Corporate Information Transparency on the Internet by Listed Companies in Spain (IBEX35) and Mexico (IPYC)

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Abstract. Financial and non-financial disclosure play a central role in the functioning of capital markets. In this context, the Internet has been adopted as an effective mechanism for large companies to disseminate corporate information. The institutional theory approach has been applied to identify both formal (fundamentally legal and economic) and informal factors that significantly influence listed companies’ level of corporate transparency on the Internet. Our work aims to build on existing study by focusing on two main objectives. Firstly, to make a comparative study of the corporate transparency of listed companies from Mexico and Spain by creating an index of corporate transparency on the Internet (e-CTI). And secondly, to identify the factors that affect this index using multiple regression analysis. Our study population is comprised of 70 companies, of which 35 belong to the Mexican Price and Quotations Index (IPyC) and 35 to the Spanish IBEX 35 index. The descriptive analysis reveals significant differences in the level of information disclosure between the two countries. The companies listed in Mexico obtain an e-CTI of 59%, while the Spanish ones register 80%, i.e. more importance is assigned to the disclosure of corporate governance data in Spain than in Mexico. Furthermore, this analysis shows that the factors most telling with regards to corporate transparency are the strength and application of law, GDP per capita, inflation and firm-level variables such as ownership concentration and Chairman of the Board-Chief Executive Officer (COB-CEO) duality. However, other variables such as board size and composition, profitability, leverage and firm size are not significant for the purposes of this analysis. Our work is of great relevance today, since most studies have focused on developed countries, mainly in the U.S. and Europe, with few comparisons being made between developed and developing countries, such as Spain and Mexico.

Keywords: Corporate transparency, Internet, institutional framework, listed companies, corporate governance
1. INTRODUCTION

Corporate transparency has become an important dimension of corporate governance and has a positive impact on the market evaluation of businesses (Mercer, 2004; Hodge et al., 2006). More transparency helps investors understand management decisions, reduces information asymmetry, enhances confidence in the capital market and increases foreign direct investment (Bushman and Smith, 2001).

Corporate transparency has been adopted as one of the guiding principles of good governance by international organisations such as the OECD\(^1\) IFAC\(^2\) and the IFC\(^3\) (Choi et al., 2004). For the OECD, corporate governance is a key element to increasing economic efficiency and growth. Among its principles of good governance, disclosure and transparency are viewed as “ensuring timely and accurate disclosure on all material matters regarding the corporation, including financial situation, performance, ownership and corporate governance of the company” (OECD, 2004).

In recent years there has been increased public interest in corporate transparency, reflected in the issuance of new regulations in various countries. In 1991, the American Institute of Certified Public Accountants (AICPA) established the Special Committee on Financial Disclosure, in order to systematise the corporate information provided to stakeholders (AICPA, 1994). In 2002, the IFAC issued a document to ensure the consistency and comparability of information disclosed on the Internet, considering the type and format of information, the security and integrity of data, contacts and the use of different languages. In Spain, the Transparency Law was passed and a unified code of corporate transparency established in 2003, these being viewed as essential elements of good governance. In Mexico, the principles of transparency have been addressed in the Stock Market Law and the Regulation for Issuers of 2006, taking into account OECD principles.

An important body of research has focused on describing and comparing the information disseminated by corporate companies on the web. This work can be

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\(^1\)Organisation for Economic Co-operation and Development.

\(^2\) International Federation of Accountants

\(^3\) International Finance Corporation
divided into two main categories. The first includes descriptive works, giving an overview of the current state of corporate disclosure on the Internet. Such studies focus on one country or compare different regions. The second category of studies identifies the variables that affect corporate transparency, using different statistical tools (Marston and Polei, 2004).

One factor that has been widely linked to corporate transparency is the legal system (La Porta et al., 1998; Jaggi and Low, 2000). Bushman et al. (2004) showed that corporate transparency is related to the legal/judicial environment in each country, and that financial transparency is related to economic policy. In this sense, there is greater demand for corporate transparency in countries with weaker legal protection (Bhat, Hope, and Kang, 2006; Miller, 2004; Leuz et al., 2003). Thus, differences in the legal system, the development of mechanisms and corporate governance structures and their efficiency, depend on the nature of the institutions in each country (Berglöf and Pajuste, 2005; Becht et al., 2003).

In the present study we adopt the institutional theory approach, which has been used as a theoretical basis in a number of different contexts. This is considered the most consistent conceptual framework and one that is appropriate to study the influence of environmental factors on business function (Veciana, 1999). Recent studies have considered how and why a country’s legal system affects its institutional framework and how this in turn affects its financial performance. Institutional theory considers firms to be economic units operating within contexts shaped by institutions that affect their behaviour and the expectations imposed on them (Campbell et al., 1991; Roe, 1991, 1994; Campbell, 2007). Assuming this relationship, it can be accepted that companies operating in countries with institutional similarities will adopt homogeneous forms of behaviour (La Porta et al., 1998; Claessens and Fan, 2002). In this vein, Campbell (2006) argued that the companies most likely to act responsibly and to report on their behaviour are those operating in environments with a strong institutional and regulatory coercive pressure, and with an extensive, well-developed legal system oriented towards stakeholder protection.

The present study builds on previous work, analysing the information disclosed on the Internet by listed companies in Mexico and Spain in order to evaluate and compare their respective levels of corporate transparency via an index composed of 43 items. Moreover, we identify the relationship between the disclosure level
and the formal institutional factors (including corporate ones) that characterise the study population. Thus, we consider a hitherto unexplored area in the case of Mexico, and obtain comparable results in both countries. We believe the results obtained will be useful to the agencies responsible for issuing regulations and codes of good governance in these respective countries.

The rest of the paper is structured as follows: the first section reviews the literature on institutional factors that affect corporate transparency on the Internet, and goes on to describe the involvement of the institutions and regulations of each country in this process. The second describes the methodology used to build the Corporate Transparency Index applied to the companies in our population. The third section develops and establishes the research hypotheses. This is followed by a description of the research design, including a selection of the population and data collection. This section also describes the variables and the proposed model. The fifth section discusses the results of the statistical analysis. The last section presents the conclusions drawn, together with the implications arising from the study, its limitations and possible future lines of research.

2. THEORETICAL BACKGROUND

Recent financial scandals, occurring mainly in the U.S. and Europe, have seriously undermined confidence in the transparency of information markets, increasing pressures and provoking stakeholders to demand greater corporate transparency. As a consequence, international institutions have become more involved in the issuance of regulations and codes of good governance, with a view to restoring the confidence of investors in large corporations. In this respect, Mercer (2004) and Hodge et al. (2006) have stated that the credibility of information is an essential element in the governance of a society.

According to Debreceny et al. (2002), there are three reasons for management to disclose information voluntarily: 1) to reduce agency or contracting costs (Watts, 1977); 2) to send signals to the stock market, which may increase the value of the shares (Botosan, 1997; Frankel et al., 1999); and 3) to provide information in addition to mandatory requirements, thus reducing capital costs (Yeo and Ziebart, 1995). Cormier et al. (2005) identified three factors that influence the quality of corporate disclosure: 1) what other companies in the same industry or country are doing in this respect (imitation); 2) what companies have done in the past (routine); and 3) regulations and laws governing information
disclosure (institutions). Thus, corporate transparency will vary with each country's legal system, with demand for information disclosure being greater in countries with a weak legal system (Bushman et al., 2004; Leuz et al., 2003).

The use of the Internet as a medium of interactive communication between the company and its stakeholders has acquired great importance in recent years. The Internet enables companies to disclose corporate information globally without time limitations, and to reduce printing and staff costs (Lymer and Debreceny, 2003; Gandía, 2008). On the other hand, the Internet creates the same opportunities to access information to creditors, stockholders, analysts and investors (Ching Lai et al., 2010). Among the studies developed within a national context, we highlight those made in Spain (Gandía, 2008; Wallace et al., 1994), Kenya (Barako et al., 2006), Germany (Marston and Polei, 2004; Lattemann, 2005), New Zealand (Oyelere et al., 2003), the U.K. (Craven and Marston, 1999), the U.S.A. (Ettredge et al., 2002), Hong Kong (Wallace and Naser, 1995), Malaysia (Hamid, 2005), China (Xiao et al., 2004) and Mexico (Chow and Wong Boren, 1987). Comparative studies between countries have also been carried out (Simnett et al., 2009; Bonsón and Escobar, 2002, 2004, 2006; Van der Laan Smith et al., 2005; Hope, 2003; Archambault and Archambault, 2003; Debreceny et al., 2002; Gandía, 2003; Geerings et al., 2003; Debreceny and Rahman, 2005; Bollen et al., 2006). These studies show that companies use the Internet to disseminate information related to three criteria: 1) financial and corporate information; 2) relations with investors; and 3) information on corporate governance (Gandía, 2008).

The growing public interest in corporate transparency is reflected in new regulations issued by different international organisations. In 2004, the OECD issued its principles of good governance, among which are those of disclosure and transparency. The IFAC has stated that quality in financial reporting is crucial to capital markets and sustainable economic development. In 2010, as a result of a survey of 25 leaders in the field worldwide, IFAC published five recommendations for enterprise reporting: 1) that the primary responsibility of managers should be performance, not compliance; 2) that the focus should be shifted from the shareholder to the stakeholder; 3) that performance indicators should be published, taking into account economic, social and environmental factors; 4) that the dimensions of good governance and sustainability should be
integrated into the firm’s strategy and its operations and communication with stakeholders; 5) that communication with stakeholders should be improved. According to IFAC, the main causes of the current financial crisis are failures of corporate governance in the supply of financial information, together with short-term vision and poor risk management (IFAC, 2010). For IFAC, transparency, accountability and cooperation by management add value to the firm. In 1991, the AICPA established an ad hoc financial disclosure procedure, aimed at systematising business information and identifying the basic elements to be reported to stakeholders (AICPA, 1994). Subsequently, AICPA issued recommendations to improve corporate transparency which cover four main areas: 1) business environment; 2) strategy; 3) resources and processes; and 4) the performance of the firm (AICPA, 2010).

A U.S. law that has had significant impact in many countries and includes rules relating to the importance of technology (especially the Internet and corporate governance), is the Sarbanes-Oxley Act of 2002 (section 409), which obliges companies to report real-time information that significantly affects their financial and economic position. In addition, section 403 of the Act requires the Internet be used to report transactions between managers and equity shareholders in the company, and to communicate major reports (Forms 10-Q, 10-K and 8-K) for stakeholders. The European Commission's main objective in this field is to standardise reporting requirements, viewing the Internet as a means of dissemination of financial information within EU Member States (Gallego et al., 2009). The Centre for International Financial Analysis and Research (CIFAR) identified five important aspects of corporate transparency: 1) the intensity of financial disclosures; 2) the intensity of disclosures on corporate governance; 3) the accounting principles used to measure financial disclosures; 4) the timeliness of financial information; and 5) the quality of auditing in financial reporting.

Guidelines and regulations in Latin America refer to the following principles of good governance and minimum requirements of disclosure issued by the OECD: 1) the financial and operating results of the company; 2) the company’s objectives; 3) the ownership of large blocks of shares and voting rights; 4) the remuneration policy applied to board members and executives, and other information related to these persons; 5) transactions between related parties; 6) risk factors; 7) information related to employees and other stakeholders; and 8)
structures and corporate governance policies (OECD, 2004). Moreover, the Andean Development Corporation (CAF) has published an Andean Corporate Governance Code. In the case of Spain, we find the Transparency Law of 2003, and in Mexico some guidelines issued by the stock market regarding the periodicity and content of the information disclosed.

According to Choi and Levich (1990) and Adhikari and Tondkar (1992), the reporting of a higher or lower level of information by firms depends on the business environment in each country. Various factors have been identified, including the economy, capital markets, accounting practices and the regulatory framework, enforcement mechanisms and national culture (Wallace and Gernon, 1991; Cooke and Wallace, 1990). La Porta et al. (1997, 1998, 2000) argued that the legal environment differs among countries, in part due to their varying legal backgrounds and traditions.

2.1. Hypotheses and description of variables

2.1.1. Legal environment

According to Jaggi and Low (2000), the politico-social and economic dimensions of a country influence the prevailing level of corporate transparency. The institutions in a society, such as the legal system, family groups, social groups and the education system, are the result of its political and social environment. Bushman et al. (2004) explored the relationship between corporate transparency and three aspects of the legal/judicial regime: legal origin, the efficiency of the judicial system and the degree of patent protection. Durnev and Han Kim (2005) showed that corporate governance practices and disclosure vary widely among countries, in direct proportion to the strength of legal protection afforded to investors. Furthermore, the legal and economic environment of a country is a key factor in corporate disclosure.

Following La Porta et al. (1998, 2002, 2006), various indices have been proposed to measure the strength of legal protection for investors and creditors. According to Leuz et al. (2003), the application of the law can be measured against three variables: 1) the efficiency of the judicial system; 2) the implementation of the rule of law; and 3) the index of corruption. Djankov et al. (2008) proposed measuring the protection of minority shareholders against expropriation by corporate shareholders by employing an index of protection that
focuses on private enforcement mechanisms such as disclosure, litigation or the approval/rejection of certain corporate transactions. Taking all the above into consideration, we chose to apply the World Bank’s Worldwide Government Indicator (WGI) to measure the degree of enforcement in each of the countries studied. This indicator reflects the traditions and institutions by which authority in a country is applied, including the process through which the government is selected. It monitors the government’s ability to effectively formulate and implement policies, and the interaction between economic and social institutions. The index includes six dimensions of governance for 213 economies, spanning the period 1996-2010: 1) voice and accountability; 2) political stability and the absence of violence; 3) government effectiveness; 4) regulatory quality; 5) the state of law; and 6) control of corruption (World Bank, 2010). According to Kaufmann et al. (2011), the WGI enables informative comparisons to be made between countries over time. Under this scenario, we propose the following hypothesis:

**H1:** There is a positive relationship between a country’s WGI and the e-CTI of listed companies.

### 2.1.2. Economic development

The economic system affects how companies interact with each other and with their stakeholders, as well as the information needs of different users (Archambault and Archambault, 2003). Berry (1987) and Nobes (1983) classified countries into two groups: those with a macroeconomic orientation and those which focus on microeconomic issues. The first is subordinate to national economic policy, while the second focuses on the companies and is independent of government. Doupnik and Salter (1993) reported that countries with a microeconomic approach have higher disclosure levels than those which take a macroeconomic view. On the other hand, in a more highly developed economy, firms require more funding, which increases the need for transparency. Thus Salter (1998) argued that levels of information disclosure are higher in developed countries than in developing ones. Hope et al. (2008) selected GDP per capita as representative of the level of economic development in a country.

**H2:** The higher the level of economic development in a country (GDP per capita), the greater the number of e-CTI listed companies.
2.1.3. Inflation

Inflation is a key factor in the economic environment and thus has a major impact on accounting practices (Meek and Saudagaran, 1990). High inflation can historically produce severe distortions in financial statements, and so companies operating in countries with high inflation rates are more likely to use price level accounting, thus increasing the volume of information made available to investors (Archambault and Archambault, 1999). Doupnik and Salter (1993) reported a positive association between inflation and the disclosure of information in countries with a macroeconomic orientation.

H3: The higher the rate of inflation in the country where the company is listed, the higher the e-CTI of listed companies.

2.1.4 Size of the board

Hermalin and Weisbach (2003) suggested that the board is a control and monitoring mechanism whose role is to evaluate the performance of management and ensure performance, to the benefit of shareholders. Although there is no consensus as to what constitutes good advice, Donnelly and Mulcahy (2008) considered both the independence of the board and the presence of a non-executive chairman to be relevant factors, and contended that board size does indeed influence the company’s level of information disclosure. According to Cai et al. (2006), small boards have gained popularity because larger ones are associated with higher costs and greater bureaucracy, thus reducing corporate transparency. According to Gandía (2008), the board should be comprised of a reasonable number of directors, to ensure proper functioning and supervisory capacity. The concentration of board positions can lead to a lack of transparency, while large boards may harm the company, hindering the decision-making and communication processes (Jensen, 1993). Studies by Gandía (2008), Kent and Steward (2008) and Willekens et al. (2005), have reported a positive relation between board size and corporate disclosure, while Barako et al. (2006) found a negative relation. The size of the board can positively affect the level of transparency provided on the Internet, providing a positive impression of the company (Raheja, 2005). In the following hypothesis, we predict a positive relationship between these variables.
**H4:** There is a positive relationship between the size of the board and corporate information disclosure by listed companies.

### 2.1.5. Independence of the board

The board is usually composed of both internal and external members. The former are generally selected from the family group or from company managers. External directors belong to the board, but have no other financial or personal relationship with the management of the company; thus, there are no relationships or circumstances that might affect the exercise of their independence (Rouf, 2011; Cai et al., 2006). Beasley (1996) found that the presence of independent directors reduces the likelihood of financial fraud, and Barako *et al.* (2006) and Chen and Jaggi (2000), argued that independent directors constitute a governance mechanism which strengthens the board's capacity to demonstrate transparency to the market. The presence of independent members on the board provides a means of monitoring the effectiveness of this improvement (Haniffa and Cooke, 2002; Eng and Mak, 2003, among others). The impact of board independence on the disclosure of corporate information is not conclusive. On the one hand, some consider independent directors to be more effective than non-independent members with respect to maximising shareholder value. On the other hand, non-independent members of the board may contribute increased knowledge and experience (Rouf, 2011). In a study carried out in Singapore, Cheng and Courtenay (2006) provided evidence that a board with a high proportion of independent directors is positively and significantly associated with high corporate transparency levels. Other studies have observed a significant relationship between the level of disclosure and the proportion of independent directors (Akhtaruddin *et al*., 2009; Chen and Jaggi, 2000; Leung and Horwitz, 2004; Ajinkya, and Sengupta, 2005; Kent and Steward, 2008). On the other hand, Eng and Mak (2003) found a negative relationship in this respect. The hypothesis we propose is as follows:

**H5:** The higher the proportion of independent directors, the higher the e-CTI in listed companies.

### 2.1.6. Ownership concentration

Under the agency theory approach, the ownership structure is one of the main mechanisms for mitigating expropriation by the management (Shleifer and
Vishny, 1997). An important factor in shaping the corporate governance system is the type of ownership structure; thus, the degree of ownership concentration determines the distribution of power and corporate control (Aoki, 1995). According to McKinnon and Dalimunthe (1993), when the ownership structure is diffuse, there is a need for stronger monitoring (and consequently a higher level of disclosure) in order to maintain equity of access for minority shareholders. The impact of ownership structure on the practice of corporate disclosure has been widely studied. Chau and Gray (2002) found a negative relationship between family ownership concentration and the level of disclosure, which is in line with the results obtained by Ho and Wong (2001), Hossain et al. (1994), Haniffa and Cooke (2002), Barako et al. (2006), Vander Bauwhede and Willekens (2008), Gandía (2008), Makhlja and Patton (2004), among others. In companies with large shareholders or a high concentration of ownership, information transparency tends to be reduced, since the information can be transferred directly through informal channels, or simply because there is a greater alignment of interests, which reduces the need for better governance in respect of minority shareholders. Taking these considerations into account, we propose the following hypothesis:

**H6:** There is a negative association between ownership concentration and the e-CTI in listed companies.

### 2.1.7. COB-CEO duality

COB-CEO duality exists when a single person holds both positions in a company. From the agency theory point of view, the effectiveness and efficiency of the board may be compromised in such a situation (Blackburn, 1994). This concentration of power may damage the company's corporate transparency and lead to the generation of poor-quality information (Simon and Wong, 2001; Forker, 1992). Gandía (2008) believes COB-CEO duality to be detrimental to a company, and that the separation of these positions tends to increase the effectiveness of the board, promoting a greater willingness by the COB to advise the CEO and enhancing independence between the board and corporate governance (Fama and Jensen, 1983; Baysinger and Hoskisson, 1990; Rechner and Dalton, 1991). Therefore, the hypothesis proposed is as follows:

**H7:** There is a negative relationship between COB-CEO duality and the e-CTI for listed companies.
2.1.8. **Firms’ characteristics**

Studies suggest that several variables affect the corporate transparency level of listed companies. Although the results obtained are not conclusive, the main factors identified in this respect are leverage, size, industry and profitability (ROA).

**Leverage (Lev).** According to Watts and Zimmerman (1986), the leverage of a company corresponds to the agency costs between the company and its debt holders. Studies have suggested that companies with higher debt are usually under closer scrutiny by creditors, and that such companies, therefore, disclose more about their management (Jaggi and Low, 2000; Oyelere et al., 2003). There is expected to be a positive relationship between debt (long-term debt/total assets) and corporate e-CTI for listed companies in Latin America (Willekens, 2005).

**Company size (Size).** Several studies have found that company size has a significant influence on the dissemination of information (Chow and Wong-Boren, 1987; Craven and Marston, 1999; Barako et al., 2006; Bonsón and Escobar, 2002, 2004, 2006; Cormier et al., 2005). Larger firms are believed to be more motivated to disclose information, as they have a greater number of shareholders and stakeholders who demand extensive, detailed information (Jaggi and Low, 2000). This variable is often measured as the natural logarithm of total assets or number of employees (Watts and Zimmerman, 1986; Lang and Lundholm, 1993; Wallace and Naser, 1995). There is expected to be a positive relationship between company size and e-CTI.

**Industry (Ind).** Industry type, one of the variables associated with the level of information disclosure, is defined as the main economic activity from which income is derived (Owusu-Ansah, 1998). Wallace and Naser (1995) argued that disclosure levels vary according to the industry in which the company is active. Recent empirical studies have associated industry type and corporate transparency, but the results obtained to date are inconclusive. Among those who have found a significant relationship are Gandía (2008), Roberts and Gray (1988), Wagenhoffer (1990), Cooke (1991), Bonsón and Escobar (2002, 2004, 2006), Ettredge et al. (2001), Oyelere et al. (2003), Gul and Leung (2004), Botosan (1997) and Nagar et al. (2003). However other studies, such as those by Wallace et al. (1994), Larrán and Giner (2002), Craven and Marston (1999) and Owusu-Ansah (1998), have found no significant relationship between the industry and the
amount of information disclosed. Taking these findings into account, we hypothesise a positive relationship between industry and corporate disclosure on the Internet.

Return on assets (ROA). Previous studies have shown that profitability affects the level of corporate transparency (Wallace and Naser, 1995; Inchausti, 1997; Owusu-Ansah, 1998). According to Inchausti (1997), the most profitable companies make greater use of information disclosure to gain a competitive advantage, while firms publishing less information tend to be underperformers. Although there is no consensus on the direction of the relationship between ROA and the dissemination of information, some studies have found that the most profitable companies disclose more information (Dye, 1985; Verrecchia, 1990; Darrough and Stoughton, 1990). On the other hand, for Lang and Lundholm (1993) and Wallace et al. (1994), the evidence remains insufficient and unclear. We hypothesise that there is a positive correlation between a company’s e-CTI and its profitability.

3. METHODOLOGY AND RESEARCH DESIGN

3.1. Corporate Transparency Index

According to Ortiz and Clavel (2006) and Marston and Shrives (1991), the development of indices is one of the basic techniques used to study the information provided by companies, and one of the principal means of evaluating corporate transparency in a particular industry. Most empirical studies have focused on the study and content analysis of annual company reports (Mir et al., 2009) - one of the most important channels by which corporate information is disseminated (Hossain et al., 1995; Meek et al., 1995; Botosan, 1997; Depoers, 2000). Other studies have focused on the information displayed on company websites (Che Haat et al., 2008; Garay and Gonzalez, 2008; Gandía, 2008; Bonsón and Escobar, 2006; Hamid, 2005; Xiao et al., 2004; Qu and Leung, 2006; Vander Bauwhede and Willekens, 2008: Ching Lai et al., 2010, among others. The methodology generally used in these studies is based on the content analysis of web sites through the presence or absence of a set of items, assigning values of 1 or 0 depending on whether or not this information is disclosed. Some studies have taken as their point of reference the indices published by international companies such as S&P, AIMR or CIFAR. Bonsón and Escobar (2006) constructed an index of 44 items that should be present in company web sites.
Four main criteria are generally considered when building an index of corporate transparency: 1) weighting criteria; 2) the source of information; 3) the selection of information items; and 4) the selection of the explanatory variables (Bonsón and Escobar, 2004; Garcia and Sanchez, 2006; Ortiz and Clavel, 2006; Marston and Shrives, 1991). The methodology generally used in these studies is based on analysing the content of corporate web sites. This type of non-weighted index with dichotomous variables (taking the value 1 or 0) has previously been used in studies related to the evaluation of corporate information provided on the Internet (Gallego et al., 2009; Hamid, 2005; Xiao et al., 2004; Gomez et al., 2005; Bonsón and Escobar, 2006; Gandía, 2008; Barako et al., 2006; Qu and Leung, 2006; Petersen and Planborg, 2006), on issues such as financial reporting, corporate governance and social responsibility, intangibles and strategic information.

We propose a disclosure index of 41 items compiled from company web sites. To calculate the index, each element is defined as a dummy variable that can take the value 1 or 0, depending on whether or not the company provides the kind of information specified. Three sub-indices are adopted: 1) information about the company; 2) financial reporting and investor relations; and 3) information on corporate governance. The elements of each sub-index are then aggregated to obtain the global index, which is the sum of the scores assigned to each information category.

The first group of elements of corporate information represent 34.1% of all the elements in the e-CTI, and contain information on the company’s profile, strategy, products and/or services, its international presence, customers, suppliers, quality, technology, community and environment, contacts, press room and policies on corporate social responsibility. The sub-index of financial information (22% of the items) is related to the publication of annual reports, periodic financial information, financial highlights, trading in overseas markets, shareholder services, corporate presentations, stock information, relevant events and press releases. Finally, the corporate governance sub-index represents 43.9% of the e-CTI elements and focuses on issues related to the company’s code of conduct, the standards and policies of corporate governance, compliance with the best practices of corporate governance, the annual general meeting, the composition of the board, supporting committees, management, the composition of shareholders, the
company's bylaws, dividend distribution policies, takeovers and risk factors. Table 1 below shows a breakdown of the elements that constitute the e-CTI.

3.2. Calculation methodology

As a basis for constructing this index, we employed the methodology proposed by Gandía and Andrés (2005), taking into account the information contained in Table 1. Each item disclosed by the company is assigned a value of 1 or 0. Since the contents discussed are grouped into three sections, we first calculated the sub-indices in each one and then aggregated them to obtain the overall index. The indices represent the ratio between the sum of points obtained and the total points that the company could have obtained, by disclosing information on all the items. Each sub-index is obtained as follows:

\[ e-CTI^p = \frac{\text{Number of disclosed items}}{\text{Total of obtainable items}} \times 100 \]

The global e-CTI is operationally defined as follows:

\[ e-CTI^T = \sum_{i=1}^{n} I^i \times P^i \]

where:

- \( e-CTI^T \) = Global Transparency Index.
- \( I^i \) = Sub-index value comprising the e-CTI.
- \( P^i \) = Proportion of the sub-index “i” in the total items of the global index.

The global index is not obtained as a simple average of the various sub-indices, but is a weighted average which represents the relative value of each element. According to this methodology, both the sub-indices and the global index may obtain a value between 0 and 100 points (Gandía and Andrés, 2005).
Table 1. Items of Corporate Transparency Index on the Internet

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<th>Sub-index</th>
<th>Items</th>
<th>%</th>
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<td>Corporate information</td>
<td>1. Language of website: English/Spanish</td>
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<td>2. Corporate profile</td>
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<td>3. Strategy</td>
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<td>4. Products/Services/Business/Brands</td>
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<td>5. Presence/Coverage/Subsidiaries</td>
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<td>6. Information about the customers</td>
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<td>7. Suppliers</td>
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<td>8. Quality</td>
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<td>9. Innovation/Technology</td>
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<td>10. Community/Environment</td>
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<td>11. Contacts/Site map</td>
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<td>12. Human resources</td>
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<td>13. Press room</td>
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<td>14. Corporate responsibility and sustainability</td>
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<tr>
<td>Financial information/Investors relations</td>
<td>1. Annual report</td>
<td>22.0</td>
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<td>2. Quarterly reports</td>
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<td>3. Key figures/Financial ratios/Highlights</td>
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<td>4. SEC, 20F, NYSE-NASDAQ filings</td>
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<td>5. Information for shareholders and investors</td>
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<td>6. Presentations</td>
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<td></td>
<td>7. Stock information</td>
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<td>8. Relevant events/News</td>
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<td></td>
<td>9. Listing international stock exchanges</td>
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</tr>
<tr>
<td>Corporate governance</td>
<td>1. Ethics code/Internal regulations of conduct</td>
<td>43.9</td>
</tr>
<tr>
<td></td>
<td>2. Corporate governance policies</td>
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</tr>
<tr>
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<td>3. Corporate governance report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Annual general meeting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Composition of Board of directors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Compensation of Board of directors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Support committee (Auditing)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Support committee (Corporate governance)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Support committee (Nominating and Remuneration)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Support committee (Planning and Finance)</td>
<td></td>
</tr>
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<td></td>
<td>11. Support committee (Others)</td>
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</tr>
<tr>
<td></td>
<td>12. Management team</td>
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</tr>
<tr>
<td></td>
<td>13. Shareholder structure</td>
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</tr>
<tr>
<td></td>
<td>14. Company bylaws</td>
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</tr>
<tr>
<td></td>
<td>15. Tag along rights</td>
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</tr>
<tr>
<td></td>
<td>16. Dividend distribution policy</td>
<td></td>
</tr>
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<td></td>
<td>17. Takeover bids</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18. Risk factors</td>
<td></td>
</tr>
</tbody>
</table>

Total                                                                                     100.0

Source: The authors, based on Barako et al., 2006; Bonsón and Escobar, 2006; Marston and Polei, 2004; Ettredge et al., 2001; Gandía, 2008; Bollen et al., 2006.

3.3. Population and data selection

Information was compiled for the 70 largest companies (by stock price) in Mexico and Spain, of which 35 are listed on the IPyC (Mexico) and 35 on the IBEX 35 (Spain). The indices are designed according to internationally-accepted standards and rules, with each company being weighted by its market capitalisation adjusted
for free float; thus, the relative weight of each company in the index is representative of its actual stock market value (Bolsa de Comercio, 2011). In the case of Mexico we selected companies belonging to the Prices and Quotations Index (IPyC), which is a reliable indicator of the major stocks listed on the Bolsa Mexicana de Valores, representing 70% of the capitalisation market (BMV, 2010). Companies that belong to the IBEX 35 are characterised by a higher market capitalisation and a strong investment presence in Latin America (Sánchez, 1999).

Figure 1 provides a breakdown of the companies, by industry and country, for the year 2009. The industry type classification used by the Spanish Stock Exchange Authority was taken as the fundamental reference to enable the two countries to be compared (BME, 2010).

![Figure 1. Breakdown of population by industry (Mexico and Spain)](image)

Source: The authors, based on information compiled from Latibex and IBEX 35.
Differences were observed in the distribution of industries between the two groups of companies. In Mexico there are two main groups: basic materials, manufacturing and construction (34%) and consumer goods (34%), while in Spain there are three: basic materials, industry and construction (34%), banking and financial services (26%) and oil and energy (20%).

We used publicly available information on company websites to calculate the e-CTI and to identify the variables of corporate governance. The financial information was obtained from annual company reports.

3.4. Model development and variable measurement

To test our hypotheses, the following regression model was estimated. Table 2 summarises the definitions and the notations of the variables used in the model. The dependent variable is e-CTI, and the independent variables are institutional factors (legal system, GDP per capita and inflation), corporate governance dimensions (board size, COB-CEO duality and ownership concentration).

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Variable description</th>
<th>Notation</th>
<th>Source</th>
<th>Predicted sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-CTI</td>
<td>Corporate Transparency Index on the internet</td>
<td>e-CTI</td>
<td>(Barako et al., 2008; Bonsón and Escobar, 2008; Marston and Poleti)</td>
<td>+</td>
</tr>
<tr>
<td>Legal system</td>
<td>Worldwide Governance Indicator</td>
<td>WGI_i</td>
<td>(World Bank, 2010)</td>
<td>+</td>
</tr>
<tr>
<td>Economic Development</td>
<td>GDP per capita</td>
<td>Dev_i</td>
<td>(Hope et al., 2008; Archambault and Archambault, 2003; World Bank, 2010)</td>
<td>+</td>
</tr>
<tr>
<td>Inflation</td>
<td>Annual inflation rate</td>
<td>CPI_i</td>
<td>(Meek and Sandagen, 1990; Donnenik and Saltar, 1983; World Bank, 2010)</td>
<td>+</td>
</tr>
<tr>
<td>Board size</td>
<td>Number of board members</td>
<td>Board_size_i</td>
<td>(Kent and Steward, 2008; Barako et al., 2006; Willekens et al., 2005)</td>
<td>+</td>
</tr>
<tr>
<td>Ownership structure</td>
<td>Average percentage of ordinary shares owned by the majority shareholders</td>
<td>Own_i</td>
<td>(Hope et al., 2008, Barako et al., 2006, Lefort and Walker, 2003)</td>
<td>-</td>
</tr>
<tr>
<td>COB-CEO duality</td>
<td>COB-CEO duality</td>
<td>Dual_i</td>
<td>(Gandia, 2008; Barako et al., 2006)</td>
<td>-</td>
</tr>
<tr>
<td>Leverage</td>
<td>Quotient between total debt and total assets</td>
<td>Lev_i</td>
<td>(Jaggi and Low, 2000; Willekens et al., 2005)</td>
<td>+</td>
</tr>
<tr>
<td>Size of company</td>
<td>Natural logarithm of number of employees</td>
<td>Ln—Size_i</td>
<td>(Craven and Marston, 1999)</td>
<td>+</td>
</tr>
<tr>
<td>Profitability</td>
<td>Return on equity</td>
<td>Profit_i</td>
<td>(Hope et al., 2008; Barako et al., 2006, Marston and Poleti, 2004; Oyelere et al., 2003; Ciner, 1997)</td>
<td>+</td>
</tr>
<tr>
<td>Industry type</td>
<td>Six general industry classifications established by the Spanish Stock Market</td>
<td>Ind_i</td>
<td>(BME, 2010; Gandia, 2008)</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 2. Summary of variables, proxies and notations in the regression model
The following control variables were also included: company size, industry type, profitability and leverage (Simnett et al., 2009; Vander Bauwhede and Willekens, 2008). As the e-CTI takes a continuous value, the model was estimated using multiple linear analyses.

\[
e\text{-TCI} = \beta_0 + \beta_1 WGI_j + \beta_2 Dev_j + \beta_3 CPI_j + \beta_4 Board\_Size_j + \beta_5 Board\_Ind_j + \\
\beta_6 Own_j + \beta_7 Dual_j + \beta_8 Lev_j + \beta_9 LnSize_j + \beta_{10} ROA_j + \beta_{11} Ind_j + U_j
\]

4. **EMPIRICAL RESULTS**

4.1. **Descriptive statistics**

Table 3 summarises the descriptive statistics of the variables analysed for the year 2009. The mean and median proportion of shares held by controlling shareholders (OWN) were 53.8% and 51% respectively for Mexico, and 49.5% and 49% respectively for Spain. The mean (median) board size was 14 (13) for Mexico and 14 (15) for Spain. The mean (median) values for board independence were 45.8% (45.5%) for Mexico and 42.2% (40%) for Spain. The mean (median) level of profitability (ROA) was 11.5% (9%) in Mexico and 5% (5%) in Spain. The mean (median) level of debt (LEV) was 21.4% (20%) for Mexico and 30.5% (34%) for Spain. The strength of the legal system, as measured by the World Bank Global Governance Index, was 47% for Mexico and 76% for Spain. In our study, COB-CEO duality is a dummy variable assigned the value 1 if the same person holds both positions, and 0 otherwise. This duality practice is less common in Mexico (57.1%) than in Spain (82.9%). The mean value of the e-CTI was 59.3% in Mexico and 80% in Spain. Considering the three sub-indices concerning information disclosure, we find that Mexican companies focus on discretionary corporate information (68%), particularly in aspects related to the company's corporate profile, products and/or services, the presence and coverage of the company, its clients and press room. In Spain, on the other hand, more attention is paid to corporate governance (70%), particularly with respect to ethics and the code of conduct, corporate governance policies, compliance with the code of good governance, shareholders, board composition and support committees, company bylaws and the composition of the executive team. In Mexico, companies are more reluctant to disclose corporate governance information on their websites, with this sub-index scoring a mean value of barely 42%. 
With respect to firm size (Ln: number of employees), we obtained mean (median) values of 9.56 (9.90) in Mexico, and 9.67 (9.83) in Spain. GDP per capita was $9,243.03 in Mexico and $29,875.09 in Spain.

<table>
<thead>
<tr>
<th>Country</th>
<th>Ownership concentration</th>
<th>Size of the board</th>
<th>Board composition</th>
<th>ROA</th>
<th>WGI</th>
<th>Ln_Size</th>
<th>GDP per capita</th>
<th>Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>0.54 0.51 0.21 33 100</td>
<td>2.57 2.56 0.29 35</td>
<td>0.46 0.46 0.15 34</td>
<td>0.11 0.09 0.09 35</td>
<td>0.47 0.47 0.00 35</td>
<td>9.243 0.00 35</td>
<td>4.24 0.00 35</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>0.49 0.49 0.23 35 100</td>
<td>2.63 2.71 0.25 35</td>
<td>0.42 0.40 0.16 35</td>
<td>0.67 0.67 0.07 35</td>
<td>0.76 0.76 0.00 35</td>
<td>29.875 3487.45 35</td>
<td>1.50 0.46 35</td>
<td></td>
</tr>
</tbody>
</table>

Source: The authors.

Table 3. Descriptive statistics of variables

4.2. Univariate analysis and multicollinearity diagnostics

Table 4 (panel A) reveals a number of significant correlations between the dependent variable (e-CTI) and the independent variables. This suggests that some of our hypotheses are credible. The e-CTI is significantly associated with ownership concentration, profitability (ROA) and debt, as well as with formal institutional factors such as the strength of the law (WGI), the GDP per capita and the level of inflation. We also recorded significant correlations between COB-CEO duality and ownership concentration, ROA and formal institutional variables. However, ownership concentration, ROA and inflation are inversely related to the e-CTI. Analysis shows a strong correlation between three explanatory variables: GDP per capita, inflation and WGI. This could cause problems of multicollinearity in the model. As a consequence, it might be advisable to analyse the WGI and the economic variables (GDP per capita and inflation) separately. To evaluate the potential multicollinearity between the variables, we analysed the variables that explain the e-CTI, obtaining variance inflation factors (VIF), the values of which are below 2 and above the tolerance level of 0.60 (Xiao et al., 2004) (see Table 4, Panel B).
Correlations and collinearity diagnostics
Panel A: Pearson Correlation coefficients

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-CTI</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COB-CEO</td>
<td>0.147</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board composition</td>
<td>0.104</td>
<td>0.052</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership concentration</td>
<td>-0.262**</td>
<td>-0.412**</td>
<td>-0.328**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.262*</td>
<td>-0.287**</td>
<td>0.078</td>
<td>0.048</td>
<td>1.000</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>0.257*</td>
<td>0.039</td>
<td>-0.080</td>
<td>-0.230</td>
<td>-0.078</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP per capita</td>
<td>0.706**</td>
<td>0.262*</td>
<td>-0.110</td>
<td>-0.098</td>
<td>-0.350**</td>
<td>0.192</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.706**</td>
<td>-0.262*</td>
<td>0.110</td>
<td>0.960</td>
<td>0.350**</td>
<td>-0.192</td>
<td>-1.000**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WGI</td>
<td>0.722**</td>
<td>0.281*</td>
<td>-0.117</td>
<td>-0.101</td>
<td>-0.368**</td>
<td>0.227</td>
<td>0.972**</td>
<td>-0.972**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of the company (Ln)</td>
<td>0.105</td>
<td>0.022</td>
<td>-0.033</td>
<td>0.082</td>
<td>-0.040</td>
<td>0.097</td>
<td>0.029</td>
<td>-0.029</td>
<td>0.037</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Size of the Board (Ln)</td>
<td>0.104</td>
<td>0.066</td>
<td>-0.184</td>
<td>-0.054</td>
<td>-0.116</td>
<td>0.197</td>
<td>0.106</td>
<td>-0.106</td>
<td>0.117</td>
<td>0.231</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*Correlation is significant at level of 0.05 (two sided)
**Correlation is significant at level of 0.01 (two sided)

Panel B: Tolerance factors and variance inflation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>VIF</th>
<th>Tolerance</th>
<th>B</th>
<th>VIF</th>
<th>Tolerance</th>
<th>B</th>
<th>VIF</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.233</td>
<td></td>
<td></td>
<td>0.876</td>
<td></td>
<td></td>
<td>0.473</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COB-CEO</td>
<td>-0.185*</td>
<td>1.342</td>
<td>0.745</td>
<td>-0.164*</td>
<td>1.333</td>
<td>0.750</td>
<td>-0.164*</td>
<td>1.333</td>
<td>0.750</td>
</tr>
<tr>
<td>Board composition</td>
<td>0.106</td>
<td>1.276</td>
<td>0.783</td>
<td>0.107</td>
<td>1.277</td>
<td>0.783</td>
<td>0.107</td>
<td>1.277</td>
<td>0.783</td>
</tr>
<tr>
<td>Ownership concentration</td>
<td>-0.249**</td>
<td>1.549</td>
<td>0.646</td>
<td>-0.235**</td>
<td>1.546</td>
<td>0.647</td>
<td>-0.235**</td>
<td>1.546</td>
<td>0.647</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.026</td>
<td>1.218</td>
<td>0.821</td>
<td>-0.045</td>
<td>1.205</td>
<td>0.830</td>
<td>-0.045</td>
<td>1.205</td>
<td>0.830</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.034</td>
<td>1.205</td>
<td>0.830</td>
<td>0.069</td>
<td>1.183</td>
<td>0.845</td>
<td>0.069</td>
<td>1.183</td>
<td>0.845</td>
</tr>
<tr>
<td>WGI</td>
<td>0.733***</td>
<td>1.274</td>
<td>0.785</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>GDP per capita</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.695***</td>
<td>1.221</td>
<td>0.819</td>
</tr>
<tr>
<td>Inflation rate</td>
<td></td>
<td></td>
<td></td>
<td>-0.695***</td>
<td>1.221</td>
<td>0.819</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of the company (Ln)</td>
<td>0.107</td>
<td>1.075</td>
<td>0.930</td>
<td>0.108</td>
<td>1.075</td>
<td>0.930</td>
<td>0.108</td>
<td>1.075</td>
<td>0.930</td>
</tr>
<tr>
<td>Size of the Board (Ln)</td>
<td>0.002</td>
<td>1.142</td>
<td>0.875</td>
<td>0.007</td>
<td>1.142</td>
<td>0.876</td>
<td>0.007</td>
<td>1.142</td>
<td>0.876</td>
</tr>
</tbody>
</table>

1. Variables are defined in table 3
2. Coefficients are based on 70 observations
3. Significant coefficients: p = .10 (*), p = .05 (**) y p = .01 (**). They are marked in bold
4. Independent variable: e-CTI
5. VIF = Variance Inflation Variance
6. In the analysis we have separated the variables GDP per capita, inflation rate and WGI

Source: The authors

Table 4. Correlations

4.3. Multivariate regression model

Table 5 shows the results of the multivariate regression model used to test the hypotheses proposed in this paper. The model is derived from the aggregation of the three sub-indices of the e-CTI and the formal institutional variables (WGI, GDP per capita and inflation), the dimensions of corporate governance (COB-CEO duality, board size, board independence and ownership concentration), and
the control variables (firm size, ROA and debt). The variables that are significant in the model (see Table 4 Panel B) are: WGI ($p = 0.000$), GDP per capita ($p = 0.000$), inflation (which has a negative impact) ($p = 0.000$). The corporate governance variables that are significant in the model are ownership concentration, with a negative impact on the e-CTI ($p = 0.005$), and COB-CEO duality. These results are in line with those obtained by Vander Bauwhede and Willekens (2008), Barako et al. (2006) and Bonsón and Escobar (2004).

In view of the above, the hypotheses accepted are H1 and H2. The first of these proposes that there is a positive relationship between the legal system, as measured by the application and strength of the legal system (WGI), and the corporate transparency level on the Internet (La Porta et al. 1998, 2004; Jaggi and Low, 2000). According to H2, the higher the level of economic development in a country, the more information will be disclosed by companies (Hope et al., 2008). Table 4 shows that the level of inflation is a significant variable in Model, with a negative sign, and so H3 is rejected. With respect to the corporate governance variables, H6 and H7 are accepted; these predict a negative relationship between ownership concentration and the level of corporate transparency in listed companies, and a negative relationship between COB-CEO duality and e-CTI (Chau and Gray, 2002; Ho and Wong, 2001; Hossain et al., 1994; Haniffa and Cooke, 2002; Barako et al., 2006; Vander Bauwhede and Willekens, 2008; Gandía, 2008).

H4 and H5, which predict a positive relationship between firm size and board composition and the e-CTI are rejected, while firm-level variables such as profitability (ROA), debt level and the size of the firm are not significant in the model. These results corroborate those found by Gandía (2008), Hope et al. (2008) and Oyelere et al. (2003).

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Corrected R square</th>
<th>Change in R square</th>
<th>Change in F</th>
<th>Sig. Change in F</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>0.784</td>
<td>0.614</td>
<td>0.560</td>
<td>0.614</td>
<td>11.351</td>
<td>0.000</td>
<td>2.105</td>
</tr>
<tr>
<td>b</td>
<td>0.768</td>
<td>0.589</td>
<td>0.532</td>
<td>0.589</td>
<td>10.222</td>
<td>0.000</td>
<td>2.220</td>
</tr>
<tr>
<td>c</td>
<td>0.768</td>
<td>0.589</td>
<td>0.532</td>
<td>0.589</td>
<td>10.222</td>
<td>0.000</td>
<td>2.220</td>
</tr>
</tbody>
</table>

a. Explanatory variables: (Constant), LnBoard, Ownership concentration, ROE, LnSize, Leverage, WGI, Board composition, COB-CEO duality
b. Explanatory variables: (Constant), LnBoard, Ownership concentration, ROE, LnSize, Leverage, GDP per capita, Board composition, COB-CEO duality
c. Explanatory variables: (Constant), LnBoard, Ownership concentration, ROE, LnSize, Leverage, Inflation, Board composition, COB-CEO duality

Source: The authors

Table 5. Multiple regression models
5. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

The development of the Internet as a means to disseminate corporate information has created a new form of communication between companies and their stakeholders. An extensive body of literature has analysed the relationship between the level of corporate transparency on the Internet and dimensions of corporate governance, and business characteristics such as size, industry type and the country in which companies operate. To quantify the information disclosed on the web, various indices have been recommended, but those most often cited add information dichotomously, with no weighting criteria. Therefore, our first goal in this study was to compare the situations in Mexico and Spain by constructing an index of corporate transparency on the Internet (e-CTI) and compiling the information provided on the websites of major companies in Mexico (IPyC) and in Spain (IBEX 35). This e-CTI was based on previous research, and takes into account the regulatory framework in these countries.

The second objective was to identify, under the institutional theory approach, the formal institutional factors (legal system and economic dimensions), corporate governance and corporate characteristics that could influence the e-CTI, using multiple regression analysis. The results obtained show that there are differences in corporate disclosure on the Internet between the two countries, with Spain obtaining a higher e-CTI than Mexico (80% and 59%, respectively).

Furthermore, we identify the variables that influence the e-CTI, based on a population of 70 listed companies (35 in Mexico and 35 in Spain). Our results show that the e-CTI is strongly affected by formal institutional variables such as the legal system, GDP per capita and inflation. Governance variables that have a significant influence are ownership concentration and COB-CEO duality. However, other variables such as size of the board and board composition, leverage, profitability (ROA) and firm size are not significant in the model. In summary, these results suggest that factors that have been proposed in previous studies, and which have received empirical support as being determinant in the level of corporate transparency, play an important role in the context of these countries.

Our work contributes to this subject in three main respects. First, by incorporating factors that have been recognised in comparative studies of other regions (both corporate and institutional variables). Second, by making use of the
institutional theory approach to deepen the scope of analysis. Finally, by focusing on Mexico and Spain, which have hitherto received little attention.

There are several limitations to this study. First, there are problems inherent in any subjective rating and in evaluating the information contained in the annual reports of sample companies. Second, every element included in the e-CTI is assigned the same weight. Third, linear regression analysis does not overcome the problem of causality between variables. Moreover, the study population is limited to 70 large companies, while small and medium-sized enterprises are not considered. Finally, there is no longitudinal analysis which might have refined the conclusions drawn.

However, despite the above limitations, the results are interesting and justify extending this research to a larger number of companies, and of course, to other emerging economies. Another interesting line for future research would be to include informal institutional variables such as national and corporate cultures and their influence on corporate transparency. The time period under analysis could also be extended, using panel data methodology.

6. REFERENCES


