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Access to Finance for French Firms: Do boardroom attributes matter?

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Abstract

This article aims at studying the influence of boardroom attributes on access to leverage in the French context. The empirical findings lead to several interesting results. They reveal a negative relation between the number of female directors on the board and the total and long-term leverage ratios. Due likely to the risk aversion of women, firms with more gender-diverse boards appear to use less levels of debt. This is consistent with the pecking order theory. The results also show that the size of the board, the frequency of its meetings and the average age of its independent directors positively affect the leverage ratios. They are coherent with the disciplinary role of the board stipulated by the agency theory.

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1. INTRODUCTION

Policy makers and academic researchers consider the board of directors to be the main body responsible for monitoring firm activities and making strategic decisions. Numerous firms worldwide have restructured the composition of their boards in order to improve their effectiveness. France is among the countries that have committed to the codes of best practices in corporate governance, especially those related to boardroom attributes. Since the mid-1990s, the French Parliament has adopted several codes of best corporate governance practices to improve market transparency. For instance, the AFEP[1] and MEDEF[2] published the "Corporate Governance Code of Listed Corporations" in 1995, which was revised in 2013 and 2016. In this code, these bodies developed a set of recommendations that incite French listed companies to appoint independent directors, create board committees and separate the functions of chief executive officer (CEO) and chair of the board to improve the effectiveness of the boards. The recent recommendations added to the code encourage the appointment of women to boards of directors. The aim of French legislation through the Cope-Zimmermann law of January 2011 was that, starting in January 2017, all boards should achieve, and then maintain, a percentage of at least 40% women directors. France is at the top of the class within the EU in terms of representation of women on corporate boards. According to a European Commission study based on a sample of large companies[3], the proportion of women on boards of French listed companies has doubled in two years to reach 25.1% compared to 12.3% in October 2010. This context leads to asking about the impact of boardroom attributes on firms' strategic decision-making and particularly financing decisions.

The effect of corporate governance on capital structure has been widely discussed, both from theoretical and empirical viewpoints, in prior studies (Morellec *et al.*, 2012; Chang *et al.*, 2014; Liao et al., 2015; Rossi and Cebula, 2015; Bin-Sariman *et al.*, 2016; Toumi et al., 2016; Benkraiem et al., 2017; Orihara, 2017; Ilev and Roth, 2018; Vu et al., 2018). However, few studies have focused on the effects of the boardroom attributes on access to debt financing. The present paper attempts to fill this gap. It checks whether the independence, assiduity and diversity of the board affect access to leverage. This paper differs from the current literature in three ways. First, we consider financing decisions as the outcome of the characteristics of both the board of directors and the ownership structure. Hence, we focus on boardroom attributes that may contribute directly to improving monitoring effectiveness and reducing information asymmetries between firms and credit providers. We extend the analysis over various features of the board by including different variables related to its composition, functioning and diversity. Second, our study is one of very few studies that analyze the influence of female directors on leverage ratios. We examine the presence of women as both members and independent directors in order to test which of these attributes is more effective in managerial monitoring. Third, our study is one of the first to investigate the relationship between gender diversity and leverage ratios in the French context. This is worthwhile given that France is among the first European countries to have developed codes of best corporate governance practices. In addition, French legislation encourages the appointment of women to boards through the Cope-Zimmermann law of January 2011. The effort of the French government to improve the corporate governance practices of firms continues today. Despite the tendency to better the corporate governance model, the opinions related to the benefits of

[1] The French Association of publicly-held firms.
[2] The Movement of French Firms.
[3] For more details, see the European Commission study "Women on boards - Factsheet 2 Gender equality in the Member States" available on http://ec.europa.eu/justice/gender-equality/files/womenonboards/factsheet-general-2_en.pdf

these mechanisms are not conclusive in this context. The current paper aims to deepen our knowledge of the benefits of a corporate governance system in France by assessing the impact of the boardroom attributes on improving supervision of the top managers, especially with regard to financing decisions. The empirical analysis uses panel data of 89 non-financial firms belonging to the SBF120 index during a nine-year period from 2008 to 2016. The results show that the board size, the average age of independent directors and the meeting frequency positively influence the total and long-term leverage ratios. However, the number of women on the board negatively affects the firm's access to debt financing.

The remainder of the paper is organized as follows. Section 2 reviews the prior literature regarding the impact of boardroom attributes on access to finance. Section 3 presents the methodology of the study. Section 4 reports the results and discusses the main empirical findings, and the last section concludes the paper.

2. LITERATURE REVIEW

The financing decision is a crucial question that ensures the sustainability of firms. An increasing body of literature attempts to investigate the determinants of capital structure decisions by using competing capital structure theories (Myers, 1984; Berens and Cuny, 1995). Agency theory suggests that the conflicts between managers and shareholders constitute an important determinant of the firm's financing choice (Jensen and Meckling, 1976). Managers choose the capital structure of the firm in order to maximize the present value of private benefits. Lorca *et al.* (2011) suggest that the monitoring role of the board of directors mitigates the opportunistic behavior of managers and reduces the information asymmetry. This accordingly reduces the creditors' perceptions of the likelihood of default in loan repayment and decreases the cost of debt.

Boardroom attributes can influence monitoring effectiveness. Adams and Mehran (2003) and Selcuk and Sener (2018), among others, argue that a large board is likely to effectively monitor firm's activities due to the better skills and greater expertise of its directors. The relation between board size and leverage has been well-examined in prior empirical studies (see, e.g., Berger *et al.*, 1997; Wen *et al.*, 2002; Abor, 2007; Coles *et al.*, 2008; Alves *et al.*, 2015). Based on agency theory, the majority of these studies find a positive association between the board size and leverage ratios. They argue that firms with large boards follow a policy of higher leverage to enhance firm value, especially when these firms are entrenched due to greater monitoring by regulatory authorities. Another explanation proposed by Wen *et al.* (2002) indicates that larger boards may have difficulty in reaching a consensus on decisions, which can ultimately affect corporate governance quality and will translate into higher financial leverage. In the US context, Coles *et al.* (2008) find a positive relationship between board size and debt ratio. They suggest that firms with a high debt ratio are likely to benefit from a larger board because they have greater levels of advising requirements. In addition, Eisenberg *et al.* (1998) and Hussainey and Aljifri (2012) demonstrate that large firms with large boards are expected to be profitable and have less potential for bankruptcy compared to small firms with small boards. Large firms are, accordingly, likely to have better access to debt financing.

The independence of directors is one feature of the board that has received major attention from market authorities and academic researchers. According to agency theory, the proportion of independent directors plays an effective monitoring role in reducing agency costs (Fama, 1980; Fama and Jensen, 1983; Hermalin and Weisbach, 1998; Hermalin and Weisbach, 2003). Thus, board independence helps firms attract better external financing sources. Within this scope, Berger *et al.* (1997) and Kyereboah-Coleman and Biekpe (2006), among others,

show a positive relationship between the proportion of independent directors and the firm's capital structure. Sheikh and Wang (2012) provide evidence that independent directors positively affect the total and long-term debt ratios.

Another stream of research finds that the effectiveness of the board is positively affected by its diligence (Jiraporn *et al.*, 2009). Laksmana (2008) suggests that more diligent boards are likely to have better practices of information disclosure. Such companies have lower information asymmetry between managers and fund providers and subsequently have more ability to access debt financing sources. The results of previous studies provide evidence that the effectiveness of the board depends on its size, independence and diligence. These studies support the view of agency theory that stipulates the active monitoring role of the board. This opinion is not supported for all board attributes. Some empirical results of the previous studies are consistent with the pecking order theory. For instance, Hernandez-Nicolás *et al.* (2015) reveal that the presence of women on the board negatively influences debt levels. The greater risk aversion on the part of women could be an explanation for these results. Women are regarded as more risk averse than men (see, e.g., Jianakoplos and Bernasek, 1998; Smith *et al.*, 2006; Hernandez-Nicolás *et al.*, 2015; Faccio *et al.*, 2016[4]). For this reason, firms with female directors on their boards are less likely to meet their financing needs using debt in order to avoid the risk of bankruptcy and high probability of default associated with high leverage. In addition, Buttner and Rosen (1988) provide evidence that credit suppliers perceive that men have more probability of business success than women. Thus, firms that appoint women to their boards may be discriminated against by the credit suppliers and have more difficulty accessing leverage (Buttner and Rosen, 1989; Brush, 1992).

3. METHODOLOGY

3.1. Data

The primary sources of data are Thomson One Banker, Datastream, and Diane databases from which a set of commonly used financial data was collected to study the firm's financing preference. We focus on the SBF120 index because it includes the largest corporations in terms of market capitalization and the most liquid French stocks traded on the Paris Stock Exchange. Following conventional practices, the initial sample is composed of all non-financial French firms listed on the SBF120 index during a nine-year period from 2008 to 2016. Then, financial and regulated utilities firms (Standard Industrial Classification, or SIC, codes 4900–4999 and 6000–6999) are excluded because of their specific governance practices and accounting rules. Companies without independent directors or available relevant information about their governance practices, either in their annual reports or on their corporate websites, are also excluded from the sample. Hence, the final sample consists of 89 companies and includes 801 firm-year observations. The data concerning board characteristics, including board size, independence, diligence, and diversity, were completed from INSEAD OEE Data Services (IODS) and the companies' annual reports under the "Board of Directors" and/or "Corporate Governance Report" sections.

3.2. Regression model

In line with previous studies (see, e.g., Morellec *et al.*, 2012; Chang *et al.*, 2014; Bin-Sariman *et al.*, 2016; Toumi et al., 2016; Benkraiem et al., 2017), we use the following fixed effect regression model to investigate the impact of boardroom attributes on leverage ratios.

[4] The study of Faccio *et al.* (2016) provides evidence that firms run by female CEOs have lower leverage suggesting that the risk-avoidance behavior may lead to restricting the capital allocation process.

$$\text{Leverage ratios } \{\text{TD and LD}\}_{i,t} = \alpha_0 + \alpha_1 \text{ Liquidity}_{i,t} + \alpha_2 \text{ TobinQ}_{i,t} + \alpha_3 \text{ Sales}_{i,t} + \alpha_4 \text{ TA}_{i,t} + \alpha_5 \text{ CvsD}_{i,t} + \alpha_6 \text{ FC}_{i,t} + \alpha_7 \text{ MOW}_{i,t} + \alpha_8 \text{ ROE}_{i,t} + \alpha_9 \text{ DUA}_{i,t} + \alpha_{10} \text{ Boardroom Attributes } \{\text{Board size, independence, diligence and gender-diversity}\}_{i,t} + \alpha_{11} Z_i + \varepsilon_{i,t}$$

Where for firm *i* at time t: Z is a set of dummy variables controlling for year and firm i effects, respectively, and ε is the error term. Note that Aivazian et al. (2005) and Firth et al. (2008) point out that the assumption of firm effect nullity is not realistic because of the large heterogeneity across industries and across firms within the same industry. In the same way, the assumption of time effect nullity is not appropriate. This is mainly due to the contextual changes in leverage access conditions implemented throughout Europe, including France. Consequently, ignoring the unobservable effects of time and individual firms is likely to make the estimation results biased. The variables in the regression model are defined in the following subsections.

Dependent variables

We use as dependent variables the total and long-term leverage ratios. Total leverage (*TD*) is the ratio of total debt to total assets. Long-term leverage (*LD*) is the ratio of long-term debt to total assets.

Independent variables

We use three variables for ownership structure. Ownership concentration (*CvsD*) is measured by a dummy variable coded as 1 if the blockholder holds more than 20% of shares and 0 otherwise. Family ownership (*FC*) is measured by a dummy variable coded as 1 if the firm is controlled by a family and 0 otherwise. Managerial ownership (*MOW*) is measured by a dummy variable coded as 1 if the CEO holds shares of the company and 0 otherwise. CEO duality (*DUA*) is a dummy variable that takes the value 1 when the CEO is the chairperson of the board and 0 otherwise. The board size (*BS*) is the natural logarithm of the total number of directors on the board. To measure board independence, we use four variables: first, the proportion of independent directors on the board (*BIND*) as proxied by the number of independent directors divided by the total number of directors. Second, *AGEIND* measures the average age of independent directors. Third, the independent directors' tenure (*TEN*) measures the average length of independent directors' mandate, and *BMN* measures the average number of independent directors' mandates. The board diligence is measured using both the total number of board meetings during the fiscal year (*BMEET*) and the average director participation rate (*BASS*). The gender diversity of the board is measured using the total number of women on the board (*NW*) and the proportion of independent female directors (*PIW*). *PIW* is measured by the total number of independent female directors on the board divided by the total number of independent directors on the board.

Control variables

The regression models control for liquidity, Tobin's Q, sales, total assets, and profitability (see, e.g., Morellec *et al.*, 2012; Chang *et al.*, 2014; Bin-Sariman *et al.*, 2016), as well as corporate ownership structure (see, e.g., Lo *et al.*, 2016; Chang *et al.*, 2014; Masnoon and Rauf, 2013; Morellec *et al.*, 2012) and CEO duality (see, e.g., Masnoon and Rauf, 2013). Liquidity is the ratio of current assets to current liabilities. Tobin's Q is the ratio of market value of equity plus total liabilities to total assets. Sales is the natural logarithm of total sales at the fiscal year. The natural logarithm of total assets measures the firm size, and the firm profitability is the ROE ratio.

4. RESULTS

4.1. Summary statistics

Table 1 reports the descriptive statistics of both dependent and independent variables deployed to study the relationship between boardroom attributes and debt. Total debt represents an average (median) of 25.77% (23.32%). Long-term debt has an average (median) of 20.65% (16.95%). Total debt amounts to more than ¼ of total assets, and long-term debt constitutes the most important fraction of debt for large listed French firms.

Table 1: Descriptive statistics

Variables	Mean	St. Dev	Quartiles		
			25	50	75
TD	0,258	0,251	0,128	0,233	0,336
LT	0,206	0,250	0,084	0,170	0,257
Liquidity	1.393	1.460	0.910	1.134	1.564
QTobin	0.268	0.267	0.142	0.236	0.350
Sales	8.219	2.092	7.321	8.342	9.608
LnTA	9.078	1.497	8.075	8.949	10.239
CvsD	0.596	0.491	0.000	1.000	1.000
FC	0.292	0.455	0.000	0.000	1.000
MOW	0.831	0.375	1.000	1.000	1.000
ROE	10.850	71.619	4.238	9.267	14.159
DUA	0.538	0.499	0.000	1.000	1.000
BS	12.477	3.357	10.000	12.000	15.000
BIND	0.510	0.193	0.389	0.500	0.640
AGEIND	62.633	4.694	60.000	63.000	66.000
TEN	21.996	7.060	18.400	22.143	25.600
BMN	2.120	1.194	1.000	2.000	3.000
BMEET	7.712	2.875	6.000	8.000	9.000
BASS	0.891	0.059	0.857	0.900	0.930
NW	2.218	1.583	1.000	2.000	3.000
PIW	0.082	0.107	0.000	0.000	0.142

Where: *TD* is the ratio of total debt to total assets. *LD* is the ratio of long-term debt to total assets. *Liquidity* is the ratio of current assets to current liabilities. *QTobin* is the ratio of market value of equity plus total liabilities to total assets. *Sales* is the natural logarithm of total sales at the fiscal year. *TA* is the natural logarithm of total assets. *CvsD* is a dummy variable coded as 1 if the blockholder holds more than 20% of shares and 0 otherwise. *FC* is a dummy variable coded as 1 if the firm is controlled by a family and 0 otherwise. *MOW* is a dummy variable coded as 1 if the CEO holds shares of the company and 0 otherwise. *ROE* is the return on equity. *DUA* is a dummy variable that takes the value 1 when the CEO is the chairperson of the board, and 0 otherwise. *BS* is the natural logarithm of the total number of directors on the board. *BIND* is the number of independent directors divided by the total number of directors. *AGEIND* is the average age of independent directors. *TEN* is the average length of independent directors' mandate. *BMN* is the average number of independent directors' mandate. *BMEET* is the total number of board meeting during the fiscal year. *BASS* is the average rate of director participation. *NW* is total number of women on the board. *PIW* is the total number of independent female directors on the board divided by the total number of independent directors on the board.

The boards of SBF120 firms have, on average, 12.48 members, among whom 51% are independent directors. This is consistent with the codes of best corporate governance practices in France that encourage companies to appoint independent directors in order to promote performance of the boards and to ensure confidence in the financial markets. The independent directors have an average age of 62.63 years and average tenure of 22.00. These results are in accordance with those of Masulis *et al.* (2016) for the US market. They underline that the average age of independent directors rises to 63.1 years in 2014. Their findings highlight the importance of the age profile effect on the firm policy.

Table 2: Correlation matrix

	Liquidity	QTobin	Sales	TA	CvsD	FC	MOW	ROE	DUA	BS	BIND	AGEIND	TEN	BMN	BMEET	BASS	NW	PIW
Liquidity	1	-0.185**	-0.343**	-00.164**	-0.081	0.030	0.016	-0.058	0.085	-.252**	0.053	-0.016	0.163**	-0.085*	-0.038	0.095*	-0.140**	-0.114**
QTobin		1	-0.055	-0.192**	-0.025	-0.119**	-0.141**	0.032	-0.133**	0.073	-0.183**	0.070	-0.076	0.047	0.044	0.056	-0.091*	-0.001
Sales			1	0.366**	-0.066	-0.027	0.073	0.043	-0.105*	0.475**	0.053	0.057	0.097*	0.288**	0.252**	-0.041	0.270**	0.144**
TA				1	-0.032	-0.073	-.0115**	-0.014	0.029	0.185**	0.091*	0.062	0.032	0.142**	0.228**	-0.126**	0.277**	0.077
CvsD					1	0.179**	-0.040	-0.045	-0.012	-0.105*	-0.161**	-0.137**	-0.267**	-0.010	-0.110*	-0.031	-0.054	-0.015
FC						1	0.312**	-0.011	-0.009	-0.214**	-0.152**	0.041	-0.097*	-0.014	-0.185**	-0.067	-0.015	-0.074
MOW							1	-0.070	0.072	-0.037	-0.022	0.081	-0.089*	0.125**	-0.235**	0.027	-0.056	-0.085*
ROE								1	-0.036	0.003	0.033	0.013	-0.006	0.029	0.113**	0.010	-0.027	-0.049
DUA									1	-0.049	-0.064	0.113**	-0.115**	-0.041	-0.040	-0.127**	-0.019	-0.055
BS										1	-0.187**	0.028	0.075	0.340**	0.176**	-0.095*	0.375**	0.163**
BIND											1	0.081	0.082	0.067	-0.085*	0.182**	0.084	0.037
AGEIND												1	0.186**	0.287**	-0.040	0.110*	0.025	0.064
TEN													1	0.314**	0.042	-0.013	0.084	0.062
BMN														1	0.056	-0.096*	0.201**	0.032
BMEET															1	-0.020	0.090*	0.127**
BASS																1	0.066	0.001
NW																	1	0.397**
PIW																		1

Where: *Liquidity* is the ratio of current assets to current liabilities. *QTobin* is the ratio of market value of equity plus total liabilities to total assets. *Sales* is the natural logarithm of total sales at the fiscal year. *TA* is the natural logarithm of total assets. *CvsD* is a dummy variable coded as 1 if the blockholder holds more than 20% of shares and 0 otherwise. *FC* is a dummy variable coded as 1 if the firm is controlled by a family and 0 otherwise. *MOW* is a dummy variable coded as 1 if the CEO holds shares of the company and 0 otherwise. *ROE* is the return on equity. *DUA* is a dummy variable that takes the value 1 when the CEO is the chairperson of the board, and 0 otherwise. *BS* is the natural logarithm of the total number of directors on the board. *BIND* is the number of independent directors divided by the total number of directors. *AGEIND* is the average age of independent directors. *TEN* is the average length of independent directors' mandate. *BMN* is the average number of independent directors' mandate. *BMEET* is the total number of board meeting during the fiscal year. *BASS* is the average rate of director participation. *NW* is total number of women on the board. *PIW* is the total number of independent female directors on the board divided by the total number of independent directors on the board.

Regarding the intensity of board activity as measured by the frequency of board meetings, the SBF120 firms hold, on average, 7.71 meeting per fiscal year. The mean of the average participation rates of directors in board meetings is 89.1%. This suggests that the boards of the SBF120 firms have a high diligence of directors and regular attendance at meetings, which is consistent with best corporate governance practices. The SBF120 firms have, on average, 2.22 women on their boards, among whom 8.2% are independent members. These statistics are quite different from those reported by Carter *et al.* (2010), indicating an average number of female directors of 1.30 on a sample of 2,563 US corporations. The percentage of female independent directors ranges from 0% for the first quartile to 14.2% for the third quartile. The ownership concentration and the managerial ownership display an average of 59.6% and 83.1%, respectively. On average, family members control 29.2% of the sampled companies. These statistics illustrate the peculiarity of the corporate French model, which is characterized by a higher degree of ownership concentration compared to the Anglo-American model.

Table 2 presents the Pearson correlation matrix between independent variables. This matrix allows for identifying possible multi-collinearity issues between the various independent variables. As expected, the table shows some statistically significant correlations. However, the coefficients are not high enough to cause multi-collinearity problems. In accordance with Grace and Hoh (2005), all these coefficients are less than 0.5.

4.2. Regression analyses

Table 3 presents the results of panel regressions on the relationship between the boardroom attributes and the total and long-term leverage ratios. The different regressions display adj. R^2 varying from 0.308 to 0.361. The board size variable displays positive and statistically significant regression coefficients at 5% for total debt and 10% for long-term debt. These results support the arguments of agency theory and are consistent with the empirical results of previous studies (Berger *et al.*, 1997; Wen *et al.*, 2002; Abor, 2007; Bokpin and Arko, 2009; Alves *et al.*, 2015). The results may mean that larger boards are more likely to increase monitoring effectiveness due to better skills and more expertise of their directors. This leads to lower agency costs and reduces information asymmetries among firms, their stakeholders and, especially, their creditors, which in turn facilitates the firm's access to debt financing. The average age of independent directors shows positive regression coefficients that are statistically significant at the 1% level. The magnitude of these coefficients is similar for the regression models that determine both debt measures (total and long-term leverage ratios). The findings provide evidence that the accessibility to debt financing is positively affected by the age of the independent directors. This implies that the age of independent directors appointed to the corporate board is a reinforcing mechanism for eliciting the benefit of corporate governance. Generally, elder directors are associated with diversified professional experience in varied firms, high skills, great networking and a good ability to identify the probable opportunistic behavior of the managers. Indeed, their positive impact on firm value was previously proven (Hassan and Marimuthu, 2016), and therefore, the appointment of elderly independent directors could lead to better management decisions and help firms in attracting debt financing.

The frequency of the board meetings displays regression coefficients that range from 0.237 to 0.268, as reported in the Table 3. These coefficients are statistically significant at the 1% level for both models. These findings are coherent with the active monitoring role of the board meeting frequency. This suggests that the board functioning increases its monitoring performance through meeting frequently, ultimately leading to better access to debt financing. An interesting explanation of this relation is that the frequent board meetings allow continuous sharing of information with managers (Brick and Chidambaran, 2010). This

implies greater pressure on managers to provide supplementary information and to mitigate the adverse selection issues. The lower the information asymmetry that exists between management and credit suppliers, the better the access to debt financing will be.

Table 3: Regression results

	Dependent variable = TD						**Dependent variable = LD**					
	(1)			(2)			(3)			(4)		
	B	t	P.	B	t	P.	B	t	P.	B	t	P.
Intercept	-4.218	-0.125	0.901	2.413	0.527	0.599	-7.125	-0.496	0.620	-1.106	-0.280	0.780
Liquidity	-0.434***	-5.950	0.000	-0.394***	-4.907	0.000	-0.402***	-5.356	0.000	-0.338***	-4.073	0.000
QTobin	-0.034	-0.534	0.594	-0.027	-0.428	0.669	-0.026	-0.404	0.686	-0.021	-0.320	0.749
Sales	0.081	0.831	0.407	0.069	0.705	0.481	0.078	0.774	0.440	0.080	0.791	0.430
LnTA	-0.570***	-5.151	0.000	-0.618***	-5.483	0.000	-0.531***	-4.662	0.000	-0.556***	-4.780	0.000
CvsD	-0.236***	-3.548	0.000	-0.227***	-3.190	0.002	-0.228***	-3.332	0.001	-0.200***	-2.722	0.007
FC	-0.156**	-2.028	0.044	-0.150*	-1.968	0.051	-0.137*	-1.736	0.084	-0.134*	-1.712	0.088
MOW	0.133**	2.032	0.043	0.103	1.367	0.173	0.100	1.488	0.138	0.094	1.211	0.227
ROE	0.005	0.092	0.927	0.014	0.253	0.801	0.012	0.205	0.838	0.017	0.297	0.766
DUA	0.024	0.384	0.702	0.042	0.665	0.507	0.020	0.311	0.756	0.050	0.760	0.448
BS	0.167	1.643	0.102	0.257**	2.350	0.020	0.102	0.976	0.330	0.188*	1.661	0.098
BIND	-0.006	-0.054	0.957	0.036	0.317	0.752	-0.046	-0.425	0.671	0.017	0.143	0.886
AGEIND	0.273***	4.510	0.000	0.232***	3.722	0.000	0.280***	4.496	0.000	0.253***	3.922	0.000
TEN	0.057	0.716	0.475	0.056	0.666	0.506	0.075	0.912	0.363	0.047	0.544	0.587
BMN	0.094	1.194	0.234	0.063	0.780	0.436	0.059	0.727	0.468	0.032	0.377	0.707
BMEET	0.237***	3.173	0.002	0.244***	3.214	0.002	0.266***	3.459	0.001	0.268***	3.425	0.001
BASS	-0.041	-0.347	0.729	-0.051	-0.431	0.667	-0.016	-0.131	0.896	-0.043	-0.351	0.726
NW	-0.249***	-2.743	0.007	-0.304***	-3.299	0.001	-0.203**	-2.182	0.030	-0.258***	-2.714	0.007
PIW	-0.128	-1.472	0.143	-0.101	-1.134	0.258	-0.124	-1.385	0.168	-0.082	-0.894	0.373
Fixed effects	No			Yes			No			Yes		
Adj. R2	0.346			0.361			0.308			0.319		

*** Significant at 0.01 level; ** Significant at 0.05 level; * Significant at 0.10 level.
Where: *Liquidity* is the ratio of current assets to current liabilities. *QTobin* is the ratio of market value of equity plus total liabilities to total assets. *Sales* is the natural logarithm of total sales at the fiscal year. *TA* is the natural logarithm of total assets. *CvsD* is a dummy variable coded as 1 if the blockholder holds more than 20% of shares and 0 otherwise. *FC* is a dummy variable coded as 1 if the firm is controlled by a family and 0 otherwise. *MOW* is a dummy variable coded as 1 if the CEO holds shares of the company and 0 otherwise. *ROE* is the return on equity. *DUA* is a dummy variable that takes the value 1 when the CEO is the chairperson of the board, and 0 otherwise. *BS* is the natural logarithm of the total number of directors on the board. *BIND* is the number of independent directors divided by the total number of directors. *AGEIND* is the average age of independent directors. *TEN* is the average length of independent directors' mandate. *BMN* is the average number of independent directors' mandate. *BMEET* is the total number of board meeting during the fiscal year. *BASS* is the average rate of director participation. *NW* is total number of women on the board. *PIW* is the total number of independent female directors on the board divided by the total number of independent directors on the board.

The regression coefficients of the *NW* variable are negative and statistically significant at the 1% level in both fixed effect models suggesting that number of women on the board negatively influences the firm leverage. The results confirm the pecking order theory suggesting that firms prefer to use internal sources of financing. Furthermore, the results are consistent with those of prior studies (see, e.g., Hernandez-Nicolás *et al.*, 2015) suggesting that firms with female directors on their boards are less likely to meet their financing needs using debt in order to avoid the bankruptcy risk associated with high leverage.

Consistent with the pecking order theory, the ownership concentration displays regression coefficients that range from -0.200 to -0.227, which are statistically significant at the level of 1% for both models. The findings support prior studies documenting that ownership concentration is significantly related to financial decisions (see, e.g., Alsan and Kumar, 2012; Lin *et al.*, 2013; Lo *et al.*, 2016). They are coherent with those of previous studies (see, e.g., Masnoon and Rauf, 2013) suggesting that firms with concentrated ownership are more sensitive to financial risk and less likely to attain debt to finance their activities.

The managerial ownership variable displays positive regression coefficients; however, it is statistically significant only for the first regression model determining the total leverage ratio. This finding is coherent with the prediction of agency theory that managerial ownership reduces information asymmetry and improves corporate transparency. This may guarantee the ways through which credit suppliers assure themselves of getting returns on their investments (Shleifer and Vishny, 1997) and facilitate the firm access to long-term debt financing. In addition, the findings are consistent with those of previous studies (see, e.g., Bokpin and Arko, 2009) revealing that managerial shareholding positively influences the choice of long-term debt over equity. The *FC* variable displays negative regression coefficients that are statistically significant at the level of 10%. These findings are coherent with those of Mishra and McConaughy (1999), Gama and Galvão (2012), Schmid (2013) and Ampenberger *et al.*, (2013) arguing that family-controlled companies prefer lower levels of debt due to their risk aversion. As high levels of debt increase the likelihood of bankruptcy and the probability of facing financial distress, family-controlled companies tend to avoid using debt.

In line with the pecking order theory, the liquidity variable displays negative regression coefficients that are all statistically significant at the 1% level. The findings are consistent with those of Hernandez-Nicolás *et al.* (2015), suggesting that liquidity leads to reduced levels of debt. Moreover, the total assets variable exhibits negative regression coefficients that are all statistically significant at the level of 1%. These findings support the view of pecking order theory. They are coherent with those of previous studies (see, e.g., Titman and Wessels, 1988; Hernandez-Nicolás *et al.*, 2015), suggesting that the larger and more profitable firms are, and the less dependent they are on debt.

Overall, the achieved findings confirm the disciplinary role of the board stipulated by agency theory. In addition, they show that the relationship between the presence of women on the board and leverage ratios can be explained by the predictions of pecking order theory. Therefore, the boardroom attributes interact with each other and may serve as complements or substitutes in influencing debt financing decisions.

5. CONCLUSION

Despite the tendency to improve the effectiveness of board monitoring in France, little attention has been paid to the relationship between the boardroom attributes and the firm's access to leverage. The present paper attempts to fill this gap.

The empirical analysis has focused on a sample of 801 firm-year observations listed on the Euronext Paris stock market from 2008 to 2016. The empirical results may be summarized as follows. Our tests revealed a negative relation between the number of female directors on the board and the total and long-term leverage ratios. Due likely to the risk aversion of women, firms with more gender-diverse boards appeared to use lower levels of debt. This is consistent with the view of the pecking order theory. The results revealed that the size of the board, the frequency of its meetings and the average age of its independent directors positively influence leverage ratios. They are coherent with disciplinary roles of the board stipulated by agency theory. The high meeting frequency of the board and the appointment of elderly independent

directors appeared to be reinforcing mechanisms for eliciting the benefit of corporate governance and facilitating access to debt financing. These results highlight the influence of the board size, independence, diligence and diversity on firm's access to finance in France.

Overall, this study contributed to a better understanding of the relationship between the boardroom attributes and the firm's financial policy. Indeed, the paper sheds new light on the role of boardroom attributes, especially the board size, independence, diligence and gender-diversity. Our findings provide useful insights for regulators, companies and credit institutions, leading to governance devices that may be beneficial to different stakeholders. There may be some limitations to this study. Our empirical analysis was restricted to a selection of corporate characteristics. Thus, we do not control for the market conditions (such as the level of the interest rate) and for the endogeneity between the dependent and independent variables. It would be interesting for future research to consider these issues and to extend the analysis by using annual variations of debt in addition to the ex-post debt variables. It would be relevant also to investigate how the relationships between board attributes and access to finance could influence the firm's value.

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