THE ILLUSION OF INDEPENDENCE: SPUN-OFF FIRMS' RISK-TAKING AS A FUNCTION OF STATUS AND ATTACHMENT TO THE PARENT FIRM

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ABSTRACT

This paper examines the post-divestiture behavior of spun-off firms. Drawing on the spin-off literature and middle-status conformity theory, we argue that spun-off firms—as newly independent and publicly traded firms—tend to limit their risk-taking behavior to match the expectations of a crucial audience, i.e., security analysts. Following the logic of middle-status conformity theory, we hypothesize that firms with mid-level status are particularly susceptible to analysts' pressures, whereas high- and low-status firms are free to take greater risks. Crucially, however, we propose that this relationship is less pronounced for spun-off firms that are more attached to their parent firms, as formal and informal linkages between these two types of firms can endure beyond the separation and limit spun-off firms' independence. Using a dataset of 102 spin-off transactions occurring between 1995 and 2010, we find empirical support for a U-shaped relationship between spun-off firms' status and risk-taking. This relationship is attenuated when spun-off firms are more attached to their parents. We contribute to the spin-off literature by demonstrating that a spun-off firm's post-divestiture behavior is determined by the capital market audience's expectations and the attachment to the parent firm. In so doing, we also contribute to the literature on middle-status conformity theory by identifying a boundary condition of the theory. Additionally, we make a methodological contribution by combining ideas from the spin-off and institutional theory literature to develop a particularly comprehensive measure of attachment.

Keywords: spin-off, status, attachment, risk-taking, security analysts

Introduction

Spin-off transactions are a central instrument in corporate activities aimed at liberating business units from their "parent firms" (Feldman, 2016a, 2016b; Surowiecki, 2014). The increasing popularity of spin-off transactions in practice has also garnered significant attention from scholars (Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011). Although researchers initially largely investigated the selection of units to be spun off or the performance effects of spin-off transactions through the lens of parent firms (Bergh, 1995; Daley et al., 1997; Desai and Jain, 1999), more recent studies have begun to focus on the spun-off firms, i.e., the units that were spun off, themselves (e.g., Feldman, 2016a; Moschieri, 2011).

Such newly spun-off firms are independent and publicly traded (Feldman, 2016c), and thus, they are under pressure to conform to certain expectations from audiences in the capital market who directly observe and judge the behaviors of spun-off firms (Phillips and Zuckerman, 2001; Shen et al., 2014; Wang, 2018). A particularly critical audience is the security analysts who are incentivized to make accurate predictions and therefore prefer predictability in the performance of the companies they cover and thus have a strong preference for firms that exhibit only moderate levels of risk-taking (e.g., Benner and Ranganathan, 2012; Brauer and Wiersema, 2018; Feldman, 2016a; Wang, 2018). Consequently, security analysts—explicitly or implicitly—exert pressure on firms to behave accordingly.

However, we know very little about what actually influences spun-off firms' behavior, particularly regarding how strongly they respond to external pressures. Extant research from other fields suggests that status may have a role (e.g., Krishnan and Kozhikode, 2015; Phillips and Zuckerman, 2001; Piazza and Castellucci, 2014). After spin-off transactions, the spun-off firms enter the hierarchy of the marketplace and are assigned a position in the status ordering by

the relevant audiences, such as analysts (e.g., Jensen, 2006; Phillips and Zuckerman, 2001; Piazza and Castellucci, 2014). Since status is associated with perceived quality and expected performance (e.g., Podolny, 1993; Stern et al., 2014; Washington and Zajac, 2005), firms generally strive to protect and increase their status, which may make them responsive to the expectations of a status-judging audience (e.g., Bowers et al., 2014; Piazza and Castellucci, 2014; Podolny, 1993, 1994). In summary, status may thus influence how likely organizations are to respond to external pressures (Jensen, 2006; Phillips and Zuckerman, 2001; Piazza and Castellucci, 2014), raising the question of whether this is the case for spun-off firms as well.

Further, although it is tempting to think of spun-off firms as fully independent from their former parent firms after the divestiture, recent research has questioned this assumption (e.g., Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011). The remaining formal (e.g., retained ownership) and informal (e.g., shared history) linkages between the parent and spun-off firms can create continuity and simplify the spun-off firm's access to resources (Moschieri, 2011; Souitaris et al., 2012). However, these linkages may also hamper the spun-off firms from perceiving themselves as independent firms (Corley and Gioia, 2004; Semadeni and Cannella, 2011) and thus prevent responses to their new audiences' pressures.

The spun-off firms' decisions about post-divestiture risk-taking are thus made in a context where capital market audiences exert pressures; however, the spun-off firms frequently remain more or less attached to their parent firms. Although recent studies emphasize the importance of parent-child relationships (Feldman et al., 2014; Moschieri, 2011; Semadeni and Cannella, 2011), more research is needed to better understand this post-divestiture risk-taking behavior of spun-off firms. Specifically, there is little clarity on the consequences of a spun-off firm's status and its attachment to its parent firm. In this study, we therefore address two

interrelated research questions. First, how does a spun-off firm's status (through its role in determining how responsive the firm is to external pressures) influence its post-divestiture behavior in the form of risk-taking? Second, how does a spun-off firm's attachment to its parent firm affect this relationship?

Building on middle-status conformity theory (e.g., Durand and Kremp, 2016; Fralich and Bitektine, 2019; Phillips and Zuckerman, 2001), we argue that a spun-off firm's status influences its risk-taking behavior. In particular, we hypothesize that middle-status spun-off firms are insecure in their status position, which leads to status anxiety. To secure their status position, middle-status spun-off firms show high conformity and align with their audience's expectations. In particular, we argue that middle-status spun-off firms conform to analysts' desire for predictability, leading to relatively low risk-taking. In contrast, high-status organizations feel confident in their social status and enjoy a status protection even when they violate their audience's expectations. This allows them to exhibit differentiation in terms of their behavior, i.e., differ from conventional behavior (e.g., Durand and Kremp, 2016; Phillips and Zuckerman, 2001). Similarly, low-status organizations are likely to exhibit low conformity, but for a different reason. Low-status organizations tend to show deviations from conventional behavior because the potential for status loss is limited since these organizations are already at the low end of the status order. This leads to limited concern regarding status sanctions and limited pressure to conform with the audience's expectations (e.g., Durand and Kremp, 2016; Phillips and Zuckerman, 2001). Thus, both high- and low-status spun-off firms exhibit less conformity with their audience's expectations, as they are either protected against status degradation or have little to lose in the first place. Whenever high- and low-status spun-off firms perceive a risky business opportunity as beneficial but possibly detrimental to their status, they will still seize this

opportunity, as its potential benefits outweigh any potential losses (e.g., Anthony, 2018; Phillips and Zuckerman, 2001). In turn, such high- and low-status spun-off firms are likely to exhibit relatively higher risk-taking (Durand and Kremp, 2016; Fralich and Bitektine, 2019; Phillips and Zuckerman, 2001), suggesting an overall U-shaped relationship between status and risk-taking.

Furthermore, we build on the previous studies focusing on spun-off firms (Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011) and institutional theory (Glynn and Abzug, 2002; Souitaris et al., 2012) to argue that the post-divestiture behavioral adaptation of spun-off firms is hampered when the spun-off firm remains highly attached to the parent firm. An assumption of middle-status conformity theory is the firm's attention to the audience's expectations and its ability to adapt to those expectations. However, building on prior studies in this context, we argue that different formal and informal linkages, e.g., dual directors, retained ownership, or the firm's name (Feldman, 2016b; Glynn and Abzug, 2002; Semadeni and Cannella, 2011), can cause the spun-off firm to remain attached to its parent firm even after the formal separation. Highly attached spun-off firms may continue to perceive their parent firms as the primary audience (e.g., Souitaris et al., 2012), which makes adaptations based on their own status position in the market, i.e., to other audiences' expectations, less likely. In contrast, as proposed by middle-status conformity theory, less attached spun-off firms will adapt their behavior more drastically to their audience's expectations (Durand and Kremp, 2016; Phillips and Zuckerman, 2001). Hence, we argue the effect of middle-status conformity to be more pronounced for less attached spun-off firms, compared to more attached spun-off firms. Consequently, we hypothesize that increasing the attachment flattens the U-shaped relationship between status and risk-taking (Haans et al., 2016).

Our results, stemming from the analyses of a panel dataset covering 102 spin-off transactions undertaken between 1995 and 2010, support our predictions. We find that high- and low-status spun-off firms exhibit higher risk-taking compared to middle-status spun-off firms. Our results thus corroborate the hypothesized U-shaped relationship between status and risk-taking. Moreover, leveraging a novel comprehensive measure of attachment, we find that a spun-off firm's attachment to its parent weakens this relationship. In other words, the U-shaped relationship between status and risk-taking becomes more pronounced when spun-off firms are less attached to their parent firms. For more attached spun-off firms, middle-status conformity theory seems less applicable, as they might be less inclined or able to redirect their attention towards a new audience or to conform to a new audience's expectations.

We contribute to the spin-off literature by testing how status and attachment jointly influence the post-divestiture behavior of spun-off firms, especially their risk-taking. We empirically demonstrate that spun-off firms adapt their risk-taking based on their status. However, the magnitude of the adaptation is affected by the spun-off firm's attachment to its former parent—a reflection of the formal and informal parent-child linkages that continue beyond the legal separation. We further contribute to the spin-off literature by developing a particularly comprehensive attachment index, which is based on a synthesis of the spin-off and institutional theory literatures. Additionally, we contribute to the status literature by revealing a boundary condition of middle-status conformity theory, suggesting that the theory's predictions may not hold when firms are not highly attentive to their status-granting audiences, for instance because they attend to an alternative audience.

Theory and hypotheses

Spun-off firms and risk-taking

Spin-off transactions are a central instrument that top managers can employ to change their firm's corporate portfolio. In a spin-off transaction, a parent firm distributes pro rata shares of one of its business units to existing shareholders and creates a new publicly traded and independent spun-off firm (Brauer, 2006; Feldman, 2016a, 2016b; Thompson et al., 2013). In contrast to sell-off transactions, spin-off transactions do not involve a third-party firm that acts as a buyer. Instead, similar to private firms going public, spun-off firms are directly owned by capital market investors rather than another firm after the transaction. Consequently, spun-off firms are under pressure to manage the capital market's demands to overcome their "liability of market newness" and to ensure their access to financial resources (Certo, 2003, p. 433; Zimmerman and Zeitz, 2002). Commensurate with the great practical relevance of the topic, research on spun-off firms has gained importance within the academic literature over the last decades (Brauer, 2006; Feldman, 2016b; Lee and Madhavan, 2010). Specifically, extant research already offers valuable insights on the performance of these new entities (e.g., Corley and Gioia, 2004; Moschieri, 2011; Semadeni and Cannella, 2011; Seward and Walsh, 1996) and the impact of remaining linkages between the parent and spun-off firms (e.g., Corley and Gioia, 2004; Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011).

Just like performing a spin-off transaction, selecting the firm's overall degree of risk-taking is a crucial decision that a firm's strategic leaders must make. The degree of risk-taking chosen is critical because it influences the firm's innovation (Greve, 2003), acquisition frequency (Thornton, 2001), performance (Hayward and Hambrick, 1997; Sanders and Hambrick, 2007), and, ultimately, survival (e.g., Li and Tang, 2010; Shapira, 1995; To et al., 2018). Prior research

applied various theories, such as upper echelons theory (e.g., Li and Tang, 2010), behavioral decision theory (e.g., Bromiley, 1991; Greve, 2003; Shapira, 1995), or agency theory (e.g., Hoskisson et al., 1993; Wright et al., 2007), to explain consequences and antecedents of risk-taking. For instance, researchers identified antecedents at the individual level, e.g., CEO hubris (To et al., 2018), and the organizational level, e.g., performance feedback (Xu et al., 2019). Due to the importance of risk-taking for firm outcomes, further enhancing our understanding of antecedents of risk-taking is an important concern for management and organizational scholars (To et al., 2018).

In fact, risk-taking may be particularly relevant to spun-off firms given the motives and aims underlying these types of divestitures. Prior studies (e.g., Ito, 1995; Moschieri, 2011; Moschieri and Mair, 2011) indicate that parent firms often spin off units to provide them with the autonomy needed to seize new opportunities and businesses. These explorative activities are linked to heightened risk-taking that might exceed what would be accepted within the parent firm (Moschieri, 2011; Moschieri and Mair, 2011). In this vein, Moschieri (2011, p. 390) notes that although spun-off firms are different from new ventures, "they appear to share some characteristics idiosyncratic of new ventures such as risk taking and innovativeness."

Organizational status

Status is a key concept in organizational theory (Bitektine, 2011). Most studies in this field (e.g., Bitektine, 2011; Fralich and Bitektine, 2019; Stern et al., 2014) define status as the "socially constructed, intersubjectively agreed-upon and accepted ordering or ranking of individuals, groups, organizations, or activities in a social system" (Washington and Zajac, 2005, p. 284). An organization's status is, thus, the result of social judgements by a variety of audiences (e.g., investors, security analysts, employees, or customers) to whom the organization

is accountable (Bitektine, 2011; Jensen, 2006; Wang, 2018). In turn, organizational status influences the perceived quality, expected performance, and appeal to the audiences of organizations (e.g., Stern et al., 2014). High-status organizations, compared to low-status organizations, have greater bargaining power in transactions (e.g., Castellucci and Ertug, 2010), achieve better resource integration at favorable costs (e.g., Podolny, 1993; Rider and Tan, 2015), can demand higher prices with identical product quality (e.g., Benjamin and Podolny, 1999), and, therefore, show an overall better performance (e.g., Piazza and Castellucci, 2014). High-status organizations do so because status generates credibility and serves as a performance indicator in the eyes of audiences (Castellucci and Ertug, 2010; Podolny, 1993), which leads to financial rewards and, ultimately, ensures the organization's survival (Podolny, 1993, 1994). Therefore, status is a type of physical, social, and financial capital that is desired by organizations (Bothner et al., 2012).

An organization's status is not necessarily fixed. For example, an organization's status is subject to network effects or positive and negative associations. Prior research has extensively studied how an organization's status changes as the result of mergers and acquisitions, alliance formations, and interfirm relations (e.g., Lin et al., 2009; Piazza and Castellucci, 2014; Washington and Zajac, 2005). Arguably most importantly, a firm can positively (negatively) influence their status by conforming (violating) to the relevant audiences' expectations (e.g., Bitektine, 2011; Washington and Zajac, 2005).

Middle-status conformity theory

Phillips and Zuckerman's middle-status conformity theory postulates that conformity with audiences' expectations "is high at the middle and low at either end of a status order" (Phillips and Zuckerman, 2001, p. 379). Such conformity is the result of valuing increased status

and the fear of status penalties and sanctions (Durand and Kremp, 2016; Phillips and Zuckerman, 2001). Middle-status organizations value their status, but are insecure about their status position, which leads to status anxiety and, in turn, to a higher conformity to audiences' expectations (Durand and Kremp, 2016; Phillips and Zuckerman, 2001). Middle-status organizations have more to lose from status penalties compared to their counterparts at the high and low ends of the status order, which leads to conformity and, consequently, "conservatism" in their behavior (Durand and Kremp, 2016; Phillips and Zuckerman, 2001, p. 380).

High-status organizations, in contrast, feel confident in their social status, which allows differentiation from the conventional behavior (e.g., Fralich and Bitektine, 2019; Phillips and Zuckerman, 2001). Based on their high status, such organizations enjoy, at least to a certain extent, a status protection, even when they violate their audience's norms and expectations (Durand and Kremp, 2016; Fralich and Bitektine, 2019). Prior studies (e.g., Fralich and Bitektine, 2019; Krishnan and Kozhikode, 2015; Phillips and Zuckerman, 2001; Washington and Zajac, 2005) indicate that high-status organizations are blamed less for failures and are disproportionally rewarded for success. As audiences interpret high status as a signal of quality and competence, even unconventional and unexpected decisions are not challenged (e.g., Bowers and Prato, 2018; Durand and Kremp, 2016). Consequently, high-status organizations are likely to make unconventional choices and to not conform to their audience's expectations, as they have little to gain from conforming (Durand and Kremp, 2016; Fralich and Bitektine, 2019). For example, Philips and Zuckerman (2001) demonstrate that high-status corporate law firms benefit when they take the unconventional step of additionally offering family services. This unconventional addition to their service portfolio delivers benefits to them as the perception of quality, which comes with high status, transfers to the new offering, and the organizations can

differentiate themselves from their competitors. This shows how high-status organizations are incentivized to engage in low conformity in the form of "differentiation" (Phillips and Zuckerman, 2001, p. 385).

Similarly, low-status organizations are likely to exhibit low conformity, although for a different reason. Low-status organizations tend to deviate from conventional behavior, as they "feel free to defy accepted practice because they are excluded regardless of their actions" (Phillips and Zuckerman, 2001, p. 380). Any potential status losses due to deviant behavior are limited since the organizations are already at the low end of the status order, which leads to limited concern over status sanctions and limited pressure to conform with the audience's expectations (Bowers et al., 2014; Durand and Kremp, 2016; Phillips and Zuckerman, 2001). At the same time, conforming to the audience's expectations often does not lead to status improvements for low-status organizations because they have low market visibility or are even completely screened out from status judgments in the first place (Durand and Kremp, 2016; Phillips and Zuckerman, 2001). For example, low-status security analysts are more likely to violate investors' (i.e., their audience's) expectations by issuing bold estimates (e.g., Bowers et al., 2014; Boyson, 2010; Jegadeesh and Kim, 2010). Low-status security analysts accept the risk of inaccurate forecasts because such bold forecasts may cause investors to pay attention to them; thus, they may then have the opportunity to be included in status judgments, which could potentially change the status order in their favor (Bowers et al., 2014). Similarly, Durand and Kremp (2016, p. 70) show that low-status orchestras "seek to surprise audiences by adopting misaligned choices." These examples demonstrate how low-status organizations have little fear of being sanctioned, as they have little to lose (Durand and Kremp, 2016; Phillips and

Zuckerman, 2001). Consequently, they have no incentive to conform and are instead likely to exhibit "deviation" from their audience's expectations (Phillips and Zuckerman, 2001, p. 385).

In summary, high-status organizations are likely to engage in differentiation, and low-status organizations are likely to deviate from conventional behavior (Phillips and Zuckerman, 2001). Both behavioral tendencies lower a firm's conformity to its audience's expectations, which is in contrast to the higher conformity of middle-status organizations. A corollary of middle-status conformity theory is that, although the status position can be affected by both positive and negative associations, such status mobility is not equally distributed among different status positions (Phillips and Zuckerman, 2001). In particular, the status positions of high- and low-status firms are more stable than those of middle-status firms, who experience potentially greater status mobility.

Analysts' expectations regarding spun-off firms' risk-taking

Publicly listed firms "face particularly high accountability demands from stock markets" (Jensen, 2006, p. 100). More precisely, market intermediaries, such as security analysts (hereafter, analysts) or regulators, are critical audiences to judge firms (Jensen, 2006; Zuckerman, 1999). Analysts, for instance, can influence the share price by issuing recommendations or by providing additional information about the firm (Jensen, 2006; Womack, 1996). Their coverage is particularly important for new entrants, such as spun-off firms, as the status assigned by the analysts can reduce the investors' uncertainty by providing signals about the spun-off firm and its expected development (Jensen, 2006; Wang, 2018). Consequently, firms and their management tend to be responsive to analysts' expectations, as they represent the most active voice of investors and clearly signal their preferences (e.g., Jensen, 2006; Phillips and Zuckerman, 2001; Useem, 1996).

Analysts are incentivized to prefer predictable, i.e., non-risky, firm behavior. The quality of an analyst's research can be assessed ex post based on the accuracy of his or her forecasts (Benner and Ranganathan, 2012; Feldman, 2016a; Feldman et al., 2014). Inaccurate forecasts can have serious consequences for an analyst, such as a loss of reputation or even the loss of a job (Feldman, 2016a; Gilson et al., 2002; Rao et al., 2001). Consequently, analysts generally do not look favorably upon firm constellations and actions that make their work more difficult (Brauer and Wiersema, 2018; Feldman et al., 2014). Investments in new technologies or new knowledge represent such actions, as they provide uncertain returns (Benner and Ranganathan, 2012; Theeke et al., 2018; Tripsas, 2009). The precise outcomes of such investments are difficult to predict, which impedes analysts' efforts to make accurate forecasts (Brauer and Wiersema, 2018; Feldman, 2016a). Benner (2010) consequently suggests that analysts are biased in favor of the status quo and against risky undertakings, such as investments in new technologies. In summary, analysts expect and reward firm behavior that is predictable (i.e., moderate risk-taking), rather than investments with uncertain outcomes (i.e., high risk-taking).

Spun-off firms' status and risk-taking

However, spun-off firms need not automatically align with analysts' expectations, which is particularly the case when firms disagree with analysts' expectations regarding decisions on critical matters, such as risk-taking, which is fundamental to the firm's development and survival (e.g., Li and Tang, 2010; Shapira, 1995). In such cases, it is likely that a firm's status position drives its degree of conformity, and in turn, its behavior (Phillips and Zuckerman, 2001).

First, high-status spun-off firms will likely show relatively low conformity to their audience's expectations, resulting in relatively high risk-taking. As mentioned above, firms that enjoy high status have no incentive to conform to their audience's expectations because they are

confident in their status position and are insulated against status loss (e.g., Durand and Kremp, 2016; Phillips and Zuckerman, 2001). Rather, when perceiving a situation as one in which risky investments may lead to benefits, high-status spun-off firms are likely to take commensurate action (Phillips and Zuckerman, 2001). Not only is this unlikely to lead to a loss of status, but even when such risk-taking does not create the hoped-for returns, the outcomes are often judged as being due to bad luck as long as the spun-off firms did not engage in provable wrongdoing (Fralich and Bitektine, 2019). Therefore, we argue that high-status spun-off firms are likely to show relatively higher risk-taking.

Second, middle-status spun-off firms, in contrast, are likely to conform more and, consequently, engage in less risk-taking. Middle-status spun-off firms are uncertain of their status position and do not enjoy status protection. Thus, middle-status spun-off firms want to prevent status penalties and are, therefore, responsive to the pressure to conform to analysts' expectations regarding predictability (Durand and Kremp, 2016). Consequently, and in line with these analysts' expectations, middle-status spun-off firms avoid risky strategic decisions and investments (Fasaei et al., 2018; Phillips and Zuckerman, 2001) and, instead, prefer conventional choices (e.g., Durand and Kremp, 2016) and low-risk investments (e.g., Fralich and Bitektine, 2019). Thus, middle-status spun-off firms show high conformity and, consequently, low risk-taking when compared to their high- and low-status counterparts.

Finally, low-status spun-off firms are similar to high-status spun-off firms in that they are likely to exhibit low conformity and, consequently, relatively high risk-taking. As conforming to analysts' expectations does not provide any value to low-status organizations (Durand and Kremp, 2016; Phillips and Zuckerman, 2001), low-status spun-off firms can take bold actions and seize risky opportunities (Bowers et al., 2014; Phillips and Zuckerman, 2001). Low-status

spun-off firms have little to lose from non-conformity since they are already at the low end of the status order, while their non-conforming, risky actions can increase their market visibility and thus improve their chances to be considered in status judgements, as well as potentially deliver strong returns in case the risk-taking turns out favorably (Bowers et al., 2014; Phillips and Zuckerman, 2001). Therefore, whenever they perceive a new technology or an investment as an opportunity, they are likely to seize this opportunity, as the potential benefits outweigh the potential losses (e.g., Anthony, 2018). Consequently, low-status spun-off firms are likely to engage in a higher level of risk-taking compared to middle-status spun-off firms.

In summary, neither high- nor low-status spun-off firms have a reason to conform to their audiences' expectations, which leads to lower conformity. This low conformity then results in heightened risk-taking. In contrast, middle-status spun-off firms value their status position and are afraid to lose it, which leads to high conformity. Consequently, they are less likely to engage in risk-taking. Therefore, we propose the following hypothesis:

> *Hypothesis 1: The relationship between status and risk-taking is U-shaped, with low- and high-status spun-off firms exhibiting more risk-taking than firms with moderate status.*

The moderating role of a spun-off firm's attachment to its parent

Spin-off transactions are a central instrument in the corporate activities aimed at separating a business unit from its parent firm (Feldman, 2016a, 2016b; Surowiecki, 2014). Although spun-off firms are, by definition, legally independent from their parent firms after the divestiture, recent research suggests that it would be an illusion to assume they actually enjoy complete independence (Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011). Research investigating the effects of a spun-off firm's relationship with its parent firm emerges

from the debates around two different theories—institutional theory and principal-agent theory. On the one hand, Souitaris et al. (2012), for instance, use institutional theory to theorize how new organizational subunits (e.g., spun-off firms) manage the competing demands of the two worlds they are a part of—their parent firms and their industry environments. On the other hand, Moschieri (2011) and Semadeni and Canella (2011), for example, employ arguments rooted in principal-agent theory to explain how formal linkages influence the spun-off firms' post-divestiture behavior. Both research streams challenge the complete independence of spun-off firms.

Parent and spun-off firms are frequently linked by both formal ties, for instance, in the form of retained ownership, as well as more informal ties that stem from the firms' shared history, routines, and identity, which are stored in the "organizational memory" of the spun-off firm (Corley and Gioia, 2004; Feldman, 2016b; Semadeni and Cannella, 2011, p. 1088; Walsh and Ungson, 1991). Through formal linkages, parent firms can actively influence the post-divestiture behavior of spun-off firms and, consequently, align the spun-off firm's behavior with their interests, rather than analysts' expectations. Since the legal entity is created under the full control of the parent firm before the spin-off event, the parent firm appoints the spun-off firm's board of directors, frequently selecting directors who also simultaneously serve on the board of the parent firm (Feldman, 2016b; Semadeni and Cannella, 2011). Those directors are not only able to coordinate the post-divestiture relationship between the parent firm and the spun-off firm, but can also represent the parent's interests in the spun-off firm's decision-making and strategy processes (Feldman, 2016b). Furthermore, retained ownership incentivizes the parent firm to monitor and influence the spun-off firm's behavior (Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011). Parent firms can use their retained ownership to ensure that the

spun-off firm does not become a competitor or even outshine the parent firm (Semadeni and Cannella, 2011). Both types of formal linkages can be used by parent firms to ensure that the spun-off firms align with the parents' interests, rather than adjusting to the pressures from the capital market actors. In other words, formal linkages limit "the degree to which the child firm's management can diverge from what is already in place" (Semadeni and Cannella, 2011, p. 1096).

Informal linkages are a second source of spun-off firm's attachment that lead to greater orientation towards the parent firm rather than the capital market. CEOs who spent much of their professional careers in the parent firm are likely to maintain the habits developed there. These CEOs are likely to show an attachment towards the parent firm's identity and remain rigid in their routines, being not very responsive to outside pressures and thus hindering change (Souitaris et al., 2012). Similarly, the length of a spun-off firm's prior affiliation with the parent is likely to be positively related to the spun-off firm's attachment (Feldman, 2014), as their shared history, routines, and identity are likely to become more internalized over time, creating a more extensive and solidified organizational memory (Corley and Gioia, 2004; Semadeni and Cannella, 2011; Walsh and Ungson, 1991). The attachment to the parent firm can also be intensified through identity symbols that express the affiliation, such as similar names (Glynn and Abzug, 2002; Moschieri, 2011). Moreover, industry relatedness between parent and spun-off firm is likely to heighten the attachment, as related firms are more likely to cross paths in daily business (i.e., through a direct business relationship or via shared customers and suppliers), which can revive and strengthen the memories of the firms' shared history (Feldman, 2016b; Miles and Woolridge, 1999; Semadeni and Cannella, 2011). Spun-off firms with informal linkages are likely to remain bound in their routines and procedures; consequently, they are more attached to their parent firms. Such spun-off firms still orient themselves strongly towards their

parent firms (Souitaris et al., 2012), rather than pursuing an individual status in the capital market.

A spun-off firm's attachment to and orientation towards its parent firm can cause both inattention to other audiences' demands, such as analysts' expectations, and an inability to react to them (Souitaris et al., 2012). This is because, prior to the divestiture, the spun-off firm's primary audience was the parent firm (Souitaris et al., 2012). More attached spun-off firms will be more likely to retain this focus and the corresponding procedures and, therefore, tune out analysts' demands. Even when such a spun-off firm does perceive analysts' expectations, it is likely to be less able to align with them, as it might suffer from structural inertia. Moschieri (2011), for instance, reveals that the employees of highly attached spun-off firms have the sense that they are working for an organization that is imitating the parent, rather than an independent firm. Such employees continue to apply the same routines and procedures as they did when they were part of the parent firm, which fosters structural inertia and core rigidities (Leonard-Barton, 1992; Semadeni and Cannella, 2011). Furthermore, analysts' expectations might directly conflict with the parent's interests, who can use their formal linkages to restrict the spun-off firm's behavior. Hence, highly attached spun-off firms are likely to neglect or are less able to align with analysts' expectations.

In summary, we argue that spun-off firms that exhibit a high level of attachment to their parent firms are less likely to adapt to pressures from other audiences and, consequently, also show less adaptation regarding risk-taking. Highly attached spun-off firms likely do not devote a great deal of attention to their own individual status position in the market, as they are still oriented towards their parent firms. Even when highly attached spun-off firms attend to their status position, they struggle to adapt their risk-taking behavior, as they still rely on their

previously established routines and procedures. Hence, we argue that the predictions of middle-status conformity theory will be more strongly applicable for less attached spun-off firms. We hypothesize that attachment will flatten (for higher attachment) and steepen (in the case of lower attachment) the U-shaped relationship between status and risk-taking, rather than shift the turning point (Haans et al., 2016). In formal terms, we propose the following hypothesis:

Hypothesis 2: Greater attachment of the spun-off firm to its parent attenuates the U-shaped relationship between status and risk-taking.

Data and methods

Sample

Our sample was based on all spin-off transactions completed between 1995 and 2010 that are listed in the S&P Capital IQ database. To construct the final sample, we applied several criteria. First, transactions in which either the spun-off firm or the parent firm were active in the financial services industries were excluded (Colak and Whited, 2006; Jain et al., 2011). Second, spun-off firms that were not publicly traded or did not provide sufficient data (e.g., when proxy statements were unavailable) were excluded. Third, in line with previous studies (Feldman, 2016b; Semadeni and Cannella, 2011), we reviewed the firms' announcements published at the time of the spin-off transaction and only retained spin-offs in which the parent firm retained ownership of no more than 20 percent. Such transactions represent the most typical cases of spin-offs, as they are typically tax-free in the United States for the spun-off firm and the parent firm (Feldman, 2016b; Miles and Woolridge, 1999; Semadeni and Cannella, 2011). Furthermore, the threshold of 20 percent ownership is meaningful since crossing it triggers a substantially different accounting treatment of minority stakes according to International Accounting Standards (IASPlus, 2019). Applying this sampling criterion ensures the comparability of our

sample with samples used in prior works on spin-offs (Feldman, 2016b; Semadeni and Cannella, 2011). We collected data for six years after the spin-off transaction. Our final dataset comprises 102 spin-offs.[1]

We supplemented our sample with accounting data from Compustat and analyst data from the I/B/E/S database. The data on the governance variables were manually extracted from proxy statements (DEF 14A). The data concerning the relationship between the spun-off and parent firms were obtained from either the annual reports or the history sections of the firms' websites. The CEO attachment to the parent firm was evaluated by analyzing the CEOs' biographies, which we obtained from the firms' websites or other websites, such as Bloomberg.

Dependent variable

Risk-taking can be operationalized as resource investments in activities that have uncertain outcomes (Lim, 2015). As a single variable is unlikely to be suitable for measuring all risk-taking, we produced a factor of three different strategic risk variables (Devers et al., 2008; Miller and Bromiley, 1990). To capture the firms' risky investments, we used R&D and capital expenditures. In line with prior research, missing values for R&D expenses were set to zero (Coles et al., 2006; Wang, 2012). As a third variable, we included the amount of long-term debt with a maturity beyond one year. For all variables, we used total values instead of scaled values, as we later directly controlled for firm size in our models (Devers et al., 2008; Martin et al., 2013). We performed a principal component factor analysis, which revealed a risk-taking factor with an Eigenvalue of 1.9 that explained 63 percent of the variance. This is similar to the

[1] At least one spin-off transaction occurred in each year between 1995 and 2010, and 2008 and 2010 were the years with the most transactions (13 spin-offs each). Most of the transactions in our sample took place in the "Manufacturing" (63 spin-offs) and "Service" (19 spin-offs) industries. Nevertheless, with the exception of "Finance" (excluded) and "Public Administration" (no transaction), every primary industry (e.g., "Construction," "Mining," "Retail Trade," etc.) is represented in our sample.

findings of Devers et al. (2008). A higher score in our factor indicates higher risk-taking by the firm. The factor loadings were 0.68 for R&D expenses, 0.84 for capital expenditures, and 0.85 for long-term debt.

Independent variables

Status. In line with prior work (e.g., Wang, 2018), we used analyst coverage as our foundation for measuring the status of spun-off firms. Analyst coverage is defined as the number of analysts covering the firm at the end of each year (e.g., Shen et al., 2014; Wang, 2018). We relied on analyst coverage rather than other analyst measures, such as analyst recommendations. The key reason is that analyst coverage allows us to include firms without any coverage (Wang, 2018), which is important, as we argue that low-status firms strive for coverage and thus cannot be omitted. Our choice is further unproblematic, as the two measures are largely interchangeable since analyst coverage and analyst recommendations are highly positively correlated (McNichols and O'Brien, 1998). In fact, prior research on analysts reveals that less than five percent of the covered firms receive negative recommendations (Phillips and Zuckerman, 2001; Theeke et al., 2018) and that analysts generally only cover firms when they expect to assign a positive recommendation (Theeke et al., 2018; Wang, 2018). In our sample, negative coverage hardly exists—there is only one observation with a mean recommendation of "sell," while more than 95 percent of all observations feature at least a "hold" recommendation.

Analyst coverage is generally regarded as being indicative of status (e.g., Collet and Philippe, 2014; Shen et al., 2014; Wang, 2018). While only a few analysts are likely to follow low-status firms, high-status firms attract large analyst coverage (Jensen and Roy, 2008; Wang, 2018). Naturally, coverage might be influenced by various factors beyond status. To account for other prominent reasons that trigger analyst coverage, such as firm size or profitability, we use

the residuals of analyst coverage as our measure of status (e.g., Shen et al., 2014; Wang, 2018). More precisely, we followed Wang (2018) and regressed analyst coverage on total assets (as an indicator for firm size) and return on assets (as an indicator for firm profitability). Subsequently, we used the residuals as our status measure. In line with prior work (e.g., Wang, 2018), we also directly tested analyst coverage instead of the residuals as a measure for status and found consistent results.

Attachment. We use previous findings on the parent-child linkages to conceptualize and operationalize an attachment index. More specifically, we measured the degree of attachment by constructing an index from zero to six, with zero corresponding to minimal attachment and six representing maximal attachment. The index comprised six different indicators of attachment.

First, in line with previous studies (Feldman, 2016b; Semadeni and Cannella, 2011), we identified *dual directors* to capture formal relationships. We assigned one point if at least one director was simultaneously on the spun-off firm's board and the parent's board, and zero otherwise.

Second, we employed *retained ownership* as another indicator of formal linkages (Moschieri, 2011; Semadeni and Cannella, 2011). We divided the retained ownership by 19.99 percent, which is the maximum possible retained ownership in our sample. Hence, this indicator ranges from zero to one.

Third, we included the *industry relatedness* between the child and parent firms (Feldman, 2016c; Semadeni and Cannella, 2011). Related units are more likely to encounter each other in their daily business (e.g., via customer-supplier relationships), which can revive and strengthen the memories of the firms' shared past (Feldman, 2016b; Miles and Woolridge, 1999; Semadeni and Cannella, 2011). Related spin-off transactions with the same three-digit SIC code received

one point, less-related spin-off transactions with the same two-digit SIC code received 0.5 points, and unrelated firms received zero points. Going beyond prior work (Feldman, 2016c), we also considered firms with identical two-digit SIC codes but different three-digit SIC codes as at least partially related, as they may still be in meaningful business relationships with their parents. In fact, 11 out of the 15 spin-off transactions in our sample that fall into this category still had such business relationships, for example, shared plant sites (Arch Chemicals, 1999) or purchasing contracts (Arch Chemicals, 1999; Hudson Global, 2003; Ingredion, 1998).

Fourth, CEOs who had previously worked at the parent firms are likely to maintain the habits they developed there, leading to the *CEO's attachment* to the parent firm (Seward and Walsh, 1996; Souitaris et al., 2012). CEOs who were formerly part of the parent's management team and still serve on the parent's board were assigned one point. CEOs who either had careers in the parent firm or were still part of the parent's board were assigned 0.5 points. All other cases were assigned zero points.

Fifth, we considered a spun-off firm's *name*, as it is an important determinant and symbol of the unit's identity (Glynn and Abzug, 2002; Moschieri, 2011). Spun-off firms that had a name that was closely related to the parent's name prior to the divestiture and that remained unchanged afterwards are likely to be strongly attached and were, thus, assigned one point. We interpret a different name prior to the divestiture as a sign of the spun-off firm having comparably lower attachment to the parent. Similarly, a name change can be interpreted as reflecting a desire to make the spun-off firm's separation visible to the public. Thus, if the spun-off firm had either an unrelated name prior to the divestiture that was not changed after the divestiture or a related name prior to the divestiture that was changed after wards, we assigned 0.5 points. Zero points

were assigned if the spun-off firm had a different name than its parent before the divestiture and additionally changed its name after the divestiture.

Sixth, the *affiliation period* refers to the duration for which the spun-off firm had been a part of the parent firm (Feldman, 2014). The two firms' shared history, routines, and identity are likely to become more internalized the longer the duration of the affiliation. Consequently, the organizational memory becomes more extensive and stable over time (Corley and Gioia, 2004; Semadeni and Cannella, 2011), causing greater attachment. We measured the affiliation period as the number of years the spun-off firm was part of the parent firm relative to the age of the parent firm.

After evaluating each dimension, we constructed an attachment index based on the sum total of all dimensions. The values for this index ranged from 0 to 4.85, with an average for the year of the transaction of 2.73. The dimension means were between 0.21 (retained ownership) and 0.60 (dual directors). Brauer (2006) suggests that a parent firm's control decreases over time. However, it is not clear how this decrease takes place. Consequently, we collected data for all indicators also in the post-divestiture years. In addition, we performed several robustness checks using simple linear rates of decrease (e.g., 10, 15, or 20 percent annually from the initial value), as discussed further below.

Control variables

We controlled for various potentially confounding variables at the levels of the spun-off firm, the parent firm, and the CEO. On the spun-off firm level, we included firm size because our risk-taking measure is unscaled, and larger firms are likely to exhibit higher absolute values than smaller firms (Devers et al., 2008; Martin et al., 2013). We used the natural logarithm of assets to capture firm size. Firm profitability might be expected to influence risk-taking, although there

are different views on whether performance increases or decreases risk-taking (Lewellyn and Muller-Kahle, 2012). We used return on assets (ROA), which is the ratio of operating income to total assets, to measure profitability. In line with Lim (2015), we also controlled for profitability changes, which are operationalized as the difference between the current ROA and the previous year's ROA. Moreover, cash-rich firms have more resources available for investing and they, consequently, engage in more risk-taking (Harford, 1999; Iyer and Miller, 2008). We used the current ratio as well as cash and short-term investments as measures of such slack. In addition, prior studies (e.g., Castellucci and Ertug, 2010) propose firms' media coverage (Graf-Vlachy et al., 2019) as an alternative proxy for status. However, media coverage often includes negative and positive status associations, e.g., bad news or scandals, which requires a distinction between the news articles (e.g., Shen et al., 2014). We relied on analyst recommendations as the source for our status measure but included media coverage as a control variable. We searched Nexis for all articles that contained the names of the spun-off firms in each year. We then constructed a measure for media coverage based on the logarithm of total articles per year per spun-off firm. Similarly, we included analysts' coverage of the parent firm as a control variable.

To control for the CEO's influence on risk-taking, we used several variables that characterize the CEO's motivation and ability to increase risk. We included the ratio of CEO stock options to total CEO compensation, as equity-based compensation is expected to lead to more risk-taking (Devers et al., 2008; Lewellyn and Muller-Kahle, 2012). In addition, we included the following two dummy variables: CEO change, which we coded as one for a change, and zero otherwise; and CEO duality, which we coded as one if the CEO was also chairman of the board, and zero otherwise. Lastly, we controlled for board size, which was measured as the

total number of directors, as evidence suggests that board size is negatively related to risk-taking (Wang, 2012). To control for general period-specific effects, we included year dummy variables.

Analysis

We used panel data regression models to estimate the impact of firm status on risk-taking, as moderated by attachment. More specifically, we employed robust fixed-effects models, as a Hausman test rejected the applicability of a random-effects model and because we had to control for heteroskedasticity.

Results

Table 1 reports the means, standard deviations, and pairwise correlations of all variables for the 521 firm-year observations in this study. Some correlations between the independent variables are substantial but not unexpected. For instance, there are relatively high correlations among firm size, status, and board size. The three variables are positively correlated because they all contain elements that represent firm size. As all these variables have their own explanatory power, we retained them all in our models. Since all variance inflation factors are below four, we concluded that there are no multicollinearity problems (O'Brien, 2007). Our assessment is corroborated by the fact that it appears unlikely that the high correlations are driven by a shared omitted variable (Kalnins, 2018). Nevertheless, we performed additional regression analyses in which we tested each of the aforementioned critical control variables on their own. The impact of status (i.e., correlation sign and coefficient) on risk-taking does not change substantially, which makes it "unlikely that multicollinearity is distorting [our] results" (Kalnins, 2018, p. 2378).

Insert Table 1 about here

Table 2 shows the regression models with risk-taking as the dependent variable. The estimated coefficients reflect the effects of status on risk-taking. The χ^2 statistics indicate that all the models are highly significant. Model 1 includes only the control variables. As expected, we find that firm size and CEO stock options have positive and significant effects on risk-taking.

Insert Table 2 about here

Model 2 includes the linear term of status. The result is negative but not significant ($\beta = -0.0080$; $p > 0.05$). Model 3 tests Hypothesis 1, which predicted a U-shaped relationship between status and risk-taking. Following the recommendations of Haans et al. (2016) and Lind and Mehlum (2010), we conducted several tests to ensure the correct specification. First, we included both the linear and squared terms of analyst coverage (Haans et al., 2016). A comparison of Model 2 and Model 3 shows a greater explanatory power of a U-shaped relationship relative to a linear relationship. The coefficient for the squared analyst coverage in Model 3 is positive and significant ($\beta = 0.0012$; $p < 0.01$), which supports Hypothesis 1. Second, we tested whether the slopes of the U-shape were significant, which was confirmed for both the negative and the positive slope ($p < 0.01$). Third, we examined whether the extreme point was within the data range (Haans et al., 2016; Lind and Mehlum, 2010). We found the extreme point of the U-shape and the corresponding level of status (4.83) to be well within the range of the observed data. Fourth, we applied the Fieller method to calculate the confidence intervals, which are also within the data range (Fieller, 1954; Haans et al., 2016).

Figure 1 provides an illustration of our results. As shown, a change of one standard deviation in status (status $_{SD} \approx 6.03$) from the U-shape's extreme point (4.83) in either direction leads to an increase of 6.31 percent (status ≈ -1.20) or 6.33 percent (status ≈ 10.86) of one

standard deviation in risk-taking (risk-taking $_{SD} \approx 0.69$). A deviation of two standard deviations from the mean of status in either directions leads to risk-taking adaptations of 25.28 percent (status ≈ –7.23) or 25.31 percent (status ≈ 16.89).

Insert Figure 1 about here

Hypothesis 2 suggested that the U-shaped relationship between status and risk-taking is conditional on the spun-off firm's attachment to its parent. To test this hypothesis, we included the attachment variable in our model, as well as its interactions with both the linear and squared terms of status. Model 4 shows a negative and significant ($\beta = -0.0010$; $p < 0.001$) interaction effect between squared status and attachment. Thus, we find support for Hypothesis 2. The moderating effect is depicted in Figure 2 for three degrees of attachment (mean and +/- a quarter of a standard deviation). Although the curvature of the U-shape changes depending on the degree of attachment, the extreme point remains at essentially the same level of status.

Insert Figure 2 about here

Robustness checks and endogeneity tests

Thus far, we measured attachment by collecting precise data for every firm-year. However, while our attachment measure is very likely to adequately capture the attachment at the time of the divestiture, little is known about how attachment decreases over time. For instance, our measure implies that attachment remains constant when none of our indicators change. However, it may be reasonable to assume that attachment and its consequences will decrease over time in any case (Brauer, 2006). For example, even the influence of a constant number of dual directors over a spun-off firm will likely wane as the years progress and the other

directors press for the firm to be led as an independent entity. As a robustness test, we therefore ran tests in which the attachment was measured at the time of the divestment and was then assumed to decrease at a linear annual rate of 10, 15, and 20 percent. These robustness tests supported our initial results.

Moreover, we performed additional robustness checks that pertain to our attachment measure. So far, we used an attachment index that comprises six indicators, namely dual directors, retained ownership, industry relatedness, CEO attachment, spun-off firm name, and affiliation period. To ensure that one single indicator does not disproportionally drive our results and that the index does not mask unexpected effects of one or more indicators, we estimated six additional untabulated models, where each model tests the moderating effect of one of the six indicators independently. The direct effect of squared status on risk-taking remains significant in all models. In addition, dual directors, retained ownership, and industry relatedness exhibit a significant and negative interactive relationship with squared status on risk-taking and, hence, directly corroborate our results obtained using the attachment index. Although they do not reach significance, the remaining three indicators also show a negative interaction with squared status on risk-taking.

Furthermore, Brauer and Wiersema (2018) suggest that research considering the interactions between analysts and firm responses might be plagued by reverse causality and endogeneity. As Haans et al. (2016) explain, the problem of reverse causality "is typically remedied through the use of fixed or random effects estimation." Since we use a longitudinal design with fixed effects (e.g., Brauer and Wiersema, 2018; Haans et al., 2016), we are optimistic that the threat of reverse causality is limited in our study. In line with previous research (Feldman, 2016b; Gupta et al., 2018; Krause et al., 2019), we additionally used

instrumental variables to account for potential endogeneity. Viable instrumental variables must strongly predict the independent variable while being exogenous themselves (Feldman, 2016b; Gupta et al., 2018; Krause et al., 2019). We selected the mean status per industry and the mean status per firm size group[2] as instruments that would likely predict the status of the focal firm in a given year but that have no direct causal effect on our dependent variable. We used the *xtivreg2* command in Stata to include these instruments in a two-stage model (Baum et al., 2003; Krause et al., 2019). The instruments were strong ($F = 23.01$, $p < 0.001$; $F = 24.93$, $p < 0.001$) and exogenous, as indicated by a non-significant Sagan test ($p > 0.1$) (Gupta et al., 2018; Krause et al., 2019). As the Durbin-Wu-Hausman test failed to reject the null hypothesis ($\chi^2 = 2.35$, $p = 0.13$), endogeneity does not seem to be a problem in our models[3] (Gupta et al., 2018; Krause et al., 2019). Given that Semadeni et al. (2014) note that instrumental variables can obscure the true effect when the Durbin-Wu-Hausman test is not significant, we followed prior studies (Krause et al., 2019) and report the models without the endogeneity correction.

Discussion

The purpose of our study was to examine the post-divestiture behavior of spun-off firms. In particular, we investigate the impact of the spun-off firms' status and their attachment to their parent firms on risk-taking. Similar to every publicly listed firm, audiences, e.g., analysts, assess the status of spun-off firms. In line with middle-status conformity theory (Phillips and Zuckerman, 2001), we find middle-status spun-off firms to show higher conformity and to align

[2] Based on data for more than 1,000 firms, we calculated the average status per industry by four-digit SIC code. More precisely, we used the residuals of the regression of average analyst coverage on average firm size and average firm performance per industry. Similarly, we calculated the average status per firm size group based on the number of employees in increments of 100 (e.g., 0 to 99, 100 to 199, 200 to 299, and so on).

[3] As highlighted by Krishnan and Kozhikode (2015), endogeneity tests for interaction terms are difficult to conceptualize and perform, leading to efficiency losses that are likely to mask the true effects. Hence, in line with prior research (e.g., Gupta et al., 2017), we limit the endogeneity tests to the predictor variables for the direct effect (i.e., including status and squared status as predictors).

more with analysts' expectations of lower risk-taking when compared to their high- and low-status peers. While high-status spun-off firms enjoy, at least to a certain extent, protection against diminishing status when they do not conform (Durand and Kremp, 2016; Fralich and Bitektine, 2019), low-status spun-off firms have little to lose from low-conformity in the first place (Durand and Kremp, 2016; Phillips and Zuckerman, 2001). High- and low-status spun-off firms are less responsive to analyst expectations and, consequently, seize opportunities by engaging in more risk-taking. Hence, our theorizing suggests a U-shaped relationship between status and risk-taking, which we confirm in our empirical investigation.

Although spun-off firms are legally independent firms, a degree of attachment to their parent firms may persist beyond the point of legal separation. We conceptualize and leverage an extensive attachment index that reflects the formal and informal ties between the parent and the spun-off firm that are likely to influence post-divestiture adaptations. Spun-off firms that are highly attached to their parent firms struggle to attend to market demands (i.e., analysts' expectations), as they still focus on their parent firms (e.g., Moschieri, 2011; Souitaris et al., 2012). Even when spun-off firms may realize a need to align with analysts' expectations to improve or protect their status position, they struggle to perform the required changes because they predominantly rely on their previously established routines and processes (Corley and Gioia, 2004; Feldman, 2016b; Semadeni and Cannella, 2011; Walsh and Ungson, 1991). In line with this prediction, we find that spun-off firms that are less attached to their parent firms show a more pronounced U-shape relationship between status and risk-taking and that there is only a weak relationship for spun-off firms with high attachment.

We thus find that the spun-off firms' ostensible independence is frequently an illusion. On the one hand, they often respond to—and are, thus, at least partially dependent on—status

evaluations made by capital market audiences. On the other hand, spun-off are often still attached to—and thus partially dependent on—their parent firms. Ultimately, only spun-off firms with very high or very low status and low attachment to their parent firms are truly independent in their decision-making.

Theoretical implications

Most importantly, we contribute to the spin-off literature. While early studies focused on the performance effects of spin-off transactions and the choices regarding spin-offs from the perspective of parent firms (Bergh, 1995; Daley et al., 1997; Desai and Jain, 1999), more recent studies have focused on the spun-off unit itself (Corley and Gioia, 2004; Feldman, 2016b; Moschieri, 2011; Semadeni and Cannella, 2011). We add to this literature by showing that a spun-off firm's status is an important antecedent of its post-divestiture behavior, specifically its risk-taking. In particular, we argue and demonstrate that the relationship is not linear; rather, we reveal a U-shaped relationship between status and risk-taking.

Furthermore, we contribute to the spin-off and status literatures by showing the impact of spun-off firms' attachment to their parent firms, which hints at a boundary condition of middle-status conformity theory. Whereas less attached spun-off firms show a pronounced U-shape, the effect of middle-status conformity wanes for highly attached spun-off firms. Two implicit key assumptions of middle-status conformity theory are that actors pay attention to audiences and thus perceive their audience's expectations and also have the ability to implement the expected behavior (e.g., Durand and Kremp, 2016; Phillips and Zuckerman, 2001). However, we propose that highly attached spun-off firms might predominantly focus on their parent firms, which then causes an absence of attention to analyst expectations or an inability to respond to them. Our empirical findings that support this idea are not only relevant for the spin-off literature, but they

constitute a broader contribution to the status literature by explicating a critical boundary condition of middle-status conformity theory.

Finally, we contribute to the spin-off literature by creating a more comprehensive attachment measurement. Prior studies revealed and tested the importance of parent-child linkages (e.g., dual directors or retained ownership) for post-divestiture performance (Feldman, 2016b; Semadeni and Cannella, 2011). Notably, those studies predominantly used arguments from principal-agent theory (Moschieri, 2011; Semadeni and Cannella, 2011). Interestingly, the literature on institutional theory points to additional facets that are also likely to influence post-divestiture behavior, such as corporate names and CEO tenure and experience in the parent firm (Glynn and Abzug, 2002; Souitaris et al., 2012). In this regard, we synthesized the previous research from both literature streams to create a more comprehensive attachment index that reflects both the formal and informal linkages between the spun-off firms and their parents.

Practical implications

Our findings highlight that spun-off firms should be aware of their own leanings regarding who to follow. The executives of firms with mid-level status appear to pay close attention to analysts' expectations and adapt their firms' behaviors accordingly. However, we know that this may not always be in the best long-term interest of a firm (e.g., Benner, 2010; Benner and Ranganathan, 2012). Consequently, managers may wish to make conscious choices regarding risk-taking, even when those go against analysts' expectations and carry the risk of status loss. Specifically, managers must deliberately make the trade-off between the benefits of risk-taking (e.g., in the form of potentially greater returns) and status (e.g., in the form of lower cost of capital). Boards may wish to structure incentive compensation schemes and other incentives accordingly (Wowak et al., 2017).

Similarly, managers might be inclined to adhere excessively to logics and processes from a spun-off firm's parent firm in the case of high attachment. Although some linkages (e.g., affiliation period or relatedness) are essentially fixed, the managers of spun-off firms and their parents can actively affect other dimensions of attachment. For example, firms can jointly increase or decrease attachment through dual director appointments or dismissals at any point after the transaction. Therefore, spun-off firms should actively assess whether they will benefit from a close relationship, i.e., substantial attachment. For instance, entrepreneurial spun-off firms with very high or very low status might wish to refrain from remaining closely attached to avoid stifling innovation through restrictions on risky investments.

Limitations and future research

As with any empirical research project, ours has limitations that provide avenues for future research. While we rely on a well-established risk-taking measure that is based on long-term debt, capital expenditures, and R&D expenses (Devers et al., 2008), this measure might not necessarily capture all conceivable types of risk-taking (Voss et al., 2008). Future studies might thus either improve upon our input-oriented measure or extend our work by applying more process- or output-oriented measures, for example, by employing content-analytical approaches (e.g., Luger et al., 2018) to capture the explorative tendencies of the firm.

As is common within the spin-off literature (Feldman, 2016b; Miles and Woolridge, 1999; Semadeni and Cannella, 2011), we only studied spin-offs with less than 20 percent retained ownership that are covered by the S&P Capital IQ and I/B/E/S databases. We encourage scholars to test the generalizability of our findings by studying other samples, for example, those that include transactions in which the parent firms retained larger ownership stakes, as well as

spin-offs that are not included in the databases we used. Furthermore, future researchers might study spin-offs in financial services, an industry we deliberately excluded.

We demonstrate empirically that spun-off firms with higher attachment do not respond to capital market pressures to the same extent as do firms with lower attachment, but we cannot directly test the theoretical rationale we offer. Future researchers might wish to study empirically whether the proposed theoretical mechanisms are in fact underlying the observed results. In particular, scholars might use, for example, content-analytical techniques (e.g., Cho and Hambrick, 2006) or qualitative research (e.g., Weber et al., 2019) to discern whether and under which circumstances spun-off firms fail to allocate attention to market audiences and their demands and when spun-off firms do pay attention but are unwilling or unable to respond. Scholars may also wish to explore the relevant cognitive mechanisms even further and study whether spun-off firms are able to accurately assess their own status position in the first place.

We see additional research opportunities stemming from our comprehensive attachment measure. In particular, future research could employ the measure in other contexts, such as in the case of sell-offs. Although some of the proposed linkages are less likely to occur in such cases (e.g., related names or dual directors), sold-off units face a challenge not identical but similar to that of spun-off firms: They must find their role in their new corporate family. In this vein, it might be fruitful to examine whether and how attachment to the (prior) parent firm hinders integration within the new owner.

Extending this line of thought, we encourage future researchers to further study the processes of attachment and detachment. Specifically, it might be very valuable to conduct qualitative research to develop a process theory (Langley, 1999) of how attachment and detachment unfold over time and which factors influence these processes.

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Tables and figures

Table 1
Descriptive statistics and correlations[a]

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Risk-taking	0.13	0.69													
2. Status	0.00	6.04	−0.19*												
3. Attachment	2.44	0.81	−0.12*	−0.13*											
4. Firm size	7.00	1.73	0.68*	0.17*	−0.18*										
5. Profitability	0.07	0.15	0.09*	0.16*	−0.06	0.29*									
6. Profitability change	−0.00	0.09	0.01	0.01	−0.02	0.02	0.24*								
7. Current ratio	2.38	2.51	−0.16*	−0.03	0.20*	−0.27*	−0.24*	−0.02							
8. Cash and short-term investments	330.58	604.00	0.71*	−0.03	−0.13*	0.64*	0.12*	0.02	−0.05						
9. Media coverage	1.36	1.47	0.32*	0.27*	−0.17*	0.46*	0.15*	−0.03	−0.13*	0.43*					
10. Parent analyst coverage	11.37	8.55	0.32*	0.28*	−0.19*	0.59*	0.13*	−0.03	−0.15*	0.41*	0.41*				
11. CEO stock options	0.33	0.28	−0.06	0.20*	−0.12*	−0.02	−0.01	−0.07	0.05	−0.01	0.09*	0.00			
12. CEO change	0.08	0.27	−0.02	0.07	−0.03	−0.00	−0.04	0.01	0.01	0.02	0.03	−0.02	0.06		
13. CEO duality	0.54	0.50	0.09*	0.12*	−0.22*	0.14*	0.04	0.02	−0.04	0.11*	0.07	0.09*	0.08	−0.18*	
14. Board size	8.30	1.98	0.42*	0.15*	−0.06	0.55*	0.19*	−0.02	−0.18*	0.36*	0.29*	0.32*	−0.02	0.05	−0.01

[a] $n = 521$. * $p < 0.05$. Note that risk-taking was measured for all firms in the Compustat universe and, therefore, does not have a mean of zero in our sample.

Table 3
Results for the effects of status and attachment on risk-taking[a]

Variables	Model 1	Model 2	Model 3	Model 4
Status		−0.0080	−0.0116**	−0.0272***
		(0.0065)	(0.0044)	(0.0043)
Status²			0.0012**	0.0027***
			(0.0004)	(0.0003)
Attachment				0.0574*
				(0.0253)
Status × attachment				0.0098***
				(0.0023)
Status² × attachment				−0.0010***
				(0.0002)
Firm size	0.1236***	0.1342***	0.1175***	0.1218***
	(0.0335)	(0.0353)	(0.0302)	(0.0299)
Firm profitability	0.0084	−0.0032	0.0390	−0.0201
	(0.0669)	(0.0696)	(0.0695)	(0.0675)
Profitability change	−0.0846	−0.0724	−0.0811	−0.0702
	(0.0627)	(0.0656)	(0.0669)	(0.0552)
Current ratio	−0.0030	−0.0011	−0.0048	−0.0000
	(0.0063)	(0.0062)	(0.0065)	(0.0061)
Cash and short-term investments	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Media coverage	−0.0170	−0.0141	−0.0071	−0.0070
	(0.0193)	(0.0170)	(0.0096)	(0.0094)
Parent analyst coverage	−0.0015	−0.0019	−0.0010	−0.0012
	(0.0038)	(0.0038)	(0.0033)	(0.0034)
CEO stock options	0.0468*	0.0539*	0.0415*	0.0446*
	(0.0204)	(0.0232)	(0.0204)	(0.0189)
CEO change	−0.0333	−0.0315	−0.0268	−0.0259
	(0.0304)	(0.0311)	(0.0307)	(0.0288)
CEO duality	−0.0503	−0.0521	−0.0465	−0.0408
	(0.0310)	(0.0319)	(0.0317)	(0.0310)
Board size	0.0045	0.0052	0.0014	−0.0006
	(0.0099)	(0.0100)	(0.0080)	(0.0061)
Constant	−0.5534*	−0.5886*	−0.5273*	−0.6729**
	(0.2679)	(0.2686)	(0.2477)	(0.2500)
Firms	102	102	102	102
R^2 within	0.1981	0.2198	0.3369	0.4143
Model χ^2	115.01***	129.33***	214.07***	278.72***
AIC	−752.98	−765.31	−848.05	−906.69

[a] n = 521. Standard errors in parentheses. Year dummies included but not displayed.
* p < 0.05, ** p < 0.01, *** p < 0.001.

Figure 1
U-shaped relationship between status and risk-taking

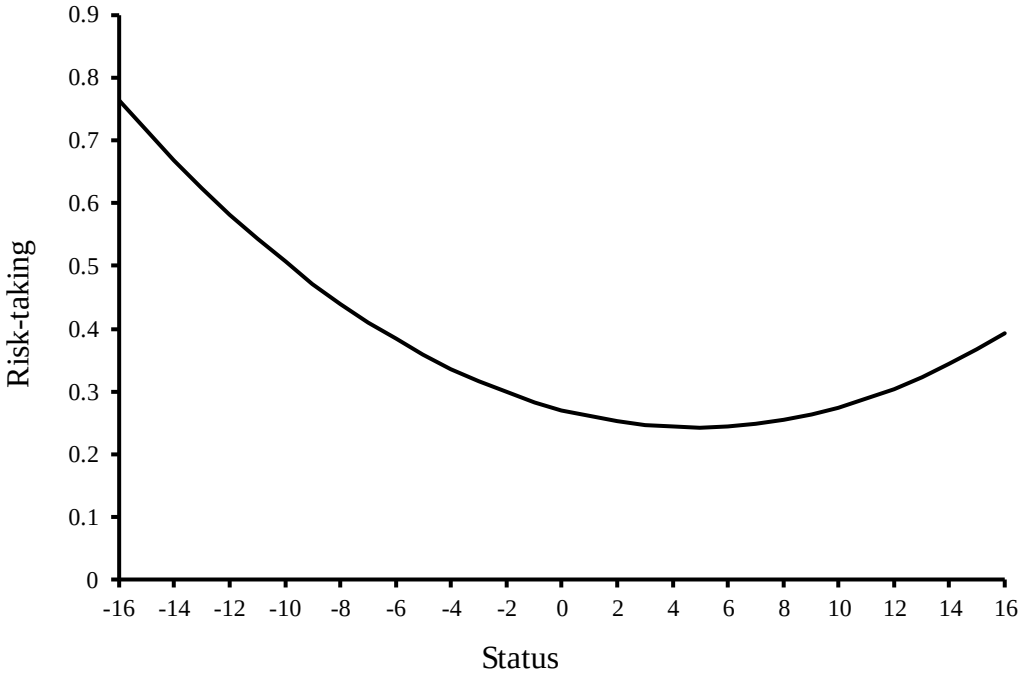

Figure 2
Moderating effect of attachment on the relationship between status and risk-taking