Impact of a new accounting standard on social and environmental mandatory reporting in financial statements: The case of largest companies in Gipuzkoa (2007-2008)

Este estudio centra su análisis en la revelación de información social y medioambiental obligatoria por parte de grandes empresas guipuzcoanas tras la entrada en vigor en España del nuevo Plan General Contable 2007 en el año 2008. El objetivo de este trabajo es analizar el impacto de la entrada en vigor del nuevo Plan General Contable en la revelación de información social y medioambiental. Para ello se ha aplicado el análisis de contenido a los informes anuales de los años 2007 y 2008 y se han calculado dos índices de revelación. Los resultados muestran un elevado grado de cumplimiento con la norma pero baja calidad de la información. Las empresas analizadas responden al cambio en el marco regulatorio aceptándolo, aunque en algunos casos sólo de manera simbólica.

Espainiak 2007ko Kontabilitateko Plan Orokor berria 2008an indarrean jarri ondoren Gipuzkoako enpresa handiek gizarte- eta ingurumen-informazioa jakinarazteko duten betebeharra aztertzen du azterlan honek. Kontabilitateko Plan Orokor berria indarrean jartzeak gizarte- eta ingurumen-informazioaren deklarazioan izandako eragina neurtzea du helburu. Hartarako, 2007ko eta 2008ko txostenei eduki-analisia aplikatu zaie, eta bi jakinarazte-indize kalkulatu dira. Arauaren betetze-maila handia erakutsi dute emaitzek; informazio-kalitate txikia, ordea.

This paper sets out to analyze the disclosure of mandatory social and environmental information by a sample of large companies in Gipuzkoa after the new accounting standard «Plan General Contable 2007» was issued and came into force in Spain in 2008. The objective of this study is to explore the impact of the new standard in the disclosure of mandatory social and environmental information. To that end the content analysis of the annual reports for 2007 and 2008 was carried out and two disclosure indexes were developed. Results evidence a high level of compliance with the standard but low quality information. Companies under study seem to respond to changes in the regulatory framework accepting it but in many cases only symbolically.

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1. INTRODUCTION

The pressure on firms to be «socially responsible» continuously increases and originates from a range of stakeholder groups, including customers, communities, employees, governments and shareholders (Sethi, 2003a). Companies have responded to this pressure in a variety of ways (Hess and Warren, 2008). Since the growing interest in the social and ethical behavior of companies has produced an increasing demand on social and environmental information, companies have responded reporting increasingly on social and environmental issues (KMPG, 2011).

Corporate social and environmental reporting is aimed at different stakeholders and implies extending the accountability of organizations beyond financial accounting, on the understanding that organizations not only have financial but also social, ethical and environmental responsibilities (Gray *et al.*, 1996). Corporate social and environmental information has been traditionally provided on a voluntary basis. However, it has been questioned whether this form of reporting serves the purpose of accountability (Criado *et al.*, 2008), since voluntary information is characterized by its lack of neutrality and objectivity (Deegan and Rankin, 1996; Adams, 2004) and consequently, by its lack of credibility (Dando and Swift, 2003). Thus, there has been an increasing demand on compulsory social and environmental reporting (Deegan *et al.*, 2002; Freedman and Patten, 2004; Mobus, 2005) that could enhance the quality of this information by making companies liable for any misstatements (DeTienne and Lewis, 2005).

Legitimacy theory is the dominant perspective on social and environmental reporting literature. It has been applied to voluntary social and environmental reporting and by extension to mandatory reporting. However there are different views on its contribution to explain mandatory reporting. While authors such as Patten (2005) and Llena *et al.* (2007) contend that firms use compulsory environmental disclosures to improve their legitimacy, Adams *et al.* (1995) contend that this theory cannot explain non-compliance with regulatory norms since legitimacy theory suggests that firms wish to be seen as complying with the law. Criado *et al.* (2008) tries to reconcile these apparently contradictory results through an enhanced perspective of the legitimacy theory, the impression management perspective.

On this basis the present paper seeks to assess and understand the impact of the new regulatory framework on social and environmental disclosures. This twofold objective can be translated into the following research questions: Does a new regulatory framework enhance the quality of social and environmental information? Can legitimacy theory explain the disclosure patterns of companies in the presence of regulation? Are there other factor influencing social and environmental information after a new standard has been issued?

With this aim in sight, this paper analyses the disclosure of mandatory social and environmental information by a sample of largest companies in Guipúzcoa, after the new accounting standard «Plan General Contable 2007» (PGC 2007) was issued in 2008.

This study contributes to previous literature in several ways. First, the study extends prior research by providing further insight into mandatory disclosures of both employee and environmental issues. Second, the study adds to the research on mandatory information by focusing on a specific region, Guipúzcoa. To our knowledge most of prior literature on mandatory information, which is on the increase, has focused on big quoted companies at a national or international level. Guipúzcoa has an industrial structure in which small and medium sized companies dominate economic activity. Within this context, companies under study, can be considered to be large, albeit much smaller than the top quoted companies analysed in most of previous literature, which could lead to different results.

The paper is organized as follows. First, social and environmental reporting regulation and a review of the literature relating specially to mandatory social and environmental reporting and the legitimacy theory perspective are presented and specific hypothesis are proposed. The methodological approach is next introduced followed by a description of the variables. Thereafter, the results of the analysis are reported and discussed before some concluding remarks are presented.

2. BACKGROUND AND LITERATURE REVIEW

2.1. Social and Environmental reporting regulation

In the old debate about voluntary versus compulsory social and environmental accounting and reporting (Gray *et al.*, 1996) several empirical evidences produced a positive context in favor of compulsory standards. The fact that voluntary information is characterized by its lack of neutrality and objectivity (Deegan and Rankin, 1996; Adams, 2004) and consequently, its lack of credibility (Berthelot *et al.*, 2003; Dando and Swift, 2003), questions whether this form of reporting is able to meet the demands of stakeholders and achieve effective accountability (Criado *et al.*, 2008).

Such evidence has led to scholars in the business ethics and accounting literature to demand for social and environmental reporting to be regulated in order to enhance its quality (Criado *et al.*, 2008). Larrinaga *et al.* (2002) focusing on environmental information argue that environmental legislation could improve reporting by avoiding a) the difference between companies that disclose and companies that do not, b) opacity regarding bad news; c) disclosure of non-audited information. Deegan and Rankin, (1996, 1997) and Owen *et al.* (1997) have also called for accounting regulators to place the development of environmental accounting and disclosure standards on the agenda, while Gray *et al.* (1996) assert that «the most appropriate solution for Europe is to go down the route of making social reporting mandatory».

The poor quality of social and environmental reporting was an argument employed by the European Commission in its *Recommendation of 30 May 2001 on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies (2001/453/EC).* More recently a favorable position toward regulation was also demanded by the Global Reporting Initiative (GRI) in its *Amsterdam Declaration on Transparency and Information* (March 2009), calling on governments to introduce policies requiring companies reporting on environmental, social and governance or explain publicly why they have not. On October 2011 the European Commission has announced a legislative proposal on the social and environmental information provided by companies in all sectors within its *renewed EU strategy 2011-2014 for Corporate Social Responsibility*.

Some European countries such as Denmark, Sweden, Finland, Portugal, France and Spain adapted their accounting legislation to conform to the European Recommendation (2001/453/EC), enacting an obligation for companies to report on environmental issues in their financial statements. In the case of Spain after the standard on environmental disclosure (included in an electricity sector accounting standard) issued in 1998 by ICAC[1], which attained a very low level of compliance (Larrinaga *et al.*, 2002), the Spanish Government issued a similar but more comprehensive standard (ICAC-2002) in 2002 complementing the previous one. Additionally in 2008 came into force a new accounting standard (Plan General Contable 2007) which replaced the previous one (Plan General Contable 1990) and also de ICAC-2002 standard. This new «Plan General Contable 2007» was the result of trying to set up a new accounting standard compliant with the Directives of the European Union considering the IAS/IFRS adopted by the European Union Regulations[2].

The new accounting standard which came into force in 2008 incorporates in its note 15 to the financial statements almost the same items of environmental information included in the ICAC-2002 standard, except for «accounting policies on restoration and remediation of contaminated sites» not included in the new one. Thus, it could be argued that as far as environmental information is concerned, the new accounting standard does not represent a new regulation in itself but a new regulatory framework.

As regards the information on employees, the previous accounting standard (PGC 1990) required companies to report on some aspects such as the average number of employees by category, personnel expenses, or provisions on retirement among others. The new accounting standard incorporates new elements with particularly regard to provisions.

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1 The Spanish standard setter is the Instituto de Contabilidad y Auditoría de Cuentas (ICAC-Accounting and Auditing Institute) which is a government agency.

2 In the year 2000 and with the view of making the financial information of European companies more consistent and comparable, the European Commission recommended to other European Community institutions that the consolidated annual accounts of listed companies be prepared applying the accounting standards and interpretations issued by the International Accounting Standards Board (IASB). European Parliament and Council Regulation 1606/2002 introduced in July 2002, defined the process for the European Union to adopt International Accounting Standards (IAS/IFRS). This Regulation made it mandatory to apply these standards in the consolidated annual accounts by listed companies, leaving member states to decide whether to allow or require direct application of the adopted IAS/IFRS to the individual annual accounts of all companies and/or to consolidated annual accounts of other groups. In Spain, the Expert Committee created by the Ministry of Economy after analysing the scope of the European decision recommended that individual accounts should continue to be prepared under Spanish accounting standards, appropriately revised to harmonise the accounting information and make it comparable in keeping with the new European requirements. Based on this consideration the Spanish legislator stipulated that the individual accounting information of Spanish companies should continue to be prepared under the accounting principles set out in Spanish accounting and commercial law. The amendments proposed by the Expert Committee were enacted by Law 16/2007 which revised and adapted commercial law to bring accounting standards into line with European Union Regulations and authorized the government to approve the new General Accounting Plan (Plan General Contable 2007).

2.2. Literature review on mandatory social an environmental disclosures

Previous studies focused on mandatory social and environmental disclosure have examined if this activity has effectively enhanced the quality of social and environmental information and has therefore contributed to meeting the demands of stakeholders and achieving effective accountability (Adams *et al.*, 1995; Larrinaga *et al.*, 2002; Cowan and Gadenne, 2005; Mobus, 2005; Patten, 2005; Frost, 2007; Llena *et al.*, 2007; Criado *et al.*, 2008).

Some of these studies have thrown disappointing results. Focusing on social and environmental mandatory disclosures in Spain, Larrinaga *et al.*, (2002) developed a study on the standard issued in 1998 by ICAC that was the first attempt to regulate environmental accounting in Spain. Results evidenced a general lack of compliance with the standard (80% of the Spanish companies included in their study failed to report any of the information required), which was therefore insufficient to enable new accountability relations. A low level of disclosure was also evidenced in investigations on compliance by Norwegian companies with mandatory environmental reporting under the Norwegian Accounting Act (Vormedal and Ruud, 2009; Fallan and Fallan, 2009). Similar unsatisfactory results were observed in investigations on compliance by U.S. firms with mandatory disclosures on environmental liabilities (Alciatore and Dee, 2006; Freedman and Stagliano, 2002, Hummels and Timmer, 2004) and on projections for future environmental capital expenditure (Patten, 2005).

With regard to mandatory information on employees, Adams *et al.* (1995) analysed voluntary and mandatory reporting on equal opportunities in the financial statements of the top 100 UK companies and concluded that there was substantial non-disclosure of items required by law. Day and Woodward (2004) examined disclosures on employees in the UK revealing a high degree of non-compliance. Similar unsatisfactory findings were evidenced by Vormedal and Ruud (2009) in the analysis of the 100 largest firms in Norway, since they found that only half of the firms complied with the legal reporting provisions on working environment and gender equality.

Some more encouraging results were found by Bebbington (1999) whose study revealed that 83% of Danish companies reported the basic information required by the Danish Environmental Protection Act. Other major findings of research on mandatory environmental reporting in Australia suggest that transparency increases as a result of the introduction of the regulatory requirement (Frost, 2007) and that stakeholders may be more likely to receive information that is less favourable to the corporation and potentially provide a more balanced view of environmental performance within a legislated disclosure environment (Cowan and Gadenne, 2005). An increase in the published environmental information (Llena *et al.* 2007), in particular on bad news (Criado *et al.* 2008) was also evidenced in investigations on the Spanish ICAC-2002 standard.

2.3. **Legitimacy theory perspective**

The literature describes legitimacy as congruence between an organization's value system and that of the larger social system of which it is a part. The organization is said to be unable to prosper or even survive if it is not seen to espouse outputs, goals and methods that society finds acceptable (Villiers and Van Staden, 2006). The concept of social legitimacy is based on the belief that organizations must continually demonstrate they are operating within the norms and values of society (Patten, 2005). Where the actual or perceived actions of a firm depart from these values, the social legitimacy of the corporation is threatened (Dowling and Pfeffer, 1975; Milne and Patten, 2002; Patten, 2005).

Dowling and Pfeffer (1975, p. 127) argue that while an organization can «adapt outputs, goals and methods of operation to conform to prevailing definitions of legitimacy» it might instead use communication in an attempt to alter the definition of, or to project an image of legitimacy (Patten, 2005). Newson and Deegan (2002, p. 185) contend that «legitimacy is assumed to be influenced by disclosure of information and not simply by (undisclosed) changes in corporate actions». Deegan *et al.*, (2000) also confirm this notion that legitimacy is about disclosures.

The use of voluntary social and environmental reporting as a tool for gaining or maintaining social legitimacy has been evidenced in the empirical literature (Patten, 1992; Brown and Deegan, 1998; Deegan *et al.*, 2002; Cowan and Deegan, 2011). But can legitimacy theory explain the disclosure patterns of companies in the presence of regulation? If we focus on mandatory social and environmental disclosures, contradictory results have been observed in previous studies. Patten (2005), Alciatore and Dee (2006) and Llena *et al.* (2007) contend that firms are using compulsory environmental disclosures to improve their legitimacy in the eyes of the public, whereas Adams *et al.* (1995) believe that legitimacy theory does not explain non-compliance with regulation, since legitimacy theory suggests that firms wish to be seen complying with the law. From a broader perspective of the legitimacy theory, the so called impression management perspective, Criado *et al.* (2008) explain the (lack of) compliance with the ICAC-2002 standard through diverse strategies, ranging from dismissal, ignoring institutional rules (Oliver, 1991), to concealment, disguising non conformity behind a façade of acquiescence (Oliver, 1991, p.154).

One of the aims of this study is to assess whether the new regulatory framework enhance the quality of social and environmental information. Whereas a dismissal strategy is more likely while the standard is poorly designed and the expectations as to its enforcement are low, the progress of social and environmental disclosures, prompted by more developed regulation suggests that further improvements in the regulation might well lead to better reporting (Criado *et al.*, 2008). The new accounting standard (Plan General Contable 2007) can be considered as a reinforcement of the previous ICAC-2002 standard regarding environmental information and a more developed regulation as regards social information. As a result we could expect the following hypothesis to be confirmed:

> *H1: Subsequent to the new regulatory framework, mandatory social and environmental disclosures will improve.*

Previous literature has evidenced that even under a progressive and improved regulation on social and environmental information, there still remains a considerable level of non-compliance. According to Adams *et al.*, (1995) non-disclosure cannot be explained by legitimacy theory since firms wish to be seen complying with the law. Oliver (1991) contends that an apparent conformity with the law is sufficient for the attainment of legitimacy and suggests that companies use concealment tactics in order to manage an impression of compliance with the regulation, although the information disclosed does not really meet the demands of the stakeholders. Concealment strategies could take the form of window dressing or ritualism (Oliver, 1991) showing the company operating in harmony with the environment and failing to disclose those elements where they do not have the appropriate policies or elements that could make the company more vulnerable to external criticism (Adams *et al.*, 1995). As a result we could expect the following hypothesis to be confirmed:

> *H2: In spite of the new regulatory framework, mandatory social and environmental disclosures will be biased towards positive information and there will be ritual non-materiality statements.*

3. METHOD

3.1. Sample

This paper analyses annual accounts of non-financial large companies (more than 250 employees[3]) operating in Guipúzcoa. From the 64 companies fulfilling the above mentioned conditions 15 were found not to have deposited their annual accounts in the corresponding Public Registry or to have done it incomplete or not correctly or not to have followed the new accounting standard (PGC 2007) in their annual accounts and were therefore removed from the sample. The final sample

[3] According to the European Commission 2003/361/CE Recommendation, small and medium sized companies are defined as those companies with less than 250 employees as main criteria. Companies under study operate in a region with an industrial structure, in which small and medium sized companies dominate economic activity. Within this context, companies with more than 250 employees can be considered as large companies. Additionally, the new accounting standard allows companies to use standard or abbreviated models for the documents that comprise the annual accounts, depending on some criteria. The standard model is more comprehensive and requires companies to disclose more information than the abbreviated model. In order to use the more comprehensive standard model for the annual accounts, companies have to meet some conditions, being the number of employees higher than 250 one of them. Taking into account that this study focuses on the disclosure of information in the annual accounts, we were interested in companies that used the standard model.

included 49 companies. Industries are categorized adapting the CNAE-93 (Clasificación Nacional de Actividades Económicas) classification in the following four sectors: basic materials, industry, consumer goods and consumer services.

The analysis of the annual accounts for the 2007 and 2008 financial years provided insight into the effects of the new accounting standard (PGC 2007) as it came into force (2008) in comparison with the previous situation (2007).

3.2. **Content Analysis**

Content analysis is a widely applied technique in social and environmental reporting research not only in voluntary disclosure studies (see Ernst & Ernst, 1978, Gray *et al.*, 1995b; Hackston and Milne, 1996) but also in those of mandatory information (Llena *et al.*, 2007; Criado *et al.*, 2008). Krippendorff (1980) defines content analysis as «a research technique for making replicable and valid inferences from data according to their context.» A thematic content analysis (Jones and Shoemaker, 1994) is used in this study, which involves, the construction of a classification scheme and, the definition of a set of rules for the coding, measurement and recording of the data that is to be classified (Milne and Adler, 1999).

Table 1. **MANDATORY INFORMATION ON EMPLOYEES**

Elements
Average number of employees by category
Average number of employees by gender
Breakdown of personnel expenses
Accounting criteria on personnel expenses
Accounting criteria on provisions for pensions and other employee obligations
Provisions for long-term compensation packages
Accounting criteria on provisions for compensation for planned adjustments to the workforce
Provisions for compensation for planned adjustments to the workforce
Accounting criteria on provisions for restructuring plans
Provisions for restructuring plans
Accounting criteria on provisions for shared-based payments
Provisions for shared-based payments

Source: adapted from PGC 1990 and PGC 2007.

Regarding the classification scheme and since the paper focuses on mandatory social and environmental information, the required information is determined by the accounting standard itself both regarding information on employees (see Table 1) and environmental information (see Table 2).

The measurement, in turn, involves assigning the disclosure of information a numerical value according to specific rules (Perez, 2006). The disclosure indexes used in this paper to measure the disclosure of information will be described as the variables are characterized.

Table 2. **MANDATORY ENVIRONMENTAL INFORMATION (ICAC-2002 AND PGC 2007)**

Elements	Items
Environmental expenses	Accounting policy on environmental expenses Environmental expenses
Environmental incomes	Deductions on investments to reduce environmental impact Environmental capital subsidies Environmental incomes
Environmental assets	Accounting policy on environmental assets Environmental assets
Environmental liabilities	Accounting policy on environmental provisions Accounting policy on restoration and remediation of contaminated sites Risks and expenses of environmental provisions Environmental contingencies

Source: adapted from Pérez (2006).

3.3. **Variables**

Compliance with the standard and quality of information

Two disclosure indexes (INDCUM and INDCAL) derived from content analysis (Pérez, 2006) both in regard to information on employees and environmental information. In contrast to previous studies (García Ayuso and Larrinaga, 2003, Hibbitt, 2003, Criado *et al.*, 2008) no measures have been used to quantify the volume of disclosure and that is because this paper aims to analyze the adoption of a standard, which is not necessarily related to the extent or space occupied by the data (Pérez, 2006).

The first index derived from content analysis (INDCUM) measures the presence or absence of each aspect demanded by the accounting standard by giving a 1 if the attribute appears in the information or a 0 if not (Llena *et al.*, 2007; Pérez, 2006; Alciatore and Dee, 2006).

The second index derived from content analysis (INDCAL) evaluates the specificity of the information disclosed and is computed following two different scales (Pérez, 2006). Those items related to accounting policies are measured with a dichotomous scale and are given a 3 if the item is reported and a 0 if not, since they are considered to be exclusive data (Giner, 1995). For the remaining items a four-value-scale was used, giving a 0 if no information is provided, a 1 if the information is not significant or the item does not exist, a 2 if detailed narrative or qualitative information is provided and a 3 if quantitative information is provided. Several examples can be found in previous literature that score the disclosure in accordance with various categories (Wiseman, 1982; Carmona and Carrasco, 1988; Bewley and Li, 2000; Cormier *et al.*, 2005) also regarding mandatory information (Bubna-Litic, 2004; Vormedal and Ruud, 2009).

INDCUM and INDCAL were computed as the ratio of each company´s score over the maximum possible score and were presented on a scale of 0-1.

Positive and negative information

The results of some studies indicate that environmental reporting is incomplete (Deegan and Gordon, 1996; Deegan and Rankin, 1996; Moneva and Llena, 2000) in particular regarding the non-disclosure of bad news. In this paper both the compliance index and the quality index regarding environmental information have been split into two additional variables, which are also measured on a scale of 0-1, according to the type of information (positive or negative). Drawing on Deegan and Gordon (1996) and Criado *et al.* (2008) environmental investments and environmental costs were considered to be «good news» as they present the company to the stakeholders as undertaking actions to minimize its environmental impact. On the contrary, disclosures on environmental provisions and contingencies are considered as «bad news» since they refer to information about activities having a negative, deleterious impact on society, or failures in attempts to overcome social problems (Deegan and Gordon, 1996) and a challenge to the legitimacy of the company (Mobus, 2005).

Accounting Regulation

Previous findings suggest that progressive and improved regulation could increase the volume and quality of social and environmental disclosure (Rodriguez and Lopez, 2004; Mobus, 2005, Criado *et al.*, 2008). In this paper NUEVOPGC is a dummy variable that takes the value one (1) in 2008 as it came into force the new accounting standard (PGC 2007) and zero (0) in the previous year. Early accounting studies have used similar variables to analyze the effect of regulation (Mobus, 2005). We expect the new regulatory framework to have a positive effect on mandatory social and environmental information disclosures.

Control Variables

Size is often associated with increased visibility of the organization and the ensuing scrutiny it receives from the public, being the largest companies the most visible ones and thus the ones that provide more and better information (Patten, 1991; Gray *et al.* 2001; Hibbitt, 2003). Stated differently, larger firms are watched more closely than smaller companies. Size is expected to be a factor that positively influences the disclosure of information. LTOTACT represents the logarithm of total assets of the company and has been included in this study to control for the size effect (Villiers and Van Staden, 2011).

The socio-political approach draws on the idea that the most profitable companies disclose social and environmental information to show their contribution to social welfare (Pérez, 2006). A number of early accounting studies have suggested a relationship exists between social and environmental disclosures and financial performance, although not all of them have documented the existence of a consistent relationship (Cowen *et al.*, 1987; Hackston and Milne, 1996; Archel, 2003, Garcia-Ayuso and Larrinaga, 2003). Some early studies and other recent ones have found a positive relationship between profitability and social and environmental disclosures (Roberts, 1992; Alnajjar, 2000; Gray *et al.*, 2001; Zain and Janggu, 2006; Lassaad and Khamoussi, 2012; Uwuigbe and Egbide, 2012). Thus, we expect a positive effect of company's profitability on social and environmental disclosures. The ROE variable has been included in this study to control for effects of financial performance on social and environmental disclosures (Cowen *et al.*, 1987; Roberts, 1992; García-Ayuso y Larrinaga, 2003).

Environmental sensitivity draws on the potential or actual impact that companies operating in a given industry may have or have had on the environment (García-Ayuso and Larrinaga, 2003). It has been argued that companies operating in more sensitive industries receive more attention from stakeholders and have greater incentives to improve their image and project a positive social image through the disclosure of information. A number of early studies have found that companies operating in more sensitive industries tend to disclosure a greater amount of environmental information (Hackston and Milne, 1996; Hibbitt, 2003, Aranguren, 2008). Therefore, environmental sensitivity is expected to be a factor that positively influences the disclosure of environmental information. In this paper the environmental sensitivity of an industry is measured through IMPACTOMA which is defined as a dummy variable that takes the value one (1) if the firm belongs to one of these sub-sectors: paper, chemicals, metal and construction and zero (0) otherwise (Llena *et al.*, 2007, Criado *et al.*, 2008).

4. RESULTS AND DISCUSSION

Descriptive statistics for environmental information and for information on employees are displayed in Table 3 and 4 respectively.

The analysis of environmental disclosures displayed in Table 3 reveals that the compliance index (INDCUM) is considerably higher than the quality index (INDCAL). Companies have attained a high level of compliance with the standard, 80% in 2007 and nearly 90% in 2008, but do not provide complete information, as evidenced by the low quality index values. These results are consistent with those obtained by Criado *et al.* (2008).

It could be argued, as suggested by Criado *et al.* (2008), that these results can be affected by the lack of materiality of some environmental aspects of the new standard (PGC 2007) to some companies, due to the industrial activity they carry out. Thus, the compliance and quality indexes have been computed separately for companies operating in more sensitive industries and for those operating in less sensitive industries. Mann-Whitney non-parametric test revealed no significant differences in the average compliance indexes between the two groups, but significantly higher quality index for companies situated in more environmentally sensitive industries both in 2007 and 2008, although lower than 0,5 in both cases (see Table 3 panel C).

Content analysis reveals that companies disclose more information on environmental assets and expenses (good news) than on environmental liabilities (bad news) (see Table 3 panel A). The compliance indexes are high both in terms of good news and bad news, however, the good news quality index is significantly higher than the bad news quality index (see Table 3 panel D). This result shows that environmental disclosures are biased towards positive information that is favorable for the company image, which is consistent with previous literature (Llena *et al.*, 2007, Criado *et al.*, 2008).

Regarding information on employees, results also show that compliance index is higher than quality index (see Table 4). Companies have achieved a high level of compliance with the standard both in 2007 and 2008 (85% and 88% respectively). Only the criteria for personnel costs shows a low compliance index.

However, the quality of the information is low (37% in 2007 and 49% in 2008), i.e. the information provided is not complete or at least not for each and every aspect included in the new accounting standard. Some elements such as the breakdown of employees by gender and by categories and the breakdown of personnel expenses, have attained a quality index that equals the compliance index, due to the fact that all companies providing such information do so entirely satisfying the mandatory requirement. By contrast, in terms of the four types of provisions, the compliance indexes are much higher than those of quality, because the companies that do have such provisions do not fully report on them.

New accounting standard and changes in social and environmental disclosures

As regards environmental information although there is no substantial change in the information required by the new standard, the nonparametric Wilcoxon test has revealed a significant increase in environmental average compliance index ($p < 0.05$), albeit not in its quality index (see Table 5 panel A).

However, it seems that after the new accounting standard (PGC 2007) was issued the relative increase of bad news quality index was higher than that of good news, albeit not statistically significant (see Table 5, panel B). Larrinaga *et al.* (2002) suggest that legislation could improve environmental reporting by avoiding opacity regarding bad news. Results obtained in this paper reveal that the new standard (PGC 2007) has positively contributed in this regard, since the quality of the negative information (bad news) has improved, which may also contribute to improve the credibility of the information disclosed.

It is interesting to note here that the increase of the compliance index is higher for companies in less environmentally sensitive industries than for those in more environmentally sensitive industries. Companies in less environmentally sensitive industries are the only ones that have experienced a significant increase in their average compliance index (0,8082 in 2007 and 0,9067 in 2008). This suggests that after ICAC-2002 environmental requirements have been included in the new accounting standard (PGC 2007), environmental reporting practices have also been followed by companies in less environmentally sensitive industries.

All this findings are consistent with H1 that suggested an improvement in social and environmental information through the new regulatory framework.

It could also be argued that through the new regulatory framework that arises after the incorporation of the environmental elements of the ICAC-2002 standard into the new accounting standard (PGC 2007), it turns out to be more difficult to blatantly dismiss the disclosure obligation. However, it is worth stressing here the low quality of the information. Companies do not dismiss the standard as regards to environmental information but do not inform transparently. It seems that years after the implementation of the ICAC-2002 standard and once its elements have been incorporated into the new standard (PGC 2007), companies under study engage in some kind of concealment strategy as described by Criado *et al.* (2008), that is «disguising nonconformity behind a façade of acquiescence”(Oliver, 1991). This is supported by low quality levels, disclosure biased toward positive information (good news) and some insubstantial disclosure, that is, inconsistent statements denying the applicability of the standard regarding environmental information which, however, are accompanied by some kind of environmental disclosure, thus confirming H2.

A statistical model tests the relationship between the variables of interest using regression analysis. Regression analysis has not yielded any valid model to explain the behavior of the compliance index. The new accounting standard (NUEVOPGC) is not a statistically significant determinant of current environmental information compliance index, although the Wilcoxon test has shown a significant increase in this index between the two financial years.

As regards the environmental quality index, the regression analysis is consistent with expectations (see Table 6 panel A). Although not all variables have a significant effect on the quality of the environmental information the signs of all determinant variable coefficients are consistent with expectations. The size control variable (LTOTACT) is positively related to environmental quality index, indicating that as size increases the environmental information provided has better quality.

The fact that environmental sensitivity (IMPACTOMA) is a statistically significant determinant of environmental quality index is consistent with the results obtained in the Wilcoxon test, which shows significant differences in the quality of environmental information between companies operating in less environmentally sensitive industries and those operating in more environmentally sensitive industries. This results are consistent with previous empirical studies (Llena *et al.*, 2007 and Criado *et al.*, 2008) and with the literature based on legitimacy theory, which states that companies with higher environmental visibility provide more environmental information to align company`s activities and values with social expectations.

As far as information on employees is concerned, the new accounting standard (PGC 2007) incorporates new elements not covered by the previous accounting standard (PGC 1990), with particular regard to provisions. Results displayed in table 4 reveal an increase in the compliance and quality indexes of almost all the elements included in the new standard and in particular of those elements related to provisions. Companies seem to have paid more attention or care to those elements that have become more important with the new standard. Non-parametric Wilcoxon test shows a significant increased between 2007 and 2008, both in the compliance index ($p<0,05$) and in the quality index ($p<0,01$) (see table 5 panel A), thereby confirming H1.

However, the quality indexes of provisions on workforce adjustments, restructuring plans and shared-based payments remain low. This could suggest the reluctance of the companies under study to make disclosures that could be considered as negative statements or to inform on issues more vulnerable to external criticism. This is consistent with previous findings on mandatory employee disclosures (Adams *et al.*, 1995; Day and Woodward, 2004) and confirms H2.

No valid model was found after regressing the employee compliance index on the new standard (NUEVOPGC) and additional control variables (LTOTACT, ROE). Nevertheless, the new standard (NUEVOPGC) and size (LTOTACT) turned out to be determinant variables of the quality index and with the expected signs. There is a significant effect of the new standard on the quality of employee information. Once again larger companies reveal better information.

Table 3. **ENVIRONMENTAL INFORMATION**

Panel A. Content analysis for INDCUM and INDCAL (average indexes)				
ELEMENTS	INDCUM 2007 (% companies reporting)	INDCUM 2008 (% companies reporting)	INDCAL 2007	INDCAL 2008
Accounting policy on environmental expenses	0,8163	0,8367	0,5510	0,5102
Environmental expenses	0,9896	0,9388	0,5578	0,5442
TOTAL EXPENSES	0,898 (97,96%)	0,8878 (95,92%)	0,5544	0,5272
Deductions on investments	0,7347	0,7551	0,2381	0,2517
Environmental capital subsidies	0,898	0,8367	0,3605	0,32
Environmental incomes	0,7755	0,7551	0,2789	0,2517
TOTAL INCOMES	0,7993 (93,88%)	0,7823 (83,67%)	0,2825	0,2744
Accounting policy environmental assets	0,8333	0,9796	0,5714	0,5646
Environmental assets	0,9375	0,9592	0,4558	0,483
TOTAL ASSETS	0,8877 (97,96%)	0,9694 (97,96%)	0,5136	0,5238
Accounting policy on environmental provisions	0,7143	0,9388	0,3265	0,3673
Accounting policy on remediation	0,4286	0,7347	0,0408	0,0204
Risks and expenses of environmental provisions	0,9388	0,9796	0,3333	0,3741
Environmental contingencies	0,8776	0,8776	0,2857	0,2993
TOTAL LIABILITIES	0,7398 (100%)	0,8827 (100%)	0,2466	0,2653
TOTAL	0,8089	0,8720	0,3636	0,3624

…/…

Panel B. Descriptive statistics of compliance and quality indexes (INDCUM and INDCAL)			
		2007	2008
INDCUM	Mean	0,8089	0,8720
	Stand. Deviation	0,19	0,21
	Min	0,18	0,09
	Max	1	1
INDCAL	Mean	0,3636	0,3624
	Stand. Deviation	0,15	0,13
	Min	0,06	0,09
	Max	0,67	0,61

Panel C. Compliance and quality indexes, environmental sensitivity compared			
	More environmentally sensitive industries	Less environmentally sensitive industries	Mann-Whitney
INDCUM 2007	0,8144	0,8082	-0,426 (p=0,670)
INDCUM 2008	0,8031	0,9067	-1,79 (p=0,073)
INDCAL 2007	0,4419	0,3221	-2,655 (p=0,008)
INDCAL 2008	0,4388	0,3227	-2,850 (p=0,004)

Panel D. Compliance and quality indexes, good and bad news compared			
	Good news	Bad news	Test Wilcoxon
INDCUM 2007	0,949	0,9082	-1,190 (p=0,234)
INDCUM 2008	0,949	0,9286	-0,707 (p=480)
INDCAL 2007	0,5068	0,3095	-3,722 (p=0,000)
INDCAL 2008	0,5136	0,3367	-3,431 (p=0,001)

Source: Own creation.

Table 4. **INFORMATION ON EMPLOYEES**

Panel A. Content analysis for INDCUM and INDCAL (average indexes)

ELEMENTS	INDCUM 2007 (% companies reporting)	INDCUM 2008 (% companies reporting)	INDCAL 2007	INDCAL 2008
Breakdown by categories	0,9592 (95,92%)	0,9184 (91,84%)	0,9592	0,9184
Breakdown by gender	0,8163 (81,63%)	0,9184 (91,84%)	0,8163	0,9184
Personnel expenses	0,9388 (93,88%)	0,9592 (95,92%)	0,9320	0,9592
Criteria on personnel expenses	0	0,1429 (14,29%)	0	0,1429
Criteria on provisions for pensions	0,9184	0,9592	0,1769	0,6803
Provisions for pensions	0,9184	0,9184	0,3810	0,4966
TOTAL PROVISIONS FOR PENSIONS	0,9184 (93,87%)	0,9388 (95,92%)	0,2789	0,5884
Criteria on provisions for planned adjustments to the workforce	0,9184	0,8980	0,1020	0,4286
Provisions on planned adjustments to the workforce	0,9388	0,9592	0,3537	0,4150
TOTAL PROVISIONS FOR WORKFORCE ADJUSTMENTS	0,9286 (93,87%)	0,9286 (97,96%)	0,2279	0,4218
Criteria on provisions for restructuring plans	0,9592	0,9796	0,0204	0,1429
Provisions for restructuring plans	0,9592	0,9796	0,3333	0,3673
TOTAL PROVISIONS FOR RESTRUCTURING PLANS	0,9592 (95,92%)	0,9796 (97,96%)	0,1769	0,2551
Criteria on provisions for share-based payments	0,9592	0,9796	0	0,1020
Provisions on shared-based payments	0,9592	0,9592	0,3197	0,3197
TOTAL PROVISIONS ON SHARED-BASED PAYMENTS	0,9592 (95,92%)	0,9694 (97,96%)	0,1599	0,2109
TOTAL	0,8537	0,8810	0,3662	0,4909

…/…

Panel B. Descriptive statistics of compliance and quality indexes (INDCUM and INDCAL)			
		2007	2008
INDCUM	Mean	0,8537	0,8810
	Stand. Deviation	0,13	0,14
	Min	0,17	0,08
	Max	0,92	1
INDCAL	Mean	0,3662	0,4909
	Stand. Deviation	0,08	0,15
	Min	0,11	0,08
	Max	0,53	0,89

Source: Own creation.

Table 5. **CHANGES IN SOCIAL AND ENVIRONMENTAL DISCLOSURES AFTER PGC2007**

Panel A. Evolution of compliance and quality indexes (INDCUM and INDCAL)			
Environment	Mean 2007	Mean 2008	Wilcoxon test
INDCUM	0,8089	0,8720	-2,091 (p=0,037)
INDCAL	0,3636	0,3624	-0,246 (p=0,806)
Employees	Mean 2007	Mean 2008	Wilcoxon test
INDCUM	0,8537	0,8810	-2,175 (p=0,030)
INDCAL	0,3662	0,4909	-4,685 (p=0,000)

Panel B. Evolution of disclosure indexes on environmental information, good and bad news compared			
	Mean 2007	Mean 2008	Wilcoxon Test
INDCUM Good news	0,949	0,949	0,000 (p=1,000)
INDCUM Bad news	0,9082	0,9286	-1,000 (p=0,317)
INDCAL Good news	0,5068	0,5136	-0,032 (p=0,975)
INDCAL Bad news	0,3095	0,3367	-1,892 (p=0,058)
	2007-2008		
Increase INDCUM good news (2007-2008)	0		
Increase INDCAL good news (2007-2008)	0,0134		
Increase INDCUM bad news (2007-2008)	0,0225		
Increase INDCAL bad news (2007-2008)	0,0879		

Panel C. Evolution on disclosure indexes on environmental information, environmental sensitivity compared			
INDCUM	2007	2008	Wilcoxon Test
More environmentally sensitive industries	0,8144	0,8031	-0,513 (p=0,608)
Less environmentally sensitive industries	0,8082	0,9067	-2,583 (p=0,01)
INDCAL	2007	2008	Wilcoxon Test
More environmentally sensitive industries	0,4419	0,4388	-0,114 (p=0,910)
Less environmentally sensitive industries	0,3221	0,3227	-0,150 (p=0,0811)

Source: Own creation.

Table 6. **REGRESSION MODEL**

Panel A. Regression model* for environmental quality index (INDCAL)

Variable (expected sign)	Coefficient	Standard error	t-ratio	Sign.
NUEVOPGC (+) Coming into force of the new accounting standard (PGC2007)	-0,008	0,026	-0,313	0,755
LTOTACT (+) Logarithm of total assets as proxy for company size	0,078	0,022	3,573	0,001
IMPACTOMA (+) Environmental sensitivity of the industry in which company operates	0,091	0,028	3,263	0,002
ROE Profitability	-0,001	0,000	-1,590	0,115[1]

* Dependent variable is quality index on employee information measured on a scale of 0-1. R^2=0,263. Data satisfies statistical assumptions of regression.

Panel B. Regression model** for quality index on employees (INDCAL)

Variable (expected sign)	Coefficient	Standard error	t-ratio	Sign.
NUEVOPGC (+) Coming into force of the new accounting standard (PGC2007)	0,122	0,024	5,013	0,000
LTOTACT (+) Logarithm of total assets as proxy for company size	0,052	0,020	2,559	0,012
ROE Profitability	0,000	0,000	-0,351	0,726[1]

** Dependent variable is quality index on employee information measured on a scale of 0-1. R^2=0,261. Data satisfies statistical assumptions of regression.

Source: Own creation.

5. CONCLUDING REMARKS

This paper has analyzed the impact of changes in the regulatory framework on social and environmental information. It has done so through a study of the Plan General Contable 2007, the new accounting standard which came into force in 2008. The new accounting standard can be considered as a reinforcement of the previous ICAC-2002 standard regarding environmental information and a more developed regulation as regards social information.

Overall, the results suggest that a new regulatory framework (PGC 2007) could increase the level and quality of disclosures. With regard to environmental information, this is evidenced by increased disclosure in bad news, declining ritual non-materiality statements and increased disclosure by companies in less environmentally sensitive industries.

However, results also evidence that the information provided is incomplete and that some of the problems associated with voluntary disclosure persist, such as disclosure biased towards positive information and disclosing ritual information. Companies under study achieve a high level of compliance but a low level of quality, especially in those elements where they do not have the appropriate policies or elements that could make the company more vulnerable to external criticism (Adams *et al.*, 1995), such as environmental provisions or contingencies that have been considered as bad news.

These findings suggest that companies engage in concealment strategies, that is, in response to a more developed regulation they can not dismiss the norm but in some aspects, they accept it only symbolically. Concealment consists in managing the impression of compliance with the regulation (Criado *et al.*, 2008) and is used by companies to attain legitimacy. This would illustrate how important it is for companies under study to be seen to be complying with the law.

This raises the question of the effectiveness of social and environmental reporting regulation which was initially formulated in this paper and which we aimed to respond. Although the new accounting standard did not reveal as a significant determinant of environmental information and had a significant influence only on the quality of employee information, some suggestive findings such as the increase in the quality of negative environmental information (bad news), the improvement of the level of environmental disclosure by companies operating in less environmentally sensitive industries and the improvement on the level and quality of information on employees suggest that the new accounting standard has a positive, though insufficient, effect on social and environmental disclosure.

The regional scope of this study could be considered as a contribution to previous literature. Companies under study are not top quoted companies as in most of previous literature on mandatory disclosures, but large companies with more than 250 employees in an industrial region where small and medium-sized companies dominate the economic activity. The fact that these companies, which are not so visible and not so exposed to external criticism as top quoted companies, reveal similar disclosure patterns on mandatory information under a new regulatory framework as companies in previous studies enhances the value of our results regarding the effectiveness of social and environmental reporting regulation.

We contend that further improvements in the regulation and in the regulatory framework and mechanisms that contribute to compliance could lead to improvements in the disclosure of social and environmental information, also among companies other than the top quoted companies.

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APPENDIX

Companies under study in alphabetical order

COMPANY
ALTUNA Y URIA SA
ANGEL IGLESIAS S.A.
ARCELORMITTAL BERGARA SA
ARCELORMITTAL COMERCIAL BARRAS S.L.
ARCELORMITTAL OLABERRIA S.L.
ARCELORMITTAL ZUMARRAGA SA
BELLOTA HERRAMIENTAS SA
BICOLAN EMPRESA DE TRABAJO TEMPORAL S.A.
BIHARKO GIPUZKOA SL
BRIOCHE PASQUIER RECONDO S.L.
BRUESA CONSTRUCCION S.A.
CANDY HOOVER ELECTRODOMESTICOS S.A.
CIE LEGAZPI S.A.-GSB FORJA
COMPANIA DEL TRANVIA DE SAN SEBASTIAN SA
CONSTRUCCIONES AMENABAR S.A.
CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES SA
COPRECI S. COOP.
CORRUGADOS AZPEITIA S.L.
DHL EXPRESS SERVICIOS S.L.
DISTRIBUCION SUPERMERCADOS S.L.
ECLAT LIMPIEZA S.A.
ELEKTRA S.A.
FAGOR ARRASATE SCL
FORJANOR SOCIEDAD LIMITADA.
GALANT GARBITASUNA S.L.
GIROA S.A.
GKN DRIVELINE ZUMAIA S.A.
GRUMAL S.L.
HIJOS DE JUAN DE GARAY S.A.
IBERMATICA S.A.
INDAR ELECTRIC SL
IRIZAR COOPERATIVA INDUSTRIAL
KATEA LEGAIA SLL.
KSB ITUR SPAIN SA = bombas itur SA
NATRAZAHOR SOCIEDAD ANONIMA.
ORKLI S. COOP.
ORONA SCL Soc. Coop. L.
PAPELERA GUIPUZCOANA DE ZICUNAGA SA
PAPRESA SA
POLICLINICA GIPUZKOA S.A.
SABICO SEGURIDAD SA
SABICO SERVICIOS AUXILIARES SL
SAMSIC IBERIA S.L.
SAN JOSE-LOPEZ S.A.
TALLERES PROTEGIDOS GUREAK SA
TRANSPORTES AZKAR S.A.
ULMA C Y E SCL
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