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RESEARCH NOTES AND COMMENTARIES

SPINOFFS VERSUS BUYOUTS: PROFITABILITY OF ALTERNATE ROUTES FOR COMMERCIALIZING INNOVATIONS

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This research compares the performance of spinoffs and buyouts divested to commercialize innovations. The authors study 145 spinoffs and 121 buyouts that occurred in the United States between 1996 and 2005. Analysis provides three critical findings. First, spinoffs have higher profits in the two years after divestiture; afterwards, buyouts have higher profits. Second, strategic emphasis (investment in R&D versus marketing) is the mechanism that explains the diverging profitability of spinoffs and buyouts over time. Third, this occurs through two routes: a one-step mediated effect via strategic emphasis; a two-step mediated effect via strategic emphasis and radicalness. Copyright © 2013 John Wiley & Sons, Ltd.

INTRODUCTION

Generally, large corporations develop numerous innovations but do not commercialize many of them due to a fear of cannibalizing existing products (Chandy and Tellis, 2000) or excessive focus on current customers (Christensen and Bower, 1996). Examples include Xerox (PC), Kodak (digital photography), Sony (MP3 player), Microsoft (Keywords) (Tellis, 2013). Rather than abandoning these opportunities, parent firms can keep the option open by divesting the unit that developed the innovation and taking a stake in it (Moschieri and Mair, 2008). We define divestitures so created to develop and commercialize new technologies or products in new or existing markets as "*innovation-related divestitures*." We investigate two of the most common types of these divestitures: spinoffs and buyouts. Our focus on innovation-related divestitures assures that the spinoffs and buyouts under study share the same purpose: To commercialize innovations that would not be possible while inside the parent company.

Recently, several scholars have called for a systematic investigation of long-term performance of spinoffs and buyouts and the causal mechanisms through which it occurs (Moschieri, 2011; Semadeni and Cannella, 2011). Scholars have wondered why spinoffs are often greeted with positive investor responses initially even though the long-term performance is frequently not realized (Semadeni and Cannella, 2011). Similarly, many scholars have described buyouts as a short-term fix with uncertain long-term benefits (e.g., Long and Ravenscraft, 1993).

We propose and test a new model of profits to alternate strategies using longitudinal data on

Keywords: spinoffs; management buyouts; agency theory; radicalness; innovation; R&D and marketing investments
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145 spinoffs and 121 buyouts that occurred in the United States between 1996 and 2005. This research makes three contributions to the literature. First, it shows *how* spinoffs' and buyouts' performances diverge over time. We find that spinoffs have higher profits in the two years after divestiture; but afterwards buyouts have much higher profits. Second, strategic emphasis (investment in R&D versus marketing) is the mechanism that explains the diverging profitability of spinoffs and buyouts over time. We find that strategic emphasis fully mediates the effect of divestiture type on performance. Third, two routes explain the mechanism of mediation: a one-step mediated effect via strategic emphasis; and a two-step mediated effect via strategic emphasis and radicalness. The two routes have opposite effects on performance.

THEORY AND HYPOTHESES

Spinoffs versus management buyouts

A spinoff occurs when a corporation distributes pro rate the shares of a subsidiary to the parent firm shareholders, thus creating a publicly-traded company to continue the operations of the division or subsidiary (Semadeni and Cannella, 2011). A management buyout occurs when a corporation sells a subsidiary to an investor group that includes the managers of that organization, thus creating a private company set up to continue the operations of the division or subsidiary (Long and Ravenscraft, 1993). For brevity, we refer to them henceforth as buyouts.

Spinoff and buyouts differ in terms of ownership structure and capital structure (i.e., the mix of debt and equity maintained by a firm). Spinoffs are characterized by a separation between owners and managers and a relatively low equity/debt ratio because they mainly raise capital in the stock market. Buyouts are characterized by a less neat separation between owners and managers, because managers own a consistent stake of the new venture and by initially high equity/debt ratios in that they do not raise public capital but incur debt.

Divestitures' strategic emphasis on R&D versus marketing investments

Divestitures involved in innovation must allocate resources to two complementary investments: R&D and marketing (Danneels, 2002). R&D investments are vital to replete the technical know-how lost during the divestiture (Moschieri, 2011). Marketing investments are fundamental in the embryonic stage of markets in which innovation-related divestitures operate. They help set the right direction for the innovation process by indicating which final product configuration consumers will like the most (Rubera, Ordanini, and Calantone, 2012).

We define strategic emphasis as the relative amount of resources that a divestiture invests on R&D over marketing (Mizik and Jacobson, 2003). R&D investments have highly uncertain payoffs; marketing investments produce more certain, immediate payoffs (Steenkamp and Fang, 2011). While ideally firms should invest in both R&D and marketing, the limited amount of resources available to divestitures forces them to choose between the two. This constraint is likely to be even more stringent in the case of new companies like the ones that we study.

Hypotheses

According to the agency theory, ownership and capital structures influence firm performance by shaping how managers allocate resources (Eisenhardt, 1989). To draw attention to this central assumption, we depict two routes through which strategic emphasis conveys the effect of the divestiture type on performance. First, the "divestiture type—strategic emphasis—performance" route, which highlights the direct effect of strategic emphasis on performance (Mizik and Jacobson, 2003). Second, the "divestiture type—strategic emphasis–radicalness–performance" route, which highlights how strategic emphasis influences performance through radicalness (Christensen and Bower, 1996; Sorescu *et al.*, 2003).

One-step mediated effect: divestiture type—strategic emphasis–performance

Hypothesis 1 deals with the effect of divestiture type on strategic emphasis; Hypothesis 2 deals with the overall one step-mediated effect on performance.

We argue that spinoffs' ownership structure pushes to emphasize marketing investments over R&D investments. Owners should prefer marketing investments that are more controllable

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and produce more immediate results than R&D investments (Steenkamp and Fang, 2011). Managers too should prefer marketing over R&D investments because managers want to increase a spinoff's current performance in order to increase their returns (e.g., salary, bonuses . . .) (Eisenhardt, 1989). Should debt-holders have a different preference, they could not impose their will due to the low debt/equity ratio of spinoffs' capital structure (Grossman and Hart, 1982).

On the contrary, buyouts' owners-managers, who have a long-term relationship with the firm, have low incentives to trade off long-term performance for immediate results. Hence, owners-managers are likely to prefer R&D investments that have a higher potential to create value than marketing investments (Steenkamp and Fang, 2011). Also, the other owners who do not manage the company are more confident that managers act in the best interest of the company when managers own part of it (Eisenhardt, 1989) and thus would be more prone to accept R&D investments than spinoffs' owners. Thus, ownership structure would lead buyouts to favor R&D over marketing investments throughout their life. As for buyouts' capital structure, it changes over time. Initially, buyouts' high debt/equity ratios give debt-holders the power of imposing their will on managers (Grossman and Hart, 1982). Debt-holders would prefer marketing investments over R&D investments, because the former generate more secure and immediate cash flows than R&D investments, which can be used to repay the debt.

Thus, in the early stage of their lives, buyouts' capital and ownership structures would have opposite effects: capital structure would push toward marketing investments; ownership structure would pull toward R&D investments. However, the push toward marketing investments fades away over time as the debt/equity ratio decreases. Thus, we expect that over time buyouts' investments lean toward R&D over marketing (i.e., strategic emphasis increases).

Summing up, as buyouts' debt is paid down, capital structure remains the main difference between spinoffs and buyouts. Since spinoffs' capital structure diminishes strategic emphasis (i.e., it moves toward marketing investments), whereas buyouts' capital structure increases strategic emphasis (i.e., it moves toward R&D investments), we argue that:

Hypothesis 1: Over time buyouts' strategic emphasis (on R&D over marketing) increases more than spinoffs' strategic emphasis.

Marketing investments have a direct, positive effect on performance by creating an isolating mechanism in the form of brand equity that protects performance from competitors (Kor and Mahoney, 2005). Differently, R&D investments influence performance indirectly through new product introductions (Katila and Ahuja, 2002). Thus, strategic emphasis has a direct, negative effect on performance because firms trade off immediate returns for more distant returns when new products are introduced. Since we expect that over time buyouts emphasize R&D over marketing more than spinoffs do (Hypothesis 1), we hypothesize that:

Hypothesis 2: Over time the one-step mediated effect of divestiture type on performance via strategic emphasis becomes more negative for buyouts than for spinoffs.

Two-step mediated effect: divestiture type—strategic emphasis–radicalness–performance

To facilitate the logical flow, we first hypothesize about the effect of divestiture type on radicalness via strategic emphasis; and then about the overall two-step mediated effect of divestiture type on performance via strategic emphasis and radicalness.

While both R&D and marketing investments are relevant for developing new products, the literature has shown that they have differential effects on radicalness. R&D investments positively contribute to radicalness. Marketing investments help establish strong relationships with customers, a valuable source of knowledge to identify new trends in the market. However, customers' initial resistance to the new technology forces the firm to invest in improvements in the conventional technology (Christensen and Bower, 1996). Thus, while marketing investments provide valuable insights into market needs, these insights are likely to lead to incremental innovations. Hence, radicalness increases as a divestiture's strategic emphasis focuses on R&D more than marketing. Since we expect that over time buyouts will emphasize R&D investments over marketing investments more than spinoffs do (Hypothesis 1), we also expect that

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over time buyouts will commercialize more radical products than spinoffs. Thus,

Hypothesis 3: Over time the mediated effect of divestiture type on radicalness via strategic emphasis increases more for buyouts than for spinoffs (i.e., over time, buyouts introduce more radical products than spinoffs)

Radicalness leads to enhanced consumer preferences, accelerated consumer adoption rates, and superior performance (Sorescu *et al.*, 2003). We already discussed that over time buyouts increase their strategic emphasis more than spinoffs (Hypothesis 1) and that, because of this, over time buyouts develop more radical products than spinoffs (Hypothesis 3). The compound of previous discussion and the acknowledgment that radicalness positively influences performance (Rubera and Kirca, 2012) leads us to hypothesize that over time buyouts have higher performance than spinoffs because their higher strategic emphasis turns into more radical products, and thus better performance. Formally,

Hypothesis 4: Over time the two-step mediated effect of divestiture type on performance via strategic emphasis and radicalness increases more for buyouts than for spinoffs

Please note that Hypotheses 2 and 4 lead to opposite predictions: Hypothesis 2 contends that spinoffs have higher performance than buyouts; Hypothesis 4 predicts the opposite. Such rival predictions are due to the fact that Hypothesis 2 maintains a direct path from strategic emphasis to performance; Hypothesis 4 maintains an indirect path from strategic emphasis to performance *via radicalness*. The sum of these two paths determines the total effect of the divestiture type. We let the empirical analysis determine which path is the strongest to indicate what divestiture type has the strongest effect on performance.

METHOD

Sample

We collect data on buyouts and spinoffs that occurred in the United States between 1996 and 2005 from SDC Platinum. To identify those divestitures undertaken for innovation-related reasons, we look for divestiture announcements in Factiva and PR Newswire. We create a dictionary (available from the authors) with the terms used to indicate innovation-related reasons. One of the authors and one research assistant use this dictionary to determine the innovation-related divestitures to include in the sample. Inter-rater agreement was 95 percent. We exclude those divestitures whose announcement does not report any reference to any innovation opportunity for the divested unit. Our final sample consists of 145 spinoffs and 121 buyouts, for a panel of 1,330 observations.

Measures

We collect data for all measures for the first through fifth year after the divestiture.

Performance

We use profits to measure performance, and specifically return on asset (ROA). We collect data from the Wharton Research Data Service, and supplement this source with the Edgar SEC database, which provides copies of the firm's Annual Reports. We also use return on equity (ROE) as a measure of performance. The results, available from authors, remained invariant.

Radicalness

We identify the products that each divested unit introduced each year through announcements of new product introductions. We collect announcements through Capital IQ, Mintel Oxygen, ProductScan, and the company's press release available on the corporate websites. A research assistant and one author independently coded the announcements. Given the high number of announcements, they shared 30 percent of the announcements. Their inter-rater agreement was 86 percent. We use two ten-point scales, available from the authors, to measure the extent to which a new product (1) incorporates a substantially different core technology (adapted from Sood and Tellis, 2005) and (2) provides substantially higher customer benefits (based on Chandy and Tellis, 2000).We multiply the score of the two scales to get a measure of radicalness. The radicalness of a divestiture at time t is calculated as the mean of the radicalness of all the products that it introduced during the time period.

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Strategic emphasis

We measure strategic emphasis as the difference between R&D and marketing expenditures divided by the firm's assets, in order to account for firm's size (Mizik and Jacobson, 2003). To account for the fact that the industry in which a firm competes may drive a firm's investments in R&D and marketing, our measure of strategic emphasis is as follows:

$$\text{Strategic emphasis}_{ft} = \frac{\begin{array}{c}(\text{R\&D expenditures}_{\text{ft}} \\ -\text{R\&D expenditures}_{\text{fti}}) \\ -(\text{Marketing expenditures}_{\text{ft}} \\ -\text{Marketing expenditures}_{\text{fti}})\end{array}}{(\text{Assets}_{\text{ft}} - \text{Assets}_{\text{fti}})}$$

Where the subscripts *f, t*, and *i* refer to firm, time and industry respectively. Data on R&D expenditures, marketing expenditures and assets are collected from the same sources used for strategic emphasis. We use TNS Media to supplement data on marketing expenditures.

Control variables

Size is the logarithm of the number of employees. *High tech industry* is a dummy variable that takes on value 1 if the divestiture operates in a high-tech industry and 0 otherwise. We define high-tech industries as those industries with high dependence on science and technology (Rubera and Kirca, 2012). *Geographic distance* is the distance in kilometers between the parent and the new company's headquarters. *Vertical relatedness* and *horizontal relatedness are* measured as in Fan and Lang (2000).

Growth curve analysis

We employ growth curve analyses using a Stata xtmixed procedure to test our hypotheses. We suggest that the strategic emphasis (or radicalness or profits)–time relationship, modeled in Level 1 of our analysis, is further affected by the divestiture-level variables in Level 2. The intra-class correlation for strategic emphasis is 0.30; that for radicalness is 0.21. Thus, there is substantial variance at the divestiture level that justifies the use of a growth curve model.

RESULTS

Descriptive statistics

Our theoretical framework relies on the assumptions that buyouts have (1) higher management ownership than spinoffs; (2) initially higher debt/equity ratios than spinoffs; (3) a debt/equity ratio that diminishes over time. We find support for these assumptions in our sample: the average management ownership (i.e., the percentage of stocks owned by the CEO, vice presidents, and executives in higher offices) for spinoff is 0.11; for buyouts is 0.45. This percentage remains stable in the five years. The average debt/equity ratio for buyouts is 2.31 in the first year, but it drops down to 0.56 by the fifth year. The average spinoff's debt/equity ratio is 0.45. Finally, there is high variation in strategic emphasis, thus suggesting that even though our divestitures have a common goal—i.e., innovation—they greatly vary in the way they allocate resources to R&D versus marketing.

One-step mediated effect: divestiture type—strategic emphasis–performance

Results are reported in Table 1. Model SE1 indicates that the average divestiture has an initial a strategic emphasis (centered at the grand-mean) of -0.09, which increases by 0.02 each year. Model SE2 shows a negative relationship between buyouts and initial strategic emphasis ($\gamma = -0.05$; $p < 0.05$): in the year of the divestiture buyouts' ratio of R&D to marketing investments is lower than spinoffs' ratio. The positive interaction effect between buyouts and year ($\gamma = 0.02$, $p < 0.05$) reveals that buyouts' strategic emphasis increases more than spinoffs', supporting Hypothesis 1. These findings support the contention that buyouts are initially under the debt holders' pressure to favor R&D over marketing investments; but as buyouts repay their debt, this pressure fades away, leaving owner-managers free to emphasize R&D over marketing.

Model P1 shows that the average divestiture starts with negative profits of 0.25, which every year increase by 0.06. Model P2a tests for the direct effect of divestiture type on profits. The analysis reveals that buyouts have lower profits than spinoffs at the moment of the divestiture ($\gamma = -0.32$, $p < 0.05$); but over time buyouts'

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Table 1. Results of the growth models analysis

	DV: strategic emphasis		DV: radicalness			DV: profits			
	Model SE1	Model SE2	Model R1	Model R2a	Model R2b	Model P1	Model P2a	Model P2b	Model P2c
Intercept	−0.09 (0.03)***	−0.05 (0.03)	16.32 (2.92)***	17.94 (2.42)***	16.56 (3.09)***	−0.25 (0.20)	−0.11 (0.21)	0.06 (0.14)	0.15 (0.10)
Initial status									
Year	0.02 (0.004)***	0.01 (0.006)*	−0.47 (0.43)	−1.35 (0.56)*	−1.23 (0.55)*	0.06 (0.03)**	0.02 (0.03)	0.005 (0.02)	−0.04 (0.02)
Buyouts		−0.05 (0.02)*		−4.89 (2.84)†	−3.47 (2.74)		−0.32 (0.18)*	0.02 (0.11)	0.02 (0.11)
Strategic emphasis					−17.57 (5.66)***			−0.62 (0.21)***	−0.68 (0.20)**
Radicalness									−0.01 (0.001)***
Growth rates									
Buyout × year		0.02 (0.01)*		2.15 (0.87)*	1.68 (0.85)*		0.12 (0.06)*	0.02 (0.04)	0.02 (0.04)
Strategic emphasis × year					4.80 (1.92)**	.	.	0.33 (0.07)***	0.33 (0.07)***
Radicalness × year									0.003 (0.001)***
Control variables									
High-tech	0.03 (0.2)†	0.03 (0.02)†	0.16 (1.47)	0.32 (1.49)	1.39 (1.35)	−0.06 (0.09)	−0.05 (0.09)	−0.05 (0.06)	−0.05 (0.06)
Vertical relatedness						−0.42 (1.56)	−0.41 (1.55)	−0.28 (1.05)	−0.36 (1.05)
Horizontal relatedness						−0.10 (0.10)	−0.08 (0.09)	−0.11 (0.07)†	−0.12 (0.06)
Geographic distance						−0.001 (0.001)	−0.01 (0.14)	−0.001 (0.001)	−0.001 (0.004)
Size	0.003 (0.004)	0.003 (0.004)	−0.002 (0.40)	0.04 (0.39)	0.02 (0.36)	0.03 (0.02)	0.02 (0.02)	0.01 (0.01)	0.02 (0.2)
-2 log-likelihood	171.13	166.32	4396.30	4388.96	4306.71	1250.80	1248.67	848.11	828.83
Incremental χ^2 (Δdf)		4.81 (2)†		7.34 (2)*	82.25 (2)***		2.13 (2)	400.56(2)**	19.28(2)***

Unstandardized coefficients are reported. Standard errors reported in parenthesis.
†$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

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profits grow more than spinoffs' profits ($\gamma = 0.12$, $p < 0.05$). Model P2b adds the effect of strategic emphasis on profits, while controlling for the effect of divestiture type on profits. Strategic emphasis has a negative effect on initial profits ($\gamma = -0.62$, $p < 0.001$) but a positive effect on profits' growth rates ($\gamma = 0.33$, $p < 0.001$). Since the effect of divestiture type on profits is no longer significant, strategic emphasis fully mediates the divestiture type–profits relationship (Baron and Kenny, 1986).

A bootstrap analysis reveals that the one-step mediated effect is significant every year (Preacher, Rucker, and Hayes, 2007). We plot how this mediated effect evolves over time for buyouts and spinoffs in Figure 1(A). The Figure shows that the mediate effect of divestiture type on profits via strategic emphasis becomes more and more negative for buyouts, while it tends to remain stable for spinoffs, in support of Hypothesis 2.

Two-step mediated effect: divestiture type—strategic emphasis–radicalness–performance

Model R1 indicates that the average divestiture begins with a radicalness of 16.32, but radicalness does not change over time ($\gamma = -0.47$, $p > 0.05$). Model R2a tests for the direct effect of divestiture type on radicalness. Buyouts' products are initially less radical ($\gamma = -4.87$, < 0.10) but yield higher levels of radicalness growth than spinoffs' products ($\gamma = 2.15$, $p < 0.05$). Model R2b investigates whether strategic emphasis mediates the divestiture type–radicalness relationship. Strategic emphasis is correlated with radicalness' initial status ($\gamma = 17.57$, $p < 0.001$) and growth rate ($\gamma = 4.80$, $p < 0.01$). The fact that the effect of divestiture type on radicalness' growth rate remains significant ($\gamma = 1.68$, $p < 0.05$) indicates that strategic emphasis partially mediates the divestiture type–radicalness relationship.

We calculate the mediated effect of divestiture type on radicalness via strategic emphasis across years as $[16.56 + (-0.05 \times \text{Buyout} + 0.02 \times \text{Buyout} \times \text{Year} + 0.01 \times \text{Year}) \quad (17.57 + 4.80 \times \text{Year})]$. A bootstrap analysis reveals that this mediated effect is significant at any value of Year. The analysis indicates that spinoffs have higher radicalness than buyouts in the first year after the divestiture; after that the opposite holds true. Also, spinoffs' radicalness remains the same over time, while buyouts' radicalness increases, in support of Hypothesis 3.

Model P2c adds the effect of radicalness on profits, after controlling for strategic emphasis and divestiture type. Radicalness negatively affects profits' initial status ($\gamma = -0.01$, $p < 0.001$) but positively influences growth ($\gamma = 0.003$, $p < 0.001$). Figure 1(B) shows that over time the two-step mediated effect of divestiture type on profits via strategic emphasis and radicalness effects grows more for buyouts than for spinoffs, supporting Hypothesis 4.

The dynamic total effect of spinoffs versus buyouts on performance

We calculate the total effect of spinoffs versus buyouts on profits as the sum of the one-step mediated effect via strategic emphasis and the two-step mediated effect via strategic emphasis and radicalness. For completeness sake, we also include the mediated effect via radicalness and the residual direct effect of divestiture type on profits, even though they are not significant. We plot the total effect in Figure 1(C). Spinoffs have higher profits than buyouts in the first two years after divestiture. We attribute this finding to the fact that it takes time before strategic investments and radical products turn into profits. From the third year on buyouts have much higher profits than spinoffs.

The relevance of the one-step mediated effect "divestiture type–strategic emphasis-profits" decreases over time: it explains 46.5 percent of the total effect in the first year after divestiture, but just 3.8 percent, five years later. Paralleling, the relevance of the two-step mediated effect increases over time. This finding is consistent with the notion that a certain time lag is necessary before strategic emphasis turns into profits. The fact that marketing investments have more immediate payoffs explains why the first route is more relevant in the early stages of the divestiture life.

Robustness checks

First, we control for self-selection bias with the Heckman (1979) two-step procedure. We estimate how the probability of being divested as a spinoff (rather than as a buyout) is influenced by seven possible antecedents: the size, growth, and cash flow of the divested unit while still inside the parent company; the threat of a hostile

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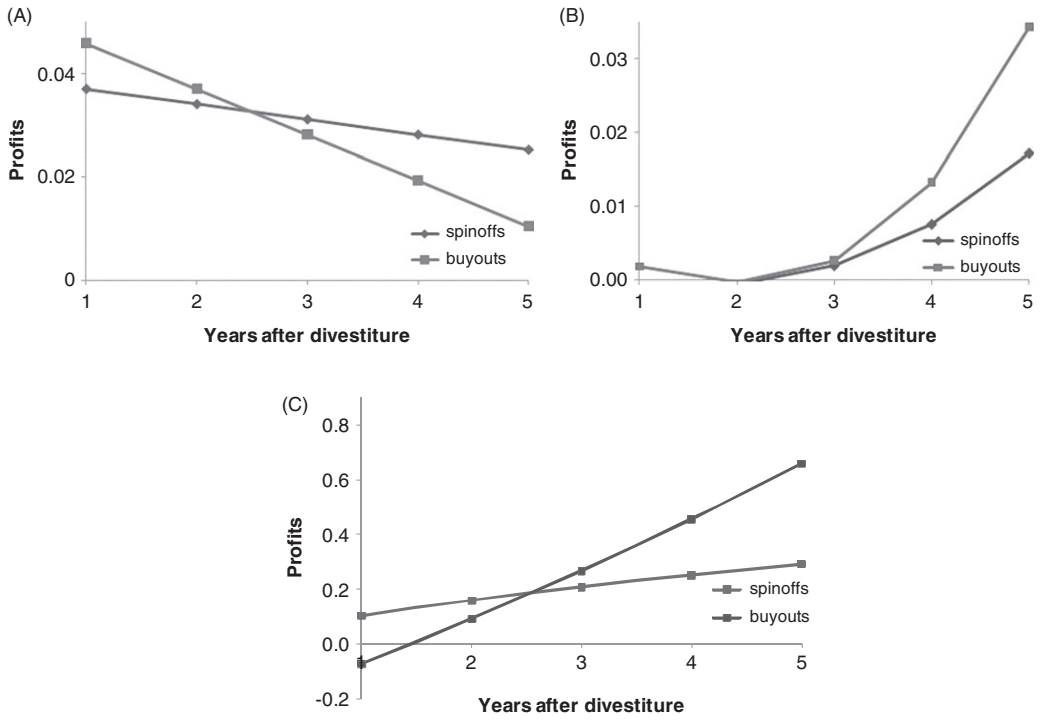

Figure 1. The effects of divestiture type on profits. (A) One step-mediated effect via strategic emphasis. (B) Two-step mediated effect via strategic emphasis and radicalness. (C) Total effect of divestiture type on profits

takeover; the extent to which the divested unit is undervalued; the level of vertical and horizontal relatedness between the parent company and the divested unit. We use the estimates from the probit to compute the Mills lambda and enter it into our previous equations. The selection parameter turned to be insignificant, suggesting that there is no selection bias in our sample. Second, we control for survival bias by excluding from the analysis those companies that did not remain in business for all five years. Third, we code strategic emphasis, radicalness, and profits as 0 for the years a company is no longer in the market. Fourth, since managers could manipulate accounting measures, we measure performance with Tobin's q. We could find data for 79 spinoffs. Finally, we center strategic emphasis at the firm-mean. In all of these analyses the results, available from the authors, did not change.

Counterfactual analysis

We estimate the performance gain (loss) of buyouts if they had been divested as spinoffs. From the third year on buyouts have higher profits than what they would have had if they had been divested as spinoffs. Cumulatively over five years, buyouts generate higher profits for 139 percent for the simple fact of having been divested as a buyout rather than as a spinoff. Spinoffs generate 170 percent lower profits than they would have done if they had been divested as buyouts.

DISCUSSION

A major problem facing large corporations is the failure to commercialize many radical innovations that emerged deep with those organizations (Tellis, 2013). Divesting units might represent a viable alternative that has become very popular in the last few years (Tellis, 2013). However, despite its popularity, only anecdotal evidence is available about the relative merits of different divestiture types. The present study delves into the reasons behind the performance evolution of two of the most popular types of divestitures: spinoffs and buyouts. The key findings from the study are the following: First, spinoffs have higher profits than buyouts in the first two years after divestiture; afterwards buyouts have much higher profits than spinoffs. Second, strategic emphasis (investment

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in R&D versus marketing) is the central, causal mechanism that generates heterogeneity in the evolution of spinoffs' and buyouts' performance. Third, divestiture type influences performance through two routes: a one-step mediated effect via strategic emphasis; and a two-step mediated effect via strategic emphasis *and* radicalness. The two routes have opposite effects on performance. This study makes three relevant contributions to the theory and practice.

First, it identifies the preferable divestiture type between buyouts and spinoffs. In so doing, we answer a central question in the divestiture literature that pertains to which divestiture type maximizes performance (Moschieri and Mair, 2008). The analysis indicates that spinoffs have higher profits in the two years after divestiture. However, from the third year on, buyouts seem to outperform spinoffs in terms of profits. This finding has clear implications for managers of the divesting unit and parent companies.

Managers of the divesting unit face the dilemma of whether they should buy the unit or let the parent sell it. Our study shows that managers are better off when they buy at least part of the unit. Parent companies usually maintain a stake in the divested unit: on average 9.8 percent in spinoffs and 3.1 percent in buyouts in our sample. This study suggests that parent companies should consider increasing their stake in buyouts. Also, buyouts generate more radical innovations than spinoffs do. Thus, firms who divest units involved in innovative projects, but still want to benefit from knowledge spillovers through external venturing should prefer buyouts over spinoffs.

Second, this study sheds light on the causal mechanism behind performance divergence over time between spinoffs and buyouts: over time buyouts emphasize R&D over marketing more than spinoffs do. Also, we identify two routes through which strategic emphasis influences performance: (1) a negative, direct effect on performance that accumulates over time; (2) a positive, mediated effect on performance via radicalness that accumulates over time. The finding that the second route becomes predominant as time passes explains why buyouts enjoy much higher profits than spinoffs from the third year on. In doing so, we contribute to the divestiture literature that has questioned why spinoffs cannot live up to the expectations of enthusiastic, initial investor responses (Semadeni and Cannella, 2011) or whether buyouts can provide long-term advantages (e.g., Long and Ravenscraft, 1993).

Third, we identify in strategic emphasis the central variable to understand the effect of buyouts' and spinoffs' different capital and ownership structures on performance. We show that agency mechanisms do not automatically lead to performance, as the effect of divestiture type on performance is fully mediated by strategic emphasis. This finding supports the view that agency mechanisms influence managers' resource allocation; it is this decision that in turn influences radicalness and performance. The full mediation effect that we detect clarifies that the poor support of the agency mechanisms–performance relationship reported in the previous literature (e.g., Dalton *et al.*, 2003) may be due to the fact that scholars have analyzed a too distal relationship, with little attention for the mediating mechanisms.

Limitations and directions for future research

First, we investigate a very specific divestiture types; namely, innovation-related divestitures. Thus, the conclusions of this study must be limited to the case of innovation-related divestitures. Second, we acknowledge that some factors (e.g., managers' cognitive orientation) in the nature of buyouts or spinoffs itself might influence our results. These factors warrant future investigation. Third, we did not ascertain the effects on stock prices. It would be interesting to see if markets are efficient and discount the value of spinoffs because of their poorer long-term performance. Finally, we use marketing expenditures as a measure of divestiture's emphasis on marketing. However, divestitures may be more efficient in their use of resources, and thus obtain the same outcome with fewer investments. Future research should investigate how spinoffs and buyouts differ in terms of marketing and R&D capabilities rather than resource investments.

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