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Market Performance of Spun-Off Subsidiaries: Effects of Board Independence and Directors' Industry Experience

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ABSTRACT

The goal of corporate spin-offs, as a corporate restructuring technique, is to create better value for both the divesting firm and its subsidiary/ division. These corporate transactions lead to the creation of independent, publicly traded entities, which are called spun-off subsidiaries. In this study, we examine the effect of board independence and directors' industry experience on the market performance of spun-off subsidiaries by setting two main hypotheses. Our sample includes 123 completed U.S.-based spin-off events during a 14-year long time frame. According to our empirical analysis, we find support for both hypotheses, which appear to be significant and positive. In addition, our moderation analysis shows that the interaction effect of directors' industry experience and board ownership is positive and significant. Based on the arguments of agency and resource dependence theories, this study contributes to the governance literature by proving the significant importance of board of directors (namely, their independence and industry experience) on the market performance of spun-off subsidiaries after being separated from their corporate parents. From the managerial contributions aspect, this study tells us that if the board is independent and includes directors with the same industry experience, these spun-off subsidiaries will experience positive change in their market performance. Our interaction effect also shows that if board members are offered more shares on the top of their industry experience, the change in market performance will be stronger.

KEYWORDS

Corporate Spin-Offs, Market Performance, Board Independence, Directors' Industry Experience

INTRODUCTION

In the strategy field, there is a large literature on corporate divestitures (Cho and Cohen, 1997; Hoskisson, Johnson, and Moesel, 1994; Lee and Madhavan, 2010; Montgomery, Thomas, and Kamath, 1984; Prezas and Simonyan, 2015). In the recent couple decades, one of the most "preferred" divestiture techniques has become corporate spin-offs. This technique is unique in the sense that without generating any cash (Bennett and Feldman, 2017), it aims to create better shareholder value (Chai, Lin, and Veld, 2018) for both the divesting firm (a.k.a. parent firm) and its spun-off subsidiary/ division (a.k.a. child firm). Boreiko and Murgia (2010) define this corporate transaction as follows: "A spin-off is a pro-rata distribution of subsidiary shares to a parent firm's existing shareholders, which is often a nontaxable transaction" (p.7). As a result of this corporate separation, the child firm becomes an independent, publicly traded entity that no longer operates under the parent firm's control.

In the spin-off literature, there is massive empirical research examining this value creation process from the perspective of the divesting firm and its spun-off subsidiary (Ahn and Walker, 2007; Bennett and Feldman, 2017; Chemmanur, Krishnan, and Nandy, 2014; Emrick et al., 2017; Feldman, 2016a;

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Feldman, 2016b; Feldman, 2016c; Iturriaga and Cruz, 2008; Klepper and Sleeper, 2005; Lin, 2020; Ozbek, 2020; Ozbek and Boyd, 2020; Semadeni and Cannella, 2011; Veld and Veld-Merkouova, 2004; Woolley, 2017). Despite all this previous research, we believe that there has been no study in the context of the market performance of the child firm by looking at its board structure. Therefore, it is important to closely examine whether any specific characteristics of the board of directors will influence the market success of these recently independent companies. In this paper, we particularly explore whether the board independence and directors' industry experience will make a significant impact on the change in market valuation of these spun-off subsidiaries.

Many scholars have researched this spin-off phenomenon from different aspects. For example, Feldman (2016a) finds that "for spin-off firm managers, the alignment of incentive compensation with stock market performance improves" (p.2027) in the post-spin-off stage. Chemmanur and He (2016) argue that "spin-offs increase institutional investors' welfare by relaxing trading constraints" (p.54). Feldman (2016b) suggests that the CEO duality and average stock market returns of spin-offs are positively associated. Chai et al. (2018) find that the three-day announcement effect is positively correlated with the long-run stock performance of spin-offs. Although these studies have revealed various success parameters for spin-offs, there is still an important need for understanding how board structure may affect the market performance of spun-off subsidiaries, which is the purpose of this research.

The board of directors holds a very critical responsibility for governing companies, which especially includes "overseeing all major strategic decisions" (Cannella, Jones, and Withers, 2015: 440). Board members (directors) have some important responsibilities: monitoring, assessing, and counseling (advising) executives (Hambrick, Misangyi, and Park, 2015) as well as providing resources necessary for the firm growth (Hillman and Dalziel, 2003) and helping the firm secure external ties (Carpenter, Pollock, and Leary, 2003). Therefore, we can argue that the role of directors in establishing an effective governance mechanism for organizations is crucial.

According to arguments of the agency theory, independent boards, which refers to having majority of directors coming from outside of the firm, is critical to an effective corporate governance since "outside directors can more capably monitor the CEO's activities" (Joseph, Ocasio, McDonnell, 2014: 1834). Establishing this sort of a mechanism in organizations is expected to result in maximizing shareholder value, which is the main logic of agency theory (Joseph et al., 2014). For example, Bradley and Chen (2015) have argued that independent boards act in the interests of shareholders and encourage managers toward risky actions. Liu et al. (2015) have found that the board independence and firm operating performance have a positive association. Lu and Wang (2015) have also examined the relationship between board independence and firm R&D investments and found a positive correlation. All these findings show that having independent directors on the board creates many positive effects on the firm performance.

According to arguments of the resource dependence theory, directors with industry experience will be much more useful and essential in some contexts (Arthurs et al., 2009). Experienced directors will have a better and quicker understanding of specific situations, which also results in the reduction of information asymmetry within the board (Arthurs et al., 2009). These directors are also able to "gain access to scarce resources and information" (Boyd, 1990: 419) within a specific industry. For instance, Chen, Chang, and Hsu (2017) have found a positive relationship between directors' industry experience and internationalization. Drobotz et al. (2018) have argued that outside directors with more industry experience and firm value are positively related. Field and Mkrtyan (2017) have shown a positive relationship between directors' acquisition experience and subsequent firm performance. All these empirical investigations emphasize how important experienced directors are to the organizational performance.

Considering the critical role of both board characteristics, in this study we will examine how board independence and directors' previous industry experience may affect the market performance of corporate spin-offs. Our first research question aims to investigate whether the board independence has any significant impact on the change in market valuation of the child firm. Our second research question examines whether experienced directors have any effect on this market performance. We also look at the interaction effect of directors' industry experience and board ownership to see whether this effect can create any further significant impact in our empirical framework. Following previous arguments in the corporate governance literature, we suggest that boards' structures have a significant influence on how to effectively govern the firm (Beckman et al., 2014; Haynes and Hillman, 2010; Kor and Sunradamurthy, 2009; Krause, Withers, and Semadeni, 2017; Parker, 2008; Tuggle et al., 2010; Tian, Haleblian, and Rajagopalan, 2011). In particular, board independence is considered "key to improving corporate governance" (Guthrie, Sokolowsky, and Wan, 2012: 1149) and directors' experience is considered key to producing "more value-creating" (Jeganathan, Ghannam, and Bugeja, 2020: 2) corporate activities. Thus, we argue that in the context of corporate spin-offs, both board characteristics will have a crucial role on the market success of spun-off subsidiaries. By empirically examining these two board characteristics, we aim to fill an important gap in further understanding market success parameters for corporate spin-offs from the perspective of board structures.

According to the results of our empirical investigation, we indeed find evidence that both board independence and directors' industry experience positively and significantly affect the change in market valuation of the child firm. All these findings are well-aligned with our theoretical arguments. We also find that the interaction of directors' industry experience and board ownership has a stronger positive effect on this change in market value. This study contributes to the strategy literature in a couple unique ways. First, our findings show strong evidence for the importance of board structures in the context of corporate spin-offs. Second, our study further proves the validity of agency and resource dependence theories for spin-offs. Third, our model not only examines the direct effects of board characteristics, but also looks at the contingency effect of board ownership on the market performance of spin-offs as independent, stand-alone entities. Overall, by using 123 completed U.S. spin-offs in a 14-year long time frame extracted from the SDC Platinum database, we establish an empirical framework examining the connection between board structure and market valuation of spun-off subsidiaries.

The organization of our paper is as follows. At first, we define corporate spin-offs and explain why some corporations prefer spinning off their subsidiaries/ divisions. Afterwards, we present our three hypotheses and offer evidence from the literature. Then, we have our methodology and results sections. At the end, we discuss our results and conclude our research findings.

THE REASON FOR UNDERTAKING SPIN-OFFS

Truong (2017) defines corporate spin-offs as the "creation of a new independent company from a subsidiary or division of the parent company" (p.55), which is also a tax-free transaction. Corporate spin-offs (Emrick et al., 2017), as a restructuring technique, aim to help "companies meet their growth and capital efficiency objectives" (p.54) so that they can "deliver substantial shareholder value" (p.55). According to Bennett and Feldman (2017), there are four main motivations why companies undertake spin-offs.

First and foremost, firms may want to focus on their core business(es) via "reducing overdiversification" (Bennett and Feldman, 2017: 101). The optimization of business portfolio will enable value creation via better resource allocation so that the restructured companies can more efficiently respond to the demands of customers (Emrick et al., 2017). Second, firms may have a desire and/or need to have direct access to capital markets (Bennett and Feldman, 2017). Following the spin-

off event, firms will “attain fair market value for their shares and then issue equity to raise capital” (Krishnaswami and Subramaniam, 1999: 78). Third, firms may just want to get rid of unwanted (e.g. underperformed or declining) business units (Bennett and Feldman, 2017). Firms will also eliminate negative synergies (Miles and Rosenfeld, 1983) via removal of those business units. And fourth, firms may aim to better align the managers’ interests with shareholders’ interests (Bennett and Feldman, 2017) so that the agency cost will be reduced. As a result of becoming a publicly traded entity, shareholders of the spun-off subsidiary can better monitor executives due to the availability of financial records such as securities (Lin, 2020). At the end, all these strategic motivations are expected to create further value for both the divesting firm and its spun-off entity.

HYPOTHESES DEVELOPMENT

According to the core argument of agency theory, the board of directors has a critical responsibility of monitoring executives so that the interests of owners/ shareholders and those of executives will not diverge from each other substantially (Tuggle et al., 2010). This way, the board plays a critical “protective” role on shareholders’ rights. In the literature, it has been argued that independent boards (a.k.a. outsider-dominated boards) “are thought to be better monitors” (Hillman and Dalziel, 2003: 385). In addition, board members have another crucial responsibility while governing the firm, which is to provide the firm with resources, knowledge, and expertise due to their industry experience (Hillman and Dalziel, 2003). Through their industry ties, they can also help the firm better establish its prestige and reputation (Zahra and Pearce, 1989). In our context, spun-off subsidiaries, as newly stand-alone entities, are in serious need of a strong governance structure since they no longer have access to parental resources. So, it is very important to understand whether board independence and directors’ industry experience (as well as their interaction) will influence the child firm’s market performance. Our theoretical arguments and empirical examination aim to reveal some “key” board-related success factors for the spun-off subsidiary in the market.

BOARD INDEPENDENCE

Independent directors are those “individuals not employed as officers of the company” (Duque-Grisales et al., 2020: 294). Independent boards are “more effective in reducing agency cost and improving firm governance” (Balsmeier, Fleming, and Manso, 2017: 536) through an increased oversight on the management team. Fama and Jensen (1983) also argue that the role of independent boards is crucial for organizational success since they represent shareholders and safeguard their interests.

As the agency theory argues, agents tend to be opportunistic and independent directors are those non-executive board members who are responsible for securing the value maximization of shareholders via effectively controlling agents (Zattoni and Cuomo, 2010). Independent boards’ responsibilities include “the control of firm performance, the monitoring of firm’s activities, the assessment of CEO behaviors, and so on” (Zattoni and Cuomo, 2010: 64). Independent boards are considered “expert monitors” since they bring “unbiased oversight of management” within organizations (Zattoni and Cuomo, 2010: 65). Thus, independent boards are strong indicators of the improved quality of corporate governance (Westphal and Graebner, 2010).

Board independence is also critical to enhance the organizational legitimacy in the corporate world in addition to making corporate leaders more “trusted” (Westphal and Graebner, 2010). If the control role of board is established strongly via increasing the number of independent directors, top leadership teams within organizations will hold more effective decision-making processes leading to a better alignment of principals’ and agents’ interests (Ramdani and Witteloostuijn, 2010).

Consequently, overall firm performance is expected to increase. For example, Liu et al. (2015) have shown that board independence has a positive effect on the firm operating performance. Lu and Wang (2015) have found that independent boards and firm R&D investments are positively related. Neville et al. (2019) have argued that board independence and corporate misconduct are negatively associated in general. Pham and Nguyen (2020) have also shown a positive relationship between board independence and firm performance measured by return on assets and return on equity. All these findings support the positive impact of independent boards on the organizational procedures and performance.

As explained earlier, spun-off subsidiaries become independent entities following the corporate separation from the parent firm. From the perspective of top management teams in this context, being independent basically means running a “brand new” company via creating and utilizing up-to-date practices and procedures. In other words, these executives of the spun-off subsidiary will need to focus on creating value for the shareholders while also applying new strategies without any “parental” support. This situation requires the board to objectively monitor and assess the top management team in addition to providing them with constant strategic guidance. Furthermore, the board needs to make sure that managerial opportunism (Noe and Rebello, 1996) will not take place so that the agency cost does not increase. In order to accomplish this “safeguarded” governance structure, the board needs to be independent so that directors can make objective decisions without hesitation. Therefore, we argue that board independence and market performance of the spun-off subsidiary are positively associated.

Hypothesis 1: *There is a positive relationship between board independence and change in market valuation of corporate spin-offs.*

DIRECTORS' INDUSTRY EXPERIENCE

Directors with industry experience are very critical to the board success (Badu and Appiah, 2017). This experience is also considered a “valuable, rare, and hard-to-imitate resource” (Tian, Haleblan, and Rajagopalan, 2011: 733). As argued in the resource dependence theory, “an organization’s corporate strategic orientation is linked to opportunities that are available to access required resources” (Chen, Chang, and Hsu, 2017: 66). According to the resource dependence theorists, both human and social capital that the board possesses will have a direct influence on how directors govern organizational processes and support firm’s progress via their knowledge, information, skills, and network of corporate and social relationships (Chen et al. 2017; Hillman and Dalziel, 2003; Kor and Sundaramurthy, 2009; Pfeffer and Salancik, 1978; Tian, Haleblan, and Rajagopalan, 2011).

Directors’ industry-specific experience is a vital component for firm performance since it provides the executive team with an incredible opportunity to facilitate “access to critical information and valued resources” (Chen et al., 2017: 66). Basically, with the existence of appropriate resources that board members provide, the firm will be in a much better shape while running and improving its operations. The industry ties of board members will also enable the firm to establish legitimacy among its rivals since these directors have a much better understanding of the industry conditions and related competitive dynamics (Chen et al., 2017; Kor and Misangyi, 2008). For instance, Kor and Sundaramurthy (2009) have found that directors’ industry ties and experience are positively associated with the firm’s rate of sales growth. Chen et al. (2017) have suggested that there is a positive relationship between directors’ international experience and internationalization. Field and Mkrtychyan (2017) have found that directors’ previous acquisition experience positively influences subsequent acquisition performance. Fernandez and Sundaramurthy (2020) have also found that boards’ regional international experience has a positive effect on the cross-border M&A performance.

Thus, we can argue that board members' industry experience has important impacts on firm performance and related decision-making processes.

Spun-off subsidiaries, as stand-alone entities, are fully responsible for establishing their competitive posture (Ginsberg and Venkatraman, 1992) in the industry without any "parental" resources. In order to effectively compete with their industry rivals, these firms will need to have access to industry-related knowledge, information, and other valued resources. Directors who possess these sorts of critical resources will benefit these firms significantly since they are going to serve as "strategic connectors" with the industry. If this connection is strong, the spun-off subsidiary will show the market that it can survive and compete on its own, which also helps to increase organizational reputation (Deephouse and Carter, 2005). Therefore, we argue that directors' industry experience and market performance of the spun-off subsidiary are positively associated.

Hypothesis 2: *There is a positive relationship between directors' industry experience and change in market valuation of corporate spin-offs.*

AN INTERACTION ANALYSIS

In this analysis, we have looked at the potential contingency effect of board ownership on the relationship between directors' industry experience and the change in market valuation of spun-off subsidiaries. As explained in the theory development section, directors' industry experience is necessary for effective decision-making process, which also makes the board more competent in governing the firm (Gaur et al., 2015). Gaining access to crucial resources and better analyzing the external environment via board members' industry-specific experience is a "key" success factor for firm performance (Gaur et al., 2015). Board ownership also plays a vital role in corporate governance since it is considered an important incentive mechanism for "effective monitoring and oversight of important corporate decisions" (Bhagat and Bolton, 2013: 110). In addition, board ownership tends to make directors pay more attention to their corporate duties (Booth, Cornett, and Tehranian, 2002). Thus, we expect that having directors with industry-specific experience on the board who also own shares in the company will create a stronger positive effect on the market performance of the spun-off subsidiary. In other words, board ownership will have a moderating effect on this relationship.

Hypothesis 3: *Board ownership positively moderates the relationship between directors' industry experience and change in market valuation of corporate spin-offs.*

METHODOLOGY

SAMPLE

Our sample consisted of all completed U.S. spin-offs for a 14-year long (2000-2014) time period. We used SDC Platinum to identify these spin-off events. We only included spin-offs in which 100 percent of outstanding shares were distributed to the shareholders of the parent company in order to ensure the consistency. We also made sure to double-check the accuracy of these spin-off events on some online resources including The Wall Street Journal and Lexis/Nexis. This double-checking mechanism is proved to be very important since we need to only include corporate spin-offs in our sample, not other sorts of divestitures such as split-offs, sell-offs, or equity carve-outs. Our initial sample yielded 205 completed spin-offs. Due to missing data, we had a final sample of 123 spin-off events. We used a combination of two sets of data. The governance data was extracted from the U.S. Securities and

Exchange Commission website. This data was hand-collected from the DEF 14-A (proxy) statements of companies. The firm- and industry-level data were directly extracted from the CompuStat database.

ANALYSIS

Our study included two predictors, which were board independence and directors' industry experience. We also controlled for some other variables, which enabled us to parcel out their potential effects on this model. We tested the change in market valuation of spun-off subsidiaries within two years following the spin-off execution date. Figure 1 provides our conceptual framework, including empirically tested results of all variables.

We used the weighted least square (WLS) regression to test all models in this study. According to Hayes and Cai (2007), "WLS regression allows the investigator to weight each case differently in the derivation of the sum of squared residuals" (p. 711). The WLS regression is an effective estimating method since it takes care of the of heteroscedasticity problem (Walsh, 1987). Sterchi and Wolf (2017) also argue compared to the ordinary least squared (OLS) regression, the WLS regression can yield higher efficiency gains. Following Aiken and West (1991), both of our models (full and contingency) can be expressed as follows:

$$\text{The change in market valuation of spun-off subsidiaries (full model)} = \beta_0 + \beta_1 \text{ Board independence} + \beta_2 \text{ Directors' industry experience} + \epsilon_1$$

$$\text{The change in market valuation of spun-off subsidiaries (contingency model)} = \beta'_0 + \beta'_1 \text{ Board independence} + \beta'_2 \text{ Directors' industry experience} + \beta'_3 \text{ Directors' industry experience} \times \text{Board ownership} + \epsilon'_1$$

MEASUREMENT

DEPENDENT VARIABLE

The two-year percent change in market value of equity (MVE) of the spun-off subsidiary following the corporate separation is chosen as our dependent variable in this study. Consistent with previous studies (Subramanyam and Venkatachalam, 2007), we measured MVE by "as the fiscal year-end price per share multiplied by shares outstanding" (p.465). MVE is "a measure of economic performance" (Hirschey, 1985: 97) of the firm and can be considered "the risk-adjusted present value of all future profits" (Hirschey, 1985: 92). Following arguments in the literature (Core and Guay, 1999), we also adjusted our dependent variable by using the logarithm of change in market value of equity.

EXPLANATORY VARIABLES

In this study, board independence and directors' industry experience are our two explanatory variables. Board independence is measured by "the ratio of outside directors to total number of directors on the board" (Gani and Jermias, 2006: 302). Directors' industry experience is measured by "the percentage fraction of outside directors on the board that possess industry experience" (Drobetz et al., 2014: 10).

CONTROL VARIABLES

We controlled for several variables that could have potentially affected our outcome variable. Firm leverage was measured by the ratio of total debt to total assets (D’Mello and Farhat, 2008). Firm size was measured by the logarithm of number of employees (Angelini and Generale, 2008). Firm capital intensity was measured by the ratio of total capital expenditures to total sales (Silva-Gao, 2012). Industry R&D (advertising) intensity was measured by the average ratio of industry R&D (advertising) expenditures to industry total sales for all firms with the same three-digit Standard Industry Classification (SIC) code over a five-year period prior to the spin-off event (King, Slotegraaf, and Kesner, 2008; Servaes and Tamayo, 2013). Year dummy indicates whether the spin-off has occurred during a financial crisis such as 2001-02 and 2008-09. For those spin-offs that took place in either period, we coded them as 1 and all others were coded 0. Industry dummy indicates whether the spun-off subsidiary is a part of either the manufacturing or service industry. Manufacturing firms were coded 1 and service firms were coded 0. Board size was measured by the total number of directors on the board. (Carpenter, Pollock, and Leary, 2003). CEO origin indicates whether the spun-off subsidiary’s CEO has previously worked in the management team of parent firm, which refers to being an “insider” (Wruck and Wruck, 2002). If the CEO was an “insider”, CEO origin was coded 1; if not, it was coded 0. CEO duality was coded 1 if the CEO and Chairperson were the same person; if not, it was coded 0 (Jensen and Zajac, 2004). Managerial ownership was measured by the percentage of equity owned by top managers (Alessandri and Seth, 2014). And finally, board ownership was measured by the percentage of shares owned by board members (Farooque et al., 2007).

RESULTS

Table 1 presents the descriptive statistics and correlations including the levels of significance for all variables. As seen in this table, the mean board independence is 0.757, which shows that almost 76% of directors on the board are independent. The mean industry experience of directors is 0.459, which shows that almost 46% of directors have experience in the same industry. The mean board ownership is also 8.35%. The variance inflation factor (VIF) test shows an average of 1.49, which indicates that there is no multicollinearity issue in this study (Barako and Brown, 2008). In addition, almost all variables have a VIF value less than 2.

Table 2 presents the results of our WLS regression, assessing the effect of board independence and directors’ industry experience on the change in market value of corporate spin-offs. More specifically, this table shows values for unstandardized beta coefficients and standard errors along with levels of significance of these coefficients. All four models are developed in a hierarchical manner, including independent variables and interaction variable one at a time. Model 1 only includes control variables. Model 2 and 3 include independent variables, which makes Model 3 our full model. Model 4 includes interaction variable.

Hypotheses 1 predicts that there is a positive relationship between board independence and change in market valuation of spun-off subsidiary. The coefficient for board independence was positive and significant ($b = 3.190$; $p < 0.05$), which provided supported for *H1*. *Hypotheses 2* predicts that there is also a positive relationship between directors’ industry experience and change in market valuation of spun-off subsidiary. The coefficient for directors’ industry experience was positive and significant ($b = 1.480$; $p < 0.05$), which provided supported for *H2*. Regarding our interaction analysis, *Hypotheses 3* predicts that board ownership positively moderates the relationship between directors’ industry experience and change in market valuation of spun-off subsidiary. The coefficient for interaction variable was positive and significant ($b = 0.905$; $p < 0.05$), which provided supported for *H3*. In Figure 2, we plotted two-way interaction effect in order to gain a clearer insight into this contingency

relationship. This figure suggests that the positive effect of directors' industry experience is greater on the change in market value when there is a high level of board ownership. Thus, all hypotheses in this study are strongly supported.

Table 1. Means, Standard Deviations, and Intercorrelations Among Study's Variables

VARIABLES	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Change in Market Value (ln)	0.135	0.954	1.000														
2. Leverage	0.245	0.233	-0.028	1.000													
3. Firm Size (Ln)	0.649	2.103	0.047	0.173**	1.000												
4. Capital Intensity	0.627	1.762	-0.123	-0.024	-0.286	1.000											
5. Industry R&D Intensity	0.036	0.050	-0.032	-0.196**	-0.227***	0.082	1.000										
6. Industry Advertising Intensity	0.011	0.016	0.012	0.095	0.072	-0.060	0.035	1.000									
7. Year Dummy	0.092	0.290	-0.164*	0.266***	0.201**	-0.068	-0.209***	0.256***	1.000								
8. Industry Dummy	0.473	0.500	0.026	-0.185**	-0.047	0.089	0.333***	-0.166**	-0.067	1.000							
9. Board Size	7.521	1.941	0.089	0.065	0.516***	-0.091	-0.233***	0.151**	0.174**	-0.179***	1.000						
10. Ceo Origin	0.809	0.393	-0.062	0.041	0.287***	-0.042	-0.061	0.038	0.112	0.011	0.124*	1.000					
11. CEO Duality	0.390	0.488	0.078	-0.004	0.032	-0.110	-0.040	-0.094	-0.014	0.002	-0.163**	0.082	1.000				
12. Managerial Ownership	0.042	0.098	-0.020	-0.090	-0.177**	-0.025	-0.048	0.054	0.080	-0.014	-0.036	0.057	0.067	1.000			
13. Board Ownership	0.083	0.151	0.023	-0.055	-0.227***	0.007	-0.076	-0.011	0.052	-0.116*	-0.041	0.048	-0.078	0.668***	1.000		
14. Board Independence	0.757	0.111	0.053	0.078	0.097	0.009	0.182***	-0.024	-0.081	0.159**	-0.135*	-0.054	0.030	-0.169**	-0.095	1.000	
15. Directors' Industry Experience	0.459	0.181	-0.157*	0.003	-0.298***	0.193**	0.149**	-0.074	-0.101	0.021	-0.107	-0.141**	-0.139**	0.147**	0.206***	-0.061	1.000

***p < 0.01; **p < 0.05; *p < 0.1

Table 2. Independent Models of Board Independence and Directors' Industry Experience (Robust Standard Errors in Parentheses)

DV: Change in market valuation (ln)	MODEL 1	MODEL 2	MODEL 3 (full)	MODEL 4 (moderation)
Control Variables				
Leverage	-0.455 (0.352)	-0.370 (0.357)	-0.314 (0.320)	-0.286 (0.312)
Firm Size (Ln)	-0.054 (0.051)	-0.073 (0.046)	-0.061 (0.046)	-0.079* (0.046)
Capital Intensity	-0.071*** (0.025)	-0.101*** (0.026)	-0.144*** (0.033)	-0.133*** (0.033)
Industry R&D Intensity	-2.425 (1.746)	-3.005 (1.940)	-4.221** (1.956)	-3.878** (1.907)
Industry Advertising Intensity	11.339** (4.979)	10.553** (4.763)	11.664** (4.500)	12.089** (5.017)
Year Dummy	-0.735*** (0.243)	-0.745*** (0.261)	-0.813*** (0.239)	-0.757*** (0.240)
Industry Dummy	0.454** (0.224)	0.504** (0.228)	0.569*** (0.225)	0.503** (0.226)
Board Size	0.079 (0.060)	0.080 (0.056)	0.075 (0.057)	0.070 (0.058)
CEO Origin	0.106 (0.201)	0.179 (0.228)	0.187 (0.233)	0.153 (0.230)
CEO Duality	0.005 (0.210)	-0.128 (0.206)	-0.124 (0.203)	-0.073 (0.215)
Managerial Ownership	-2.295*** (0.853)	-2.756*** (0.983)	-3.230*** (0.879)	-5.130*** (1.154)
Board Ownership	1.304** (0.599)	1.558** (0.659)	1.531** (0.646)	0.232 (0.833)
Explanatory Variables				
Board Independence	---	2.331* (1.368)	3.190** (1.394)	2.842** (1.405)
Directors' Industry Experience	---	---	1.480** (0.643)	1.061* (0.643)
Interaction Variable				
Directors' Industry Experience X Board Ownership	---	---	---	0.905** (0.420)
Sample Size	123	123	123	123
R-squared	0.227	0.279	0.326	0.346

***p < 0.01; **p < 0.05; *p < 0.1

DISCUSSION AND CONCLUSION

This study proposes a unique framework on the board independence, directors' industry experience, and spun-off subsidiaries' market performance. Our arguments were based on two well-established theories in the field of management, namely the agency theory and resource dependence theory. Both of our hypotheses suggested a positive effect of board independence and directors' industry experience on the change in market valuation of spun-off subsidiary. Our interaction analysis also expected a positive moderating effect of board ownership on the relationship between directors' industry experience and market performance of the spun-off subsidiary. Our findings support all these arguments.

Our findings help better understand how some board-related governance mechanisms affect the market performance of spun-off subsidiaries. In the literature, it has been widely argued that board independence and directors' industry experience have important implications on the firm performance. Koerniadi and Tourani-Rad (2012) have found that board independence in New Zealand has a negative and significant effect on the firm value measured by return on assets and return on equity. On the opposite side, Sun, Lan, and Ma (2014) have found that board independence is positively and significantly associated with return on assets and stock returns of the firm. According to our results, board independence positively and significantly influences the market performance of spun-off subsidiary. This means that board members' objective assessment of top management teams via independence is a "key" success component in the context of governing corporate spin-offs. Regarding directors' industry experience, Von Meyerinck, Oesch, and Schmid (2016) have found that appointments of industry-experienced directors lead to higher announcement returns compared to those without industry-specific experience. Volonté and Gantenbein (2016) have looked at the impacts of international experience and industry/ financial know-how of directors in Switzerland on the firm performance measured by Tobin Q. They have found that there is a positive and significant relationship between directors' international experience and firm performance whereas there is a negative and significant relationship between directors' industry/ financial know-how and firm performance (Volonté and Gantenbein, 2016). In the context of corporate spin-offs, our results reveal that directors' industry experience and market performance of spun-off subsidiary is positively and significantly related. This tells us that directors' industry knowledge, ties, and connections to related resources will be very critical to the market success of spun-off subsidiary.

The contingency framework in this study has examined whether the interaction of directors' industry experience and board ownership will affect the market performance of spun-off subsidiary. Indeed, we have found a significant and positive relationship here. This finding is very important in the sense that it tells us more about the importance of board ownership in governing recently independent companies. In the literature, board ownership is considered an important incentive mechanism since "stock ownership by board members gives them an incentive to monitor managers more carefully and thus help resolve agency conflicts between managers and shareholders" (Karim, van Zijl, and Mollah, 2013: 158). Zona (2015) has argued that board ownership influences board processes in family firms. According to the results of our interaction effect, we can argue that if board members own stock, they will be more effectively using their industry-specific experience (e.g. utilizing their ties and access to valuable resources much better) while governing the spun-off subsidiary. This finding is important since it reiterates the "vital" role of board ownership for the firm's market performance.

For practitioners, our empirical findings provide some important hints on how to constitute an effective board for spun-off subsidiaries. By remembering the fact that these subsidiaries do no longer have access to parental resources and they have a "brand new" top management team, the board's role will be critical to the firm survival. As our results suggest, constituting a board with many

independent directors as well as having directors with industry-specific experience will help the spun-off subsidiary increase its market performance. As results of our interaction analysis show, offering board members stocks in the spun-off subsidiary will further enable/ motivate them to use their industry knowledge, resources, and ties for the sake of firm's market performance. Thus, our findings reiterate the important role of board of directors on firm performance and identify a critical contingency relationship in this context.

Although this study contributes to the strategy and governance literatures in many ways (as explained above), it also comes with some limitations, which should be addressed by future research. This study covers a 14-year of time span, which can be extended in future studies. Our sample only includes U.S. corporate spin-offs. Future research can look at whether our findings will hold true in some other countries. Our dependent variable is the change in market valuation of spun-off subsidiary. Future empirical work can use some other profitability measures as a dependent variable. And finally, we use board ownership as a moderating variable. Future studies may examine some other contingency effects on the market success of spun-off subsidiaries.

In conclusion, this study uses a unique framework explaining why and how board independence and directors' industry experience affect the market performance of corporate spin-offs in addition to offering a contingency analysis. Our findings confirm the very role of board of directors in governing spun-off subsidiaries as independent, stand-alone entities. We truly hope that our arguments based on agency and resource dependency theories will further intrigue corporate governance research in other contexts.

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APPENDICES

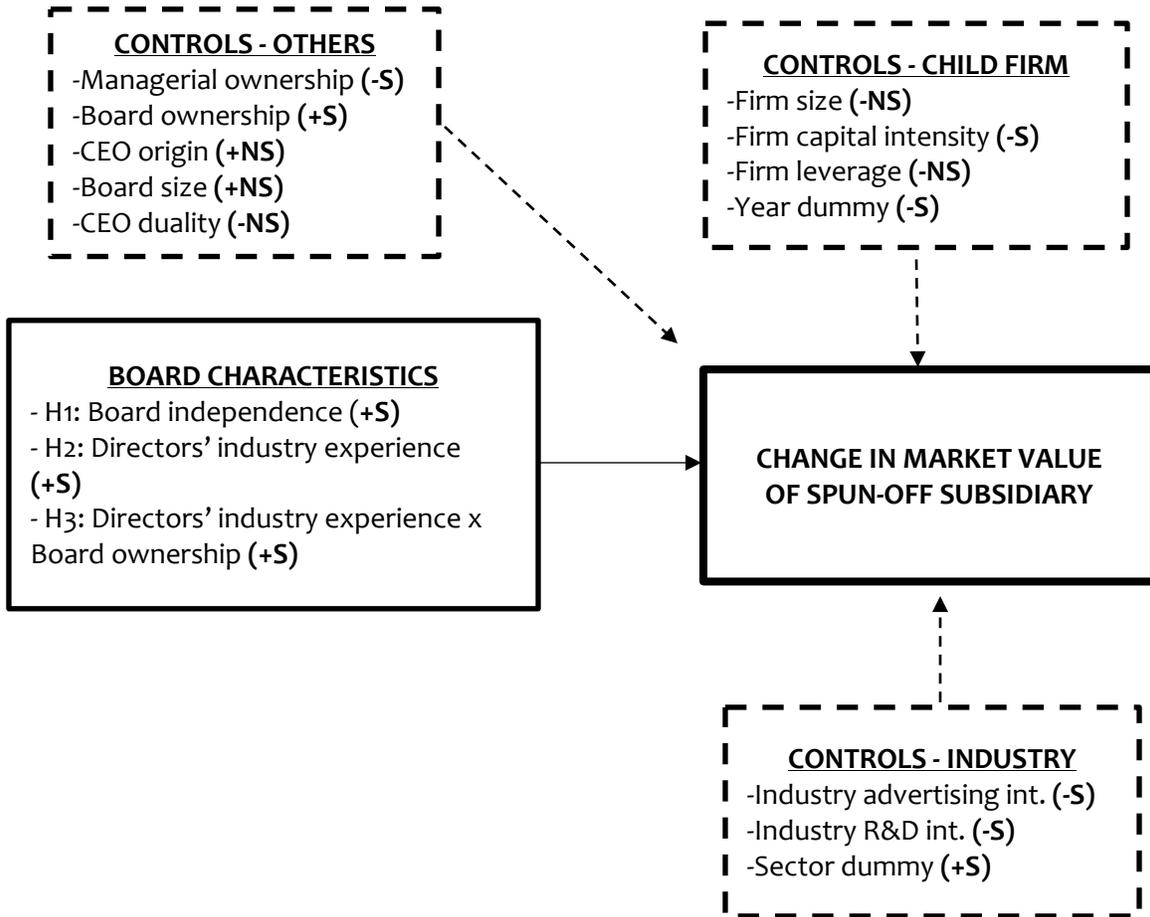


Figure 1. Theoretical Model Including the Level of Significance of Results
(S: Significant; NS: Non-Significant)

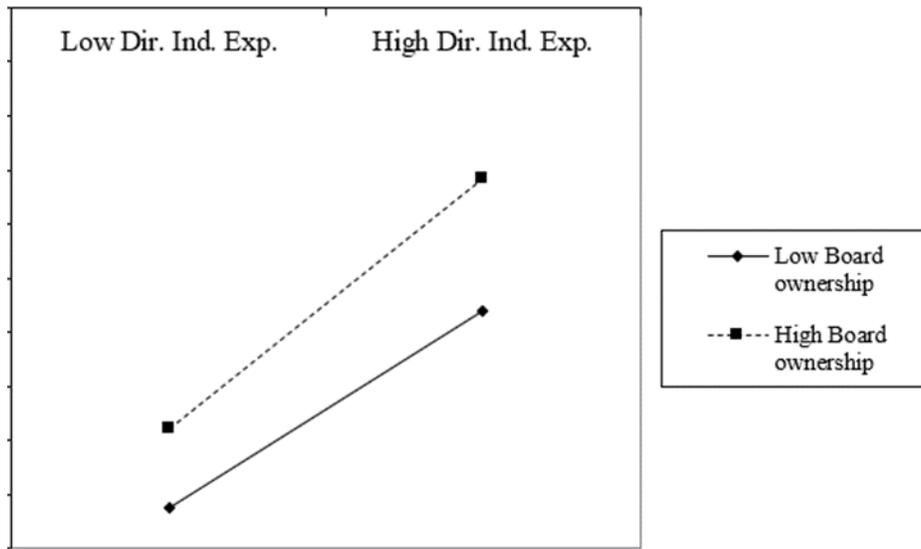


Figure 2. The Interaction Effect of Directors' Industry Experience and Board Ownership on the Change in Market Valuation of Spun-Off Subsidiary