

Spinoffs and Firm Policy

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Abstract

I investigate the nature of reconstructing by examining the changes in firm policies around spinoff. Because the pre-spinoff contract structure is more suitable for larger divisions of firms, separated units experience relatively large changes in contracts following spinoffs. Compared to the post-spinoff parent firms, separated units have lower tendency to pay dividends, lower ownership by CEOs, higher fraction of outside directors, smaller board, younger board members, higher block ownerships, and higher incentive payment. There are significant changes in the firm policies in both high q and low q units, however the market response is more positive for units with higher growth opportunities.

Keywords: IPO, Valuation, Holding Company, Ownership Structure, Governance Structure

JEL classification: G30; G32; G34

1. Introduction

Previous studies provide limited evidence on the causal relation between board structure and its determinants. Hermalin and Weisbach (2003) argue that board structure and variables that are associated with board structure are jointly determined by past performance. As long as the explanatory variables such as firm size and growth opportunities are reasonably stable over time, board structure remains stable and exhibits path dependence on its past structure. In the case, the change in board structure is more likely affected by economic shocks rather than change in firm specific characteristics.

Denis and Sarin (1999) shows that large change in board structure is typically preceded by fundamental changes in the business conditions, but it is only weakly related to the changes in firm-specific determinants of board structure. Wintoki, Linck, and Netter (2012) argue that board size and composition are affected by past firm performance. Lehn, Patro, and Zhao (2004) provide direct evidence of path dependence showing that lagged board structure is positively correlated with current board structure. Therefore, explicit modeling of the endogeneity is necessary in cross-sectional analysis of the determinants of board structure.

Alternative approach is to examine unique samples relatively free from the endogeneity issue. Boone, Field, Karpoff, and Raheja (2007) address the concern by examining board structure of IPO firms. IPO firms experience significant changes in governance structure to meet the requirement as public firms. Nonetheless, it is unclear whether the board structure at the time of IPO is truly independent from past performance. Because past board structure as private companies is unknown, it is impossible to check path-independence of their sample.

The approach to examine newly emerged companies from spinoffs is similar to Boone, Field, Karpoff, and Raheja (2007) in an effort to find unique sample that are less subject to the endogeneity problem. There are benefits of examining board structure of spunoff units. Firstly, as long as optimal board structure of units is different from that of parent, a spinoff creates an opportunity for newly established spun off units to set up their own board structure which is suitable for units. Second, spunoff units experience significant change in their asset structure over the short period. Therefore, the influence of the changes in firm characteristics on board structure can be easily detected. Third, with pre-spinoff board data, I can examine path dependence of post-spinoff units. Thereby, I can verify assumption on the endogeneity in the sample.

For spinoffs completed during the period of 1993 to 2010, I investigate the nature of reconstructing following spinoffs. Specifically, I examine changes in debt policy, dividend policy, changes in ownership structure and board structure, and compensation policy. Spinoff units represent about 20% of assets in the combined firms. Since pre-spinoff contract structure is more suitable for larger remaining parents, units experience relatively large changes in contracts following spinoffs. Compared to post-spinoff parents, separated units have lower tendency to pay dividends, lower ownership by CEOs, higher fraction of outside directors, smaller board, younger board members, higher block ownerships, and higher incentive payment. Although I have observed significant changes in contract structure in both high q and low q units, the market response is more positive when spin off units have higher

growth opportunities. Therefore, the reconstructing benefit of spin-offs exists only when high q units are separated.

2. Data Description

Spinoff sample is collected with the following procedure. Initial data of spinoffs is collected from SDC M&A database. For spinoffs announced and completed during the period of 1993 to 2010, I use Factiva (formerly, Dow Jones Newswire) to verify the spinoff event and identify spinoff announcement date and ex-dividend date. Spinoffs of which related news on spinoff transaction are unavailable from *Factiva* are discarded. Pre-spinoff firms shall distribute more than 80% of spinoff units' ownership to be included in the sample and any partial spinoffs or equity carve-outs are excluded. Both spinoffs by single segment firms and multiple-segment firms are included. Following previous studies, spinoffs conducted by financial companies, firms in regulated industries, and foreign companies are excluded. In addition, spinoff firms shall have financial data for both parent and spinoff units on Compustat for at least two years around the spinoff and stock return data on CRSP around the spinoff announcement date. Finally, I require that both parent and spinoff units have proxy statements filed in *Lexis-Lexus* for two years around the spinoff. The final sample consists of 211 spin-offs

Table 1 reports time profile of spinoffs and data description. Panel A reports the number of completed spinoffs in each year during the period of 1993 to 2010. Panel B is financial characteristics of pre-spinoff firms (P_B), post-spinoff parents (P_A) and post-spinoff units (U_A). Last three columns reports the absolute differences of the financial characteristics among these three groups. All variables are winsorized at 5% and 95%. In tables, *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Table 1. Descriptive statistics

Panel A. Time Profile

Year	Number of Spinoffs	Year	Number of Spinoffs
1993	4	2002	7
1994	11	2003	4
1995	10	2004	8
1996	20	2005	10
1997	12	2006	12
1998	14	2007	15
1999	16	2008	13
2000	21	2009	10
2001	13	2010	11
N			211

Panel B. Descriptive Statistics

	P_B	P_A	U_A	Difference ($P_A - P_B$)	Difference ($U_A - P_B$)	Difference ($U_A - P_A$)
Assets	5,980.57 [2,089.51]	5208.45 [2086.00]	1517.25 [508.86]	-423.19** [-64.69]***	-4535.7*** [-1579.3]***	-3928.3*** [-1316.9]***
Sales	5621.47 [2,574.49]	4345.83 [1920.36]	1300.69 [571.73]	-747.27*** [-210.81]***	-4133.1*** [-2063.5]***	-3129.5*** [-1152.4]***
MtoB	1.92 [1.69]	1.90 [1.57]	2.03 [1.66]	-0.0023 [-0.0167]	0.1599 [0.0254]	0.1519 [-0.0651]
ROA	0.1525 [0.1543]	0.1340 [0.1314]	0.0838 [0.1310]	-0.0205*** [-0.0148]***	-0.0614*** [-0.0225]***	-0.0471*** [-0.0064]
OM	0.1603 [0.1552]	0.1483 [0.1522]	-0.0278 [0.1128]	-0.0088 [0.0000]	-0.1903*** [-0.0364]***	-0.1721*** [-0.0346]***

From panel B of table 1, spinoff units are relatively weak segments: smaller in size and lower operating performance. Growth opportunities measured by Market-to-Book (MtoB) is insignificantly different between parents and aunts, but absolute difference is quite large, 1.18 in the mean. This suggests that high variation in the form of spinoffs where some units have higher q than parents and other units have lower q than parents. Parents after spinoffs also show higher ROA and operating margin (OM) than those of units.

3. Empirical Results and Discussion

Next, I compare announcement period abnormal returns for firms completed spinoffs between 1993 and 2010. Market-Adjusted Returns (MARs) using CRSP Value Weighted Returns are measured in the (-1, +1) days window surrounding the spinoff announcement date. All variables are winsorized at 5% and 95%. Mean and median differences are tested with t-test and Wilcoxon Signed Rank test.

Table 2. Announcement abnormal return

	N	Mean MARs	Median MARs
Full sample	211	3.54%***	3.36%***
Cross-industry spinoffs at 2-digit SIC	139	3.60%***	3.45%***
Same-industry spinoffs at 2-digit SIC	72	3.42%***	3.21%***
<i>P-Value (Difference)</i>		0.89	0.87
Cross-industry spinoffs at 3-digit SIC	166	3.75%***	3.51%***
Same-industry spinoffs at 3-digit SIC	45	2.73%*	3.19%**
<i>P-Value (Difference)</i>		0.50	0.59
Difference in MtoB > top 1/3	70	3.88%***	5.15%***
Difference in MtoB in the middle	71	3.43%***	3.01%***
Difference in MtoB < bottom 1/3	70	3.30%***	3.19%***
<i>P-Value (Difference)</i>		0.92	0.89
Units' MtoB > top 1/3	70	5.20%***	5.85%***
Units' MtoB in the middle	71	3.87%***	3.76%***
Units' MtoB < bottom 1/3	71	1.54%	1.81%
<i>P-Value (Difference)</i>		0.05**	0.03**

Table 2 reports announcement abnormal return with market adjusted returns (MARs). On average, two-day announcement MARs is 3.54% which is consistent with the finding in previous literature (see for example, Hite and Owers, 1983; Cusatis, Miles and Woolridge, 1993; Allen, Lummer, McConnell and Reed, 1995). MARs in the cross-industry spinoffs is higher than MARs in the same-industry spinoffs. However, the differences in mean and median MARs are insignificant.

Under the hypothesis that larger difference in growth opportunities between parents and units leads to higher benefits from recontracting, sample firms are divided into three sub-groups based on the absolute difference in Market-to-Book ratios between parents and units. MARs among three-groups are insignificantly different.

Since pre-spinoff contract structure is more suitable for larger remaining parents, units experience relatively large changes in contracts following spinoffs. Therefore, it is possible that the benefit of recontracting is concentrated in spinoff units and those with higher growth opportunities. Thus, I further divide sample firms into three groups based on units' Market-to-Book ratio, which is a measure of growth opportunity. The result shows that announcement returns are higher for spinoffs separating higher q units. Next we investigate whether this larger announcement return reflects recontracting benefits by examining changes in contracts in spinoff units.

In table 3, I compare contract structure in pre-spinoff firms (P_B), post-spinoff parents (P_A) and post-spinoff units (U_A). Units are experiencing more changes in contracts than parents.

Specifically, separated units have relatively lower tendency to pay dividends, lower ownership by CEOs, higher fraction of outside directors, smaller board, younger board members, higher block ownerships, and higher incentive payment. The result confirms that pre-spinoff contract structure is designed to be more suitable for larger remaining parents.

Table 3. Recontracting of parents and units

	P _B	P _A	U _A	Difference (U _A -P _A)
<i>Debt Policy</i>				
Leverage	0.2449 [0.2598]	0.2623 [0.2566]	0.2313 [0.1889]	-0.0155 [-0.0111]
Total Liability/Total Assets	0.5930 [0.6002]	0.6207 [0.6142]	0.5408 [0.5617]	-0.0351 [-0.0340]**
<i>Dividend Policy</i>				
Dividends/Net Income	0.2637 [0.2122]	0.2225 [0.0431]	0.0565 [0.0000]	-0.1973*** [-0.1000]***
Dividend/Price	0.0139 [0.0110]	0.0131 [0.0050]	0.0036 [0.0000]	-0.0095*** [-0.0036]***
<i>Ownership Structure</i>				
% ownership by officers and directors	0.1164 [0.0466]	0.1120 [0.0515]	0.0830 [0.0371]	-0.0276*** [-0.0068]***
% ownership by CEO	0.0354 [0.0080]	0.0326 [0.0080]	0.0151 [0.0073]	-0.0177*** [-0.0010]**
% Blockownership	0.1209 [0.1060]	0.1416 [0.0996]	0.1833 [0.1697]	0.0653*** [0.0564]***
<i>Board Composition</i>				
Board size	10.19 [10.00]	9.37 [9.00]	7.34 [7.00]	-2.81*** [-3.00]***
Fraction of Independent directors	0.7378 [0.7778]	0.7477 [0.7778]	0.7718 [0.8000]	0.0371*** [0.0223]***
Fraction of Insiders	0.2179 [0.1818]	0.1899 [0.1667]	0.2147 [0.1818]	0.0004 [0.0048]
Age of board members	57.85 [58.93]	58.06 [58.80]	56.56 [56.85]	-1.61*** [-0.77]***
<i>Compensation Policy</i>				
Proportion of equity based incentives	0.3402 [0.2888]	0.3431 [0.3189]	0.5308 [0.5451]	0.1932*** [0.2067]***
Total Compensation (including stock options)	4488.46 [3039.32]	5617.00 [2993.56]	4833.17 [3118.43]	79.6 [27.8]
Total Compensation (excluding stock options)	2294.95 [1576.54]	2586.57 [1630.35]	1503.09 [894.07]	-798.04*** [-458.64]***

Since renegotiation/set-up by units could be costly, the benefits of separation shall exceed the related costs. In entrepreneurship-type spinoffs where spinoffs are initiated to pursue high growth opportunities available in units, it could be worthwhile to pursue the growth opportunities by setting-up their own contracts. To the contrary, in efficiency-type spinoffs where the spinoff is conducted to eliminate non-promising units, renegotiation is costly in separated units. In this second type of spinoff, there is not much room for recontracting gains for parents since the pre-spinoff contracts are already fitted contracts for the remaining parents. Table 4 shows the directions of the recontracting depending on the magnitude of growth opportunities of units. High q units are defined as spinoff units whose MtoB is highest one third of sample firms. Low q unit are those having lowest one third of MtoB.

Table 4. Growth opportunities of Units and Announcement returns

	Units' MtoB < Bottom 1/3	Units' MtoB > Top 1/3	P-Value for Difference
MtoB of Units	1.00 [1.02]	3.97 [3.03]	<0.0001 [<0.0001]
MtoB of Parents	1.70 [1.26]	2.05 [1.76]	0.1598 [0.0020]
Difference ($U_A - P_A$)	-0.68 ^{***} [-0.26] ^{***}	1.94 ^{***} [1.33] ^{***}	<0.0001 [<0.0001]
Absolute Difference	0.82 [0.32]	2.27 [1.42]	0.0014 [<0.0001]
MARs (-1, +1)	1.54% [1.81%]	5.20% ^{***} [5.85%] ^{***}	0.0221 [0.0180]
Difference ($U_A - P_A$)			
Debt Policy			
Leverage	-0.0607 [*] [-0.0476] [*]	-0.0418 [-0.0655]	0.7001 [0.8595]
Total Liability/Total Assets	-0.1102 ^{***} [-0.1038] ^{***}	-0.0665 [-0.0905] [*]	0.5130 [0.8392]
Dividend Policy			
Dividends/Net Income	-0.1762 [0.0000] ^{**}	0.0170 [0.0000]	0.3297 [0.5884]
Dividend/Price	-0.0097 ^{***} [0.0000] ^{***}	-0.0095 ^{***} [-0.0008] ^{***}	0.9423 [0.8326]
Ownership Structure			
% ownership by officers and directors	-0.0214 [*] [-0.0176] ^{**}	-0.0281 ^{***} [-0.0057] ^{***}	0.6250 [0.9202]
% ownership by CEO	-0.0167 [*] [0.0004]	-0.0265 ^{**} [-0.0007]	0.5745 [0.3289]
% Blockownership	0.0451 [*] [0.0489] [*]	-0.0358 [-0.0025]	0.0173 [0.0255]

Board Composition			
Board size	-2.3182 ^{***} [-2.0000] ^{***}	-1.8409 ^{***} [-1.0000] ^{***}	0.3965 [0.4260]
Fraction of Independent directors	0.0624 ^{***} [0.0452] ^{***}	-0.0048 [-0.0056]	0.0096 [0.0388]
Fraction of Insiders	-0.0077 [0.0087]	0.0444 ^a [0.0250] ^a	0.0446 [0.0316]
Age of board members	-1.0939 [-0.2000]	-1.7426 ^a [-0.6528] ^a	0.4648 [0.4863]
Compensation Policy			
Proportion of equity based incentives	0.1770 ^{***} [0.1804] ^{***}	0.2295 ^{***} [0.2202] ^{***}	0.5374 [0.4859]
Total Compensation (including stock options)	483.87 [-316.60]	105.67 [73.18]	0.8798 [0.6674]
Total Compensation (excluding stock options)	87.50 [-426.78] ^{***}	-1222.53 [-387.51] ^{***}	0.5245 [0.8839]

From table 4, units' growth opportunities are significantly related to announcement MARs. The results show that units having low growth opportunities have restructured to have higher block ownership and higher independent outside directors, while units having high growth opportunities have larger insiders in the board. In both sub-samples, units commonly have lower dividend payment, lower ownerships, smaller board, younger board members, and higher proportion of stock option payment. The recontracting seems related to more positive market response only in spinoffs where units have highest growth opportunities.

4. Determinant of Board Structure

I also examine the determinants of board size and composition after spinoffs. Although there are some significant results, more tests are needed to find causal relationships. Using firm characteristics known to be related with board size, I examine cross-sectional determinants of board size in the pre-spinoff parents (P_B). Here, I only summarize the result and provide detailed tests on the changes in board composition in table 5. In untabulated result, the number of segments and firm size are positively related with board size. The post-spinoff parents (P_A) show significant path dependence on the past board size. However, the board size of units (U_A) is independent from the past board size. In all regressions, firm size is only variable that is consistently associated with board size. Interestingly, Market-to-Book ratio used as proxy for firm performance and/or growth opportunities is insignificant in all regressions. Also, the previously documented negative relation between board size and the proportion of insiders are not present in our data. Similar test is conducted on board composition. In untabulated result, units' board composition is appeared to get less influence of past board, but it is still significantly path dependent. Also, Market-to-Book is insignificant in all regressions and the previously documented negative relation between board size and the proportion of insiders are not present.

Lastly, I examine the change in units' board size and composition relative to post-spinoff parents (P_A). All explanatory variables are computed to percentage changes. In this way, I can exclude endogenous fixed factors of past history that might affect both remaining parents and separated units. This provides stronger test than simple change analysis of the same firm over two periods because the base number of the beginning year is controlled. From table 5, dependent variables are the change in board size and the change in percentage of inside directors. Change is measured as difference between the value of spunoff units and the value of parents in the post-spinoff periods. *p*-values are reported in parenthesis. Standard errors are estimated using Huber/White robust method. All regressions include year dummy variables. All final variables are winsorized at 5% and 95% percentiles.

In model (1) of table 5, firm size is consistently associated with board size. Surprisingly, relative Market-to-Book ratio is positively related with board size. Board size is negatively related with the proportion of inside directors. Similar results are found with the inclusion of additional control variables in model (2) and in *Probit* model of model (3). Units having relatively higher free cash flow (proxy for agency problem) are organized with smaller board.

Regarding board composition in model (1) to (3) of table 5, the only variable consistently significant is the change in board size. Coefficients on Market-to-Book are weakly positive in model (4) and (5). There is some evidence that ownership structure is affecting board composition. Higher CEO ownership and higher outside directors' ownership, both indicating higher incentives to behave on behalf of shareholders' interests, are associate with fewer insiders or more outsiders at the board.

Table 5. Determinants of board size and composition

	Change in Board size ($U_A - P_A$)/ P_A			Change in % of insiders ($U_A - P_A$)/ P_A		
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	Probit	OLS	OLS	Probit
Relative diversity	0.0265 (0.386)	0.0337 (0.254)	0.0044 (0.982)	-0.1262 (0.141)	-0.1099 (0.220)	-0.1405 (0.532)
Relative size	0.0448 (0.007)	0.0409 (0.018)	0.5344 (0.000)	0.1816 (0.152)	0.1910 (0.152)	-0.0068 (0.933)
Relative leverage	0.0011 (0.636)	0.0019 (0.447)	-0.0004 (0.983)	-0.0150 (0.073)	-0.0132 (0.141)	-0.0112 (0.635)
Relative tangible assets	-0.0187 (0.187)	-0.0165 (0.312)	-0.0115 (0.923)	-0.0081 (0.914)	-0.0066 (0.931)	-0.0418 (0.646)
Relative MtoB	0.0755 (0.001)	0.0813 (0.001)	0.5246 (0.000)	0.1644 (0.054)	0.1687 (0.064)	0.0054 (0.970)
Relative Freecash/Assets		-0.0060 (0.013)	-0.0504 (0.027)		-0.1929 (0.238)	-0.0257 (0.247)
Relative Industry Herfindahl Index		0.0165 (0.392)	0.2465 (0.079)		-0.0020 (0.978)	0.0740 (0.497)
Relative CEO ownership		0.0005 (0.622)	0.0027 (0.476)		-0.0044 (0.030)	-0.0048 (0.205)
Relative outside director ownership		0.0003 (0.375)	0.0020 (0.569)		-0.0016 (0.105)	-0.0076 (0.046)
Change in % of insiders	-0.0972 (0.001)	-0.0906 (0.002)	-0.9147 (0.002)			
Change in board size				-1.3757 (0.001)	-1.3733 (0.001)	-2.1901 (0.000)
Intercept	-0.1873 (0.051)	-0.2130 (0.040)	-0.6004 (0.003)	0.0787 (0.781)	0.0829 (0.752)	0.0330 (0.873)
F-stat	3.69***	4.17***		2.40***	3.38***	
Adj. R ²	0.212	0.219		0.196	0.193	
Chi ²			32.11***			28.28***
Pseudo R ²			0.295			0.168
N	208	205	205	205	208	207

5. Conclusion

A firm is a nexus of contracts. These contracts represent the optimal decisions of the firm to reflect the characteristics of the firm's assets and the growth opportunities. For the firms with multiple divisions, the contracting becomes more complicated if each division is composed of assets have various growth opportunities. Examining reconstructing following spinoffs provide an unique experiment to examine a firm's policies as compared to those existed in the pre-spinoff period. I find that units adjust firm policies after they are separated from parent

firms. I also find some evidence that the reconstructing benefit of spin-offs is concentrated in high q units being separated. Further analysis shows that ownership structure affects board composition. Higher incentives to CEO are associate with fewer insiders and more outsiders in the board.

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