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DEPARTMENT OF MARITIME STUDIES

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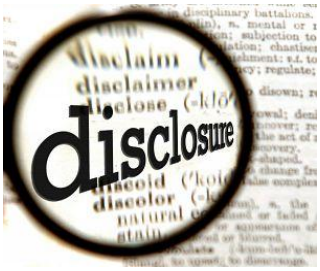
MSc Thesis

«Listed European Shipping Companies: a case study on the determinants and characteristics of Web-based disclosure»



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Η παρούσα Διπλωματική Εργασία εγκρίθηκε ομόφωνα από την Τριμελή Εξεταστική Επιτροπή που ορίσθηκε από τη ΓΣΕΣ του Τμήματος Ναυτλιακών Σπουδών Πανεπιστημίου Πειραιώς σύμφωνα με τον Κανονισμό Λειτουργίας του Προγράμματος Μεταπτυχιακών Σπουδών στη Ναυτιλία.

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Η έγκριση της Διπλωματικής εργασίας από το Τμήμα Ναυτιλιακών Σπουδών του Πανεπιστημίου Πειραιώς δεν υποδηλώνει αποδοχή των γνωμών του συγγραφέα.

Το άτομο το οποίο εκπονεί τη Διπλωματική Εργασία φέρει ολόκληρη την ευθύνη προσδιορισμού της δίκαιης χρήσης του υλικού, η οποία ορίζεται στη βάση των εξής παραγόντων: του σκοπού και χαρακτήρα της χρήσης (εμπορικός, μη κερδοσκοπικός ή εκπαιδευτικός), της φύσης του υλικού που χρησιμοποιεί (τμήμα του κειμένου, πίνακες σχήματα), του ποσοστού και της σημαντικότητας του τμήματος που χρησιμοποιεί σε σχέση με το όλο κείμενο υπό copyright, και των πιθανών συνεπειών της χρήσης αυτής στην αγορά ή στη γενικότερη αξία του υπό copyright κειμένου.

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ABSTRACT

The best way for an outside investor to study and analyze the performance of a company is the access to its financial data. Web-based disclosure and reporting of such data is essential to the firm's communication with the world. The purpose of this MSc Thesis is to investigate how corporate governance is related to the performance of shipping firms.

More specifically, we constructed a disclosure index of 126 listed shipping companies in the European Stock Exchanges and we investigated how the profitability, the leverage, the concentration and the size of shipping firms affect the voluntary disclosure of selected items. We measured the quantity of disseminated information of each company and analyzed the determinants of the corporate performance.

We used the Generalised Method of Moments and we produced a positive and strongly significant relationship between the level of Web Based voluntary disclosure and corporate performance.

The significance of the research undertaken has practical and empirical as well as academic dimensions. The results provide the practitioner with an insight as to the importance of voluntary disclosure on corporate performance while it sheds light from different perspective on the academic examination to the issue, and it explains why the shipping company's management are keen to publish more and more data voluntarily on their webpages. Previous research on web-based disclosure was reviewed and expanded using a number of indeces for the evaluation process of the survey.

1. INTRODUCTION

Shipping Firms provide disclosure of their performance levels indicators through regulated financial reports[1], gaining significant improvement over the traditional methods of the dissemination of this information. The credibility of these disclosures is proven by regulators, auditors, standard setters and other capital market intermediary parties.

In this MSc thesis we have investigated the financial reporting and the voluntary disclosure of such information on the websites of 126 listed shipping firms in Europe, we have summarized key research findings, and we have identified areas for future work. We have used the disclosure framework to identify the important research questions for this MSc Thesis, which we have reviewed with available empirical evidence using the GMM Model (Generalized Method of Moments).

The importance of this topic is visible on the findings as to whether Web based voluntary disclosure of a shipping firm's financial data is positively related to the size, profitability, leverage and ownership concentration. Being able to validate such hypothesis can change dramatically the functioning of an efficient capital market.

1.1. Hypothesis Formulation and Contribution of the Study

This study investigates four research questions:

1. *Is the relationship between profitability of a shipping firm and the levels of disclosure positive?*
2. *Is the relationship between leverage of a shipping firm and the levels of disclosure positive?*
3. *Is the ownership concentration of shipping firms positively related with disclosure?*
4. *Is the size of a shipping firm positively related to disclosure?*

[1] Including the financial statements, footnotes, management discussion and analysis, and other regulatory filings. Moreover, some firms engage in voluntary communication, such as management forecasts, analysts' presentations and conference calls, press releases, internet sites, and other corporate reports.

Finding answers to these research questions should help researchers and regulators better understand the motivations behind companies' voluntarily disclosing financial information to various stakeholder groups.

This study extends the existing literature on the voluntary disclosure of web-based financial data information by investigating the impact of corporate performance on the amount of disclosure by the shipping companies. Therefore, the findings of this study should contribute to the literature and be of interest to various parties, such as: researchers; investors; politicians; and regulators.

This MSc thesis will quantitatively study the relationship between disclosure degree in annual report and the company features. Following a literature review the sample collection, the methodology used, the results found and the expectation of future study.

1.2 Financial Reporting

Financial reporting is an essential way of developing confidence to the investors in a market. With this tool, detailed financial information about the firm can be acquired very easily, timely data is supplied that gives the opportunity of wide reach at low cost and very high speed in communicating this information (Ettredge et al., 2002; Marston and Polei, 2002; Xiao et al., 2004, Pendley and Rai, 2009).

1.2.1 International Accounting Standards

A number of countries in Europe adopt the International accounting standards (IAS)[2] as their national Generally Accepted Accounting Principles (GAAP)[3], while some other countries use IAS simply as guidance develop their own accounting standards. The International Accounting Standards have aided the conversion of developing nations from socialism to capitalism. The limitations towards the full adaptation of the IAS are related to cultural and mentality issues.

[2] also known as International Financial Reporting Standards (IFRS)

[3] GAAP refers to the standards, conventions, and rules accountants follow in recording and summarizing , and in the preparation of financial statements.

The International Accounting Standard Board (IASB) has been criticized for favoring the Anglo-American accounting model in developing its standards (Chitty 1998; Cairns 1997; Dahawy, et al. 2002). Gray (1988) indicates that capitalistic, developed economies place a high degree of emphasis on professionalism, transparency, flexibility and optimism, while socialist economies emphasize statutory control, secrecy, uniformity and conservatism.

As this study explores the relationships between firm performance, leverage, ownership concentration, firm size and voluntary disclosure of financial web-based data, a few terms should be clarified.

1.3 Disclosure of data

The mandatory and voluntary disclosures are both mechanisms of reducing the information asymmetry in a firm. They serve two roles, the aid of decision making and the account for stewardship[4]. Since firms are not obliged to report forward looking information such as forecasts and targets, disclosure is part of voluntary disclosed information.

1.4 Voluntary disclosure

Voluntary disclosure is related to: "all data concerning subsidiaries and the group going beyond the compulsory information for shareholders"[5]. In Decision Making Theory, Individuals tend to choose the alternatives that maximize their utility function[6].

In general, a high amount of uncertainty exists as to the decisions of the shipping firm's administration in relation to the financials released. Given the tendency above and in relation to disclosure, the Shipping Firm's management is more likely not to disclose **if** non disclosure would bring the highest utility outcome. We must note

[4] Chen, R. S. (1975). "Social and Financial Stewardship", The Accounting Review, Vol. 50, No. 3, pp. 533 – 543,
Gjesdal, F.(1981), Accounting for Stewardship, Journal of Accounting Research 19, 208-231.

[5] Depoers, F. (2000). A cost-benefit study of voluntary disclosure: some empirical evidence from French listed companies. The European Accounting Review, 9 (2), 245-263

[6] Decision Making and Problem Solving, Herbert A., Simon et al. (1986)

here that the previous is not always the case, as for example if the financial results are not good, a company typically releases them so that the release can act as a prevention of possible lawsuits or to mitigate share price major declines. Evidence indicate that managers lowers expectations and earnings forecasts so that negative earnings surprises could be avoided[7]. Dye (1985) argues that managers tend to withhold information for various reasons including independence of management compensation from disclosure, tense relationships between managers and shareholders, and costly release of information.

The decision as to whether one should voluntarily disclose a specific item is related to a number of factors.

- *First of all, the management needs to decide on the* ***level of detail of the disclosure items****.*

For example, when the management of the shipping firm issues a press release in which it announces a crucial agreement, the management needs to decide on whether to disclose the financial numbers of the agreement.

- *Secondly, the current disclosure levels and the future ones may be different.* ***Managers try to avoid setting disclosure patterns that is uncertain of whether they will be maintained or not[8].***

For example, when the shipping firm arranges a tele-conference for the first time, investors will believe that such calls will also take place in the future.

1.5 Web-Based Voluntary Disclosure

We are referring in this section to the publishing of corporate performance data online, on the web-sites of each shipping firm, instead of the printed results that were being released before the appearance of the internet-based disclosure.

[7] Bowen, R., A. Davis, and D. Matsumoto.(2002), Do conference calls affect analystsí forecasts? The Accounting Review 77 (April): 285-316.

[8] Graham JR, Harvey CR, Rajgpal S (2005). The Economic Implications Of Corporate Financial Reporting. J. Account. Econ., 40: 3-73.

The Web-Based Voluntary Disclosure makes the corporate performance data easier and faster to publish, available to anyone in any location of the world, and also reduces the cost of their release significantly.

The levels of Web-Based Voluntary Disclosure vary according to the number of items published, according to the amount of details published, according to how frequently specific releases appear online, the frequency with which different items are presented at sites and also the presentation format of the items[9].

1.6 European Stock Exchanges Regulations

According to the Overview for the Major Exchange Market Segments in Europe for International Companies, the Disclosure requirements are:

1.6.1 Disclosure regulations for Half-yearly report, accounting standards, company profile and disclosure language

Deutche Borse				
	Half-yearly report	***Accounting standards (****ongoing reports)*	***Company profile / corporate calendar***	***Disclosure language***
Entry Standard	publication of the interim report not later than three months after the end of the first half year	if a prospectus has been published: reporting standard as in the prospectus, otherwise: national GAAP or IFR	To be published on issuer's website	English
First Quotation Board (FQB)	not required	no ongoing reports required	not required	not required
London Stock Exchange (LSE)				

[9] Marston, C. & Leow, C.Y. (1998), Financial reporting on the Internet by leading UK companies. Paper presented at the 21st Annual Congress of the European Accounting Association, Antwerp, Belgium.; Lymer, A. (1999). The Internet and the future of corporate reporting in Europe. European Accounting Review, 2(2), 289-301;
Ettredge, M., Richardson, V.J. & Scholz, S. (2002). Dissemination of information for investors at corporate Web sites. Journal of Accounting and Public Policy, 21, 357-369; Lybaert, N. (2002). On-Line Financial Reporting: An Analysis of the Dutch Listed Firms. The International Journal of Digital Accounting Research, 2(4), 195-234.

Alternative Investment Market (AIM)	publication of a half-yearly report not later than three months after the end of the relevant period including at least: ***1.*** *balance sheet* ***2.*** *income statement* ***3.*** *cash flow statement* ***4.*** *comparative figures for the corresponding period in the preceding financial year*	if a prospectus has been published: reporting standard as in the prospectus, otherwise: accounting standard as in the admission document	company information disclosure required on issuer's website	English
Professional Securities Market (PSM)	not required, but best practise advocates such publication	**- if a prospectus has been published:** reporting standard as in the prospectus, **- otherwise:** accounting standard as in the listing particulars	not required	English
NYSE Euronext				
Alternext	publication of a half-yearly report covering the fi rst six months of the year within four months of the end of the second quarter (Amsterdam, Brussels, Paris)	if a prospectus has been published: reporting standard as in the prospectus, otherwise: accounting standard as in the information document	not required	English

1.6.2 Disclosure rules, Insider Trading, Admission Fees

disclosure from the stock exchanges from where the sample is drawn is voluntary or

Deutche Borse			
	Disclosure rules	***Insider Trading/Market abuse***	***Admission fees***
Entry Standard	disclosure of price sensitive information	prohibited (Market Abuse Directive)	**- with prospectus:** €750 **- without prospectus (private placement/ inclusion):** €1,500
First Quotation Board (FQB)	not required	prohibited (Market Abuse Directive)	€ 750

London Stock Exchange (LSE)

Alternative Investment Market (AIM)	1. general disclosure of price sensitive information via Regulatory Information Service (RNS) 2. publication of voting rights by shareholders: where DTR standard applies, disclosure at thresholds 3%, then +/- every 1% where such standard is not applicable, 3. disclosure on a reasonable endeavours basis disclosure of substantial transactions, related party transactions, reverse takeovers and fundamental changes of business 4. directors' dealings 5. disclosure of miscellaneous information	prohibited (Market Abuse Directive)	depending on market capitalization of issuer: minimum: £6,085 maximum: £68,750
Professional Securities Market (PSM)	1. disclosure of price sensitive information 2. maintenance of an insider list	prohibited (Market Abuse Directive)	depending on market capitalization of issuer of the equity shares which the certifi cates represent: **minimum**: £20,000 **maximum**: £352,085

NYSE Euronext			
Alternext	**1.** general disclosure of price sensitive information on the issuer's website and on the website of Alternext (Amsterdam, Paris) **2.** disclosure of transactions by officers and directors within five trading days of the day on which it is informed thereof, where such transactions exceed a combined total of €5,000 (Paris) **3.** publication of major holdings of 50% and 95% (Paris, Amsterdam) and at 25%, 30%, 50%, 75%, 95% (Brussels) in capital or voting rights **4.** notices of general meetings (Amsterdam, Paris) **5.** information of Euronext regarding certain corporate actions	prohibited (Market Abuse Directive)	depending on market capitalization of issuer: **minimum**: €10,000 **maximum**: €500,000 secondary listing (without public offering or private placement): €25,000

2. LITERATURE REVIEW

Despite the fact that there is large amount of studies that have examined the relationship between governance of a company and the company's value, only a small amount of studies review the relationship between governance performance and disclosure of financial data[10]. Some of these researchers include: Firth (1979), Cooke (1989, 1992 and 1993), Wallace (1988), Lang and Lundholm (1993), Wallace, Naser, and Mora (1994), Ahmed and Nicholls (1994), Hossain, Tan, and Adams (1994), and Wallace and Naser (1995).The current MSc thesis focuses on the relationship between Web-based financial disclosure, and corporate performance in the form of profitability and financial structure in the shipping sector.

Studying the level of voluntary disclosure in shipping companies provides additional insights into firm reporting and enhances our understanding of accounting and disclosure practices of the emerging economy in Europe. One of our objectives is to provide an overview of the corporate performance in the European Shipping listed companies and to investigate on what extent it influences the shipping firm's web-based disclosure behavior.

2.1 Disclosure levels and Firm specific features

There is a number of studies that have researched the relationship between web-based disclosure levels and the firm specific factors and determinants in specific regions. In the disclosure literature there are readings with analytical tools and practices as well as more descriptive and explanatory studies.

The first researcher that measured the disclosure levels of 527 American firms and that has evaluated the relationship between the company specific features and disclosure levels was Cerf in 1961. After this, many researchers have further expanded his methodology and have focused on specific countries. Some of these researchers are Singhvi & Desai (1971), Buzby (1974), Firth (1979), Wallace (1988),

[10] Chen and Jaggi, (2009), A study of applying data mining approach to the information disclosure for Taiwan's stock market investors, Journal Expert Systems with Applications: An International Journal, Volume 36, Issue 2, March.

Cooke (1989a) Tai et al. (1990), Wallace et al. (1994), Patton & Zelenka (1997) and Naser et al. (2002). More specifically, the relationship between the company specific features and disclosure levels have by country have been studied by:

- ***America****:* Cerf (1961), Singhvi & Desai (1971), Buzby (1975), Stanga (1976), Imhoff (1992), Malone et al. (1993) and Lang & Lundholm (1993).
- ***Japan:*** Cooke (1991, 1992, 1993).
- ***Bangladesh:*** Ahmed & Nicholls (1994),
- ***Canada:*** Belkaoui & Kahl (1978),
- ***China:*** Zezhong Xiao et al. (2004), Yuanqin Li (2006), Xue Wang (2007).
- ***Great Britain:*** Firth (1979a, 1979b, 1980),
- ***Mexico:*** Chow & Wong-Boren (1987),
- ***Nigeria****:* Wallace (1987, 1988),
- ***New Zealand:*** McNally et al. (1982),
- ***Spain:*** Wallace et al. (1994), Naser & Mora (1994), Wallance and Naser (1995)
- ***Sweden****:* Spero (1979) and Cooke (1989a, 1989b),

The common characteristic of the above researches, besides the fact that they have expanded Cerf's pervious research, is the fact that they propose that the features of a firm that affect the disclosure degree of the financial data of the firm per region. The company features used in the above researches is the firm size, the leverage, the performance, the profitability, the listing status, the listing market, the fixed asset ratio, the type of industry, the life span, the globalization and the liquidity of the firm. The results of these researches are also competing due to the diversity of the dependent and independent variables.

Some researchers have found factors such as the level of technology, the foreign listing and fee float statistically significantly correlated with the level of Internet financial disclosure (Debreceny et al., 2002; Marston and Polei, 2004) whereas researchers such as Ashbaugh et al., (1999) and Brennan and Kelly (2000) did not find leverage, profitability, shareholding by institutional investors and

industry sector significantly correlated with the level of financial disclosure on the Internet.

Marston and Leow (1998), Lymer et al. (1999), Ettredge et al. (2002) and Lybaert (2002) have observed the firm's performance, press releases, stock quotes, FAQ, earnings forecasts, and annual reports as they appear on the firms websites, and they reach the conclusion that Web-based disclosure certainly brings a very strong advantage to the company. Last but not least, Ettredge et al. (2002) note that the financial information that would be helpful to the company appear more intensely and that less positive information appears in a more discreet way.

In this MSc thesis, we use only the features of company size (total assets), the firm performance, the leverage and the ownership structure. Previous studies on each feature follow.

2.2. Company size

Despite the fact that the data used for research on the relationship between company size and voluntary disclosure are different in each study, most researches support the fact that the company size has an obvious and positive effect on disclosure degree. The different data that were used to identify the firm size is the book value, the market value, the total assets, the number of shareholders, employees or the sum of debts and equity.

In this MSc thesis, the firm size was measured by total assets similarly to Singhvi and Desai 1971; Buzby 1974; Belkaoui and Kahl 1978; Firth 1979; McNally & Hasseldine 1982; Cooke, 1989a,b, 1991, 1992, 1993; Wallace et al. 1994; Wallace and Naser 1995; Meek et al. 1995; Inchausti 1997; Owsu-Ansahh 1998, Dunmontier and Rafffournier 1998; Naser 1998; Naser and AL-Khatib 2000; Street and Bryant 2000; Camfferman and Cook 2002, Naser et al. 2002; Ali, Ahmed, & Henry 2004; Al Saeed 2006, Hassan, Giorgioni, & Romilly 2006; and Mangena et al. 2007.

The researchers from the above that support our first hypothesis and propose that the larger a firm is, the better disclosure they will have are (Ahmed & Courtis, 1999) Cerf (1961), Singhvi & Desai (1971), Stanga (1974), Buzby (1975),

Belkaoui & Kahl (1978), Firth (1979), Courtis (1979), McNally et al.(1982), Cooke (1989a, 1989b, 1992), Wallace et al.(1994) and Inchausti (1997) for developed regions, and the researchers about developing regions are of Chow & Wong-Boren (198), Tai et al. (1990), Ahmed & Nicholls (1994), Hossain et al. (1994) Marston & Robson (1997), Owuse-Ahsah (1998) and Akhtaruddin (2005)[11]. Firth (1979), while DeAngelo (1981), Wallace et al. (1994). Studies with analytical tools and methods such as Singhvi & Desai (1971), Malone et al. (1993), Ahmed & Nicholls (1994), Hossain et al. (1994), Raffournier (1995), Ahmed (1996), Patton and Zelenka (1997), proved that high disclosure levels are related to large sized firms ($p < 0.05$). Most of the explanatory studies have found company size to be highly related with the level of financial disclosure on the Internet such as Ashbaugh et al. (1999), Craven and Marston (1999), Brennan and Kelly (2000), Ettredge et al. (2002), Debreceny et al. (2002), Marston and Polei (2004), as cited by Spanos, (2006).

Spanos (2006) surveyed the websites of 136 companies listed on the Athens Exchange. He stated that Greek companies rely mostly on common and traditional Internet reporting practices and that smaller companies provide very limited corporate information compared with the large listed companies. Dutta and Bose (2007) surveyed the websites of 104 companies listed in the stock exchanges of Bangladesh between May 2007 and August 2007 in order to investigate the level of disclosure of corporate social and environmental information on their websites.

Singhvi & Desai (1971), Archambault et al.(2003) have found that the relationship between the firm size and the disclosure levels is not clear and Ahmed and Nicholls 1994; Akhtaruddin 2005McNally et al. (1982) and Tal et al. (1990) found that there is no relationship between the firm size and the disclosure degree.

Based on the previous, the following hypothesis is developed by us:

H1: Company size is positively related to the level of degree of disclosure.

2.3 Profitability

According to Cerf (1961), profitability is an indicator of the performance of a firm. Managers are therefore highly motivated to disclose the financial information

[11] It is important to note that there are some minor differences in the results of these studies.

of their firms so as to support their salaries and positions. Singhvi & Desai (1971) states that high profitability encourages managers to provide more information is because the more information available, the more investor's confidence is being boosted and this would lead to an increase to the manager's salary. This section identifies therefore previous research on the relationship between a firm's profitability and its disclosure levels.

Researchers such as Cerf (1961), Singhvi (1968), Singhvi & Desai (1971), Wallace & Naser (1995), Inchausti (1997) identify the degree to which profitability would affect the mandatory disclosure degree. Inchausti (1997) explained how a manager of a stock market would not disclose detailed financial information in the case of unfavorable financial information to the stock market. He also stated the contrary, that a stock market with favorable financial data is more likely to disclose their financial information in detail. Cooke (1989a, 1989b), Wallace et al. (1994), Wallace & Naser (1995) thought that firms with high profitability would provide more data of high performance indicators by disclosing more information in annual reports.

On the other hand, McNally et al. (1982), Lau (1992) and Raffournier (1995) found that there is no relationship between the performance of a firm and the disclosure levels . Lang & Lundholm (1993) found that the above relationship is either positive, negative or neutral. They found a positive relationship on the above only in the case of high information asymmetry between the investors and the managers of the firm. Last but not least, Belkaoui & Kahl (1978), Wallace & Naser (1995) discovered a negative relationship between the above.

Based on previous research of this section, the second hypothesis of this MSc Thesis is:

H2: The performance of a firm is positively related to the level of degree of disclosure.

2.4 Leverage

In Europe a significant number of shipping companies' source of financing comes from banks. Given the fact that there is lack of presence of credit history mechanisms in the European financial market, the proper analysis of the financial

statements of the shipping companies by the credit department of banks is a difficult task. Therefore, bank analysts are very dependent on the financial statements that are published by the shipping companies that are candidates for debt financing. The companies' financial reports represent the main source of data for proper financial analysis.

Naser and Al-Khatib 2000, Naser et al. 2002, and Hassan et al. 2006 studies report a significant relationship between the leverage of a firm and its disclosure level as their findings indicate that companies that borrow more money will disclose more information than the companies that do not borrow from banks. Whereas Wallace et al. 1994, Ahmed and Nicholls 1994, Wallace and Naser 1995, Meek et al. 1995, Naser 1998, Camfferman and Cooke 2002, Archambault and Archambault 2003, Ali et al. 2004, Al Saeed 2006, Mangena et al. 2007 report a negative relationship of the above and state that "companies that have a higher level of debt financing will be subject to more scrutiny than the companies that mainly depend on equity financing". They also imply that the high propensity of secrecy and the expected scrutiny of the bank analysts lead some companies to hide information from the banks.

Also, it is important to note that, as mentioned earlier, a limited number of studies found a significant relationship between the degree of leverage and the degree of disclosure. However, our MSc thesis that studies the European listing shipping companies has indicated a positive relationship between a firm's leverage and its levels of disclosure. The third hypothesis of this thesis is:

H3: There is a positive relationship between a company's leverage and disclosure levels.

2.5 Ownership Concentration

Ownership structure plays an important role in Corporate governance. It is a key organization variable influencing firm outcomes (Kang and Sorensen 1999). Ownership structure is a central distinguishing feature of financial systems (Lehmann and Weigand 2000) and a primary element in determining corporate governance and

behavior (Shleifer and Vishny 1997; Qu 2005) and it can have a significant influence on company performance (Chrisman et al. 1998).

Company goals are related in a very large degree by the ownership structure, the motivation of the holders of debt, the corporate governance, and the overall processes that feed the motivation of senior managers.

Cassalo L., Flavian C., and Guinaliu, M. (2008) state that there is a positive and significant relationship between website usability and the investor's commitment to the website and satisfaction by the financial data available. Li Li (2010) show that higher Web-based disclosure reduces the relative spread and increase the share liquidity. Information asymmetry appears to be negatively related to the firm size but positively related to the stock return volatility and ownership concentration.

Increased outside ownership monitors managers' actions and reduces the possibility with which managers will withhold information for their self-interest. "Information disclosure is likely to be greater in firms where ownership is dispersed widely" as stated by Hossain et al., 1994.

Based on the previous research of this section, the second hypothesis of this MSc Thesis is:

H4: The corporate structure of a firm is positively related to the level of degree of disclosure.

2.6. Corporate Governance and the Disclosure Environment in Europe

Corporate governance is the act of protecting shareholders from expropriation by managers (Mitton, 2002). Cadbury (1999, p. 12) states that corporate governance was "the system by which companies are directed and controlled". It benefits shareholders through increased disclosure of information, which results in higher firm value and lower asymmetric information.

Mitton (2002) also suggests that better stock performance is associated with firms that have higher disclosure quality in Europe. He considers disclosure quality as an important element of corporate governance and argues that disclosure standards

play a critical role in corporate governance. John and Senbet (1998) note that corporate governance refers to those mechanical devices and structures that act as a check on managerial self-centered behavior.

The authorities of Europe have implemented a number of measures to enhance their standards of reporting and disclosure. These standards describe methods of accounting or disclosure for all adopted accounting statements. These statements are expected to give a fair view of the firm's financial position and results. All listed shipping firms must abide by these standards[12].

Listed shipping firms are encouraged to report relevant and material information in addition to the mandatory information necessary to enable existing and potential investors to measure their performance. But shipping firms usually do not provide voluntary information unless the perceived benefits outweigh the costs (Hossain et al. 1994).

[12] International Financial Reporting Standards, http://www.ifrs.org/IFRSs/IFRs.htm

3. THE SHIPPING INDUSTRY AND ITS IMPORTANCE

The shipping market can be regarded as "a single economic unit with important subdivisions, viz. tramping and liner"[13]. Stopford also distinguishes the liner fleet, the bulk carrier fleet, the tanker fleet and the fleet of ships designed for a single cargo or the specialised fleet[14]. While referring to "liner', the shipping industry in which containers carrying general cargo are being transported globally on a fixed schedule and itinerary. On the other hand, "tramping" is the market of shipping in which there is no fixed schedule.

The liner industry refers usually to common management and/or ownership working as fixed service at regular intervals between ports[15]. One definition of the liner industry is: "a fixed itinerary, inclusion in a regular service, and the obligation to accept cargo from all comers and to sail, whether filled or not, on date fixed by published schedule are what distinguish the liner from the tramp"[16].

3.1. Disclosure in the shipping sector

It is easily observed by the literature review of the previous sections, that the disclosure is an essential tool for companies to create confidence to current and possible future investors. Throughout the previous studies, disclosure is highly associated with corporate governance, i.e., Shipping firms with good governance are more likely to release their information so that a premium will be attracted on their share price.

3.2 Corporate Governance in the Shipping Sector

Corporate governance is the system by which a shipping company's owners (through their Board representatives) ensure the company only pursues, and

[13] Stopford, Martin (2009), Maritime Economics 3e
[14] e.g. cement carrier, heavy lift, car carrier, etc.
[15] Fayle, C. Ernest (1933) A Short History of the World's Shipping Industry. London: George Allen & Unwin Ltd
[16] Stopford, Martin (2009), Maritime Economics 3e

allocates resources to, its defined purposes. The shipping Board's activity is focused on the clear objective of pursuing the company's purpose which is accomplished by undertaking activities necessary for the effective promotion of the interest of shareholders in the long term. To maximize shareholder value, the Board has to gain an understanding of the environmental and social consequences of the shipping company's actions and ensure the company is responsive to the views of those with whom it comes into contact (Association of Chartered Certified Accountants 2005).

Corporate governance is widely known as compliance and accountability to 'shareholders' while CSR disclosure is about managing 'stakeholders' and performing activities that go beyond tcompliance (Money and Schepers 2007).

The management of a shipping firm needs to decide on the means with which to communicate the information to investors. In the United States, after Regulation Fair Disclosure (Regulation FD), all information that is price-sensitive needs to be disclosed through channels that are publicly accessible. Thus, price-sensitive information can be included in the annual report, press release or in a conference call. Management can still organize private meetings with institutional investors under the restriction that no price sensitive information is shared[17].

In this broadest sense, corporate governance in shipping is related to creating a balance between the socioeconomic goals between individual goals within the company. The governance aims to encourage a more efficient usage of the company's resources. This task requires accountability for the stewardship (Cadbury 1999).

The decision makers of a shipping company have to make up their minds as to *when* to disclosure. Aboody and Kasznik (2000) prove that companies often postpone the disclosure of positive financial data and accelerate the publishing of not very well financial news before fixed stock option awards.

Bain and Band (1996 p.2) point out that there are "widely divergent views on the nature of governance." In its narrowest sense, corporate governance can be

[17] Even though no price sensitive information is shared, institutional fund managers highly value these meetings as they have the opportunity to meet management face to face and "seeing the white's of their eyes" (Roberts et al., 2006, p.281).

viewed as a set of arrangements[18] internal to the corporation that define the relationships between managers and shareholders. For example, an influential survey article on corporate governance by Shkleifer and Vishny (1997, p. 737) states that: "Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment." Thus, Shleifer and Vishny (1997) define corporate governance as a set of actions and procedures that ensure a company is soundly managed so all investors receive a return on their investment that is reasonable given the risks involved.

Thus the concern Is primarily with management and stewardship issues. Given its simplicity, this definition contains the duality of an internal (directed) and external (controlled) element (Lanno 1999). Van den Berghe and De Ridder (1999) commented that the essential principles in Cadbury's (1000) definition are disclosure (openness is the basis of gaining public confidence in the corporate system) and checks and balances (guard against undue concentrations of power).

From the view of financial accounting and financial economics, Sloan (2001, p.336) defines corporate governance as "the mechanisms that have evolved to mitigate incentive problems created by the separation of management and financing of business entities." Thus, consistent with Boubakri's (2005) argument, corporate governance is an important mechanism required to solve the agency problems that arise from the separation of ownership and control in a corporation. " It is clear that corporate governance is not an end in itself, but a means to an end" (Van den Berghe and De Ridder 1999, p.15).

[18] These arrangements might be embedded in company law, securities law, listing requirements and the like, or negotiated among the key players in governing documents of the corporation, such as the corporate charter, by laws, and shareholders agreement.

3.3 The Shipping Industry in the European Economy

"For Europe, shipping has contributed largely to economic growth and prosperity all along its history. It is present in all segment of the sector in all regions of the planet"[19]

Shipping has always been considered as an important asset in the economic policy and law making of the European Union and of Member States more and more. While referring to Shipping, the transportation and shipping of goods and people, the off-shore activities, and the Short-Sea Shipping are concerned.

Shipping and transportation play a key role in the economic and international trade, as more than 400 million passengers per year travelling within the EU ports, and the rest of the world[20] and have a direct impact on the quality of life of citizens. The employment in Europe that is releated to shipping firms reaches the 1.5 million people[21]. A net contribution to the EU balance of payments of transportation reached the amount of € 24.7 billion in 2006. Traditional maritime sectors represent a share of 1.09% in the total GDP of the EU-27 and Norway.

The off-shore aspect is very important for the competence of the European firms globally and Short sea shipping is a key element as it decreases congestion while at the same time it promotes the sustainable development of the EU. The EU is the most important trading area in the world owning 6975 vessels with a total of 95mgt, a tonnage increase of 3.25% over the previous year. This represents the 17.4% of the world fleet. Shipping represents one of Europe's largest export industries comprising the 90% of the external trade of Europe, and about 30% of its internal trade, is carried by sea. Therefore, Shipping not only maintains a leading role in global level but also is one of the largest industries in Europe.

[19] The European Union's maritime transport policy for 2018.
[20] Also in cross trades between third countries.
[21] The employment includes people working off-shore and on-shore in Shipbuilding, Naval Architecture, Science, Engineering, Electronics, Cargo-handling and Logistics.

3.4 The Financial Crisis impact in Europe

The continuous success of European shipping is not to be taken for granted. The financial crisis and its impact on the economy as well as the recovery prospects in the different economies of the world have affected the European Shipping market activities (as they were discussed above).

The financial crisis has led to *lower volumes and overcapacity of the ships* and to *lack of liquidity in the banking sector* which have resulted in revenues reduction and in the appearance of major obstacles towards the financing of shipping activities within the European Union respectively.

Also, the shipping firms of the EU face two main threats to their future survival. The first issue of this section is related to the third countries' adoptation of protectionist trade measures, so that they can maintain the access to cheap capital and abundant labour and also to be able to keep applying flexibly the internationally agreed standards. The second issue faced here are the high costs of the operation which are leading to reduced market shares and accelerated flagging-out. EU seafarers under national flag numbers have declined from 213,281 (in 1983) to 139,579 (in 1995)[22].

Despite the above mentioned threats that the Shipping Industry is currently facing, the resurgence during the last months prove that the shipping sector will play a leading role in the european economic recovery. The European maritime industry as a global key player needs to take advantage of the global economic recovery that is expected. Significant and vital benefits globally and to the EU will be given if there support of the Shipping Industry will take place. The high benefit-cost ratio and the added value of shipping to the EU Economy makes the need for its support obvious.

3.5 Shipping Cycles

The "shipping cycle" represents a theory that explains how shipping companies and freight charges respond to supply and demand. The cycle gives

[22] BIMCO Bulletin, Vol. 91, No 1, February 1996, pp. 6-11.

answers to questions such as: *What affects the selling price of ship fleets?, what types of ships sell during slow business periods?*.

According to Stopford (2009) the four stages of the shipping cycle, all based on customer demand, are *trough, recovery, peak and collapse.*

Trough

In this stage, a surplus of the shipping capacity is present. Ships tend queue up at their loading points and vessels at sea slow their steam to save fuel so that they can delay arrival. The Freight rates decrease to operating cost levels of the least efficient ships in the fleet which move into layup. A negative cashflow is being created due to the low levels of the freight rates. The Shipping companies are forced to sell their vessels in very low[23], since the demand is very low.Shipping companies short of cash are forced to sellships at distress prices, since there are only a few buyers.

Recovery

In this stage, uncertainty still remains but optimism is being born. Both the supply and the demand levels move towards a balance. The freight rates increase slighty above the operating cost and the laid up tonnage is starting to decrease. above operating costs, followed by a fall in laid up tonnage. Liquidity begins to improve and second-hand prices rise and sentiment firms.

Peak

This stage represents a balance between the Supply and Demand for Shipping services. Freight rates begin to be in high levels[24]. Only untradeable ships are being laid up, the vessels operate in maximum speed; owners become very liquid and the press report the prosperous shipping business. Secondhand prices move above book value and modern ships may sell for more than the newbuilding[25] price.

[23] The prices of the old vessels are almost equal to the scrap value prices, which lead them straight to the demolition market.
[24] About 2-3 times above the operating costs.
[25] The shipbuilding orderbook expands,slowly at first, then more rapidly.

Collapse

When the supply overtakes the demand, the market moves into the collapse phase. The freight rates fall, the liquidity remains high, the ships reduce their operating speed and the least attractive vessels are on hold for cargo.

3.6 Concentration in Shipping

The Concentration in the field of maritime transport refers to the phenomenon in which larger ports, shipping companies and their alliances are increasing their market share at the expense of the remaining smaller players. In 1996, it was said that "the result of concentration may be a total of ten or eleven major carriers, plus in each area a number of niche operators"[26], which is now the case in the liner industry. According to Leif Loddesol of Wilhelmsen "the number of global lines would diminish as vessel sizes increased".

It must be noted that concentration in Shipping is different within the different sector of the Shipping Industry. Concentration is more intensive and noticeable in the liner shipping than it is in the tanker and tramp industries. The following points have been observed that prove the degree of concentration that takes effect in the liner shipping industry[27]:

- *Liner Companies have begun to form alliances globally[28].*

The Alliances give the opportunity to liner shipping companies to aggregate cargo volumes, to increase the frequency of their provided services, to improve their asset utilization through the sharing of their vessels, their terminals, their equipment and their containers and last but not least, to employ their collective financial strength for longterm asset procurement and replacement.

[26] International Transport Journal, 27/1996.
[27] United Nations Economic Commission for Latin America and the Caribbean.
[28] 2/3 of the entire world capacity in the liner industry is being controlled by the largest ten alliances.

Year	Alliance	TEU	% share /liner total
2000	GRAND ALLIANCE	692,551	13.45%
	CHKY ALLIANCE	649,709	12.62%
	Maersk/Sealand	620,324	12.05%
	TNWA	446,381	8.67%
	TOTAL	2,408,965	46.78%

Year	Alliance	TEU	% share /liner total
2003	GRAND ALLIANCE	957,019	13.97%
	CHKY ALLIANCE	846,251	12.35%
	Maersk/Sealand (incl. Safmarine)	818,850	11.95%
	TNWA	536,921	7.84%
	TOTAL	3,159,041	46.12%

Year	Alliance	TEU	% share /liner total
2006	Maersk Line	1,665,272	18.23%
	CHKY ALLIANCE	1,067,198	11.68%
	GRAND ALLIANCE	989,241	10.83%
	TNWA	720,708	7.89%
	TOTAL	4,442,419	48.62%

Year	Alliance	TEU	% share /liner total
2007	Maersk Line	1,759,806	16.60%
	CHKY ALLIANCE	1,264,640	11.93%
	GRAND ALLIANCE	1,251,016	11.80%
	TNWA	791,453	7.46%
	TOTAL	5,066,915	47.79%

Source: Christa Sys, (2007)[29].

- *The containership maximum size has tripled within the twenty years.*

Source: Globalsecurity.org[30].

- *The market share of the largest suppliers in the shipbuilding, open registry and the seafaring personnel sector has significantly increased.*

- *Large shipping companies have recently acquired a large number of smaller companies*[31].

[29] http://www.feb.ugent.be/soceco/sherppa/members/christa/documents/paper1.pdf

[30] GlobalSecurity.org is the leading source of background information and developing news stories in the fields of defense, space, intelligence, WMD, and homeland security.

[31] The evidence that support this point is that the top 20 carriers control more than half of the world's container capacity

Containership owning, TEU carrying capacity, May 2007			
	Thousand TEU	*% share*	*square*
Maersk (Denmark)	972	10.30	106.11
MSC (Switzerland)	566	6.00	35.98
Evergreen (Taiwan Province of China)	380	4.03	16.22
NSB (Germany)	354	3.75	14.07
Other	7,164	75.92	
Total	9,436	100.00	
		% top four	**24.1**
		HHI-4	**172**

Source: Data from CRS, calculations by UNCTAD

In May 2007, publications show that the top 25 container carriers control 79% of the world's TEU capacity. Their TEU capacity grew by 12% during 2003. The Maersk-Sealand group[32] accounts for 10.3% of operated slots, followed by MSC[33] with 6%.

To determine the levels of importance of the concentration in the shipping industry, the monopoly , the extent of competition[34] and the capital intensity of the investment and the risk of losses of the shipping company are being examined.

4. DATA AND METHODOLOGY

4.1 The Sample

Our sample was the 126 Shipping companies listed in all the European stock exchanges. This sample was used for two reasons. A sample size of 126 provided a balance between obtaining sufficient variance for reliable statistical inferences, and the resource needs of data collection. A copy of the annual report for each of these companies was obtained by downloading it from the company's website. This study analyses the relationship of corporate performance and the levels of voluntary web-based disclosure of the financial information using the Generalized Method of Moments Model (GMM Model).

[32] Maersk-Sealand belongs to the Danish AP Moller group.
[33] MSC's headquarters are in Geneva in landlocked Switzerland.
[34] The competition refers to the industry competition taking place either inside the company or on the outside environment.

44 company-specific characteristics for each one of the examined features of the shipping firms (Profitability, Ownership Concentration, Leverage, Form Size) were examined to explain the voluntary disclosure of the web-based information of the shipping companies. The Data was obtained from the websites of each firm and from the I/B/E/S.

Multivariate analysis was used to explore the relationships between these 44 firm characteristics and the amount of voluntary disclosure of the financial data by the shipping companies.

To determine which of the sample companies had a Web site, we looked up each shipping firm's corporate annual, half-year, or quarterly report for the last 3 years (2008). Two hundred and forty eight of the companies (82.67%) reported having such a site, 45 of which turned out to be inaccessible. A score of 1 (for present) and 0 (for absent) was assigned for each item.

4.2 Generalised Method of Moments (GMM Model)

Efficient GMM brings with it the advantage of consistency in the presence of arbitrary heteroskedasticity, but at a cost of possibly poor finite sample performance. If heteroskedasticity is in fact not present, then standard IV may be preferable. The usual Breusch{Pagan/Godfrey/Cook{Weisberg and White/Koenker tests for the presence of heteroskedasticity in a regression equation can be applied to an IV regression only under restrictive assumptions. We discuss the test of Pagan and Hall (1983) designed specifically for detecting the presence of heteroskedasticity in IV estimation, and its relationship to these other heteroskedasticity tests[35].

Nevertheless, the use of GMM does come with a price. The problem, as Hayashi (2000) points out, is that the optimal weighting matrix S^ at the core of efficient GMM is a function of fourth moments, and obtaining reasonable estimates of fourth moments may require very large sample sizes. The consequence is that the efficient GMM estimator can have poor small sample properties. GMM was chosen over IV because in the presence of heteroskedasticity is more efficient than the

[35] Campbell, John Y., Andew W. Lo, and A. Craig MacKinlay (1997). The Econometrics of Financial Markets. Princeton University Press. (Appendix a2)

simple IV estimator but even in the absence of it is no worse asymptotically than the IV estimator.

4.3 Disclosure index

For each one of the 126 shipping firms listed in the European Stock Exchanges, we developed a disclosure index of 44 items based on the framework of Web-based disclosure initially proposed by Debreceny et al. (2001)[36] and Xiao et al. (2004). Out of these 44 items, 25 items concern the disclosure content, and 10 items concern the presentation format of the financial information.

All 126 firms in our sample had a website, all of which were accessible. We visited the websites of the 126 sample companies to confirm presence of each of the disclosure items that comprise our index. A score of 1 (for present) and 0 (for absent) was assigned to each item.

The presentation format of the financial information items involve the 'ways' on how the financial data appears on the website. The questions answered at this point are: *How well is the financial information presented on the websites?* (i.e. are the financial statements on an excel format, or on a pdf format?) and *Are the financial data that appear on the website user friendly?* (i.e. is there a Search engine within the financial data available?).

The disclosure content data are divided into a. *required by the CSRC items* and b. *not required by the CSRC items*. The questions asked here are: *What kind of information is disclosed by the shipping firms on their Web sites for the past year and the current year*[37] and *Is there a signature from auditors and CEOs to establish the reliability of the Web-based information*[38].

[36] With further reference to other prior studies by Deller et al. (1999), Pirchegger and Wagenhofer (1999), Marston and Polei (2002) and Xiao, Yang and Chow (2004)

[37] Unlike the previous researches, our data comes from the disclosure of financial data coming from the last three years (from 2008 and on).

[38] Which as stated by Ciao et al (2002) is a major concern to users. Probably more in the emerging Shipping market.

The Disclosure Index used is

$$Di = f(LEVERAGE, ROE, SIZE, CONC)$$

Where

D_1 = Total Score

D_2 = Presentation Format Items

D_3 = Content items

.

Total Score is our primary index, it represents a shipping firm's disclosure score across all 44 items. The remaining indices focus on the content and format features, as they appear bellow.

	Dep. Variable TC	Dep. Variable CONT	Dep. Variable FORMAT
J-Statistic	0.185925	0.180512	0.188540

The tables below report the items used on our research to represent the content and the presentation format of the financial data that appeared in our Sample of 126 shipping firms. The tables show the total number of the firms of our Sample that have disclosed each item in our index, the percentage out of the 126 firms and also the overlap of those items that have been used in prior related studies and of those which are unique to this MSc Thesis, so that the special features of the Shipping context can be reflected.

4.3.1 Disclosure index content items

Disclosure index contents and their extent of Internet-based disclosure by the sample firms

	Disclosure Items	Number of sample firms disclosing this item	Percent of 126 firms
CSRC-required items			
1	Quarterly report of current year	97	77%
2	Quarterly report of past years	98	78%
3	Annual report of current year (full text)	44	35%
4	Annual report of past years (full text)	103	82%
5	Auditor report of current year	45	36%
6	Auditor report of past years	39	31%
7	Balance sheet of current year	84	67%
8	Balance sheet of past years	100	79%
9	Income statement of current year	95	75%
10	Income statement of past years	101	80%
11	Cash flow statement of current year	96	76%
12	Cash flow statements of current years	100	79%
13	Notes to financial statements of current year	93	74%
14	Notes to financial statements of past year	99	79%

15	Management Report / Analysis in current year	92	73%
16	Top 10 stockholders in current year	45	36%
17	Summary of key ratios over a period of at least 3 years	63	50%
18	Summary of financial data over period of at least 3 years	71	56%
19	Changes in stockholders' equity in the current year	39%	31%

	Disclosure Items	**Number of sample firms disclosing this item**	**Percent of 126 firms**
Non-CSRC required items			
20	Historical share prices	80	63%
21	Share price performance in relation to stock market index	57	45%
22	Earnings or sales forecast	31	25%
23	Current press releases or news	100	79%
24	Current share price	96	76%
25	Frequently asked questions	8	6%

4.3.2 Disclosure index presentation items

Presentation Format items			
26	Hyperlinks inside the annual report	1	1%
27	Financial data in processable format (.xls)	8	6%
28	Graphic images	76	60%
29	Table of content/sitemap	60	48%
30	Internal search engine	76	60%
31	Direct e-mail hyperlink to investor relations	60	48%
32	Transparency	85	67%
33	Usability	86	68%
34	Openness	65	52%
35	Customization	23	18%

4.3.3 Dependent and independent variables

Disclosure Items	Description
Dependent Variables	
TOTALSCORE	Total Score of all 44 items
CONTENT	Total Score for Content Items
FORMAT	Total Score for Format Items
CSRC	Total Score for CSRC Items
NONCSRC	Total Score for Non-CSRC Items
Test Variables	
Control Variables	
SIZE	Total Assets
Performance Variables	
Company	Book Value
Total Return to Shareholders	
Asset Turnover	
Profit Margin	
ROE	Return on Equity
ROA	Return on Assets
P/B	Price / Book Value
Valuation Variables	
EV/EBITDA	
EBITDA	

5. CONCLUSIONS

The shipping company's performance may lead to higher information disclosure, and thereby may narrow the gap between disclosure expectations and disclosure practices. Additionally, strong governance leading to improved web-based disclosure is a key tool in the shipping market development. In particular, it creates confidence among the shareholders/investors who then pay higher prices for the freight, and hence, enhance the ability of a shipping firm to raise capital.

In summary, there has been considerable academic research on Web Based Disclosure. Our results suggest a positive association between corporate performance and voluntary disclosures, indicating the firm's capability to influence managers to disclose more financial information voluntarily on the shipping firm websites. Our study finds a strong relationship between the amount of ownership concentration, the leverage, the firm size, the profitability and the level of voluntary disclosure of the financial data.

We have used the GMM Model which is one of the most widely used tools in financial applications, especially in the asset-pricing area. The European maritime industry as a global key player needs to take advantage of the global economic recovery that is expected.

This has been the first study to investigate the relationship between Corporate performance and Web-Based disclosure of financial data for the shipping Industry. This MSc Thesis study has showed that the higher levels of Web-based disclosure that appears in a shipping firm, then the better the corporate performance of the shipping firm will be observed.

6. BIBLIOGRAPHY

1. Chen, R. S. (1975). "Social and Financial Stewardship", The Accounting Review, Vol. 50, No. 3, pp. 533 – 543.
2. Depoers, F. (2000). A cost-benefit study of voluntary disclosure: some empirical evidence from French listed companies. The European Accounting Review, 9 (2), 245-263
3. Fayle, C. Ernest (1933) A Short History of the World's Shipping Industry. London: George Allen & Unwin Ltd
4. Marston, C.L. & Shrives, P.J. (1991). The Use of Disclosure Indices in Accounting Research: A Review Article, British Accounting Review, 23, 195-210.
5. Meek G.K. & Saudagaran, S.M. (1990). A Survey of Research on Financial Reporting in a Transnational Context, Journal of Accounting Literature, 9, 145-182.
6. Bowen, R., A. Davis, and D. Matsumoto. 2002. Do conference calls affect analystsí forecasts? The Accounting Review 77 (April): 285-316.
7. Campbell, John Y., Andew W. Lo, and A. Craig MacKinlay (1997). The Econometrics of Financial Markets. Princeton University Press.
8. Campbell, John Y., Andew W. Lo, and A. Craig MacKinlay (1997). *The Econometrics of Financial Markets*. Princeton University Press. (Appendix a2)
9. Chen and Jaggi (2009), A study of applying data mining approach to the information disclosure for Taiwan's stock market investors, Journal Expert Systems with Applications: An International Journal, Volume 36, Issue 2, March.
10. Cochrane, John (2001). *Asset Pricing*. Princeton University Press, Chapter nn.
11. Debreceny, R., Grey G., Rahman, A., 2002. The determinants of internet financial reporting. Journal of Accounting and Public Policy 21 (4-5), 371-394.
12. Ettredge, M., Richardson, V.J. & Scholz, S. (2002). Dissemination of information for investors at corporate Web sites. Journal of Accounting and Public Policy, 21, 357-369
13. European Commission, 2010. Future perspectives of the European maritime

transport policy. In Proceedings of the International Shipping Conference, Copenhagen.

14. Ghysels, Eric and Alastair R. Hall (2002). Interview with Lars Peter Hansen. *Journal of Business & Economic Statisitcs*, 20, 4, 442--447.

15. Gjesdal, F., (1981), Accounting for Stewardship, Journal of Accounting Research 19, 208-231.

16. Goreti Dâmaso, Isabel Costa Lourenço (2011), Internet Financial Reporting: Environmental Impact Companies and other Determinants, International Conference on Enterprise Systems, Accounting and Logistics ICESAL, 11-12 July 2011, Thassos Island, Greece

17. Graham JR, Harvey CR, Rajgpal S (2005). The Economic Implications Of Corporate Financial Reporting. J. Account. Econ., 40: 3-73.

18. Hall, Alastair, R. (2004). *Generalized Method of Moments*. Oxford University Press.

19. Hansen, Bruce, E. and Kenneth D. West. (2002). Generalized method of moments and macroeconomics. *Journal of Business & Economic Statistics*, 20, 4, 460--469.

20. Hansen, Lars, Peter (1982). Large sample properties of generalized method of moments estimators. *Econometrica*, 50, 1029--1054.

21. Herbert A., Simon et al. (1986), Decision Making and Problem Solving

22. http://www.feb.ugent.be/soceco/sherppa/members/christa/documents/paper1.pdf

23. International Financial Reporting Standards, http://www.ifrs.org/IFRSs/IFRs.htm

24. International Transport Journal, 27/1996.

25. Jagannathan, Ravi, Georgios Skoulakis, and Zhenyu Wang (2002). Generalized method of moments: applications in Finance. *Journal of Business & Economic Statistics*, 20, 4, 470--481.

26. Khan Mohd Noor Azli bin Ali, Ismail Noor Azizi bin, The use of Disclosure Indices in Internet Financial Reporting Research, International Conference on business and Economic Research ICBER 2011

27. Lang, M. H. & Lundholm, R. J. (1993), "Cross-Sectional Determinants of Analyst Rating of
Corporate Disclosures", Journal of Accounting Research, Vol. 31, No. 2, pp. 246-270.

28. London Stock Exchange. (2010a). "Admission and Disclosure Standards" [Online]. London
Stock Exchange. Available:
http://www.londonstockexchange.com/companies-andadvisors/mainmarket/documents/brochures/admission-and-disclosure-standards.pdf

29. Lybaert, N. (2002). On-Line Financial Reporting: An Analysis of the Dutch Listed Firms. The International Journal
of Digital Accounting Research, 2(4), 195-234.

30. Lymer, A & Tallberg, A. (1997, April), Corporate Reporting and the Internet - a survey and commentary on the use of the WWW in corporate reporting in the UK and Finland. Paper presented at the Annual Congress of the European Accounting Congress, Graz, Austria.

31. Lymer, A. (1999). The Internet and the future of corporate reporting in Europe. European Accounting Review, 2(2), 289-301.

32. Lymer, A., Debreceny, R., Gray, G.L. & Rahman, A. (1999). Business Reporting on the Internet. IASC Research Report

33. Marston, C. & Leow, C.Y. (1998), Financial reporting on the Internet by leading UK companies. Paper presented at
the 21st Annual Congress of the European Accounting Association, Antwerp, Belgium.

34. Marston, C. & Polei, A. (2004). Corporate reporting on the internet by German companies. International Journal of Accounting Information System, 5, 285-311.

35. Stopford, Martin (2009), Maritime Economics 3e

36. Wallace R.S.O., Naser, K., Mora, A., 1994. The relationship between the comprehensiveness of corporate annual reports and firm characteristics in

Spain. Accounting and Business Research 25 (97), 41-53.

37. Xiao, J.Z., Yang, H., Chow, C.W., 2004. The determinants and characteristics of voluntary internet-based disclosures by listed Chinese companies. Journal of Accounting and Public Policy 23 (3), 191-225.

38. Xiao, Z., John, J. M. & Andy, L. (2002), "Immediate Trends in Internet Reporting", European Accounting Review, Vol. 11, No. 2, pp. 245-275.

7. APPENDICES

No.	Description of Instrument	Researcher (Year)	Sample	No. Item	Dimension
1	Checklist of IFR index	Ali Khan (2010)	Malaysia	87	• Content • Presentation
2	Corporate Internet Reporting (CIR) index	Aly et al. (2010)	Egypt	82	• Content • Presentation
3	Internet Business Reporting Quality Index	Mohd Hanafi et al. (2009)	US,UK, Malaysia, Singapore & Thailand	**205****	• Disclosure content items • Presentation format items
4	Internet Financial and Environmental Disclosure	Al Arussi et al. (2009)	Malaysia	60	• Financial • Environmental
5	Level of IFR	Kelton & Yang (2008)	NASDAQ National Market	36	• Format • Content
6	Checklist of CIR timeliness index	Ezat & El-Masry (2008)	Cairo and Alexandria Stock Exchange	**11***	• Timeliness
7	CIR timeliness index	Abdelsalam & Street (2007)	London Stock Exchange	**11***	• Timeliness
8	CIR comprehensiveness index	Abdelsalam, Bryant & Street (2007)	London Stock Exchange	143	• Content • Usability
9	Research variables	Khan (2006)	177 companies world wide	26	• General • Fundamental reporting • Corporate social responsibility elements non financial variables • Corporate governance reporting elements non financial variables
10	Disclosure checklist	Sriram and Laksmana (2006)	US	26	• Financial and non-financial data • Management's analysis of financial and non-financial data • Forward-looking information • Information about employees, directors, and management • Information on company background, objectives, strategies, and industry structures
11	Criteria for the information of IFR score	Pervan (2006)	Croatia and Slovia	30	• Information from the financial reports • Other useful information • Transparency of management and supervisory boards • User support
12	Variables comprising the disclosure index	Bonson and Escobar (2006)	13 countries European Union	44	No category
13	Scoring criteria	Chan and Wickramasinghe (2006)	Australia	44	• Content • Timeliness • Technology • User support
14	Internet Disclosure Index (IDI) criteria and explanation	Spanos (2006)	Greece	75	• Content • Presentation
15	Disclosure items	Celik, Ecer and Karabacak (2006)	Turkey	164	• General items • Investors relations item • Annual report items • Other items in financial and business reporting web pages not in annual report itself
16	Checklist questionnaire	Khadaroo (2005)	Malaysia and Singapore	41	• General web page attributes • Presentation of investor relations information • Information on board and management • Financial reports
17	Checklist instrument	Abdul Hamid and Md Salleh (2005)	Malaysia	14	No category
18	Disclosure of checklist items	Marston and Polei (2004)	Germany	70	• Content • Presentation
19	Disclosure index contents	Xiao, Yang and Chow (2004)	China	82	• Content [*Chinese Securities Regulatory Commission* (CSRC) – required items, Non-CSRC – required items] • Presentation format items
20	Disclosure index scoring sheet	Trabelsi, Labelle and Laurin (2004)	Canada	26	• Disclosure practice [Paper-based communication (traditional), Internet-based] • Content of financial disclosure

21	IFR disclosure instrument	Davey and Homkajohn (2004)	Thailand	42	• Content • Timeliness • Technology • User support
22	Scoring criteria	Mendes-da-Silva and Christensen (2004)	Brazil	16	• Mandatory reports • Voluntary disclosure
23	General and financial/annual report related attributes	Allam and Lymer (2003)	US, UK, Canada, Australia and Hong Kong	36	• General attributes • Financial/annual report related
24	Checklist instrument	Lybaert (2002)	Netherlands	44	• Content • Timeliness • Technology • User support
25	Scoring rules	Ettredge, Richardson and Scholz (2002)	US	16	• Required filings • Voluntary disclosure
26	Financial disclosure checklist items	Ettredge, Richardson and Scholz (2001)	US	17	• Accounting information • Other financial information
27	Checklist instrument	FASB (2000)	US	122	• General attributes • Investors relations/financial information (general) attributes • Annual report attributes • Other attributes
28	Data collection instrument	IASC (1999)	US	118	No category
29	Investor relations instrument	Deller, Stubenrath and Weber (1999)	US, UK and Germany	19	No category
30	Criteria assessed	Pirchegger and Wagenhofer (1999)	Austria	54	• Content • Timeliness • Technology • User support

Note:
* Minimum item
** Maximum item