Corporate Governance, Voluntary Disclosure, And Firm Information Environment

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ABSTRACT

This paper examines the relative performance of several corporate governance factors, specifically the characteristics of boards of directors, managerial ownership, and voluntary disclosure, in improving firm information environments. The paper uses a new empirical approach based on a B-convex method on a sample of 70 non-financial French listed firms belonging to the SBF120 index. Our findings show that 68.57% of our sample firms are located on the efficiency frontier. Corporate governance practices appear to serve as effective monitoring for the top executives of these firms, which reduces information asymmetry between insiders and outsiders, thereby improving the information environment. The empirical analysis also generates evidence that 31.42% of our sample firms lie outside the efficiency frontier. Corporate governance practices in many firms appear insufficient to improve firm information environments. These findings suggest the need for many SBF120 firms to improve their corporate governance practices.

Keywords: Corporate Governance; Ownership Structure, Voluntary Disclosure, B-Convex Method

1. INTRODUCTION

*N*ot all investors in financial markets have access to the same information about firm quality, leading to an adverse selection problem since informed investors use their information advantage in their trading (Akerlof, 1970). This problem is likely to deepen capital market failures since it increases the number of transactions initiated by informed investors, which in turn increases transactions costs (e.g., O'Hara, 1995), widens dispersion in analyst forecasts (e.g., Zhang, 2006), and increases the cost of firm capital (e.g., Botosan, 1997).

Better corporate governance practices may mitigate the adverse selection problem and reduce information asymmetry (e.g., Chung et al., 2010). Agency theory provides a conceptual framework in which to study the relation between governance mechanisms and information asymmetry (Jensen and Meckling, 1976). Agency theory holds that the role of internal governance mechanisms and practices is important to ensuring that managers act in the best interests of shareholders, making decisions that maximize firm value and that guarantee a transparent environment to outsiders.

Fama and Jensen (1983) hold that the board of directors is the most important internal governance mechanism. The effectiveness of boards of directors depends, to a large extent, on their size and composition. Jensen (1993) argues that small boards are more effective, since information sharing and decision making processes are easier in these structures. However, Anderson et al. (2004), among others, argue that large boards ensure greater monitoring of the financial accounting process and improve firm transparency. Cai et al. (2006), for instance, provide evidence that the adverse selection problem is less important in U.K. firms with large boards. Using a

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sample of Canadian firms, Attig (2007) finds that firms with dispersed ownership and large boards exhibit lower information asymmetry (i.e., low price spreads).

Fama and Jensen (1983) argue that the effectiveness of a board depends on its independence. Independent directors improve the monitoring role of boards, since they ensure protection of the firm's overall interests against managers' potential opportunistic behavior. According to Dahya et al. (2008), independent directors are important in ensuring shareholders that the board properly fulfills its responsibility; their presence often constrains controlling shareholders from diverting corporate resources for private benefit. Independent directors also are less prone to undertaking self-serving behaviors at the expense of minority shareholders. Controlling shareholders are, thus, less inclined to withhold information from the financial markets. Therefore, the presence of independent directors is likely to improve the firm information environment and reduce information asymmetry between insiders and outsiders. Empirical evidence, such as that of Chen and Jaggi (2000) in Hong Kong and Kanagaretnam et al. (2007) in the US, is consistent with this prediction. Other empirical studies, such as Cheng and Courtenay (2006), Patelli and Prencipe (2007), and Barros et al. (2013), show that the presence of independent directors encourages firms to disclose further information to outsiders, which improves transparency and reduces information asymmetry. More recently, Botti et al. (2014) document inefficiency in the composition, structure, and functioning of French boards of directors. Using a sample of CAC40 firms, these authors empirically demonstrate that inefficient monitoring and oversight of top executives by boards leads to lower levels of internet financial reporting quality, which is likely to affect the information environment of these firms.

In addition to examining the board of directors, agency theory (Jensen and Meckling, 1976) presents managerial ownership as a governance mechanism that solves possible agency conflicts between managers and shareholders and that reduces potential agency costs. Managerial ownership is likely to reduce managers' discretionary behavior and to improve firm transparency, implying an improved firm information environment. There is limited empirical evidence on how managerial ownership affects the information environment. For instance, Attig et al. (2006) present evidence that firms with greater deviation between ownership and control exhibit higher information asymmetry. Unlike the entrenchment hypothesis, the incentive alignment hypothesis argues that managerial ownership can induce managers to adopt a self-serving attitude, to the detriment of other shareholders. Cheng and Warfield (2005), among others, empirically support the entrenchment hypothesis and demonstrate that equity incentives promote earnings management. These authors document that managers with high equity incentives are more likely to sell shares in the future, and this motivates earnings management to increase the value of the shares to be sold. Baik et al. (2010), however, demonstrate a negative relation between managerial ownership on the one hand, and analyst coverage and the likelihood of issuing earnings forecasts, on the other hand. These empirical findings are consistent with the hypothesis that managerial ownership leads to a more opaque information environment. According to signaling theory (Spence, 1973), good corporate disclosure policy is a means to mitigate adverse selection problems and improve the firm information environment. Grossman (1981) uses signaling theory to explain how firm financial disclosures are useful to reducing information asymmetry.

Theoretical studies predict that high-quality disclosures mitigate information asymmetry, attract more uninformed investors, and reduce the incentive of informed investors to search for private information (e.g., Diamond, 1985; Diamond and Verrecchia, 1991). Empirical research consistently shows that the quality of corporate disclosure, measured by the quality of earnings, negatively affects uncertainty and information asymmetry (Ascioglu et al., 2012). Similarly, Heflin et al. (2005) and Brown and Hillegeist (2007) use voluntary disclosure scores and show that the extent of corporate voluntary disclosure reduces information asymmetry. Brown and Hillegeist (2007) find that the quality of annual reports reduces information asymmetry, proxied by the probability of informed trading.

In the spirit of existing studies, we focus on annual reports as the main vehicle for communication of both mandatory and voluntary information between the firm and its stakeholders (e.g., Neu et al., 1998). Annual reports represent a key summary of firm performance indicators (e.g., Lang and Lundholm, 1996), and the level of information included is the best evidence of the level of firm disclosure (Zarb, 2007). Many studies examining disclosure policies in annual reports (e.g., Lang and Lundholm, 1993) demonstrate a positive relation between disclosure level and other forms of disclosure.

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The present study extends the literature and sheds additional light on the role of corporate governance practices (board characteristics, managerial ownership, and voluntary disclosure) on firm information environment. The empirical analysis uses the B-convex method on a sample of 70 French listed firms belonging to the SBF120 index in 2007. The empirical findings show that 68.57% of our sample firms are efficient. Corporate governance mechanisms seem to effectively monitor the top executives of these firms, which improves their information-related decisions and reduces information asymmetry between insiders and outsiders. A large proportion of our sample firms (31.42%) lies below the efficiency frontier, with efficiency scores different from 1. The corporate governance practices in these firms seem to be inefficient in improving the information environment.

This paper proceeds as follows. Section 2 presents our methodological approach. Section 3 outlines the sample, describes the data, and defines the inputs and outputs used in the B-convex method. Section 4 reports and discusses the main empirical findings. Finally, Section 5 sets forth our conclusions.

2. METHODOLOGY: B-CONVEX METHOD

Using a non-parametric approach, the Data Envelopment Analysis (DEA) method estimates the production frontiers distinguishing the efficient production units of those that are less. It is a tool with a growing interest in the field of operations research. Inasmuch as most of the social organization can be assimilated as a Decision Making Units transforming a set input to a set of output, therefore the scope of the DEA method is highly large. The B-convex analysis is an innovate method in DEA introduced by Briec and Liang (2011). The advantage of this method is that it relaxes the assumption of convexity in the consideration of the production set. Now we will briefly present the definitions and results used in this paper, for more technical details readers can refer to Briec and Liang (2011).

Denote IR_+^d be the non-negative Euclidean $d-$orthant; for $z, w \in IR_+^d$ $z \leq w$ means that $z_i \leq w_i \forall_i \in \{1, ..., d\}$. Let $m, n \in IN$ be two positive natural numbers such that $d = m + n$. A production technology function transforms inputs $x = (x_1, ..., x_m)$ into outputs $y = (y_1, ..., y_n)$. The production set is the set $T \subset IR_+^{m+n}$ of all inputs-outputs vectors that are feasible. It is defined as follows:

$$T = \left\{ z = (x, y) \in IR_+^{m+n} : x \; can \; produce \; y \right\}$$

Let us consider $z^1, z^2, ..., z^l \in IR^d$, we denote

$$\bigcup_{k=1}^{l} x^k = (\max\{z_1^1, ..., z_1^l\}, ..., \max\{z_d^1, ..., z_d^l\})$$

.

$$T_{\max} = \left\{ z = (x, y) \in IR_+^d : x \geq \bigvee_{k=1}^{1} \rho_k x^k, y \leq \bigvee_{k=1}^{1} \rho_k y^k, \max_{k=1...l} \rho_k = 1, \rho \geq 0 \right\}$$

is called a B-Convex estimation of the production technology. It assumes that a company can produce a greater quantity of outputs when she can use a greater quantity of inputs. When the maximum of two input bundles are feasible, then the maximum they produce is also feasible. The figure 1 illustrates the frontier of B-Convex production technology.
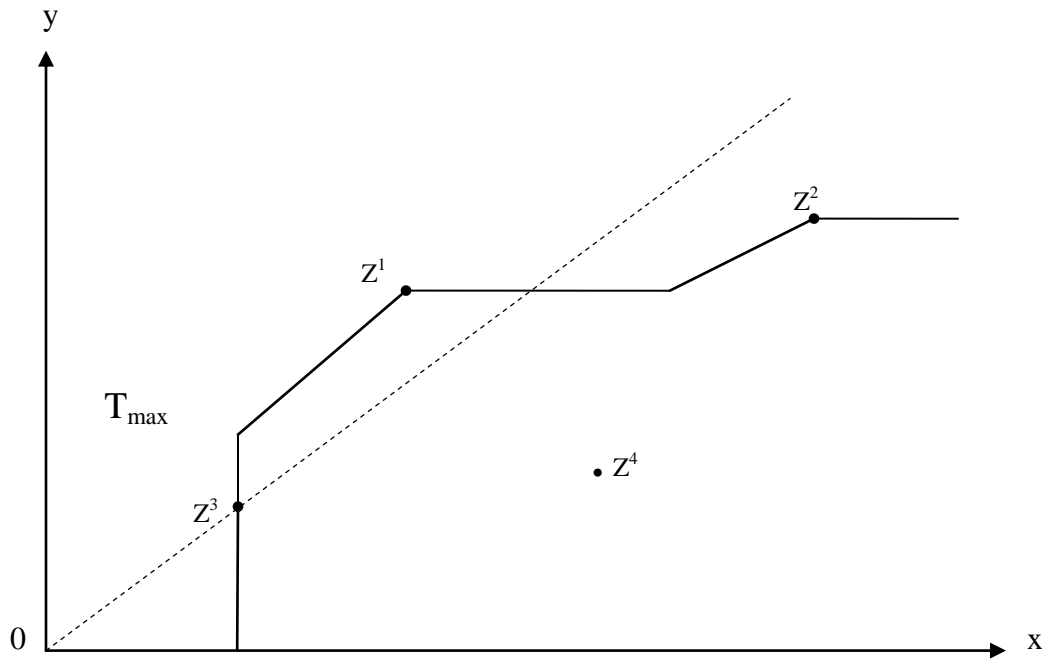
Figure 1. B-Convex Production Technology

B-Convexity includes, as a special case, a situation where inputs are assumed to be freely disposable. The B-Convexity approach implies, under this assumption, that the production set has an output cubic structure. In other words, an assumption of output complementarity is implicitly made on the technology. We employ the Farrell measure over the B-convex non-parametric technologies developed by Briec and Liang (2011).[1]

3.   DATA AND VARIABLE CONSTRUCTION

3.1. Sample Selection And Data Sources

Our starting point is all French listed firms belonging to the SBF120 in 2007. We exclude financial firms (SIC codes between 6000 and 6999), because they are subject to specific disclosure requirements, and firms with missing data. Our final sample consists of 70 firms. We focus on the SFB120 firms because they are more likely to disclose detailed information in their annual reports and to adopt good governance practices. During the 2000s, French firms that won annual report awards were among the SBF120 firms. Corporate governance data are hand-collected from firm annual reports available on the AMF website.[2] Financial data are retrieved from the Worldscope Database. Stock price returns are from the Datastream database.

3.2. Outputs

This research uses a B-convex approach to examine the association between corporate governance, voluntary disclosure, and firm information environment for a sample of SBF120 firms. We consider three outputs that proxy for the quality of the firm information environment. First, we examine annual average effective bid–ask spreads (*Spread*), which is calculated as the yearly average of daily effective bid–ask spreads. Consistent with Lin et al. (1995) and Heflin et al. (2005), we measure the daily effective spread as twice the absolute value of the difference between a transaction price and the midpoint of the bid and ask prices. It is computed using the following formula:

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[1] Mathemtica is used to program the algorithm that calculates the efficiency scores.
[2] AMF (*Autorité des Marchés Financiers*) is the French equivalent of the U.S Securities and Exchange Commission (SEC).

$$2 \left| P_t - \left(\frac{Ask_t + Bid_t}{2} \right) \right|,$$

where Ask_t (Bid_t) is the best ask (bid) price on day t.

To assess annual average spread, we divide the sum of daily effective spreads by the total number of trading days during the quotation year.

Second, we examine analyst forecasts error (*AnaError*), which is measured as the absolute value of actual earnings per share minus average forecasted earnings per share, divided by the share price at the beginning of the year. Finally, we use the average standard deviation of stock return (*StdReturn*) as a proxy of the firm information environment.

3.3. Inputs

The first input is the score of voluntary disclosure in annual reports (*Score*), measured using a self-constructed "disclosure index." We construct this disclosure index based on the related research of Meek et al. (1995), Botosan (1997), Chau and Gray (2002), Eng and Mak (2003), Lim et al. (2007) and Francis et al. (2008). The index contains 112 items belonging to four groups: strategic (30 items), financial (36 items), non-financial (35 items), and governance information (11 items). Table 1 presents the checklist of items included in the disclosure scores.[3]

We use three additional corporate governance inputs: Managerial ownership (*ManagerOwn*) is the proportion of shares held by top management. Board independence (*BoardIndp*) is the ratio of independent to total directors on the board. Board size (*BoardSize*) is the total number of directors on the board.

4.   RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 1. The Checklist Of Voluntary Disclosure
This table presents the checklist of items used to develop the disclosure index.
It also shows which items overlap those in existing studies.

Checklist Of Items	References
A - Strategic information	
A1. General information about the firm	
1. Brief history of company	A, B, C , E
2. General description of the business	B, D
3. Main products	B, D
4. Main Markets	B, D
A2. Corporate Strategy	
5. Statement of the main objectives	A, B, C, D, E
6. Statement of the financial objectives	A, C, E
7. Current Strategy	A, B, C, F
8. Impact of strategy on current results	B
9. Future strategy	A, B, C
10. Impact of strategy on future results	A, C, E
A3. R & D activities	
11. Description of R & D projects	A, C
12. Corporate policy on R & D	A, C
13. Location of R & D activities	A, C, D
14. Number employed in R & D	A, C, E

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[3] See Barros et al. (2013) for more details on the construction of the voluntary disclosure index.

Checklist Of Items	References
A4. Analysis and discussion of management Review of projects	
15. Review of operations	B
16. Competitive environment	B, D
17. The most significant events	B, D
18. Change in sales and profits	B, D
19. Change in cost of goods sold	B, D
20. Change in expenses	B, D
21. Change in inventory	B, D
22. Change in the share price	B, D
A5. Future prospects	
23. Future development channels	A, B, C
24. Qualitative forecast of sales	A, B, C, E
25. Quantitative forecast of sales	A, B, C, D, F
26. Qualitative forecast of profits	A, B, C, D, E, F
27. Quantitative forecast of profits	A, B, C, E
28. Assumptions underlying the forecast	A, B, C
29. Review of forecasts	A, B, C
30. Description of capital project committed	A, B, C
B - No-financial information	
B1. Employees information	
1. Geographical distribution of employees	A, C
2. Number of employees by sex	A, C
3. Number of employees by age	A, C
4. Categories of employees by function	A, C
5. Number of employees for 2 or more years	A, C, E
6. Average compensation per employee	A, B
7. Added value per employee	A, B
8. Data productivity	A, B, C
9. Safety policy	A, B, C
10. Cost of safety measures	A, C
11. Data on accidents	A, C, E
12. Policy on communication	A, C
13. Redundancy information	A, C
14. Reason for changes in employees' number or categories over time	A, C
15. Recruitment problems and related policy	A, C
B2. Information about the training policy	
16. Amount spent in training program	A, C, E
17. Nature of training	A, C, E
18. Policy on training	A, C, E
19. Categories of employees trained	A, C, E
B3. Social policy and value-added information	
20. Safety of products	A, C
21. Program of environmental protection	A, C, E
22. Charitable Donations	A, C, E
23. Community programs	A, C, E
24. Value added data	A, C, E
25. Value added ratios	A, C, E
26. Qualitative value-added information	A, C, E
B4. Segmental Information	
27. Geographical distribution of invested capital	A, C, E
28. Geographical distribution of net assets	A, C
29. Geographical distribution of production	A, C, E
30. Expenditure in the business lines	A, C
31. Revenue by business line	A, C
32. Competitor analysis- quantitative	A, C
33. Competitor analysis- qualitative	A, C
34. Market share analysis-quantitative	A, C
35. Market share analysis-qualitative	A, C

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Checklist Of Items	References
C-Financial Information	
C1. Performance indicators (without from the financial statements)	
1. Performance indicators	A, B, C
2. Financial data for the last five years	A, B, C, D, E
3. Turnover	A, B, C, D, F
4. Net income	A, B, C, D, F
5. Shareholders' equity	A, B, C, D,
6. Total assets	A, B, C, D, F
7. Earnings per share	A, B, C,
8. Dividend payout policy	A, B, C,
9. Transfer pricing policy	A, B, C,
10. Impact of any accounting policy changes on results	A, B, C,
11. Advertising expenditure	A, B, C, E
12. Effect of inflation on results	A, B, C
13. Effect of inflation on assets	A, B, C
14. Effect of fluctuating interest rates on the result	A, B, C, E
C2. Financial ratios	
15. Liquidity Ratio	A, B, C, E
16. Turnover ratio of assets	A, B, C
17. Debt ratio	A, B, C, E
18. Profitability ratios	A, B, C, E, F
19. Other useful ratios	A, B, C, E
C3. Forecasted information	
20. Cash flow forecast	A, B, C, D
21. Estimates of capital increase	A, B, C
22. Earnings estimates	A, B, C
23. Effect of inflation currency fluctuations on future operation	A, C
24. Effect of currency fluctuation of interest rates on future operations	A, C
C4. Information on exchange rates	
25. Impact of currency fluctuations on current results	A, B, C
26. Impact of currency fluctuations on future operations	A, C, E
27. Estimates of currency fluctuations	A, B, C
28. Exchange rates used in accounting	A, B, C
29. Long-term debt by currency	A, C
30. Short-term debt by currency	A, C
C5. Other financial information	
31. Share price at year end	A, C
32. Share prices trend	A, C, E
33. Market capitalization at year end	A, C, E
34. Trend of market capitalization	A, C
35. Size of shareholdings	A, C
36. Forecasted market share	A, C, D, F
D- Governance information	
1. Ownership structure	A, C
2. Organizational Chart	A, B, C, E
D1. Composition of the board of director	
3. Personal Profile	A, C
4. Description of the position occupied	A, C
5. Duration of belonging to the company	A, B, C
6. Number of shareholders belonging to the board of directors	A, B, C
7. Academic profile of the directors	A, B, C
8. Presence of Internal Audit Committee	A, B, C
9. Age of the executives	A, B, C
10. Profile of the executives	A, B, C
11. Individual remuneration	A, B, C

A: Meek, Robert, and Gray (1995); B: Eng and Mak (2003); C: Chau and Gray (2002); D: Botosan (1997); E: Lim, Matolcsy, and Chow (2007); F: Francis, Nanda, and Olsson (2008)

Table 2 provides descriptive statistics for all variables used in the analysis. Panel A shows the statistics of the output variables. *StdReturn* ranges from 13.24 to 54.18 with a mean (median) value of 26.11 (24.56), which indicates high volatility of the stock returns of SBF120 firms. *Spread* ranges from 0.0102 to 0.5907, with an average (median) of 0.0728 (0.0422). This differs from what is observed in the Anglo-Saxon stock markets. Heflin et al. (2005), for instance, finds an effective spread ranging from 0.090 to 0.436, with an average value of 0.162, on the US stock market. The effective spread has a standard deviation of 0.0944, which indicates a larger dispersion than the effective spread in the US stock market, where the standard deviation of the effective spread is 0.038 (Heflin et al. 2005). Analyst forecast error (*AnaError*) ranges from 0 to 1.3433 with a mean (median) value of 0.3951 (0.3676). Analyst forecast error has a standard deviation of 0.3760, which is greater than in the US (0.0694) as documented by Zhang (2006). The forecasts of financial analysts are less accurate during the crisis year of 2007 than in prior years. For instance, Boubaker and Labégorre (2006) show that analyst forecasts errors for French listed firms range from 0 to 1.556, with a mean (median) value of 0.094 (0.014) in the 1999–2000 period. Overall, the descriptive statistics of these three outputs indicate evidence of a substantial variation in information asymmetry among SBF120 firms.

Panel B presents the descriptive statistics of the input variables. Voluntary disclosure in annual reports dramatically varies among sample firms. *Score* has a mean (median) of 48.28 (48.50) and ranges from 26 to 73 with a standard deviation of 11.50. One-quarter of sample firms disclose less than 38 among 112 items, despite publication of several codes of best corporate governance practices in the past two decades that encourage information disclosure. This conforms with the conclusions drawn by Fitch Ratings that French firms would benefit from better financial disclosure and accountability policies. Board size also exhibits wide dispersion across the sampled firms. On average, French boards are composed of 11 directors. Board size ranges from 4 to 21 directors. Board independence varies dramatically across sample firms. Independent directors represent, on average, half the directors of French boards. However, some boards are fully independent, whereas others are composed exclusively of insiders. Managerial ownership shows systematic differences across sample firms. It ranges from a minimum of 0% to a maximum of 99%, with a mean (median) value of 13.39% (3). These results are consistent with the findings of Barros et al. (2013) and Botti et al. (2014), who show that French listed firms do not exhibit similar corporate governance practices.

Table 2. Descriptive Statistics

This table summarizes the descriptive statistics of variables used in the analysis.

	Minimum	First Quartile	Mean	Median	Third Quartile	Maximum	Standard Deviation
Panel A: Outputs							
StdReturn	13.24	19.485	26.1194	24.56	30.07	54.18	8.5835
Spread	0.0102	0.0284	0.0728	0.0422	0.0790	0.5907	0.0944
AnaError	0	0.0319	0.3951	0.3676	0.6322	1.3433	0.3760
Panel B: Inputs							
Score	26	38.5	48.2857	48.5	55.5	73	11.5019
BoardSize	0	33.3333	49.3085	45.8041	63.3522	100	21.9374
BoardIndp	4	9	11.5571	11.5	14	21	3.8321
Ownership	0	0.1829	13.3993	3	15.5	99	21.6722

4.2. B-Convex Application Results

The present paper sheds some light on the role of corporate governance and voluntary disclosure on the firm information environment. Our model is output-oriented because we consider that the quality of the firm information environment depends mainly on corporate governance mechanisms (i.e., board of directors and ownership structure) and voluntary disclosure decisions. Table 3 provides efficiency scores for sample firms. Firms are defined as Decision Managerial Unities (DMUs). The efficiency scores are the solution of the optimization program presented in Section 2.

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Table 3.
This table presents the efficiency scores of our sampled firms (DMUs)

Panel A: B-Convex Application Results							
DMU	Efficiency Scores	DMU	Efficiency Scores	DMU	Efficiency Scores	DMU	Efficiency Scores
1	1.3449	24	1	36	1	59	1
2	1	25	1	37	1	60	1.2685
3	1.9966	26	1	38	1	61	1.0792
4	1	27	1	39	1	62	1
5	1	28	1	40	1.3883	63	1
6	1	29	1	41	1.2581	64	1
7	2.4927	30	1	42	1.6406	65	1
8	1	31	1	43	1	66	1
9	1.1915	32	1	44	1	67	1
10	1	33	1	45	1.0669	68	1
11	1	34	1	46	1	69	1.4821
12	1	35	1	47	1.4964	70	1
13	1.8105	25	1	48	1	62	1
14	1.1122	26	1	49	1	63	1
15	1	27	1	50	1	64	1
16	1.0169	28	1	51	1.5535	65	1
17	1.0729	29	1	52	1	66	1
18	1	30	1	53	1	67	1
19	1.2310	31	1	54	1	68	1
20	1.4547	32	1	55	1	69	1.4821
21	1	33	1	56	1.2698	70	1
22	1	34	1	57	1		
23	1.3870	35	1	58	1.0139		
Total number of efficient firms				48			
Percentage of efficient firms				68.5714			

Panel B: Descriptive statistics of efficiency scores	
This table summarizes the characteristics (descriptive statistics) of efficiency scores obtained from B-convex model	
Descriptive statistics of efficiency scores	
Minimum	1
First quartile	1
Mean	1.1232
Median	1
Third quartile	1.0777
Maximum	2.4927
Standard deviation	0.2683

Efficiency scores equal 1 for 48 DMUs, corresponding to 68.57% of sample firms, which means that these DMUs are located on the efficiency frontier. Ownership structure, board monitoring, and voluntary disclosure in these firms seem to be effective in improving the firm information environment. Under good corporate governance practices, among other factors, better board characteristics and voluntary disclosure appear to reduce uncertainty, improve the quality of analyst forecasts, and mitigate the adverse selection problem.

The results also show that 31.42% (22 DMUs, including DMUs 1, 2, 9, 13, and 23) have efficiency scores equal to or greater than 1. This result suggests that these 22 DMUs can improve their information environment using the same characteristics of their boards of directors and the same level of voluntary disclosure. For instance, with the

same governance practices, DMUs 1, 9, and 23 can reduce their information asymmetry levels, respectively, by 34.49%, 19.15%, and 38.70%, thereby improving, subsequently, their information environment. Governing characteristics, including among other factors, board composition, board size, ownership structure, and voluntary disclosures do not appear effectively to reduce information asymmetry and improve the firm information environment. Moreover, the percentage of inefficient firms is considered large for SBF 120 firms that exhibit the highest market capitalizations, suggesting the presence of inefficiency problems due to ownership structure, board composition, and firm disclosure policy.

Consistent with prior studies (e.g., Ben Ali, 2013), we show that in France, a market characterized by poor investor protection, firms that exhibit poor internal corporate governance mechanisms present low disclosure, leading to higher information asymmetry and poor firm information environment. A significant proportion of SBF120 firms need to improve their governance practices and disclosure policy to be more effective in improving their information environment.

5. CONCLUSION

This study sheds further light on the role of corporate governance and voluntary disclosure in shaping the firm information environment. Our empirical analysis uses non-parametric B-convexity methodology on a sample of 70 French listed firms belonging to the SBF120 index. The findings of the B-convexity approach show that 68.57% of sample firms are efficient (48 firms). Corporate governance mechanisms, such as boards of directors and disclosure policy, appear to effectively monitor the top executives of these firms, which reduces information asymmetry between insiders and outsiders. Such firms disclose more voluntary information needed by various stakeholders to assess firm performance and to make sound decisions, which in turn improves their information environment. The remaining 22 firms have efficiency scores different than 1, suggesting that they lie below the efficiency frontier. Ownership structure, board characteristics, and voluntary disclosure of these firms appears to lead to higher information asymmetry, lower analyst forecast accuracy, and higher stock return volatility, resulting in a more opaque information environment. These findings suggest that there is room to improve the quality of the information environment of SBF120 firms.

The findings of this study hold interesting theoretical and practical implications. First, this study sets forth an original way to gauge the role and effectiveness of corporate governance mechanisms and disclosure decisions in improving the firm information environment. Second, it uses a new approach based on B-convexity methodology to compute the efficiency scores. Third, it helps French policy makers and regulators, since it points out the weaknesses in corporate governance practices that lead to a low-quality information environment.

The results of this study should be interpreted cautiously, given the presence of several limitations common to all similar studies. First, B-convexity results depend on the choice of input variables, as in other data envelopment techniques. We draw from the literature to select a battery of relevant inputs that alone influence the outputs to reduce the effects of this limitation (Thanassoulis, 2001). The chosen inputs are the most relevant determinants of the firm information environment, which limits the sensitivity of the results to the inputs. Second, as in prior studies, one may question the homogeneity of the firms that comprise our sample, in spite of multiple characteristics common to all sample firms (i.e., belonging to the SBF120 index, greater liquidity, large size, important foreign ownership, followed by many financial analysts, etc.). Firms that do not belong to the same industry may face different market conditions, which may make their comparability more difficult. However, one can always claim that firms are not homogeneous and not comparable to be together in the same sample for a B-convexity analysis. In addition, applying a B-convexity approach for a small sample of 70 non-financial firms increases the probability that a given firm will be found relatively efficient, thus limiting the general character of the results. Third, the research design does not permit disentangling, which among board characteristics, disclosure policy, and ownership structure operates more effectively compared to the others.

AUTHORS' INFORMATION

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<u>NOTES</u>

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