

THE REPUTATIONAL CONSEQUENCES OF DISCLOSURES^{*}

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ABSTRACT

In our study we focus on the determinants of reputation and, in particular, on the relation between the quality of annual report disclosures of companies and their reputation. We try to bring together two strands of literature: the literature on corporate reputation and the literature on corporate disclosures. Using data on corporate reputation and on quality of annual report disclosures for a sample of Spanish companies, we test the hypothesis that annual report disclosure quality is a crucial determinant of corporate reputation. After controlling for other possible determinants, especially size, we find significant evidence in favour of our hypothesis. Firms with a better annual report disclosure score are more likely to be rated among the top 50 national companies in terms of corporate reputation. Moreover the disclosure score positively affects the reputation score.

Keywords: corporate reputation, disclosure quality, annual report, financial performance.

RESUMEN

Nuestro trabajo se centra en los determinantes de la reputación y, en particular, en la relación entre la calidad de la revelación de los informes anuales de las empresas y su reputación. Tratamos de entrelazar dos grandes ramas de la literatura: la literatura relativa a la reputación corporativa y la relacionada con revelación en los informes anuales. Utilizando datos de reputación empresarial y de calidad de los informes anuales para una muestra de empresas españolas, contrastamos la hipótesis de que la calidad de la revelación del informe anual es un determinante significativo de la reputación empresarial. Después de controlar el efecto de otros posibles determinantes, especialmente el tamaño, encontramos evidencia significativa a favor de nuestra hipótesis. Las empresas con mayor calidad de información en sus informes anuales tienen más posibilidades de figurar entre las 50 mejores empresas españolas en términos de reputación.

Palabras clave: reputación empresarial, calidad de la revelación, informe anual.

1. INTRODUCTION

Companies' strategic actions and their outcomes are continually evaluated, not just by the stock market, but by all the stakeholders of a company. It is this continuous general evaluation process that determines a company reputation. Previous studies have investigated the consequences of a strong reputation. In our study we focus on the determinants of reputation and, in particular, on the relation between the quality of annual report disclosures of companies and their reputation.

Reputation is, by nature, a multidimensional concept including both financial and social aspects. However information disclosed periodically through the annual report seems to be a natural candidate as a crucial determinant of corporate reputation.

For this reason, in this paper we try to bring together two strands of literature: the literature on corporate reputation and the literature on corporate disclosures. Using data on corporate reputation and on quality of annual report disclosures for a sample of Spanish companies, we test the hypothesis that annual report disclosure quality and corporate reputation are significantly correlated. After controlling for other possible determinants, especially size, we find significant evidence in favour of our hypothesis. Firms with a better annual report disclosure score are more likely to be rated among the top 50 national companies in terms of corporate reputation. Moreover the disclosure score positively affects the reputation score.

The organisation of the paper is as follows. In the following section we review the literature on corporate reputation and corporate disclosure. Then we describe the sample and the data we use to test the significance of disclosure quality as a determinant of corporate reputation. In section four we present our empirical results. Finally we provide some conclusions.

2. LITERATURE REVIEW AND HIPOTHESIS DEVELOPMENT

2.1. *Disclosure*

The theoretical literature on disclosure, starting with the seminal work of Milgrom (1981), supports the idea that increased disclosure quality can be an effective mean to avoid the adverse selection problem. Hence we expect firms facing an adverse selection problem to be more transparent than other firms.

Lang and Lundholm (1993) already provided some evidence of a positive correlation existing between the level of adverse selection, measured by the correlation between returns and earnings, and a disclosure score.

Amir and Lev (1996) find that earnings and book values for firms with significant levels of intangible assets tend to be excessively understated relative to their market values. Gelb (2002) confirms this idea and shows that firms that obtain significantly higher analysts' ratings for their investors' relations programs or voluntary publications than for their annual reports tend to have greater levels of R&D and advertising expenditures. These findings suggest that firms with higher levels of intangible assets perceive mandatory accounting disclosures as a relatively ineffective means of communicating with investors and therefore are more likely to try to improve the quality of the information provided through their annual report. However it is an open question whether this communication strategy is effective in enhancing the image of the company.

There is an extensive literature that uses disclosure indices to measure the impact of disclosure. The indices constructed to measure disclosure vary considerably among the different studies. In some studies only voluntary disclosure activity is considered (Firth, 1979; Chow and Wong-Boren, 1987; Raffournier, 1991). In others, a wider perspective is adopted with both compulsory and voluntary disclosure being included in an index (Singhvi and Desai, 1971; Choi, 1973; Barrett, 1976; Cooke, 1989; Giner, 1997). Indexes based on annual report information are more focused on the quality of compulsory disclosure, whereas indexes based on voluntary additional communication activity tend to measure disclosure quantity.

Botosan and Plumlee (2002), extending the work of Botosan (1997), study the effect of disclosure quality and quantity on the cost of equity capital. They find that better annual report disclosure decreases the expected cost of equity capital. However more timely (voluntary) disclosure increases the expected cost of equity capital, whereas better (voluntary) investor relations have no effect on this cost. Hence better quality of annual report disclosure seems to be a more effective communication mean than increased voluntary disclosure.

Sengupta (1998) deals with the relationship between disclosure quality and quantity and cost of debt and finds a significantly negative correlation between these two variables. Given that he does not distinguish between annual report (quality) and other (quantity) disclosure, it is impossible to say which of these two possible components of the total disclosure score dominates.

Lundholm and Myers (2002) analyse the information content of increased disclosure quantity and quality. They show that a higher value of the disclosure score in a certain year is significantly associated with more future earnings news being included in current returns. This proves the effectiveness of disclosure in communicating news about the future of the company, relevant for the actual valuation in the stock market.

Bushee and Noe (2000) test the effects of increased disclosure quality on the composition of shareholding and on stock returns volatility. They find that a higher level of disclosure leads to bigger level of institutional shareholding, but has not effect on volatility. However an increase in disclosure quality leads to more transient shareholding and increased volatility. Leuz and Verrecchia (2000) test whether a commitment to higher disclosure quality by a company affects the economic features of its stock. They find that German firms that opted to use IAS or US GAAP experience a lower bid-ask spread and more trading volume.

Hutton *et al.* (2001), instead of using a score measure of disclosure activity, analyse a database of press news and investigate the effect of these news on analysts' forecasts revisions and stock returns. They find that announcements of negative earnings surprises have always a negative effect, whereas announcements of positive earnings surprises have a positive effect only when supplemented with credible additional disclosures explaining the positive surprise.

2.2. *Reputation*

We can define reputation from at least two different point of view.

First we can define it by looking at its effects. If we follow this route, then reputation can be defined as an intangible resource that can contribute to the performance and even to the survival of the firm (Fombrun and Shanley, 1990; Hall, 1992, 1993; Rao, 1994; Barney and Hansen, 1994).

Many advantages may derive from a good reputation: it may enable firms to charge premium prices (Klein and Leffler, 1981; Milgrom and Roberts, 1986b; Fishman and Robb, 2002), enhance their access to capital markets (Beatty and Ritter, 1986), attract investors (Milgrom and Roberts, 1986a) and increase market value (Cahuvin and Hirschey, 1994)

Deephouse (2000) revisits the reputation concept along this line and develops a variant called “media reputation”, defined as the overall evaluation of a firm presented in the media. He provides theoretical and empirical support for the conjecture that media reputation is a strategic resource leading to competitive advantage. He considers that a strong reputation provides at least three strategic benefits: it can create competitive barriers, it allows a firm to lower cost and it allows a firm to increase price. He claims that if media reputation is a resource, it should add value to the firm in at least one of this ways. Using data on a population of commercial banks competing in a single metropolitan area from 1988 through 1992, he shows that a favorable reputation is an intangible asset that increases firm performance.

Roberts and Dowling (2002) provide further evidence in favor of the strategic value of corporate reputation. Using a sample of US firms between 1984 and 1998 they find that firms with a superior financial performance are more likely to sustain this superiority if their reputation ranking is higher. Again their result corroborates the idea that reputation is a crucial determinant of a company competitive advantage.

While there seems to be a clear support both at the theoretical and at the empirical level for the idea that reputation benefits a company performance, the study of the determinants of such a valuable asset is less developed.

This is an important area of research because reputation can also be defined as the result of a process. If we follow this alternative route we can define reputation as a

group of economic and non-economic attributes of an organization, generated from its past actions (Weigelt and Camerer, 1988).

In order to be able to combine the strategic aspect and the historical aspect of reputation we accept the definition given by Fombrun (1996):

‘a perceptual representation of a company’s past actions and future prospects that describe the firm’s overall appeal to all its key constituents when compared to other leading rivals.’ (Fombrun, 1996, p. 72)

Companies' stakeholders may apply distinct criteria in evaluating corporate performance. So, a firm's reputation should be produced by the interactions of the firm with its stakeholders and, above all, by the information about the firm and its actions circulated among stakeholders, including specialised information intermediaries (Daellenbach *et al.*, 1998; Fombrun, 1996; Logsdon and Wartick, 1995). Behaviours and outcomes that are not directly financial are significant contributors to reputation. Fombrun and Shanley (1990), in their seminal work on reputation determinants, show that stakeholders appear to construct reputation from a mix of signals derived from accounting and market information, but also from media coverage and other non-economic cues. However they do not include any measure of disclosure quality and/or quantity among the possible determinants of reputation.

The financial communication strategy of the company appears like a natural candidate as one of the determinants of corporate reputation. Rindova and Fombrun (1999) argue that companies' strategic advantage arises from the interaction between the strategic “plot” of the company and the industry “paradigm” used by stakeholders to organise their beliefs while taking actions that may affect a company ultimate success. A crucial component of the strategic “plot” of a company is its strategic projections defined as “controlled images projected in social interaction through communication to secure favourable evaluations by others”¹. In other words the authors argue that the communication strategy of a company is crucial in determining its image in the market and may determine its ability to dominate its rivals.

The quality of annual report disclosures is a natural element of a company communication strategy (i.e. its strategic projection) and corporate reputation is a crucial factor in shaping stakeholders' beliefs (i.e. their industry paradigm). For

¹ Rindova and Fombrun (1999) p.697

example, Sabaté and Puente (2003) develop a new measure of corporate reputation, based on a survey of managers of Spanish banks, and using factorial analysis they show that informative transparency is an important element of corporate reputation

Hence it is extremely important to understand the relationship between these two variables in order to check whether the annual report is an effective communication tool and whether its transparency and information content have a positive or negative effect on corporate reputation. This is the aim of our empirical investigation that is presented in the following section. Using a sample of Spanish companies quoted on the Madrid Stock exchange we want to test whether annual report disclosures affect company reputation.

Two recent studies have followed a similar path. Chalmers and Godfrey (2004) investigate whether societal pressure is positively related to the quantity of disclosure on financial derivative activities. Using a sample of Australian companies they find positive evidence in favour of their main hypothesis. As a proxy for societal pressure they use company affiliation to distinguished “clubs” of companies and find that companies that are members of these “clubs” provide a statistically significantly higher quantity of disclosure. The authors interpret this result as evidence that the fear of reputation costs (exclusion from these “clubs”) prompts more disclosure. This interpretation assumes the existence of a positive relationship between disclosure and reputation that actually is not directly proved. Moreover, given the number of possible determinants of the affiliation decision, the use of a more direct measure of reputation, if available, seems appropriate.

Toms (2002) tests an hypothesis very similar to the one we are investigating in our studies. Using a sample of UK firms he finds positive evidence that environmental disclosures have a positive effect on environmental reputation.

Our work extends the result by Toms (2002) in two directions.

First of all the fact of focusing only on environmental reputation and environmental disclosure biases the results in favour of the hypothesis tested. Environmental issues are very sensitive issues and so a very close scrutiny by a company stakeholders is expected. Moreover environmental disclosures are mostly provided on a voluntary basis. Hence it is expected that companies that are more open about their environmental related activities will have a better environmental reputation. However this result does not prove that the effort spent by a company in making its

annual report generally more transparent will be effective in enhancing the overall reputation of a company. Transparency on strategies, patents, product features, for example, may generate both costs and benefits to the company and hence it has to be proved that it increases its general reputation.

Secondly Toms (2002) uses a sample of a priori large companies that quote on the London stock exchange. Given their size and the market they quote on, these companies are very likely to be closely scrutinised by the company stakeholders. These sample selection bias is again likely to bias the result in favour of the hypothesis tested. Our sample is not biased in terms of size we will show how size is crucial in determining corporate reputation. Moreover the Spanish stock market is still run by a relatively small number of active operators, who may have access to sources of information other than the annual report and consequently may give less importance to this source of information². These features make the Spanish market a good test of our main hypothesis of a positive relationship between annual report transparency and corporate reputation.

3. DATA

3.1. Sample selection

Our sample selection begins with the 239 firm-year observations of the firms that quote on the Spanish continuous market and on the Madrid stock market in 1999 and 2000, for which we have disclosure data³. 49 firm-year observations were eliminated because of missing data on some of our control variables. The final sample is composed of 190 firm-year observations.

² In year 2001 28% of the shares in the Madrid Stock exchange were held by “families”. Institutional investors, usually considered as those more interested in disclosures, owned only 4,86% of the total number of shares.

³ Non quoted companies can not be included because disclosure data are not available for them.

3.2. *Dependent variable: corporate reputation data*

As a basis to construct the dependent variable for our study, we use the "Monitor Español de Reputación Corporativa (Spanish Observatory of Corporate Reputation)" (MERCO) a general index of corporate reputation. The MERCO reputation index is a score, on a scale from 0 to 1000, that measures the multidimensional concept of corporate reputation. Among its dimensions we can find financial performance, product-service quality, corporate culture, international presence and Research and Development (R&D).

This index, was developed by a market research institute and uses data collected from a sample of 10.000 managers of 2.150 companies. During the fall these managers are sent a questionnaire, and they are asked to nominate which companies of any sector have the best reputation and also to nominate the ones more appreciated in their own sector. Their answers are used to calculate the index of corporate reputation. The value of the index for the first fifty companies is publicly revealed at the beginning of the following solar year. MERCO was calculated for the first time in 2000. In our study we use the index for year 2000 (revealed in 2001) and for year 2001 (revealed in 2002) .

When we use the logit model to estimate the probability of being included among the fifty reputation champions in a given year, we use as the dependent variable a dummy that is equal to 1 for a firm included among the fifty "champions" of MERCO and 0 otherwise (Dmerco).

Given that the MERCO index measures reputation as perceived in the fall of a given solar year, managers perceptions will be based on the previous performance of the company. For this reason we decided to use lagged values for our independent variables.

3.3. *Disclosure data*

In analysing information disclosed by firms, we concentrate on companies' annual reports. Data on the quality of this kind of information are regularly published by a prestigious business magazine ("Actualidad Económica") that studies the annual reports of the companies that trade on the Spanish continuous market and on the Madrid stock market

Several items are graded in order to produce a score that measures the quality of the information provided in the annual report. Among them we find: historical data,

analytical account of results, composition of shareholding, shares percentage held by the board of directors, order and clarity of the report, design, number of branches, directors' remuneration, returns on shares, market evolution, review of operations, on-line information.

A pool of experts gives a score for each one of these items of the annual report. These scores are published annually. With these scores we have created a revelation index based on the sum of scores obtained divided by the maximum sum of scores obtainable. We have also considered the separation of the total index into two components⁴: "Annual Information" and "Other Information".

In the "Annual Information" index, we have tried to include all the items related to the annual financial statements, such as the Management Report or the President's Letter.

Our second category of information comes under the heading of "Other Information" and includes items of the annual report that provides information not directly related to the annual financial statements. Examples are on-line information, good corporate governance policies, information about shareholders who hold more than ten percent of the firms shares, information on the number of shares that the board of directors hold.

We want to stress that the MERCO score and the quality of annual report disclosure score are produced independently by two different organisations.

3.4. *Other independent variables*

As control variables for our study we use: firm size, stock returns and risk. We base our the selection of independent variables on the seminal work by Fombrun and Shanley (1990) and on the work by Toms (2002). We include only those variables that were found to be significant in these studies. However we exclude these two significant variables: institutional shareholdings and previous accounting profitability. In the case of institutional shareholdings the reason for excluding it is twofold. First of all the relative importance of institutional sharehodings in the Spanish stock market is still relatively low. For example in year 2001 only 4,86% of total market capitalization was

⁴ See the Appendix

owned by funds of any sort. Secondly data on shareholdings for Spanish companies are not easily available and not always reliable.

With respect to previous accounting profitability, we have considered and used various specifications of this variable. Its inclusion never changes the results regarding the effect of disclosure quality on reputation. Moreover this variable, depending on its specification, is either not significant or significant with a negative sign. For these reasons we have decided to drop it from the analysis⁵.

The final choice is in line with previous studies on the effects of disclosure like, for example, Botosan and Plumlee (2002) and Gelb (2002).

Firm size, is measured as the market value of equity at the end of the fiscal year 2000 and 1999. These data have been obtained from the annual bulletin of the Madrid stock exchange. Because this variable is highly skewed and in line with previous literature we use its natural logarithm in our analysis (LNMVAL).

As a measure of market performance of the firm we use compounded abnormal returns (CAR), that is:

$$CAR_i^{year} = \prod_{i=1}^{12} (1 + AR_{i,t})$$

where CAR_i^{year} is the compounded abnormal returns on stock i for year 1999 or 2000, and $AR_{i,t}$ is the abnormal return on stock i for month t .

As a measure of normal returns we opted to use shareholders required returns in relation to the risk level of each individual company. We estimate the risk factors of each stock using the Market Model for the T months prior to the month t , that is

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_i$$

where:

R_{it} is the return on common stock i at time t ,

⁵ The results are available from the authors on request.

α_i is the intercept term in the regression equation,

β_i is the systematic risk of common stock i ,

R_{mt} is the equally weighted market return at time t ,

e_i is an error term

$$T = 60$$

The monthly abnormal returns for each asset are then calculated in that month t as follows:

$$AR_{i,t} = R_{i,t} - [R_{f,t} + \hat{\beta}_i(R_{m,t} - R_{f,t})]$$

where:

$AR_{i,t}$: Abnormal return on stock i for month t

$R_{i,t}$: Actual return on stock i for month t

$\hat{\beta}_i$: Coefficient of market risk factor for stock i estimated for the period $[t-T, t-1]$

$R_{m,t}$: Market return for month t

$R_{f,t}$: Risk-free interest rate⁶ for month t ,

The data have been obtained from daily bulletins of the Madrid stock exchange.

A security total risk comprises systematic risk, the risk associated with the whole market, and unsystematic risk, the risk peculiar to the specific firm to which the security relates. Total risk was estimated by the standard deviation of the monthly abnormal returns for each year (STDEV).

⁶ considered as the mean interest rate of the monthly repos on government bonds, published in the Bulletin of the Annotations Centre of the Bank of Spain

4. EMPIRICAL RESULTS

4.1. Univariate analysis

Table 1 presents the descriptive statistics of our independent variables.

TABLE 1. Summary Statistics. N=190

| Full Sample | | | | | | | |
|--------------------------------|----------|--------|--------|---------|---------|--------|--------|
| | TOT | IA | OI | LNMVAL | CAR | STDEV | |
| MEAN | 05860 | 0.6627 | 0.4756 | 13.1972 | 0.0308 | 0.0736 | |
| MEDIAN | 0.5800 | 0.6779 | 0.4634 | 13.1051 | 0.0217 | 0.0701 | |
| MAXIMUM | 0.9600 | 0.9830 | 0.9512 | 18.2089 | 0.8998 | 0.2957 | |
| MINIMUM | 0.2000 | 0.2203 | 0.0487 | 9.5243 | -1.0079 | 0.0053 | |
| STD.DEV | 0.1509 | 0.1496 | 0.1875 | 1.8113 | 0.2987 | 0.0371 | |
| n | 190 | 190 | 190 | 190 | 190 | 190 | |
| DMERCO=0 | | | | | | | |
| | TOT | IA | OI | LNMVAL | CAR | STDEV | |
| MEAN | 0.5575 | 0.6372 | 0.4429 | 12.6440 | 0.0579 | 0.0725 | |
| MEDIAN | 0.5600 | 0.6610 | 0.4390 | 12.8274 | 0.0599 | 0.0699 | |
| MAXIMUM | 0.8900 | 0.9491 | 0.9024 | 16.0830 | 0.8998 | 0.2957 | |
| MINIMUM | 0.2000 | 0.2203 | 0.0487 | 9.5243 | -0.9314 | 0.0053 | |
| STD.DEV | 0.1434 | 0.1469 | 0.1765 | 1.4313 | 0.2977 | 0.0353 | |
| <i>n</i> | 151 | 151 | 151 | 151 | 151 | 151 | |
| DMERCO=1 | | | | | | | |
| | TOT | IA | OI | LNMVAL | CAR | STDEV | |
| MEAN | 0.6961 | 0.7614 | 0.6022 | 15.3389 | -0.0738 | 0.0780 | |
| MEDIAN | 0.6800 | 0.7796 | 0.5609 | 14.8123 | -0.0286 | 0.0708 | |
| MAXIMUM | 0.9600 | 0.9830 | 0.9512 | 18.2089 | 0.5317 | 0.2942 | |
| MINIMUM | 0.4600 | 0.4915 | 0.2439 | 12.8132 | -1.0079 | 0.0147 | |
| STD.DEV | 0.1284 | 0.1159 | 0.1769 | 1.5191 | 0.2822 | 0.0434 | |
| <i>n</i> | 39 | 39 | 39 | 39 | 39 | 39 | |
| Mean and Median Equality tests | | | | | | | |
| Mean | <i>t</i> | 5.4908 | 4.8939 | 5.0234 | 10.3505 | 2.4901 | 0.8145 |
| | p-value | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0136 | 0.4164 |
| Median | Wilcoxon | 4.9827 | 4.6969 | 4.6413 | 7.7721 | 2.3974 | 0.5715 |
| | p-value | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0165 | 0.5676 |

TOT = index of annual report quality of disclosure. Total score divided by maximum score

IA = index of quality of disclosure of financial statements related information within the annual report. Total score divided by maximum score

OI = index of quality of disclosure of other information within the annual report. Total score divided by maximum score

LNVAL = natural logarithm of the market value at the 31st of December

CAR = compounded market adjusted returns

STDEV = standard deviation of the market adjusted returns

Mean equality test = single-factors, between-subjects ANOVA *t* test

Median equality test = Wilcoxon signed rank non parametric test.

We can appreciate that the mean of quality of disclosure is bigger for the Annual Information category than for the Other Information. We interpret this as evidence that firms give more importance to disclosure of information related to traditional aspects of the Annual Report than to more innovative aspects.

We divide the full sample into two groups: those companies that belong to the group of reputation "champions" and the other companies. As we can see the t and Wilcoxon tests reject the null hypothesis of mean and medians' equality for the quality of disclosure. Firms with a higher reputation have better quality disclosures, either in its annual or other information categories of disclosure.

We can also reject the null hypothesis of means and medians' equality for firm size. Firms with more reputation are bigger than firms with less reputation.

Table 2 presents Spearman and Pearson correlation coefficients between the independent variables.

Size is positively related to our quality of disclosure variables. As we are interested in determining the effect of disclosure quality on corporate reputation we will have to be very careful in trying to separate its effect from size effects. However, using the "Condition Index" we have rejected the hypothesis of serious multicollinearity between our independent variables. Moreover we have repeated our estimations using orthogonalised variables, obtaining very similar results.

We can also observe that compounded abnormal returns are negatively related to size, and to quality of disclosure.

Finally, risk is negatively related to abnormal returns.

4.2. *Multivariate análisis*

Our aim is to test whether there exists a relationship between corporate reputation and the quality of annual report disclosures and the direction of this relationship.

However we face a truncated sample problem, given that we have a numerical value for the reputation index only for those companies that are ranked within the first 50 reputation champions. In order to overcome this problem we run logit and tobit

regressions which allow us to use the full sample either in its dummy transformation (logit) or as a truncated sample (tobit).

TABLE 2.

**Panel A. Spearman Rank Correlation Coefficients
(p-values). n=190**

| | IA | OI | TOT | LNVAL | CAR | STDEV |
|-------|------------------------|-------------------------|------------------------|-------------------------|-----------------------|-------|
| IA | 1 | | | | | |
| OI | 0.6362 (0.0000) *** | 1 | | | | |
| TOT | 0.9031 (0.0000) *** | 0.8934 (0.0000) *** | 1 | | | |
| LNVAL | 0.4022 (0.0000) *** | 0.4177 (0.0000) *** | 0.4491 (0.0000) *** | 1 | | |
| CAR | -0.1198 (0.1070) | -0.2081 (0.0042) *** | -0.1831 (0.0118) ** | -0.2641 (0.0030) *** | 1 | |
| STDEV | -0.1422 (0.0410) ** | -0.0795 (0.2743) | -0.1327 (0.0681) * | 0.0165 (0.8211) | -0.224 (0.002) *** | 1 |

***P<0.01; **P<0.05; *P<0.10

**Panel B. Pearson Correlation Coefficients
(p-values). n=190**

| | IA | OI | TOT | LNVAL | CAR | STDEV |
|-------|------------------------|-------------------------|------------------------|-------------------------|-------------------------|-------|
| IA | 1 | | | | | |
| OI | 0.6695 (0.0000) *** | 1 | | | | |
| TOT | 0.9256 (0.0000) *** | 0.9008 (0.0000) *** | 1 | | | |
| LNVAL | 0.4509 (0.0000) *** | 0.4311 (0.0000) *** | 0.4832 (0.0000) *** | 1 | | |
| CAR | -0.1228 (0.0913) * | -0.2000 (0.0057) *** | -0.1737 (0.0165) ** | -0.2826 (0.0001) *** | 1 | |
| STDEV | -0.1244 (0.0873) * | -0.0147 (0.8408) | -0.0802 (0.2714) | 0.0225 (0.7581) | -0.3813 (0.0000) *** | 1 |

***P<0.01; **P<0.05; *P<0.10

4.2.1. Logit results

By using the logistic specification we estimate of the probability of being included among the fifty most admired companies.

Table 3 presents the estimates of the full logit model, with all the possible explanatory variables included.

TABLE 3. Logit regressions
Dependent variable: probability of being included in the 50 most admired Spanish Companies
p-value within brackets

| | PANEL A: TOT | | PANEL B: IA | | PANEL C: OI | | PANEL D: COMBINED | |
|------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|------------------------|-------------------------------------|
| Model | Full Model | Simplified model (big companies) | Full Model | Simplified model (big companies) | Full Model | Simplified model (big companies) | Full Model | Simplified model (big companies) |
| n | 190 | 95 | 190 | 95 | 190 | 95 | 190 | 95 |
| Constant | -21.8493 (0.0000)*** | -19.2972 (0.0000)*** | -21.5614 (0.0000)*** | -19.4112 (0.0000)*** | -21.0989 (0.0000)*** | -18.3107 (0.0000)*** | -6.0198 (0.0000)*** | -17.5067 (0.0000)*** |
| TOT | 4.8929 (0.0310)** | 6.1984 (0.0155)** | | | | | | |
| IA | | | 3.8818 (0.0878)* | 5.4189 (0.0336)** | | | | |
| OI | | | | | 3.3047 (0.0370)** | 3.6332 (0.0319)** | 2.1887 (0.0286)** | 4.0557 (0.0224)** |
| RESIA | | | | | | | 0.7560 (0.4496) | 3.6613 (0.2004) |
| LN MVAL | 1.2147 (0.0000)*** | 1.0177 (0.0004)*** | 1.2197 (0.0000)*** | 1.0319 (0.0003)*** | 1.2603 (0.0000)*** | 1.0890 (0.0001)*** | 5.3659 (0.0000)*** | 1.0176 (0.0004)*** |
| CAR | 0.1115 (0.9104) | | -0.0682 (0.9443) | | 0.2415 (0.8112) | | 0.1738 (0.8631) | |
| STDEV | 6.3135 (0.3508) | | 6.1897 (0.3577) | | 5.7167 (0.3937) | | 6.1873 (0.3607) | |
| LR test | 86.6254 (0.0000) | 37.8652 (0.0005) | 84.6402 (0.0000) | 36.0387 (0.0014) | 86.2093 (0.0000) | 36.1876 (0.0013) | 86.7878 (0.0000) | 37.8652 (0.0000) |
| Akaike criterion | 0.405 | 1.0016 | 0.6224 | 1.0208 | 0.06141 | 1.0192 | 0.6216 | 1.0226 |

***P<0.01; **P<0.05; *P<0.10

As we can see size is highly significant with a positive coefficient. Bigger firms are more likely to be included among reputation "champions". Moreover, quality of disclosure variables are also significant: total disclosure and other information quality at a 5% level and annual information at a 10%. Hence disclosure affects positively and significantly the probability of being ranked among the top 50 reputation champions.

However we still want to isolate the effect of quality of disclosure from the size effect, to demonstrate that the first variable has a positive and significant effect on corporate reputation over and above the size effect. To do that, we run the same model for a sub-sample of "big" firms. If we choose a sub-sample where size vary much less than in the full sample, then we can assume that its effect on corporate reputation is at least highly mitigated.

We take as "big" those companies located above the median and we take as "small" the others. Then we run the simplified logit model only for the "big" firms group.

We see that the significance of the quality of information variables increases (they are significant at less of 5% level), whereas the significance of LNMVAL is quite similar, but in a couple of cases decreases slightly. We interpret this as positive evidence in favour of the hypothesis that disclosure quality has a positive effect on reputation once we control for size.

Last two columns in Table 3 show the same full and simplified models, but now we introduce both annual and other information simultaneously (instead of grouping them in TOT or including them in separate regressions, as we have done before). In order to avoid the multicollinearity problem (IA and OI show a highly significant coefficient of correlation of more than 63%) we orthogonalise variable IA regressing it on OI; in this way, the variables that we include in our combined regression are OI and the residuals of the last regression (RESIA), apart from the rest of control variables. As we can observe, both variables show a clearly different behaviour, that is, while OI appears as positively and highly significantly (5%) related to the dependent variable, the coefficient of the orthogonalised variable, RESIA, although positive, is no significant. We can also observe, as before, that size has a big significance in determining the probability of being include among the 50 Spanish firms with more reputation, while firm performance and risk variables remain insignificant.

In last column, we present the results of the simplified model, in which we again include both variables OI and RESIA for a sub-sample of big firms. We can appreciate that the coefficient of OI (4.0557) increases considerably while the coefficient related to the size variable decreases dramatically. Annual Information category of disclosure appears again as no significantly related to the dependent variable.

4.2.2. Tobit results

As we have already remarked, we are dealing with a truncated sample because all the companies that do not reach one of the fifty top positions in the reputation scale are given the same score (i.e. 0). A standard estimation technique for truncated samples is the tobit model⁷. Given that our dependent variable in reality is not qualitative, the advantage of the tobit specification over the logit is that it can take into account the variation in the values of the dependent variable for those observations that are not truncated. The results of the tobit regressions are presented in Table 4.

TABLE 4. Tobit regressions
Dependent variable: index of reputation (Inmerco)
p-value within brackets

| | PANEL A:TOT | | PANEL B: IA | | PANEL C:OI | | PANEL D: COMBINED | |
|---------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | Full (n=190) | Big (n=95) | Full (n=190) | Big (n=95) | Full (n=190) | Big (n=95) | Full (n=190) | Big (n=95) |
| C | -2.9869 (0.0000)*** | -2.8435 (0.0000)*** | -3.0272 (0.0000)*** | -2.9241 (0.0000)*** | -2.9365 (0.0000)*** | -2.7926 (0.0000)*** | -8.2093 (0.0000)*** | -2.6181 (0.0000)*** |
| TOT | 0.5879 (0.0140)** | 0.7501 (0.0047)*** | | | | | | |
| IA | | | 0.5023 (0.0524)* | 0.7191 (0.0135)** | | | | |
| OI | | | | | 0.4008 (0.0188)** | 0.4512 (0.0135)** | 0.4394 (0.0129)** | 0.4851 (0.0081)*** |
| RESIA | | | | | | | 0.2420 (0.4217) | 0.4715 (0.1547) |
| LNVAL | 0.1718 (0.0000)*** | 0.1593 (0.0000)*** | 0.1755 (0.0000)*** | 0.1624 (0.0000)*** | 0.1798 (0.0000)*** | 0.1721 (0.0000)*** | 0.1733 (0.0000)*** | 0.1589 (0.0000)*** |
| STDEV | 0.7865 (0.3167) | | 0.8187 (0.3079) | | 0.7090 (0.3695) | | 0.7640 (0.3316) | |
| CAR | 0.0023 (0.9835) | | -0.0184 (0.8744) | | 0.0194 (0.8681) | | 0.0093 (0.9360) | |
| Adj. R ² | 0.70 | 0.64 | 0.70 | 0.63 | 0.70 | 0.64 | 0.70 | 0.64 |

***P<0.01; **P<0.05; *P<0.10

As usual size is always highly significant. However disclosure quality is also always significant with the positive sign. Moreover we can observe that when we break disclosure quality into its two components (IA y OI), the “Other Information” index appears to be more significant than the “Annual Information” index. These results confirm the logit results of the previous section. Moreover they show that better annual report disclosures not only increase the probability of being included in the selected

⁷ Cf. Greene (2002)

group of reputation champions, but also increase the *level* of reputation for those companies that are included among the reputation champions.

As we did for the logit regressions, we have repeated the analysis for the sub-sample of “big” firms and dropping non significant variables. Again the significance of the disclosure quality variables increases.

Last two columns in Table 4, show the results of the tobit model in which we have include simultaneously both categories of disclosure: Other Information (OI), and the part of the Annual Information unrelated to OI (RESIA). From these results, we can observe again the high significance of the positive sign of size and OI (with significance of 1% and 5% respectively), while the rest of variables appear as no significant. Finally, we repeat the analysis for a sub-sample of big firms, and again our results are confirmed: the positive sign of OI and its significance increase (now it is 1%), the coefficient of size decreases slightly and Annual Information disclosure remains insignificant.

5. INTERPRETATIONS AND CONCLUSIONS

Our aim was to check whether disclosure quality is a significant determinant of corporate reputation. To test this relationship we used a sample of Spanish firms that quote on the Madrid Stock exchange. For these companies we have access to a disclosure quality index and to the results of a survey on corporate reputation.

We have obtained two clear results.

First of all, according to our analysis, size is a crucial and positive determinant of corporate reputation. It is important to stress that we used a market variable as our measure of size. This is certainly a more visible measure of size than other possible candidates such as total assets. This measure of size can act as a proxy of many determinants of reputation. Media visibility, for example, is one of the possible determinants of reputation that has not been included in our analysis. Its effect can be captured by size if we believe that bigger companies are more likely to be the object of news and articles. If this is the case then our result shows that media visibility positively affects company reputation.

We should also remember how our dependent variable is obtained. As we described before it is an index based on the results of a questionnaire. Hence another possible explanation of our findings has to do with the possible “framing effects” that size can generate at the time of answering to the questionnaire. It could be claimed that managers when asked to nominate the most admirable companies are more likely to nominate “big” companies. If this was the case, then our result would have at least two implications. First of all it would tell us that market size can be used as a good proxy for survey based reputation rankings, when these rankings are not available. Secondly it would point us at least one possible limitation of these survey based reputation rankings, i.e. they may be biased by size generated framing effects.

However our main interest was the effect of annual report disclosure quality on corporate reputation. Our second clear result is that disclosure has a significantly positive effect on reputation. This result characterizes disclosure quality as a fundamental component of the strategic projection of a firm that tries to reach a dominant position in its market. In this sense it adds another item to the list of the empirically documented positive effects of increased disclosure quality and/or quantity.

Moreover when we break our disclosure quality measure into more conventional annual (accounting) information and other information, we find that it is the other information component that has the stronger effect. This result provides empirical support to the recent literature on the loss of relevance of traditional accounting information as an effective communication mean between companies and their stakeholders.

Given the size of our sample these results are clearly preliminary, but they show that the study of the reputational consequences of disclosure quality may be an interesting field for future research.

APPENDIX

Our key independent variable is a measure of the quality of the companies' annual report disclosures produced by a well known business magazine ("Actualidad Económica"). This measure is broken-down into two categories: Annual Information and Other Information, each covering a series of items of disclosure, which are described below.

The category "**Annual Information**", includes the following items:

The President's Letter: If it is signed during the first quarter of the year, it gets one point. The contents of the letter may be awarded up to 5 points if a clear definition of the company's strategy is outlined. (Scale: from 0 to 6 points).

Historical Data: 2 points if the main data for year $t-2$ of the profit and loss account and of the balance-sheet appear. 4 points if those for year $t-3$ are also included, and 6 if those for year $t-4$ appear as well. (Scale: from 0 to 6 points).

Basic Data: 8 points if a summary of the main data of the accounts, financial ratios and market ratios appear. Both the quantity and the quality of the data are evaluated. (Scale: From 0 to 8 points).

Analysis of results: Full analysis of the operations, mean total assets, quarterly results analysis of year t compared to year $t-1$ are given up to 6 points. If only data for year t are included, 4 points are given. (Scale: from 0 to 6 points).

The Management's Report: 6 points, if all legally required information is included: i.e., the evolution of the business and of the current situation of the company, events that occurred after the closing of the audit, the evolution of the company, its purchases of its own shares and R+D activities. The clarity and the quantity of the information is awarded up to 12 points. (From 0 to 12 points).

Order and Clarity: the clarity, conciseness and precision of the language are valued here, as well as whether the information follows a logical order. (From 0 to 3 points).

Design: The quality of the design and its graphics and pictures. (From 0 to 2 points).

Affiliates: Two points for information about the activity, home, participation, own funds and results of different affiliates. 4 points if the dividends received by the affiliates and their book-values are included. 6 points if the accounts are included. (From 0 to 6 points).

Segmental reporting: Break-down of the business by categories of activities and geographical markets. A complete analysis of the contribution to the overall results for each of these areas is rewarded with 4 points. (From 0 to 4 points).

The Audit: 4 points for audits without qualifications, 2 for those that contain qualifications and zero if the auditor indicates limitations or reserves his opinion. The cost of the audit is evaluated on a 2-point scale. (From 0 to 6 points).

The category **“Other Information”**, covers the following items:

Shareholders: 2 points if it gives information about the shareholders who hold more than 10% of the firm’s total stock. 4 points if the percentage of total capital is specified, and 6 if any additional information is included. (From 0 to 6 points).

Board of Directors: 2 points for information on the shares held by the board. 4 points if the participation of some of its members is also specified, and 6 if it is detailed. (From 0 to 6 points).

Directors’ Remuneration: If there is global information on the total remuneration 2 points are given. 4 points if there is a breakdown. 6 points if the breakdown of Directors’ remuneration is done nominally. (From 0 to 6 points).

Stock options plans: A description of the plans, beneficiaries, conditions, cost to the company and other characteristics. To achieve the maximum points, the options granted to their executives and directors must be broken-down by individual. (From 0 to 4 points).

Other Information: up to 4 points are granted to companies that offer excellent information on their true situation. The degree of concentration of sales and suppliers; their market-share; a market analysis; the volume of distribution

channels, or, information on either quality or environmental initiatives, are some of the items considered here. (From 0 to 4 points).

On-line Information: The inclusion of the annual report in the company's web page is evaluated on a two-point scale. If quarterly reports are also included it is added 2 more points. (From 0 to 4 points).

Good Policy Norms: A complete and detailed declaration of the firm's norms and policies. To achieve the maximum points, the company must explain to what degree it has managed to implement the recommendations included in the Spanish good governance ("Olivencia") Report. (From 0 to 5 points).

Evolution of the Market: 3 points if information is included on the evolution of the interest-rate, recruiting volume and days of trading. 4 if market ratios are included. 5 if the rate is compared to the general Stock Market index or the Ibex35, and 6 if it also includes the sector's index. (From 0 to 6 points).

The category **"Total Information"** is simply the sum of the other two categories.

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