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BOARD LEADERSHIP AND INDEPENDENCE IN ENTREPRENEURIAL VENTURE IPOs



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ABSTRACT

Building on the agency theory and the resource-based view of the board of directors, we study how board structure and leadership affect the value of entrepreneurial venture IPOs. The relationship between value and board independence is inverse U-shaped in young and high-tech entrepreneurial venture IPOs, which means that, beyond a certain threshold, board independence becomes excessive. Excessive board independence does not occur in mature companies and in low and mid-tech sectors. Finally, excessive board independence may be avoided by separating the roles of CEO and president of the board of directors.

INTRODUCTION

There are two main advantages of having independent directors in the board of directors (BoD). First, they may benefit the firm because, thanks to their independence, they are better in monitoring the behavior of the management. Second, because they are outside of the management team, they may broaden the set of resources and competences available to the firm. These two advantages relate to two different theories of the BoD, the agency theory (which sees the BoD as a monitoring device) and the resource-based theory (which sees the BoD as a source of resources for the firm). The relative importance of the two theories, and of the respective role played by the BoD, varies from case to case. In general, the agency theory is more suited for companies that are mature or operate in mid and low-tech industries, while the resource-based theory is more appropriate for companies that are young or operate in high-tech sectors.

Together with the gradual diffusion of the presence of independent directors in the BoD, the literature has started to recognize that board independence also entails costs, and that its costs may, in some circumstances, outweigh its benefits. In the agency view of the BoD, too many independent directors cause over-monitoring, which may lead to excessive conservatism. In the resource-based view of the firm, too many independent directors may cause an information overload for the CEO, who may spend too much time listening to the advices and recommendations of independent directors rather than focusing on running the company. Krause and Bruton (2014) suggest that the leadership structure of the board (and, specifically, the separation between the CEO and the president of the BoD) may reduce over-monitoring and information overflow because the president of the BoD may act as a filter to the CEO.

In this paper, we study how the independence and leadership of the BoD affect the value of entrepreneurial venture IPOs. The balance between benefits and costs of board independence should result in an inverse U-shaped relationship between firm value and the fraction of independent directors in the board. This relationship may differ between mature companies (in which the agency view of the BoD applies) and young companies (in which the resource-based view of the BoD applies). Moreover, we should observe a moderating role played by the separation between the CEO and the president of the BoD.

LITERATURE AND HYPOTHESES

In mature companies and in companies operating in sectors with low technological intensity, the role of the BoD is described by the agency theory, which views the BoDs as a monitoring tool (Hermalin and Weisbach, 2001). A series of recent studies on listed companies show that board independence may become excessive and be detrimental to the value of the company (Faleye et al. 2011). In the agency view of the BoD, board independence may become value detrimental when the costs of monitoring exceed its benefits. More independent directors require more time spent by executives in reporting data and justifying outcomes rather than actually taking decisions. Moreover, overmonitoring may lead to excessive conservatism. Accordingly our first hypothesis is the following:

Hypothesis 1: There is an inverse U-shaped relationship between board independence and firm value in companies that are mature or operate in sectors with low technological intensity

In young companies and in companies operating in sectors with high technological intensity, the role of the BoD is described by the resource-based view, according to which the BOD is a source of resources and competences for the firm (Coff, 1999). According to this view of the BoD, excess board independence will arise because of the too many inputs received by the executives, in terms of strategic advices or network of business contacts, which will end up diluting their attention. In the BoD of a young entrepreneurial venture, excess board independence does not come in the form of excess monitoring, but rather in the form of information overflow for the CEO. Accordingly, our second hypothesis is the following:

Hypothesis 2: There is an inverse U-shaped relationship between board independence and firm value in companies that are young or operate in sectors with high technological intensity

Finally, following the comments by Krause and Bruton (2014) on the theoretical framework proposed by Garg (2013), we argue that the separation of the roles of CEO and president of the BOD may reduce the risk that board independence becomes excessive in entrepreneurial ventures. According to Krause and Bruton (2014) the role of the president of the BOD is to act as a filter for the CEO. The separation between the two roles will reduce the time spent by the CEO justifying outcomes rather than actually taking decisions, and will reduce the information overflow coming from an independent BOD because the information will be pre-processed by the president of the BOD before it interferes with the strategic decision making of the CEO. This leads us to the following hypothesis:

Hypothesis 3: The shape of the relationship between board independence and firm value in is inverse U-shaped only when the roles of CEO and president of the BoD are not separated.

SAMPLE AND METHODOLOGY

Sample

We test our research hypotheses on a sample of entrepreneurial venture IPOs in Europe. This choice is based on three considerations. First, the information about IPOs is more complete and reliable than for non-listed companies. Second, at the time of the IPO the corporate governance of the firm is clearer than at any other point in the firm's history (Bruton et al., 2010). Third, listing companies are much more diverse in terms of age and stage of maturity in Europe than in the US.

Table 1 categorizes the sample of 969 IPOs by listing stock exchange, age and IPO year. Table 2 reports the means of all the variables used in the analysis. Sample companies are on average 19

years old at the IPO, which is more than the typical IPO-firm in US or UK (Vismara et al., 2012). However, while 327 out of 969 (33.7%) of our sample firms go public more than 10 years after incorporation, most of them are less than 5 years old, and 257 (26.5%) are less than one year old. This diversity allow us to study the role of BoD in different phases of firm's life-cycle.

Firms going public in Italy are on average more mature (28.76 years). Italian firms are also slightly larger at the IPO, but the difference is not statistically significant. The highest Tobin's Q is found in German companies (average Tobin's Q 6.43 in Germany, vs 4.37 in France, and 3.70 in Italy), where there is also the highest board independence (on average, 56.25% of the members of BoD are non-executives, vs 51.50% in France, and 53.16% in Italy) and the lowest separation between ownership and control (V/C on average 1.04 in Germany, vs 1.24 in France, and 1.47 in Italy). Board ownership is on average 20% in France, and about one third in Germany and Italy, where boards are larger (board size in on average made of 5.84 members in France, 6.87 in Germany, and 7.24 in Italy). With smaller boards, the CEO is also the chairman of the board in most of the French firms (60%), whereas these two roles are typically split in Germany firms (average CEO duality 14%).

Methodology

Building on prior research, we use ordinary least squares (OLS) regression models with robust standard errors. In all our analyses, we test the impact of board independence and board leadership on the firm valuation at the IPO, measured by Tobin's Q. Board independence is included with both a linear and a quadratic terms, in order to verify whether the effect is U-shaped. In order to test whether Board Independence is affected by Board Leadership, the analysis is performed on subsamples separating firms with and without CEO Duality. Further, in order to analyze whether the inverse U-shaped effect of Board Independence is concentrated in some industries, or in some stages of the firm life cycle, we estimate our models also on subsamples split according to the firm industry (High Technology and Knowledge Intensive Services vs. Others) and firm age.

One concern with the analysis of the cross-sectional determinants of valuation is the potential endogeneity between a firm's IPO value and its BoD structure. Tobin's Q and Board independence can be jointly affected by the firm's unobserved variable(s), which creates a spurious relationship between them (Hermalin and Weisbach 2001). We address this issue by employing an instrumental variable approach, using a two-stage least squares (2SLS) regression. In the first stages, the dependent variables are the Board Independence and its squared value. In the second stage it is Tobin's Q. We instrument Board Independence using Mimicking Behavior, which is defined as the ratio of non-executive members in the board of directors of all the firms belonging to the same industry (ICB code, first digit), listed in the same market in the same IPO year, as well as its squared value (Bertoni et al., 2014).

RESULTS

Table 3 reports the results of the analysis conducted using OLS (the results obtained using 2SLS are similar, and are not reported here for the sake of synthesis). First, we observe in column (2) that the relationship between value and board independence, in the whole sample, is indeed U-shaped. However, when we split the sample between high tech companies (column 3) and mid and low tech companies (column 4), we observe an inverse U-shaped relationship between value and board independence only in the high-tech subsample. Similarly, when we split the sample between young companies (column 5) and mature companies (column 6), we observe an inverse U-shaped relationship between value and board independence only among young companies. Taken together these two results support Hypothesis 2 but lend no support to Hypothesis 1.

Finally, in columns 7 and 8 we split the sample based on the separation between the CEO and the president of the BoD. Our results highlight that the inverse U-shaped relationship between value and board independence is only present in companies with CEO duality, which lends support to Hypothesis 3.

CONCLUSIONS

Our study contributes to the literature in different ways. First, we provide empirical evidence about the role of the BOD in entrepreneurial ventures. We find evidence supporting the idea that board independence plays a positive role only up to a certain threshold, after which its costs outweigh its benefits. However, when we separate the sample based on the age and technological intensity of the firm, we find divergent results. In the older companies and in those that operate in mid- and low-tech sectors, we find no evidence of an inverse U-shaped relationship between value and board independence, which we find instead among the young and the high-tech companies. These results suggest that excess independence of the board is not due to over-monitoring (which would occur in older and mid to low-tech companies, in which the agency view of the BoD applies), but rather to an excess information flow to the CEO (which occurs in young and high-tech companies, in which the resource-based view of the BoD applies).

Our second contribution to the literature is that we show how board leadership may moderate the impact of the BoD on firm value and, especially, how CEO duality may expose an entrepreneurial venture to an excess of board independence. To this extent, the risk of information overflow to the CEO seems to be effectively reduced by separating the roles of CEO and president of the BoD.

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Table 1: Distribution of the Sample

	Sample		France		Germany		Italy	
	N	%	N	%	N	%	N	%
<i>Age at IPO (Years)</i>								
Age < 1	257	26.5	109	25.5	121	31.6	27	17.1
1 < Age < 5	247	25.5	143	33.4	87	22.7	17	10.8
5 < Age < 10	138	14.2	70	16.4	50	13.1	18	11.4
Age > 10	327	33.7	106	24.8	125	32.6	96	60.8
<i>IPO Year</i>								
1995-1999	222	22.9	123	28.7	82	21.4	17	10.8
2000-2003	324	33.4	132	30.8	133	34.7	59	37.3
2004-2007	286	29.5	151	35.3	77	20.1	58	36.7
2009-2011	137	14.1	22	5.1	91	23.8	24	15.2
<i>Total</i>	<i>969</i>	<i>100.0</i>	<i>428</i>	<i>100.0</i>	<i>383</i>	<i>100.0</i>	<i>158</i>	<i>100.0</i>

Table 2: Descriptive Statistics

This table presents averages for the variables employed in the regression analyses on the whole sample and on country subsamples. Stars for averages refer to tests for differences between a single country and the rest of the sample. ***, **, and * indicate significance levels below 1%, 5%, and 10%, respectively.

Variables	Sample	France	Germany	Italy
Tobin's Q	5.07	4.37***	6.43***	3.70***
Board Independence	53.65	51.50***	56.25***	53.16
CEO Duality	38.91	59.58***	14.36***	42.41
Age	18.78	16.51**	17.19	28.76***
V/C	1.2	1.24	1.04***	1.47***
C	46.19	47.22	48.97***	36.65***
Board Ownership	27.24	19.86***	31.59**	36.71***
Board Size	6.48	5.84***	6.87***	7.24***
Firm Size	280.84	280.95	257.54	337.03
Profitability	17.01	11.16	24.94	13.66
Leverage	66.2	31.86	121.53	25.08
Offer Size	41.06	28.57**	41.06	74.86***
Offer Structure	24.18	50.45***	78.06***	66.31
Underwriter reputation	23	14.25***	27.94***	35.44***
Market Momentum	0.38	0.18	0.47	0.69
VC Backing	38.49	35.05	49.61***	20.89***
Mimicking Behavior	54.41	51.99***	57.74***	52.87**

Table 3: Effect of Board Leadership and Independence on Firm Value: OLS Regression Results

OLS Regressions on Tobin's Q, using the sample of 969 European IPOs. Models 1 and 2 are on the full sample. In Models 3 and 4 the sample is split according to CEO duality. In models 5 and 6 the sample is split in High Technology and Knowledge Intensive Sectors vs Others. In Model 7 and 8 the sample is split according to age (below or equal, and above the sample median).

Each regression controls for time, industry and market effects. Heteroskedasticity robust standard errors are reported in brackets. ***, ** and * represent, respectively, significance at less than 1%, 5% and 10%.

Sample	Full Sample		High-tech	Mid and Low tech	Young	Mature	CEO Duality	No Duality
	Linear	U	U	U	U	U	U	U
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Independence impact								
BI (B. Independence)	1.567*** (0.437)	2.298*** (0.840)	4.113*** (1.032)	2.667** (1.103)	4.418*** (1.099)	2.453** (1.048)	4.101*** (0.932)	2.465* (1.264)
BI (squared)		-0.780* (0.410)	-2.466*** (0.917)	-0.439 (0.933)	-2.341** (0.984)	-1.097 (0.931)	-2.568*** (0.835)	-0.491 (1.140)
CEO Duality	-0.833*** (0.173)	-0.826*** (0.173)	-0.649*** (0.218)	-1.010*** (0.258)	-0.870*** (0.240)	-0.757*** (0.250)		
Age	-0.154 (0.226)	-0.144 (0.226)	0.112 (0.295)	-1.081** (0.462)	0.501 (0.594)	-1.909 (1.496)	-0.550 (0.360)	0.127 (0.296)
Age (squared)	-0.027 (0.043)	-0.027 (0.043)	-0.046 (0.063)	0.116 (0.074)	-0.229 (0.230)	0.241 (0.198)	0.077 (0.067)	-0.097 (0.059)
V/C	-0.237*** (0.075)	-0.237*** (0.075)	-0.283*** (0.096)	-0.025 (0.130)	-0.335** (0.141)	-0.150 (0.104)	-0.240 (0.171)	-0.193** (0.082)
C	0.003 (0.004)	0.003 (0.004)	0.005 (0.005)	0.001 (0.006)	-0.001 (0.006)	0.008 (0.006)	0.001 (0.006)	0.006 (0.005)
Board Ownership	-0.545** (0.244)	-0.547** (0.245)	-0.613* (0.314)	-0.331 (0.393)	-0.146 (0.344)	-1.020*** (0.348)	-0.870** (0.368)	-0.301 (0.328)
Board Size	-0.034 (0.024)	-0.030 (0.025)	-0.026 (0.035)	-0.049 (0.033)	-0.057 (0.037)	0.012 (0.034)	0.025 (0.046)	-0.052* (0.030)
Firm Size	-0.738*** (0.047)	-0.735*** (0.047)	-0.810*** (0.061)	-0.566*** (0.079)	-0.764*** (0.073)	-0.698*** (0.069)	-0.749*** (0.074)	-0.743*** (0.067)
Profitability	0.048 (0.112)	0.052 (0.113)	0.025 (0.103)	0.466 (0.400)	-0.043 (0.090)	2.070*** (0.735)	-0.080 (0.105)	0.711 (0.476)
Leverage	0.006 (0.017)	0.005 (0.017)	0.099 (0.066)	-0.053 (0.060)	0.030* (0.016)	-0.296*** (0.110)	0.028* (0.016)	0.023 (0.016)
Offer Size	0.027 (0.018)	0.025 (0.019)	0.025 (0.017)	-1.035* (0.548)	0.646 (0.696)	0.017 (0.555)	0.465 (0.549)	0.024 (0.021)
Offer Structure	0.313 (0.361)	0.310 (0.358)	0.114 (0.297)	1.030*** (0.374)	0.091 (0.323)	1.264*** (0.347)	0.904** (0.365)	0.122 (0.316)
Underwriter Reputation	0.904*** (0.211)	0.904*** (0.211)	0.894*** (0.264)	0.931*** (0.333)	1.071*** (0.324)	0.707** (0.276)	0.552 (0.354)	1.031*** (0.276)
Market Momentum	1.594 (2.047)	1.640 (2.044)	1.264 (2.557)	0.211 (3.250)	1.320 (2.862)	0.451 (2.762)	1.694 (2.813)	1.098 (2.863)
VC Backing	0.212 (0.171)	0.223 (0.170)	0.155 (0.214)	0.610** (0.289)	0.100 (0.239)	0.274 (0.258)	-0.166 (0.236)	0.557** (0.232)
Constant	15.048*** (1.320)	14.944*** (1.371)	16.079*** (1.694)	18.071*** (2.005)	17.423*** (1.902)	17.599 (29.643)	14.181*** (1.611)	17.624*** (1.839)
Observations	969	969	639	330	523	446	377	592
R-squared	0.438	0.439	0.420	0.454	0.433	0.481	0.535	0.427