CORPORATE INTERNET DISCLOSURES DURING THE CORONAVIRUS PANDEMIC

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Abstract

Corporate disclosures constitute the main means of communication between companies and their related parties, with the Internet being one of the most important. Although several studies have been conducted on the extent of disclosures on the Internet and the factors that affect it (Elsayed, Masry, & Elbeltagi, 2010; Botti, Boubaker, Hamrouni, & Solonandrasana, 2014; etc.), research during the crisis of the pandemic is limited. The purpose of this paper is twofold. On the one hand, it aims to examine the extent and quality of disclosures that companies provided on corporate websites during the COVID-19 pandemic. On the other hand, an effort is made to assess which factors affected the extent of disclosure. These factors focus on firm-specific characteristics (company size, leverage, profitability, auditing firm size) and core corporate governance attributes (board size, ownership concentration and chief executive officer duality). Results indicate that average disclosure was relatively high. Regression analysis shows that the level of disclosure was significantly positively associated with company size, profitability and board size. This indicates that during the pandemic, larger companies, more profitable and with more board members, disclosed more information on their websites. The results of the study may be of interest for clients, financial and credit analysts, investors, supervisory authorities as well as management, in their effort to improve corporate disclosures and the level of social responsibility.

Keywords: Financial Disclosures, Non-Financial Disclosures, Internet, Pandemic, Company Characteristics, Corporate Governance

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1. INTRODUCTION

The COVID-19 pandemic is a multidimensional crisis and probably the most significant challenge for humanity since the devastating World War II. Many countries, in order to restrain the spread of the virus, proceeded to restrictive measures, social distancing and ultimately quarantine which affected socioeconomic life and the business environment. While many businesses were forced to close, causing an unprecedented disruption in most industry

sectors, others like online communication, online entertainment and online shopping are flourishing (Donthu & Gustaffson, 2020). In this volatile and complex context, corporate disclosures are vital in order to ensure transparency and stability in the financial markets and sustainable growth for the enterprises.

Disclosures constitute the main means of communication between management and investors and markets, in general, and they are provided by several means that include annual reports, conference calls, investor relations, interim reports and company websites (Hassan & Marston, 2010). Companies are motivated to provide information on the Internet due to the reduction of cost and time for the dissemination of information, communication with consumers that were previously unknown, supplementation of traditional disclosure practices and increase of the amount and type of disclosed information (FASB, 2000). Corporate reporting on the Internet offers a potential solution to the problems of traditional paper-based disclosures by facilitating timely reporting, addressing a wider audience and providing a choice in various presentation formats, such as hypertext and multimedia (Sandhu & Singh, 2019).

The rapid use of the Internet in financial reporting is reflected in the increasing number of accounting research studies in this area, which aim to depict the use of the Internet in corporate reporting, to document variations in reporting practices, and to examine the association between firm-specific characteristics, corporate governance, and Internet reporting (Mokhtar, 2017). Research of corporate disclosures during the first quarter of 2020 – at the global outbreak of the pandemic – shows that initial disclosures were driven by information demand and managers were proactive to provide general information to investors, recognizing the significant impact on firm operations (Wang & Xing, 2020).

This paper aims to investigate the extent and quality of financial and non-financial information disclosed on the corporate websites during the period of the pandemic and its association with company and corporate governance characteristics. For this purpose, a disclosure index comprising 70 items, including pandemic related disclosures, was constructed and regressed on the characteristics of company size, leverage, profitability, auditing firm size, board size, ownership concentration and chief executive officer (CEO) duality. The sample of the study included 40 non-financial large and middle capitalization companies listed on the Athens Stock Exchange (ASE) for the year 2020.

Results indicate a relatively high average level of disclosure that amounted to 56.80% of the total items of the index. Regression analysis shows that the level of disclosure was significantly and positively associated with company size, profitability and board size. This means that companies that were larger in size, more profitable and had more board members, disclosed more information on their corporate websites. On the other hand, the characteristics of leverage, auditing firm size, ownership concentration and CEO duality were not found to be significant factors for the extent of disclosure on corporate websites.

To the knowledge of the authors, this is one of the few studies to examine the extent of corporate disclosures on the Internet during the pandemic, as well as the extent of pandemic related disclosures. The results shed light on the factors that affected disclosures on corporate websites during the pandemic and enrich the results of prior research in this field. Moreover, the conclusions of the research may be useful to clients, financial and credit analysts, investors, supervisory authorities as well as to management, in their effort to improve corporate disclosures and the level of social responsibility.

The remainder of the paper is organized as follows. Section 2 presents a literature review of theories relating to disclosure and of prior studies. Hypotheses tested in the research are also developed in this section. The disclosure index, the research model and the sample of the study are presented in Section 3. Section 4 includes the results of the research. The paper ends with a summary of the main conclusions, implications and suggestions for future research. Finally, a detailed list of the items of the disclosure index is provided in the Appendix.

2. LITERATURE REVIEW

The need for corporate disclosures stems from information asymmetry and agency problems between management and investors (Healy & Palepu, 2001). The way information is managed is referred to by Gibbins, Richardson, and Waterhouse (1990) as a "*disclosure position*" which has two dimensions: ritualism and opportunism. The difference between these two approaches relies on whether management has an active or passive role in the handling of disclosures (Hassan & Marston, 2010). Ritualism relates to a non-critical dependence on predefined disclosure standards, is motivated by an efficient corporate governance system and derives from internal norms of behavior and not external legislation (Hassan & Marston, 2010). In this context, several theories have been proposed to interpret corporate disclosures which include cost, legitimacy, efficient markets, agency and signaling theory.

2.1. Theories of disclosure

Political cost theories suggest hypotheses regarding the use of accounting data to correct prices in regulated industries, to fix tax policies or decide policies on subsidies (Inchausti, 1997). The origin of political cost theory (or theory of positive accounting), is attributed to Watts and Zimmerman (1978, 1979) and their book "*Positive Accounting Theory*" (1986). According to Watts and Zimmerman (1978), politics can affect the transfer of wealth between different groups, with enterprises being the most vulnerable group in this distribution. In order to face potential government interventions, due to pressures from different voting groups, companies use several mechanisms such as corporate social responsibility campaigns and accounting choices that reduce profits, because profits attract public attention (Watts & Zimmerman, 1978). Therefore, according to the theory of political cost, it can be argued that companies voluntarily

disclose information in order to minimize political intervention (Mallin & Ow-Yong, 2012).

According to Gray, Meek, and Roberts (1995), the disclosure of more information can reduce investor's uncertainty regarding the quality of a firm and the expected return of its securities. Empirical research supports the existence of a negative relation between the level of disclosure and the cost of capital and has created two main research streams (Botosan, 1997). The first argues that greater disclosure enhances share liquidity and therefore reduces the cost of capital, through either reduced transaction cost or through increased demand for corporate securities. According to the second research stream, a higher level of disclosure reduces estimation risk (Botosan, 1997). Corporate disclosures can also be interpreted by the need of companies to raise capital at a lower cost, as additional disclosures may attract new shareholders and support the demand and the price of the shares (Cooke, 1989).

Legitimacy theory is defined as "*a generalized perception or assumption that the actions of an entity are desirable, proper and appropriate within some socially structured system of norms, values, beliefs and definitions*" (Suchman, 1995, p. 574). According to legitimacy, organizations seek to ensure that they operate within social boundaries and therefore disclosures are a significant channel for companies to communicate the legitimacy and appropriateness of their actions. Although legitimacy is a common constraint for all companies, it affects some of them more, because they are more visible and depend more on social and political support (Dowling & Pfeffer, 1975).

The efficient market hypothesis argues that market prices fully reflect all available information and was originally proposed by Samuelson in 1965 (Lo, 2007). According to Fama (1970), there are three forms of capital market efficiency: weak form, semi-strong form and strong form. Healy and Palepu (2001) argue that information asymmetry and agency conflicts between managers increase the demand for financial disclosures. The problem of asymmetric information can be solved by optimal contracts between entrepreneurs and investors, by regulation that requires managers to fully disclose all their private information and by the obligation from financial analysts and rating agencies to uncover management's inside information (Healy & Palepu, 2001).

The agency problem is associated with the separation of ownership and control in diffused ownership corporations (Jensen & Meckling, 1976). In firms with diffused ownership the agent may have access to inside information, which, considering the monitoring difficulties, he may use for his own benefit (Cooke, 1989). Moreover, in companies where managers exert effective control the incentive to pursue personal interest arises (Waweru, Mangena, & Riro, 2019). In this case, accounting information is a mechanism for the resolution of conflicts between the related parties; e.g., between shareholders, between shareholders and bondholders, even between the corporation and society (Gray et al., 1995). Financial accounting, therefore, provides a significant source of information for governance mechanisms that assist in the mitigation of the agency problem (Sloan, 2001).

Signaling theory can also be useful in describing a behavior in which parties have access to different information (Connelly, Certo, Ireland, & Reutzel, 2011). According to Smith (2003), Ross (1977) introduced incentive signaling theory in finance by creating a research stream that examines voluntary disclosure in financial reports. In this context, signaling theory provides useful data for the interpretation of the level of disclosure in the capital markets where companies compete for their securities and their expected return, as well as for the uncertainty regarding the quality of a company and its securities (Gray et al., 1995). Moreover, companies with diffused ownership may provide more information in order to signal that managers act for the best interest of their principals (Ghazali & Weetman, 2006).

2.2. Prior research and hypotheses

Several firms and corporate governance characteristics have been used as explanatory variables of the extent of corporate disclosures on the Internet in prior studies. A meta-analysis of prior research indicates a significant association of the characteristics of firm size, profitability, leverage and auditor type with Internet reporting, confirming the predictions of agency, signaling and political cost theory (Mokhtar, 2017). In this study, the explanatory variables were selected with the following criteria:

1) the existence of a theoretical framework that supports the association between the specific characteristics and disclosure;

2) correspondence of selected variables to the objectives of the research;

3) reliable measurement and sources of data;

4) relevant and important variables for the study.

Based on the above, the following firm and corporate governance characteristics were selected:

Firm size

Larger companies are expected to disclose more information compared to small companies because a) they are subjected to public scrutiny (Alsaeed, 2006), b) they attract political attention and may adopt strategies to reduce political cost (Watts & Zimmerman, 1978), and c) the cost of complying with disclosure requirements is lower for large companies (Owusu-Ansah, 1998). On the other hand, smaller companies may be reluctant to disclose their activities because this could result in a competitive disadvantage (Raffournier, 1995). Most of the prior research concludes that the level of disclosure on the Internet is positively associated with firm size (Debreceny, Gray, & Rahman, 2002; Marston & Polei, 2004; Xiao, Yang, & Chow, 2004; Elsayed et al., 2010; Hossain, Momin, & Leo, 2012; Andrikopoulos, Merika, Triantafyllou, & Merikas, 2013; Bekiaris, Psimada, & Tasios, 2014; Ahmed, Burton, & Dunne, 2017; Al-Sartawi & Reyad, 2018; Sandhu & Singh, 2019; Xiang & Birt, 2020). Based on the above, the following hypothesis is formed:

H1: The extent of disclosure is significantly positively associated with firm size.

Profitability

According to agency theory managers of profitable companies may use external information in order to gain personal advantage and will disclose detailed information in order to maintain their position in the company and their remuneration (Inchausti, 1997). Moreover, they are motivated to disclose more information in order to communicate the good performance to investors (Raffournier, 1995). On the other hand, Lang and Lundholm (1993) advocate that certain types of negative information may be disclosed voluntarily in order to minimize the possibility of legal liability. In addition, less profitable companies may proceed to additional disclosures in order to explain poor performance and assure markets about future performance (Leventis & Weetman, 2004). Several studies found an insignificant relationship between Internet disclosures and profitability (Oyelere, Laswad, & Fisher, 2003; Marston & Polei, 2004; Xiao et al., 2004; Puspitaningrum & Atmini, 2012; Ahmed et al., 2017; Al-Sartawi & Reyad, 2018; Sandhu & Singh, 2019), others a significant positive relationship (Elsayed et al., 2010; Andrikopoulos et al., 2013; Kamalluarifin, 2016; Waweru et al., 2019) and others a negative relationship (Bekiaris et al., 2014; Xiang & Birt, 2020). Based on the mixed results of prior research, the following hypothesis is stated:

H2: The extent of disclosure is significantly associated with profitability.

Leverage

Higher leveraged firms have an incentive according to agency theory, to disclose more information because the higher the debt to capital ratio of a company the higher the agency costs (Depoers, 2000). Consequently, financial disclosures can contribute to the solution of monitoring problems between shareholders and creditors, which are more likely to arise in firms with large debt (Raffournier, 1995). Prior research has produced mixed results regarding the relationship between disclosure and leverage. Some studies found an insignificant association (Oyelere et al., 2003; Puspitaningrum & Atmini, 2012; Ahmed et al., 2017; Al-Sartawi & Reyad, 2018; Waweru et al., 2019; Xiang & Birt, 2020), while others resulted in a significant relationship (Xiao et al., 2004; Andrikopoulos et al., 2013; Kamalluarifin, 2016; Sandhu & Singh, 2019). Since the exact relationship between leverage and disclosure cannot be specified, the following hypothesis is formed:

H3: The extent of disclosure is significantly associated with leverage.

Auditing firm size

Auditing firms may use the information disclosed by their clients to signal their own quality (Inchuasti, 1997). Large auditing firms are anticipated to meet the expectation of shareholders for comparability of information released by firms in order to help them monitor managers effectively (Depoers & Jeanjean, 2012). Furthermore, larger auditing firms may be more exposed to legal liability compared to smaller ones and, therefore, have more to lose in terms of reputation damage (Owusu-Ansah, 1998). Results of previous research on the relationship between audit firm size and disclosure are also mixed. Several studies have identified the existence of a significant and positive relationship (Raffournier, 1995; Elsayed et al., 2010) and other studies concluded that an insignificant association exists (Xiao et al., 2004; Alsaeed, 2006; Ahmed et al., 2017; etc.). Taking into consideration the above arguments, the following hypothesis is stated:

H4: The extent of disclosure is significantly associated with auditing firm size.

Board size

The board of directors has the final responsibility for the functioning of the firm and is often motivated by significant legal liabilities (Jensen, 1993). Board size has an important role in promoting corporate transparency (Samaha, Khlif, & Hussainey, 2015) and effectively monitoring corporate governance (Sandhu & Singh, 2019). Large boards allow diverse opinions and experiences and increase the supervisory role of the board (Gandia, 2008). Some studies indicate a positive relationship between board size and disclosure (Allegrini & Greco, 2013; Sandhu & Singh, 2019), while others resulted in an insignificant relationship (Elsayed et al., 2010; Basuoni & Mohamed, 2014). Since the exact association between the level of disclosure and the size of the board of directors cannot be defined, the following hypothesis is formed:

H5: The extent of disclosure is significantly associated with board size.

Ownership concentration

A company with diffused ownership may disclose additional information to signal that managers act in the best interest of their principals (Ghazali & Weetman, 2006). In companies with diffused ownership agency problems may be severe, especially in the case of a dominant shareholder (Depoers & Jeanjean, 2012). Results of prior research regarding the association between disclosure and ownership concentration are mixed. For example, Allegrini and Greco (2013) and Puspitaningrum and Atmini (2012) found an insignificant association, whereas other researchers such as Oyelere et al. (2003), Basuoni and Mohamed (2014), Dolinšek and Lutar-Skerbinjek (2018), Fiandrino, Rizzato, Busso, and Devalle (2019) and Waweru et al. (2019) found a significant negative association. Based on the above arguments the following hypothesis is stated:

H6: The extent of disclosure is significantly associated with ownership concentration.

CEO duality

The independence of the chairman of the board of directors may lead to a board that functions with more transparency and consequently to more disclosure (Ghazali & Weetman, 2006). On the other hand, when the positions of the CEO and chairman are held by the same person this has a negative impact on the independence of the board and its ability to exercise efficient control (Depoers & Jeanjean, 2012). Moreover, this person would tend not to disclose unfavorable information to outside parties of the company (Ho & Wong, 2001). Prior research in this area indicates that CEO duality is negatively associated with the extent of the disclosure (Samaha, Dahawy, Hussainey, & Stapleton, 2012). Based on the above the following hypothesis is formed:

H7: The extent of disclosure is significantly negatively associated with CEO duality.

3. RESEARCH METHODOLOGY

There are three main different approaches used in previous literature for the examination of corporate reporting on the Internet. The first approach uses indexes to measure the extent of the disclosure (Bekiaris et al., 2014; Waweru et al., 2019; etc.). The second approach utilizes a dummy variable that takes the value 1 if a company uses Internet reporting and 0 otherwise (Basuoni & Mohamed, 2014; Dolinšek & Lutar-Skerbinjek, 2018; etc.). The third approach uses questionnaires in order to capture the perceptions of various categories of users of the Internet reporting (Al-Htaybat, von Alberti-Alhtaybat, & Hutaibat, 2011; Amin & Mohamed, 2016; etc.). The approach followed in the research affects the statistical analysis employed. The first approach uses ordinary least square (OLS) regression analysis, whereas the second bivariate and/or logistic regression analysis. Finally, questionnaire surveys use mainly descriptive statistics and non-parametric tests. In this study, a self-constructed index was used to measure the extent of disclosure of the websites of the companies of the sample, and regression analysis for the hypotheses testing.

3.1. Disclosure index

The disclosure index constructed to measure the extent of disclosure on the corporate websites included 70 items. From these items, 61 were based on prior studies and mainly by Botti et al. (2014), Elsayed et al. (2010), Kelton and Yang (2008) and 9 items were COVID-19 specific disclosures in order to capture the impact of the pandemic. The items of the index were classified into the following categories: content (41 items) relating to financial information, corporate governance and corporate social responsibility, presentation (20 items) and pandemic (9 items). A detailed list of the items used in the study is presented in the annex of the paper.

The approach used in the scoring of the item index was unweighted (dichotomous) in which an item scored 1 if it was disclosed on the corporate website and 0 if not. The disclosure score per company (dscore) is measured as the ratio of the calculated score to the maximum possible score for this company:

$$dscore = \frac{\sum_{i=1}^{n_j} X_{ij}}{n_j} \quad (1)$$

where, n_j = the number of items expected for j^{th} company, $n_j \leq 70$. $X_{ij} = 1$ if the i^{th} item is disclosed and $X_{ij} = 0$ if the i^{th} item is not disclosed, so that $0 \leq dscore \leq 1$.

3.2. Sample and data

The sample of the study contains the websites of all non-financial companies of large and middle capitalization listed on the ASE during 2020. Firms of the financial sector were excluded from the study due to specific reporting requirements, a practice widely followed in prior research (Ahmed et al., 2017; Sandhu & Singh 2019; etc.). The final sample of the study amounted to 40 corporate websites, which were accessed during the period from June to August 2020. Each website was scored with the self-constructed index. Data regarding the dependent variables of the study were retrieved from the annual reports of the year ending 31.12.2019, which were released in 2020.

3.3. Research model

Multiple regression analysis was applied to test the hypotheses of the study. The estimated multiple regression model is depicted in the equation below:

$$dscore = \beta_0 + \beta_1 fsize + \beta_2 prof + \beta_3 lever + \beta_4 afsize + \beta_5 bsize + \beta_6 owncon + \beta_7 ceodual + \varepsilon_i \quad (2)$$

where,

- *dscore*: the disclosure score of each corporate website;
- *fsize*: firm size measured by the natural logarithm of total sales;
- *prof*: profitability measured by the percentage of net profit margin;
- *lever*: leverage, measured by debt to equity ratio;
- *afsize*: auditing firm size, a dummy variable that takes the value 1 if the company is audited by one of the Big 4 audit firms and 0 otherwise;
- *bsize*: board size, the total number of members of the board;
- *owncon*: ownership concentration, calculated by the sum of the shareholders per company with holdings above 5%;
- *ceodual*: chief executive duality, a dummy variable that takes the value 1 if the positions of the CEO and the president are held by the same person and 0 otherwise.

4. RESULTS

4.1. Descriptive statistics

The table that follows presents basic descriptive statistics of dependent and independent variables.

Table 1. Descriptive statistics of dependent and continuous independent variables

Variable	N	Mean	St. deviation	Min	Max
dscore	40	0.57	0.09	0.30	0.73
fsize	40	8.47	1.13	4.06	9.97
prof	40	-3.55	16.95	-96.12	0.99
lever	40	1.97	3.51	-9.56	18.61
bsize	40	9.63	2.53	5	15
owncon	40	0.59	0.20	0.11	0.83

Source: Authors' estimates.

According to the above table, mean disclosure amounted to 56.80%, which indicates a relatively high level of disclosure in the corporate websites of the sample. Mean firm size amounted to 8.47 and mean profitability to -3.55. The average leverage was 1.97, indicating a high level of debt. On average, boards of directors had 10 members and the concentration of the ownership of share capital was high and amounted to 59%. As far as the categorical values are concerned, most of the companies of the sample (47%) were audited by small audit firms and 53% of them by one of the Big 4 audit firms. Concentration in the roles of the president and CEO was observed at 33% of the sample of the companies.

As far as pandemic related disclosure is concerned, the higher disclosure was observed on protective measures for the employees (82%), impact on working conditions (70%) and impact on company revenues/ activities (63%). On the other hand, a low level of disclosure was observed on a hyperlink to National Health System (NHS) system (5%), to the development of remote operations and services (33%) and to instructions to customers/partners (35%).

4.2. Correlations

Table 2 that follows illustrates the correlations between the dependent and the independent variables.

Table 2. Pearson correlation matrix

	dscore	*asize*	*prof*	*lever*	*afsize*	*bsize*	*owncon*	*ceodual*
dscore	1							
fsize	0.655***	1						
prof	0.572***	0.641***	1					
lever	0.060	0.205	0.088	1				
afsize	0.428***	0.395**	0.230	-0.024	1			
bsize	0.492***	0.478***	0.197	0.047	0.459***	1		
owncon	-0.198	-0.251	-0.111	0.031	-0.102	-0.190	1	
ceodual	-0.106	0.077	0.147	-0.232	-0.195	-0.174	-0.025	1

*Notes: * significant at the 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level (2-tailed).*
Source: Authors' estimates.

As shown in the above table, the disclosure score is positively associated with company size (*fsize*), profitability (*prof*), auditing firm size (*afsize*) and board size (*bsize*) at the 0.01 level of significance, providing some support for these research hypotheses. As far as the independent variables are concerned, company size is positively associated with profitability and board size at the 0.01 level of significance, and with auditing firm size at the 0.05 level of significance. Auditing firm size is positively associated with board size at the 0.01 level of significance. Although correlation results suggest that for some of the independent variables correlation coefficients are significant, they are not highly correlated (above 0.80 or 0.90) to indicate multicollinearity (Field, 2018).

4.3. Validity

In the regression analysis, the backward method was used which rejects at each stage the variable with the less significant impact on R^2, thus reaching the optimal model. In order to assess the validity of the model, the basic assumptions of multiple regression were tested. Multicollinearity was examined with the use of a correlation matrix and variation inflation factor (VIF). The normality of residuals was examined with normality P-P plots and Shapiro-Wilk test. Homoskedasticity was checked with an analysis of residual plots of standardized residuals against predicted values. The above tests showed that the assumptions of ordinary least square regression were not violated.

4.4. Regression results

The data were analyzed in SPSS, using the Backward Likelihood method for the estimation of the beta coefficients β_j of the regression model. The Backward Likelihood Method begins with a model that includes all variables and then in each step removes them one by one if they do not contribute enough to the regression equation based on the criterion of the p-value. The cut-off point for significance was set to 0.10. The examination of the variables' p-value leads to the conclusion that 5 steps are necessary in order to remove all variables that do not significantly improve the model and identify the significant variables that contribute to the regression equation. Table 3 presents the 5 steps of the regression analysis.

Table 3. Regression results

	Model 1			*Model 2*			*Model 3*			*Model 4*			*Model 5*		
	β	***t***	***VIF***	***β***	***t***	***VIF***	***β***	***t***	***VIF***	***β***	***t***	***VIF***	***β***	***t***	***VIF***
Const.	0.280	2.141		0.264	2.330		0.275	2.482		0.257	2.375		0.247	2.279	
fsize	0.028	1.805	2.516	0.029	1.917	2.424	0.026	1.830	2.260	0.028	2.020	2.188	0.027*	1.915	2.171
prof	0.002	2.043	1.771	0.002	2.060	1.764	0.002	2.106	1.762	0.002	2.152	1.758	0.002**	2.042	1.743
lever	-0.002	-0.601	1.176	-0.002	-0.634	1.168									
afsize	0.018	0.705	1.420	0.018	0.706	1.418	0.021	0.826	1.382						
bsize	0.007	1.337	1.554	0.007	1.380	1.545	0.008	1.449	1.535	0.009	1.781	1.401	0.010**	2.086	1.331
owncon	-0.015	-0.262	1.087												
ceodual	-0.029	-1.114	1.224	-0.029	-1.130	1.224	-0.024	-0.994	1.115	-0.028	-1.172	1.077			
	R^2 = 0.558; F = 5.781			R^2 = 0.557; F = 6.928			R^2 = 0.552; F = 8.381			R^2 = 0.543; F = 10.399			R^2 = 0.525; F = 13.271; p = 0.000; adj R^2 = 0.486		

*Notes: * significant at the 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level.*
Source: Authors' estimates.

According to the table above, the F-value of the final model is 13.271 and indicates that the model is significant (p = 0.000). The value of adjusted R^2 implies that 48.6% of the variation in the disclosure index is explained by the selected independent variables. The findings provide support for hypotheses *H1* (firm size), *H2* (profitability) and *H5* (board size). Results per hypothesis tested are the following:

Firm size (H1): hypothesis not rejected. A significant positive relationship between disclosure and firm size exists, which means that companies with higher sales disclosed more information on their corporate websites during the pandemic. The result verifies the findings of prior studies which identified the size of the companies as one of the most important factors affecting disclosures (Andrikopoulos et al., 2013; Bekiaris et al., 2014; Ahmed et al., 2017; Sandhu & Singh, 2019; Xiang & Birt, 2020; etc.).

Profitability (H2): hypothesis not rejected. Profitability appears to be a significant explanatory factor for the level of disclosure and shows that more profitable companies disclosed more information on their corporate websites during the pandemic. This result is consistent with prior studies that also identified a positive relationship between the extent of disclosure and profitability (Andrikopoulos et al., 2013; Waweru et al., 2019; etc.).

Leverage (H3): hypothesis rejected. Contrary to our expectation, leverage is not included in the final regression model and is not a significant factor for the extent of disclosure on corporate websites.

Auditing firm size (H4): hypothesis rejected. Auditing firm size is also not included in the final regression model and therefore is not a significant factor for the extent of disclosure on the corporate websites.

Board size (H5): hypothesis not rejected. Companies with more board members disclosed more information on their websites during the pandemic. Results are consistent with prior studies like Sandhu and Singh (2019), which also identified a significant and positive relationship between board size and the extent of disclosure.

Ownership concentration (H6): hypothesis rejected. The concentration of the ownership of the share capital is not included in the final model and is not a significant factor for the extent of disclosure on corporate websites.

CEO duality (H7): hypothesis rejected. CEO duality is also not included in the final model and therefore is not a significant factor for the extent of disclosure on the corporate websites.

4.5. Discussion

The significant and positive relationship between the extent of disclosure and the company size meets the expectations that stem from political cost theory. Larger firms may have disclosed more information on their websites during the period of the pandemic, as they are more exposed to public scrutiny and attract political attention, especially regarding their social responsibility in this difficult period. Moreover, as the pandemic has created increased liabilities regarding protective measures for customers, employees, and the public in general, the increased disclosure by larger companies can be also interpreted through the prism of legitimacy theory, as they are more visible to the public.

Profitability was also significantly positively associated with the extent of disclosures, supporting the arguments of agency and signaling theory that more profitable companies disclose more information. Managers of more profitable companies may have disclosed more information on the Internet in order to signal the good performance of the company, maintain their position and assure their principals that during this crisis they act for their best interest. The findings of the study finally, highlight the role that corporate governance plays in corporate reporting practice. The presence of more members on the board, which facilitates the exchange of ideas and experiences, seems to positively affect the content and the presentation of information disseminated through corporate websites.

5. CONCLUSION

The adverse circumstances created by the crisis of the COVID-19 pandemic have emphasized the importance of corporate disclosures and the usefulness of the Internet for the timely dissemination and availability of information. This study aimed to examine the extent of disclosure during the pandemic of large and middle capitalization non-financial companies listed on the ASE and the association between the extent of disclosure and firm and corporate governance characteristics. For this purpose, a disclosure index which comprised 70 items was constructed and applied on the websites of 40 companies during the period from June to August 2020. The average level of disclosure on the corporate websites of the study was relatively high and amounted to 56.80%.

Consistent with the expectations derived from the literature review of theories and research, the study provides evidence of a positive relationship between the level of disclosure and the characteristics of firm size, profitability and board size. This indicates that listed firms on the ASE which were larger, more profitable and with more board members disclosed more information on their websites. The findings enrich the empirical evidence in the area of corporate reporting and support the arguments of disclosure that stem from political cost, legitimacy, signaling and agency theory, during a period of an unprecedented crisis created by the pandemic and could be useful to all parties involved in financial reporting. Contrary to the expectations of the study, the characteristics of leverage, auditing firm size, ownership concentration and CEO duality were not found to be significant explanatory factors for the extent of disclosure on corporate websites.

The research does have some limitations, which need to be considered when interpreting the results. First, the study captures corporate reporting practices at the time of the research, and due to the dynamic nature of the Internet and corporate websites, results may not represent the current state of reporting practice. Another limitation derives from the research instrument and relates to potential subjectivity in the scoring of the disclosure index. However, the unweighted approach followed in the scoring of the index limits potential subjectivity issues. Finally, the study is limited to only three corporate governance aspects: board size, CEO duality and ownership concentration.

Future research could include more disclosure items and the examination of more firm characteristics which potentially may have affected the extent of disclosure during the pandemic. The impact of corporate governance aspects relating to ownership structure and board diversity and function could also be valuable in interpreting corporate reporting practices on the internet. Moreover, it would be interesting, once the pandemic is over, to examine if the extent of disclosure is modified. Finally, qualitative research could supplement the results of this study by identifying the reasons for the low level of disclosure on certain items of the disclosure index.

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