0.049]	[0.007]	[0.053]	[0.004]	[0.000]	[0.000]	[0.000]	[0.000]	[0.016]	[0.001]
Highest Quartile Q	−0.144	−0.109	−0.011	−0.005	−0.330**	−0.123	−0.024*	−0.016*	−0.274	−0.214	0.018	−0.006	0.010	−0.030
	[0.213]	[0.229]	[0.454]	[0.593]	[0.018]	[0.212]	[0.096]	[0.074]	[0.190]	[0.208]	[0.624]	[0.836]	[0.791]	[0.146]
Overconfident x Highest Quartile Q	0.299**	−0.061	0.040**	0.001	0.337**	−0.091	0.030*	0.000	0.640**	0.024	0.109**	0.064*	0.066	0.025
	[0.030]	[0.591]	[0.021]	[0.931]	[0.037]	[0.454]	[0.084]	[0.984]	[0.015]	[0.904]	[0.030]	[0.088]	[0.177]	[0.296]
Constant	52.492***	88.352***	8.430***	9.720***			4.873***	5.116***	129.078***	170.377***	33.007***	26.636***	23.982***	19.595***
	[0.000]	[0.000]	[0.000]	[0.000]			[0.002]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC2D FE	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Observations	23,583	23,583	23,583	23,583	14,293	12,722	23,583	23,583	23,583	23,583	23,583	23,583	23,583	23,583
R-squared			0.074	0.100			0.017	0.011			0.099	0.110	0.020	0.012
Pseudo R-squared	0.0768	0.122			0.0314	0.0282			0.0612	0.0973				

This table contains regression results that analyze the relations among CEO overconfidence, cash level, and divestiture activity. The sample is a firm-year panel sample, where the unit-of-analysis is the firm-year observation. The dependent variable is either an indicator for whether the firm did a divestiture in year *t* or the number of divestitures the firm makes in year *t* as indicated in the column title. In *Panel A* the focus is the *Overconfident* × *Cash/Assets* interaction term. In *Panel B* the focus is on the cash level and growth opportunities. *Low* cash level corresponds to below sample median *Cash/Assets* values. *High* cash level corresponds to above sample median *Cash/Assets* values. *Highest Quartile Q* is an indicator variable that takes the value one if a firm's Tobin's Q is above the sample yearly upper

quartile. See the Appendix for variable definitions. The column header indicates the estimation approach and the column footer indicates the fixed effects used. All models include the control variables from Table 4. The OLS models use standard errors clustered by firm. Brackets contain p-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 9
Surprise divestitures and post-divestiture performance for overconfident CEOs.

Dependent Variable:	ROA				Tobin's Q			
Year relative to Divestiture:	t + 1	t + 2	t + 3	Avg. (3 yrs)	t + 1	t + 2	t + 3	Avg. (3 yrs)
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Surprise Divestitures	0.004**	0.003	0.005**	0.004***	0.024	0.054**	0.068***	0.048**
	[0.032]	[0.135]	[0.024]	[0.007]	[0.257]	[0.018]	[0.009]	[0.032]
ln(Assets(t-1))	0.002***	0.003***	0.005***	0.003***	−0.042***	−0.034***	−0.030***	−0.035***
	[0.004]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.008]	[0.000]
EBIT/Assets (t-1)	0.384***	0.351***	0.292***	0.342***	1.357***	1.697***	1.668***	1.611***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R&D/Sales (t-1)	−0.132***	−0.118***	−0.127***	−0.128***	1.681***	1.973***	2.066***	1.907***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
CAPEX/Sales (t-1)	−0.047***	−0.046***	−0.054***	−0.050***	−0.267***	−0.290***	−0.379***	−0.311***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Debt/Assets (t-1)	−0.009*	0.002	0.003	−0.002	0.195***	0.199**	0.211**	0.203**
	[0.061]	[0.719]	[0.578]	[0.753]	[0.003]	[0.014]	[0.027]	[0.012]
Cash/Assets (t-1)	0.009	0.016	0.001	0.009	0.331**	0.314**	0.264	0.319**
	[0.336]	[0.121]	[0.961]	[0.338]	[0.010]	[0.040]	[0.132]	[0.032]
Tobin's Q (t-1)	0.005***	0.005***	0.008***	0.006***	0.607***	0.515***	0.459***	0.529***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
#Non-Core Divestitures (past 3 years)	0.001	0.001	0.001	0.001	−0.014	−0.024**	−0.028**	−0.022*
	[0.157]	[0.533]	[0.464]	[0.335]	[0.130]	[0.037]	[0.048]	[0.055]
#Divestitures (past 3 years)	−0.001	−0.001	−0.001	−0.001*	0.016**	0.020**	0.019**	0.019**
	[0.124]	[0.146]	[0.137]	[0.089]	[0.014]	[0.015]	[0.039]	[0.016]
#Overseas Divestitures (past 3 years)	0.001	0.001	0.001	0.001	0.027*	0.032*	0.032*	0.029*
	[0.195]	[0.179]	[0.329]	[0.170]	[0.055]	[0.058]	[0.071]	[0.069]
ROA (t-1)	0.084***	0.066***	0.039	0.060***				
	[0.000]	[0.008]	[0.141]	[0.006]				
Constant	−0.987***	−1.409***	−1.363***	−1.228***	−22.346***	−29.220***	−35.348***	−29.712***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	20,658	19,380	18,692	18,692	20,658	19,380	18,692	18,692
R-squared	0.317	0.246	0.199	0.353	0.542	0.463	0.403	0.532

This table contains regression results that analyze the post-divestiture firm performance for overconfident CEOs. The dependent variable is either *Return on Assets* (*ROA*) in the years following the divestiture (Models 1–4) or *Tobin's Q* in the years following the divestiture (Models 5–8). We use the following probit regression model based on firm characteristics to predict when firms with overconfident CEOs are likely to divest (bold coefficients indicate significance at the 10% level or better; constant, industry and year dummies suppressed):
Does Divestiture = **0.29**ln(Assets)**-0.81(**EBIT/Assets) + 0.04(R&D/Sales)**-0.15(**Capex/Sales) + **0.47(**Debt/Assets)-0.05(Cash/Assets)**-0.01**Tobin's Q.
We use the residuals from this probit regression as a measure of "*Surprise*" divestitures. Variable definitions are provided in the Appendix. All regressions include industry and year fixed effects. Brackets report *p*-values. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Next, we use the residuals from this probit regression as a measure of "Surprise" divestitures by overconfident CEOs, i.e., divestitures that occur but were unexpected based on firm characteristics and use this to test how "Surprise" divestitures association with firm performance. We use two measures of post-divestiture performance: return on assets and Tobin's Q. We report the results in Table 9. In each specification, the sign of the *Surprise Divestitures* coefficient is positive. In Models 1–4, where *ROA* is the dependent variable, the *Surprise Divestitures* coefficient is significant at the 5% level in the first and third year post-divestiture. In Model 4, where the average *ROA* for the three years post-divestiture is the dependent variable, the *Surprise Divestitures* coefficient is positive and statistically significant at the 1% level. In Models 5–8, where *Tobin's Q* is the dependent variable, the *Surprise Divestitures* coefficient is significant at the 5% level or better in the second and third year post-divestiture. In Model 8, where the average *Tobin's Q* for the three years post-divestiture is the dependent variable, the *Surprise Divestitures* coefficient is positive and statistically significant at the 5% level. Overall, the results from Table 9 suggest that, when overconfident CEOs unexpectedly divest, performance improves. This provides suggestive evidence that overconfident CEOs' tendency to divest less potentially hurts firm performance.

5.3. Additional analyses

In untabulated results, we explore whether there are differences in the type of units that overconfident CEOs divest relative to other CEOs. We do not find any significant difference in the tendency to divest overseas units or non-core units between overconfident CEOs and other CEOs. We do, however, find that overconfident CEOs' divestitures involve units in industries with relatively lower levels of innovativeness, as proxied by R&D/Sales compared to other CEOs. Such units likely have less scope for valuation disagreements. This suggests that overconfident CEOs aim to retain units where they place a higher private valuation on the type of asset than might the market. It is also consistent with overconfident CEOs' tendencies to engage in innovative and risky investments. Finally, we find that on

average, overconfident CEOs take less time to complete their divestitures relative to other CEOs. This is consistent with overconfident CEOs placing relatively greater faith in their ability to negotiate deals to obtain what they regard as a reasonable price. It is also consistent with the types of units that overconfident CEOs divest involving units in industries with relatively lower scope for value disagreement.

5.4. Do serial divestors bias the results

One potential concern is that the divestiture likelihood regressions might be biased by serial divestors. For example, a small number of repeat divestors could potentially drive the observed relation between overconfidence and divestiture likelihood. We mitigate this concern by re-running the tests in Table 4 but eliminating any observation after the first divestiture year. We report these results in Table 10 and find that the results are qualitatively similar to those in Table 4: That is, overconfident CEOs are less likely to divest assets.

5.5. Propensity score matching

Another potential concern is that overconfident CEOs' firms are systematically different from those of other CEOs. This might bias the results if, for example, overconfident CEOs manage firms that are simply of the type that are less likely to divest assets. We address this concern through propensity score matching. We undertake this by matching the firms of overconfident CEOs to non-overconfident CEOs by using all other control characteristics used in the baseline panel regression in Table 4. The matching procedure is one-to-one without replacement and we select the closest propensity score to the overconfident CEO's firm. We report the results in Panel A of Table 11. The *Overconfident* coefficient is negative and statistically significant across each specification and is similar in both magnitude and significance to the corresponding coefficients in Table 4. In Panel B of Table 11, we again use propensity score matching but this time remove the "serial" divestors. Again, the *Overconfident* coefficient is negative and statistically significant across each specification.

5.6. Corporate size effects

A potential issue with the results is that large firms' divestiture activities might bias the results. This could be a concern due to the evidence that large firms' acquisitions can significantly skew the distribution of acquisition activity (Moeller et al., 2004, 2005). The

Table 10
Overconfidence and divestiture activity – removing 'serial' divestors.

Dependent Variable:	Does Divestiture (t)				#Divestitures (t)		
Estimation Model:	Logit	OLS	Logit	OLS	Tobit	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Overconfident	−0.614***	−0.049***	−0.735***	−0.064***	−1.029***	−0.104***	−0.127***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ln(Assets(t-1))	0.282***	0.025***	0.369***	0.037***	0.553***	0.081***	0.113***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
EBIT/Assets (t-1)	−1.101***	−0.103***	−2.663***	−0.201***	−2.167***	−0.280***	−0.436***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R&D/Sales (t-1)	0.195	0.004	−0.931*	−0.074***	0.191	−0.000	−0.151***
	[0.279]	[0.761]	[0.051]	[0.005]	[0.555]	[0.987]	[0.001]
Capex/Sales (t-1)	−0.440***	−0.037***	−0.444	−0.045**	−0.617***	−0.052*	−0.068
	[0.006]	[0.002]	[0.109]	[0.021]	[0.007]	[0.096]	[0.166]
Debt/Assets (t-1)	0.694***	0.052***	0.429**	0.028*	1.087***	0.064***	−0.004
	[0.000]	[0.000]	[0.020]	[0.052]	[0.000]	[0.002]	[0.915]
Cash/Assets (t-1)	−0.123	0.009	−1.387***	−0.084***	0.016	0.110***	−0.091***
	[0.548]	[0.483]	[0.000]	[0.000]	[0.962]	[0.000]	[0.007]
Tobin's Q (t-1)	−0.026	0.000	−0.043	−0.001	−0.028	0.009***	0.006*
	[0.172]	[0.818]	[0.119]	[0.569]	[0.347]	[0.001]	[0.058]
Constant	122.000***	10.992***		12.466***	216.744***	25.955***	30.323***
	[0.000]	[0.000]		[0.000]	[0.000]	[0.000]	[0.000]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	Yes	Yes	No
Firm FE	No	No	Yes	Yes	No	No	Yes
Observations	41,422	41,422	28,634	41,422	41,422	41,422	41,422
R-squared		0.042		0.019		0.050	0.020
Pseudo R-squared	0.0674		0.0422		0.0546		

This table contains regression results that analyze the relation between CEO overconfidence and divestiture activity. The sample removes "serial" divestors by containing only the first divestiture occurrence year for any divestor. The sample is a firm-year panel sample, where the unit-of-analysis is the firm-year observation. The dependent variable is either an indicator for whether the firm did a divestiture in year *t* or the number of divestitures the firm makes in year *t* as indicated in the column title. See the Appendix for variable definitions. The column header indicates the estimation approach and the column footer indicates the fixed effects used. The OLS models use standard errors clustered by firm. Brackets contain *p*-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 11
Propensity score matched results.

Panel A: Propensity score matched results – whole sample

Dependent Variable:	Does Divestiture (t)				#Divestitures (t)		
Estimation Model:	Logit	OLS	Logit	OLS	Tobit	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Overconfident	−0.256***	−0.040***	−0.159***	−0.026***	−0.523***	−0.134***	−0.086***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ln(Assets(t-1))	0.500***	0.079***	0.544***	0.074***	1.015***	0.275***	0.245***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
EBIT/Assets (t-1)	−1.153***	−0.215***	−3.170***	−0.341***	−2.654***	−0.711***	−0.852***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R&D/Sales (t-1)	0.335	0.020	−0.073	−0.044	0.446	0.079	−0.133
	[0.208]	[0.547]	[0.889]	[0.365]	[0.190]	[0.459]	[0.223]
Capex/Sales (t-1)	−0.228	−0.032	−0.856***	−0.102***	−0.339*	−0.061	−0.155
	[0.195]	[0.216]	[0.000]	[0.001]	[0.060]	[0.464]	[0.114]
Debt/Assets (t-1)	0.925***	0.095***	0.259*	0.017	1.554***	0.097	0.028
	[0.000]	[0.000]	[0.092]	[0.431]	[0.000]	[0.210]	[0.620]
Cash/Assets (t-1)	−0.293	0.025	−0.984***	−0.078***	0.072	0.384***	−0.009
	[0.185]	[0.272]	[0.000]	[0.002]	[0.803]	[0.001]	[0.877]
Tobin's Q (t-1)	−0.015	0.003*	−0.047**	−0.001	−0.004	0.032***	0.013**
	[0.432]	[0.086]	[0.042]	[0.566]	[0.890]	[0.000]	[0.016]
Constant	117.957***	17.933***		14.985***	227.836***	54.121***	50.137***
	[0.000]	[0.000]		[0.000]	[0.000]	[0.000]	[0.000]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	Yes	Yes	No
Firm FE	No	No	Yes	Yes	No	No	Yes
Observations	41,320	41,320	29,735	41,320	41,320	41,320	41,320
R-squared		0.129		0.018		0.138	0.022
Pseudo R-squared	0.131		0.0280		0.0960		

Panel B: Propensity score matched results - removing 'serial' divestors

Dependent Variables	Does Divestiture (t)				#Divestitures (t)		
Model	Logit	OLS	Logit	OLS	Tobit	OLS	OLS
Column:	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Overconfident	−0.628***	−0.049***	−0.744***	−0.064***	−1.061***	−0.104***	−0.127***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ln(Assets(t-1))	0.265***	0.023***	0.346***	0.034***	0.525***	0.075***	0.107***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
EBIT/Assets (t-1)	−1.173***	−0.103***	−2.536***	−0.184***	−2.284***	−0.279***	−0.392***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R&D/Sales (t-1)	0.187	0.003	−0.695	−0.063**	0.175	−0.008	−0.117***
	[0.345]	[0.832]	[0.182]	[0.034]	[0.624]	[0.755]	[0.009]
Capex/Sales (t-1)	−0.418**	−0.034***	−0.518*	−0.048**	−0.594**	−0.043	−0.080
	[0.021]	[0.009]	[0.098]	[0.023]	[0.019]	[0.207]	[0.122]
Debt/Assets (t-1)	0.629***	0.045***	0.300	0.013	0.983***	0.053**	−0.017
	[0.000]	[0.000]	[0.135]	[0.384]	[0.000]	[0.013]	[0.584]
Cash/Assets (t-1)	−0.347	−0.008	−1.521***	−0.094***	−0.367	0.072***	−0.105***
	[0.116]	[0.551]	[0.000]	[0.000]	[0.304]	[0.008]	[0.002]
Tobin's Q (t-1)	−0.024	0.000	−0.039	−0.001	−0.026	0.008***	0.006*
	[0.215]	[0.866]	[0.162]	[0.606]	[0.405]	[0.002]	[0.052]
Constant	121.826***	10.235***		11.617***	215.765***	23.722***	28.736***
	[0.000]	[0.000]		[0.000]	[0.000]	[0.000]	[0.000]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	Yes	Yes	No
Firm FE	No	No	Yes	Yes	No	No	Yes
Observations	36,324	36,324	24,313	36,324	36,324	36,324	36,324
R-squared		0.038		0.018		0.046	0.019
Pseudo R-squared	0.0631		0.0400		0.0517		

This table contains regression results that analyze the relation between CEO overconfidence and divestiture activity using propensity score matching. First, we use propensity scores to create a matched sample for each overconfident CEO firm to a non-overconfident CEO firm. The matching procedure is one-to-one without replacement and we select the closest propensity score to the overconfident CEO's firm. The result of the propensity score match regression is as follows (bold coefficients indicate significance at the 5% level; constant, industry and year dummies suppressed):
$\text{Overconfident}_t = 0.01 ln(Assets_{t-1}) + \mathbf{1.27} EBIT_{t-1}/Assets_{t-1} + \mathbf{0.62}\text{R\&D}_{t-1}/\text{Sales}_{t-1} + \mathbf{0.32}\text{Capex}_{t-1}/\text{Sales}_{t-1} - \mathbf{0.15}\text{Debt}_{t-1}/\text{Assets}_{t-1} + 0.09\text{Cash}_{t-1}/\text{Sales}_{t-1} + \mathbf{0.14}\text{Tobin's Q}_{t-1}$.
See the Appendix for variable definitions. The sample is a firm-year panel sample, where the unit-of-analysis is the firm-year observation. The

dependent variable in the panels below is either an indicator for whether the firm did a divestiture in year *t* or the number of divestitures the firm makes in year *t* as indicated in the column title. The column header indicates the estimation approach and the column footer indicates the fixed effects used. Panel A contains the whole sample while Panel B removes "serial" divestors by containing only the first divestiture year for any divestor. The OLS models use standard errors clustered by firm. Brackets contain *p*-values and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

reported results control for firm size, and, depending on the tests, for firm fixed effects. Nonetheless, in untabulated results we assuage this concern by rerunning the tests omitting the observations belonging to the 5% largest firms each year. The results are qualitatively similar in these tests to those that we report.

5.7. Additional robustness tests

There are a number of additional robustness tests we employ but do not tabulate for brevity. While the *Holder67* measure is the most commonly used overconfidence measure, as alternatives to the 67% option moneyness cutoff we also use a 33% and a 100% cutoff, respectively, and find consistent results. We also employ a media-based overconfidence measure in the same spirit as Hirshleifer et al. (2012) and find qualitatively similar results. To test for omitted variable bias, we conduct the Oster (2019) test with an R_{Max} parameter value of 1.3 (i.e., $R_{Max} = 1.3\widetilde{R}$). Oster δ values greater than 1 indicate that the regression coefficients are robust to omitted variable bias. We find that the Oster δ values range from 4.6 to 19.3, suggesting that our results are robust to omitted variable bias.

6. Conclusion

Prior studies have shown that overconfident CEOs tend to overinvest, potentially destroying corporate value. However, overconfident CEOs still engage in divestitures. This begs the question of why they undertake such divestitures and for what they use the proceeds.

We hypothesize and show that overconfident CEOs are indeed less likely to divest units. They are also less likely to divest a unit after an acquisition than are other CEOs. This highlights that overconfident CEOs tend to focus on increasing or maintaining firm size. Further, overconfident CEOs' divestment propensity is not affected by their tenure lifecycle, suggesting that it is an important moderator to the finding in Pan et al. (2016). Overconfident CEOs are more likely to use divestiture proceeds to increase investment. Following a divestiture, they are more likely to make acquisitions than are other CEOs. They also spend more on Capex after an acquisition.

Our results contribute to the literature on CEO overconfidence. Prior studies show that overconfident CEOs overinvest. However, studies have not analyzed the circumstances in which overconfident CEOs divest and how they spend the proceeds following such divestitures. These results help to explain why overconfident CEOs, who would normally engage in empire building and increased investment, divest assets. Our results also contribute to the literature on the factors that precede and influence divestitures. We highlight the role of one CEO behavioral trait, i.e., CEO overconfidence, on the decision to divest in general, and the likelihood that a CEO reverses strategy by divesting units following an acquisition. CEO overconfidence also influences what the CEO does with the proceeds of a divestiture.

CRediT authorship contribution statement

Mark Humphery-Jenner: Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Vikram Nanda:** Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Sabatino (Dino) Silveri:** Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Minxing Sun:** Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization.

Appendix A. Variable definitions

Variable	Definition
Overconfident	This is an indicator that equals one if the CEO is classified as overconfident. We measure overconfidence using the *Holder67* measure of overconfidence (Malmendier and Tate, 2005, 2008; Malmendier et al., 2011). We calculate *Holder67* following Malmendier et al. (2011). Specifically, we collect data from Execucomp on CEOs' option holdings. We then calculate the average "in the moneyness" of those options, which we define as: $\text{ITMNESS} = \frac{\text{Average Option Value}}{\text{Average Strike Price}}$ We calculate the average option value by dividing the total value of the CEO's vested-but-unexercised options by the number of such options. We calculate the average strike price by using the simplifying assumption that the options are American options, whose value is given by (Stock Price – Strike Price), implying that Strike Price = Stock Price – (Stock Price – Strike Price) = Stock Price – (Average Option Value). We obtain the stock price from CRSP/Compustat (using the variable prcc_f) and obtain the average option value as indicated above. We then define *Holder67* as equal to one if the ITMNESS variable equals at least 67 on at least two years, in which case *Holder67* equals one from the first such year. This approach follows Malmendier et al. (2011).

(*continued on next page*)

(*continued*)

Variable	Definition
Does Divestiture (t)	An indicator that equals one if the firm divests a unit in year *t*. The data is from SDC Platinum.
#Divestitures (t)	The number of divestitures that SDC Platinum records the firm as having done in year *t*.
#Acqs (t)	The number of acquisitions that the firm makes in year *t* as indicated in SDC Platinum.
Does Acq (t)	An indicator that equals one if SDC Platinum reports the firm as having done an acquisition in year *t*.
ln(Assets(t))	The natural logarithm of the firm's book assets (Compustat code: at) in year *t*.
EBIT/Assets (t)	The firm's EBIT scaled by its book assets, from Compustat (Compustat codes: ebit/at)
R&D/Sales (t)	The firm's R&D expenditure scaled by its sales from Compustat (Compustat codes: xrd/sale). We recode missing R&D values as zeros (per Masulis et al., 2009).
Capex/Sales (t)	The firm's Capex scaled by its sales as reported in Compustat (Compustat codes: capx/sale). We record missing Capex values as zeros (per Masulis et al., 2009).
Debt/Assets (t)	The firm's long term book debt scaled by its book assets as reported in Compustat (Compustat codes: dltt/at).
Cash/Assets (t)	The firm's cash holdings scaled by its book assets as reported in Compustat (Compustat codes: che/at).
Tobin's Q (t)	The firm's Tobin's Q, which we calculate by scaling its market capitalization by its book assets (Compustat codes: (at-ceq + prcc_f*csho)/at.

Data availability

The authors do not have permission to share data.

References

Berger, P.G., Ofek, E., 1996. Bustup takeovers of value-destroying diversified firms. J. Financ. 51, 1175–1200.
Bergh, D., 1995. Size and relatedness of units sold: an agency theory and resource-based perspective. Strateg. Manag. J. 16, 221–239.
Bergh, D.D., 1997. Predicting divestiture of unrelated acquisitions: an integrative model of ex ante conditions. Strateg. Manag. J. 18, 715–731.
Bergh, D., Lawless, M., 1998. Portfolio restructuring and limits to hierarchical governance: the effects of environmental uncertainty and diversification strategy. Organ. Sci. 9, 87–102.
Boot, A.W.A., 1992. Why hang on to losers? Divestitures and takeovers. J. Financ. 47, 1401–1423.
Brauer, M., 2006. What have we acquired and what should we acquire in divestiture research? A review and research agenda. J. Manag. 32, 751–785.
Brauer, M., Wiersema, M.F., 2012. Industry divestiture waves: how a firm's position influences investor returns. Acad. Manag. J. 55, 1472–1492.
Brauer, M., Mammen, J., Luger, J., 2017. Sell-offs and firm performance a matter of experience? J. Manag. 43 (5), 1359–1387.
Chang, S.J., Singh, H., 1999. The impact of modes of entry and resource fit on modes of exit by multi-business firms. Strateg. Manag. J. 20, 1019–1035.
Chatterjee, S., Harrison, J.S., Bergh, D.D., 2003. Failed takeover attempts, corporate governance and refocusing. Strateg. Manag. J. 24 (1), 87–96.
Dittrich, D.A.V., Guth, W., Maciejovsky, B., 2005. Overconfidence in investment decisions: an experimental approach. Eur. J. Financ. 11, 471–491.
Dranikoff, L., Koller, T., Schneider, A., 2002a. Divestiture: strategy's missing link. Harv. Bus. Rev. 80, 74–83.
Dranikoff, L., Koller, T.M., Schneider, A., 2002b. Selling early and selling often. Mergers Acquis. 37, 33–36.
Galasso, A., Simcoe, T.S., 2011. CEO overconfidence and innovation. Manag. Sci. 57, 1469–1484.
Guenzel, M., 2025. In too deep: the effect of sunk costs on corporate investment. J. Financ. 80, 1593–1646.
Harford, J., Schonlau, R., 2013. Does the director labor market offer ex post settling-up for CEOs? The case of acquisitions. J. Financ. Econ. 110, 18–36.
Hayward, M.L.A., Shimizu, K., 2006. De-commitment to losing strategic action: evidence from the divestiture of poorly performing acquisitions. Strateg. Manag. J. 27, 541–557.
Hiller, N.J., Hambrick, D.C., 2005. Conceptualizing executive hubris: the role of (hyper-)core self-evaluations in strategic decision-making. Strateg. Manag. J. 26, 297–319.
Hirshleifer, D., Low, A., Teoh, S.H., 2012. Are overconfident CEOs better innovators? J. Financ. 67, 1457–1498.
Humphery-Jenner, M., Lisic, L.L., Nanda, V., Silveri, S.D., 2016. Executive overconfidence and compensation structure. J. Financ. Econ. 119 (3), 533–558.
Johnson, D., Fowler, J., 2011. The evolution of overconfidence. Nature 477, 317–320.
Kolasinski, A.C., Li, X., 2013. Can strong boards and trading their own firm's stock help CEOs make better decisions? Evidence from acquisitions by overconfident CEOs. J. Financ. Quant. Anal. 48, 1173–1206.
Malmendier, U., Tate, G., 2005. CEO overconfidence and corporate investment. J. Financ. Econ. 60, 2661–2700.
Malmendier, U., Tate, G., 2008. Who makes acquisitions? CEO overconfidence and the market's reaction. J. Financ. Econ. 89, 20–43.
Malmendier, U., Tate, G., Yan, J., 2011. Overconfidence and early-life experiences: the effect of managerial traits on corporate financial policies. J. Financ. 66, 1687–1733.
Malmendier, U., Pezone, V., Zheng, H., 2023. Managerial duties and managerial biases. Manag. Sci. 69, 3174–3201.
Markides, C., 1992. The economic characteristics of de-diversifying firms. Br. J. Manag. 3, 91–100.
Martin, I., 2012. On the valuation of long-dated assets. J. Polit. Econ. 120, 346–358.
Masulis, R.W., Wang, C., Xie, F., 2009. Agency problems at dual-class companies. J. Financ. 64, 1697–1727.
Mata, J., Portugal, P., 2000. Closure and divestiture by foreign entrants: the impact of entry and post-entry strategies. Strateg. Manag. J. 21, 549–562.
Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2004. Firm size and the gains from acquisitions. J. Financ. Econ. 73, 201–228.
Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2005. Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave. J. Financ. 60, 757–782.
Oster, E., 2019. Unobservable selection and coefficient stability: theory and evidence. J. Bus. Econ. Stat. 37, 187–204.
Pan, Y., Wang, T.Y., Weisbach, M., 2016. CEO investment cycles. Rev. Financ. Stud. 29, 2955–2999.
Schlingemann, F.P., Stulz, R.M., Walkling, R.A., 2002. Divestitures and the liquidity of the market for corporate assets. J. Financ. Econ. 64, 117–144.
Sembenelli, A., Vannoni, D., 2003. Why do established firms enter some industries and exit others? Empirical evidence on Italian business groups. Rev. Ind. Organ. 17, 441–456.
Sen, R., Tumarkin, R., 2015. Stocking up: executive optimism and share retention. J. Financ. Econ. 118, 399–430.
Shimizu, K., Hitt, M.A., 2005. What constrains or facilitates divestitures of formerly acquired firms? The effects of organizational Inerti. J. Manag. 31, 50–72.
Weisbach, M.S., 1995. CEO turnover and the firm's investment decisions. J. Financ. Econ. 37, 159–188.
Zhu, D.C., Chen, G., 2015. Narcissism, director selection, and risk-taking spending. Strateg. Manag. J. 36, 2075–2098.