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**DETERMINANTS OF ANALYST RATINGS
OF INFORMATION DISCLOSURE IN THE
ANNUAL REPORT OF BELGIAN COMPANIES**

by

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Abstract :

In Belgium, large companies are required to publish an annual report that accompanies the financial statements. The Company Law specifies the topics on which companies have to provide information in the annual report. However, some companies voluntarily disclose more information than what is required by law. The Belgian Association of Financial Analysts has attributed a score to the annual report of a sample of listed Belgian companies, that represents the quantity and quality of the information in the annual report. In this paper we use this rating to test whether there is a significant relation between disclosure and firm characteristics like size, listing status or financial leverage. Our results reinforce findings reported in the international literature.

Key Words : annual report, disclosure

JEL-classification : M41

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1. Introduction

In Belgium, large companies are required to publish an annual report that accompanies the financial statements. According to the Belgian Company Law (art. 77) this annual report must contain a comment on the financial statements and information on research and development activities, on important events that have occurred after the end of the reported period and on any major events that might have a considerable impact on the evolution of the company, as far as the disclosure of this information is unlikely to seriously harm the company. The annual report should also give information on capital increases and the purchase of own shares if they occurred. (Jorissen and Block, 1995)

In practice, companies deal with these disclosure requirements in different ways. Some companies restrict the contents of the annual report to what is required by law, while others voluntarily disclose additional information over and above mandatory disclosure which means they give more details than strictly necessary and/or provide information on other topics. It is clear that this disclosure of information is not free of costs. If not for the direct cost of publication, the public release of private information causes reactions by competitors, shareholders, creditors and other interested parties, that may reduce the company's future profits or cash flows. On the other hand, information disclosure also holds potential benefits as these reactions may also raise the company's future profits or cash flows.

The interest for disclosure in general and voluntary disclosure in particular as a topic for accounting research first started in the 1960's and has been increasing over the 1990's with the growing need for accounting harmonisation and the (international) competitiveness of the capital markets. In the next section we present a brief review of the existing literature on (voluntary) disclosure research in accounting. Section three reports the results of our own research on the quality of information disclosure in the annual report. Inspired by international studies, we try to find which companies provide the most or the best information based on a screening of annual reports by the Belgian Association of Financial Analysts. Finally, we compare our results to what is found in the literature and sum up the main conclusions of our analysis.

2. Disclosure in the accounting literature

Empirical research on disclosure of accounting information is situated in two major areas. The first tries to explain disclosure by linking certain company characteristics to the extent of information disclosure, while the second studies the consequences of the disclosure decision by using the extent of disclosure as an explanatory variable for capital market reactions. In this paper we focus on the first category given that the aim of our research is to find which firms provide the best information. The research hypotheses that try to explain the extent to which a company (voluntarily) discloses information in the annual report, are usually based on a cost/benefit analysis of disclosure. Hence, we start our literature review with the possible costs and benefits of disclosure. Next, we look at explanatory variables for disclosure that are suggested in the literature and the methodological problems that arise with the measurement of disclosure.

2.1. Costs and benefits of disclosure

Costs and benefits of disclosure are different for each company, which makes it impossible to design an exhaustive list. However, Elliott and Jacobson (1994) tried to categorise the main costs and benefits of disclosure. First, disclosure influences the cost of capital, which is the risk free rate of return plus a risk premium. This risk premium contains a compensation for the lack of information or uncertainty by the investors. As disclosure reduces this uncertainty, the risk premium and thus the cost of capital decreases as disclosure increases. Second, disclosure can cause a competitive advantage or disadvantage as it gives (potential) competitors information on their position in the market or on the weaknesses and strengths of the company. Of course, the competitive effect of disclosure depends on the nature of the information and on the timing of disclosure. Third, there is the direct cost of collecting, processing, presenting and distributing the information. Finally Elliott and Jacobson mention the public opinion and litigation costs as possible effects of disclosure. (Elliott and Jacobson, 1994)

Gray and Roberts (1989) and Gray, Radebaugh and Roberts (1990) carried out a survey on the perception of costs and benefits of voluntary disclosure by managers of British and American multinationals. They found that voluntary disclosure is mostly evaluated as a net cost and that the competitive disadvantage is the most important factor. Especially the disclosure of adjustments for inflation, quantitative forecasts and detailed segmental reporting cause costs. According to British managers reputation and the company's image are the most important

benefits of disclosure, followed by better investment decisions on the capital markets. (Gray and Roberts, 1989 and Gray, Radebaugh and Roberts, 1990)

2.2. Explanatory variables for the extent of disclosure

In this paper we try to explain the extent of voluntary disclosure in the annual report of listed companies in Belgium using explanatory variables for which the data are publicly available. The research in this field was initiated in the United States by Cerf (1961), Singhvi and Desai (1971) and Buzby (1975). Comparable studies were later published for e.g. Mexico (Chow and Wong-Boren, 1987), Sweden (Cooke, 1989), Japan (Cooke, 1991) and Switzerland (Raffournier, 1995) as well as some international comparisons e.g. of the United States, the United Kingdom and Continental Europe (Meek, Roberts and Gray, 1995).

Although every research starts from the specific background of the countries or the type of companies that are studied, a number of explanatory variables are frequently included in the analysis. First, the size of the company seems to have an important influence on the extent of disclosure. Size is usually measured by turnover. It is, however, not always clear what size really proxies. Larger companies may in fact have a larger market share or be more diversified which makes them more resistant to competition or they may receive more public attention, which makes image more important. Second, listed companies seem to disclose more information than non-listed companies. Moreover, multiple-listed or internationally listed companies tend to disclose more than companies that are only listed on a local stock-market. The choice of the listing status as an explanatory variable is mostly based on the need for external capital, the sensitivity to uncertainty of shareholders and agency theory. A third variable that is often included in the analysis, is financial leverage. However, from the empirical results it is not clear whether leverage has a positive or a negative impact on the extent of disclosure. Arguments can be found in favour of both relations. A highly leveraged firm should have more difficulties in attracting new creditors and has a responsibility towards existing debtholders. If this is true, than a more leveraged firm would disclose more information. On the other hand, it can be argued that between a firm and its debtholders it is possible to share private information that is not published in the annual report. Following this argument, a more leveraged firm would publish less information in its annual report. Fourth, industrial companies tend to disclose more information than commercial companies, especially in the field of social or environmental responsibility. Fifth, in international studies it shows that a company's country of origin influences the extent of disclosure. This means that the results of local research cannot necessarily be generalised towards other countries and that research into the disclosing behaviour

of firms in one specific country is indeed valuable. Finally, some variables that are often included in the studies but so far have not shown to have a significant effect on disclosure are profitability, auditor size and the importance of international activities.

The choice of the explanatory variables we include in our own research, as reported in section three, is based on the results of formerly published studies. This way, we want to check whether data on Belgian firms confirm the results obtained in other countries.

2.3. Measuring the extent of disclosure : some methodological issues

The relation between the extent of disclosure and the company characteristics described above, is usually tested in a multivariate regression analysis. Therefore it is necessary to construct a measure for the extent of disclosure that can be used as a dependent variable. In most studies the focus is on voluntary disclosure of additional information, over and above mandatory disclosure. The topics on which companies can disclose information are very diversified. Moreover, some firms only provide superficial information, while others give very specific details. An additional problem is that a lot of the information is not quantitative but merely a description of a situation or a picture. Most researchers construct a 'disclosure-index' that reflects the extent to which the items of a 'disclosure-list' are included in the annual report of a certain company. This 'disclosure-list' is simply a list of possible disclosure items, as exhaustive as possible, that results from an inventory of all annual reports included in the study, from what the researcher expects to find in an annual report and from the experiences with former research. A company that includes all items of the list in its annual report, would receive a maximum score. The actual score of a company is then related to this maximum score, to finally arrive at the disclosure-index. Most researchers use an unweighted index, which means that every information item receives equal importance. To the critical reader, it may have become clear that the measurement of disclosure is usually the weakest point in the analysis. There is inevitably some subjectivity in the composition of the disclosure-list and in the scoring of the annual report. In our study, we will deal with this problem by using a score that was attributed to the annual report by the members of the Belgian Association of Financial Analysts. This way we avoid the subjectivity inherent in using a scoring method that was constructed in function of the research and rely on an external measure of disclosure.

3. Disclosure in the annual report of Belgian Companies

When we put the results of former empirical research together, it seems that the extent of disclosure in the annual report mainly depends on company size and listing status. The relation between leverage and disclosure tends to be negative although until now the estimation results were not significant. The difference between industrial and commercial companies is especially relevant for information on social or environmental responsibility. The purpose of our research is to test whether we find confirmation or rejection of these results for Belgian companies, given that the country of origin also has a significant explanatory power for disclosure.

As stated in the introduction, the Belgian Company Law requires large companies to publish an annual report that contains a comment on the financial statements, information on research and development activities, on important events after balance sheet date and on any events that could have an important influence on the evolution of the company as far as the disclosure of this information does not seriously harm the company. Further, the company must report on the purchase of own shares and on capital increases if they occurred. Apart from these mandatory disclosure items, the study of the annual reports also includes voluntary disclosure of additional information and representational aspects, like the inclusion of a table with core figures. The disclosure score, that is based on the opinion of the members of the Belgian Association of Financial Analysts, is linked to company size, turnover of the company's shares on the Brussels stock-market and financial leverage. The data do not allow us to separately analyse information on the social or environmental responsibility of the company. Therefore we do not make a difference between industrial and commercial companies.

3.1. Construction of the disclosure index

The disclosure index we use as the dependent variable in our study, is based on a screening by the Belgian Association of Financial Analysts of the annual report over 1996 of 40 listed Belgian companies. We exclude investment companies, insurance companies and banks, because they publish financial statements that are not comparable to those of industrial or commercial companies. This leaves us with a sample of 21 industrial or commercial companies. The names of the companies included in the sample and their disclosure scores are listed in table 1. The purpose of the screening by the Belgian Association of Financial Analysts is the rewarding of the company that provides the best financial information in its annual report. The score that is attributed to a company is therefore not only based on the quantity of the information, but also on the quality. Indeed, 'more' information is not necessarily 'better' as it may reduce the

readability or accessibility of the annual report. (Schroeder and Gibson, 1992) For example, the inclusion of graphs that give more insight into the evolution of an accounting figure or a summary report with some core figures increase the score although they do not necessarily add 'new' information to the annual report. Moreover, the time that is needed for the reader to find the information is taken into account. This is in contrast to international studies where the disclosure indices usually focus on the quantity of information.

Table 1 : Disclosure scores

<i>Company</i>	<i>Disclosure Score</i>
Cockerill Sambre	147
Petrofina	128
Solvay	120
Delhaize	119
Tractebel	129
UCB	114
D'Ieteren	101
CBR	93
Quick	104
Glaverbel	98
Recticel	113
GIB Group	105
Colruyt	99
Bekaert	83
Sipef	72
Union Minière	105
Electrabel	101
CMB	62
Tessenderlo	58
Ter Beke	60
Spector	39

Important advantages of using a disclosure index that is based on a screening by financial analysts are the expertise and the objectivity in the procedure. The special committee of the Belgian Association of Financial Analysts that is concerned with the award for the best financial information over the years has built a great expertise in designing a scoring sheet that leads to a

score that reflects the quality of information as well as possible. Furthermore, the screening is not restricted to the opinion of one researcher, but was carried out by 22 financial analysts, which increases the objectivity of the final score.

The annual reports were subject to seven tests. First, the accessibility of the report was tested by checking whether the reader could find 10 specific items (e.g. net profit per share, equity...) within two minutes time. The next five tests focus on the contents of the report. It was checked whether the report contained information on activities and products, strategic and competitive position, segmental data (both per industry line and per geographical area), forecasts and a detailed comment on reported accounting figures. The scoring sheet allowed to make a difference between superficial and detailed information by giving more or less points for a certain item. The seventh test concerns presentational aspects, like the inclusion of a table of contents or the availability of the annual report through different media, like Internet.

The disclosure score that results from these tests is the unweighted sum of the scores on the individual items. This score ranges from -120 to 180. The dependent variable in our analysis is a disclosure index which is the disclosure score divided by 300.

3.2. Choice and definition of the explanatory variables

Based on the results of international research, we include company size, listing status and financial leverage as explanatory variables for the extent and quality of information disclosure in the annual report. As a proxy for company size, we use total turnover. Turnover is often used because it is a figure that is immediately available and that is less sensitive to distortion than, e.g. total assets. The companies in our analysis are all members of groups and are often themselves the mothercompany in a group of firms. Most of the time, the annual report that was screened, contained information not only about the mothercompany, but also about subsidiaries. Therefore we take the turnover figure from the consolidated accounts.

All companies in the sample are listed on the Brussels stock-exchange. However, there are companies of which the shares are traded more frequently than others. It can be argued that these companies are more closely followed by investors and that they are more sensitive to investment decisions on the capital markets. Therefore especially these companies could benefit from the effect of information disclosure on the cost of capital. As a measure for the trading frequency, we use the average daily trading volume of the company's shares on the Brussels stock-exchange.

As we explained in the literature review in section two, most researchers expect to find a relation, either positive or negative, between the leverage of the firm and the extent of disclosure in the annual report. We feel that Belgian firms are rather reluctant in publishing information in general. Therefore we are more inclined to support the theoretical argument that a highly leveraged firm uses the possibility to exchange information with its creditors in a more confidential way rather than publishing the information in the annual report. In our analysis we define leverage as total debt divided by total assets. Again, we take these figures from the consolidated accounts.

This choice of explanatory variables leads to the following specification to be tested in a cross-sectional multivariate regression analysis :

$$\text{INDEX}_i = \alpha_i + \beta_{1i} * \text{SIZE} + \beta_{2i} * \text{VOLUME} + \beta_{3i} * \text{LEV} + \varepsilon_i \quad (1)$$

with	INDEX	disclosure index
	SIZE	total turnover * 10 ⁻¹⁰
	VOLUME	average daily trading volume * 10 ⁻⁴
	LEV	total debt / total assets

The dependent variable is an index. For reasons of readability we divide turnover by 10¹⁰ and the average daily trading volume by 10⁴. This adjustment does not influence the significance of the results.

3.3. Discussion of empirical results

The coefficients in equation (1) are estimated using Ordinary Least Squares (OLS). The results are summarised in table 2. It immediately becomes clear that our results support the conclusions of international research. There is a significant positive relationship between the extent of disclosure and both the company size and the average trading volume. The relation between disclosure and the leverage of the firm is negative as we expected, but this result is not significant. The constant term is significantly positive. This probably reflects the extent of mandatory disclosure in the annual report. Regardless of company characteristics, the company must always publish an annual report that meets minimum disclosure requirements. The companies in our sample are all listed firms. In the literature it is suggested that listed firms tend to disclose more information than non-listed firms. The scoring procedure leads to a disclosure score between -120 and 180. For the companies in our sample the minimum and maximum

scores are 39 and 149 respectively. Unfortunately, the available data do not allow us to compare these scores to unlisted companies, but this may also explain why the constant term is relatively high.

Table 2 : Estimation Results

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	0.353137	0.073253	4.820780	0.0002
SIZE	0.003011	0.000710	4.241089	0.0006
VOLUME	0.005653	0.001075	5.260955	0.0001
LEV	-0.149789	0.131796	-1.136526	0.2715
R-squared	0.549624	Mean dependent var		0.325397
Adjusted R-squared	0.470146	S.D. dependent var		0.089954
S.E. of regression	0.065478	F-statistic		6.915425
Log likelihood	29.66786	Prob(F-statistic)		0.003011

Although size and trading volume have a positive impact on disclosure, they cannot completely explain the extent of disclosure in the annual report of a company. This is indicated by the (adjusted) R-squared. A common problem with the inclusion of extra explanatory variables in disclosure research is the increased possibility of multicollinearity. Because the variable 'size' probably captures several firm characteristics, it can be expected that other variables are likely to be correlated with size. Table 3 presents the correlation coefficients between the explanatory variables in our analysis. There is some positive correlation between size and average trading volume, but this does not cause a problem. The estimation results do not show the common consequences of multicollinearity. In a univariate regression both size and trading volume are significant and they keep their significance in the multivariate regression.

Table 3 : Correlation between explanatory variables

	SIZE	VOLUME	LEV
SIZE	1	0,39	0,13
VOLUME		1	0,12
LEV			1

Further research into the disclosure behaviour of companies, should probably include other explanations than accounting figures or capital market data. As we mentioned in the literature review in section two, surveys concerning the costs and benefits of disclosure showed that the possible competitive disadvantage is the most important cost factor that influences the disclosure decision. However, in research that relies on publicly available data alone, it is very difficult if not impossible to include this competitive effect as an explanatory variable. Some of the competitive power of the company is probably reflected in its turnover, which is used to measure size, but turnover is not a proxy for competitive power alone. This means that we have to be careful with the interpretation of the positive relation between disclosure and size. It is obvious that a company with a higher turnover tends to disclose more, but it is not clear what size or turnover really proxies. Most probably it is a measure that reflects a lot of company characteristics. It would be interesting to extract these characteristics and use separate measures for e.g. competitive (dis)advantage, diversification etc. This is only possible if the researcher has access to internal information about the company.

4. Conclusion

In this paper we showed that the results of international research into the explanation of the extent of disclosure in the annual report also hold for Belgian companies. There is a positive relation between disclosure and the size of the company. Larger companies would be more resistant to competition and receive more public attention, which means that they suffer less costs and enjoy more benefits from disclosure than small firms. Companies of which the shares are more frequently traded on the stock-market also disclose more information. They are probably more sensitive to investors' uncertainty and investment decisions on the capital market. No proof could be found for any relation between the financial leverage of the firm and disclosure.

Our research is entirely based on publicly available data. The extent of disclosure was measured using a disclosure score attributed to the annual report of the company by the Belgian Association of Financial Analysts. The data for the explanatory variables can be found in the financial statements or the financial press. It would be interesting to extend the current research with internal information on the competitive position of the firm, its relation to shareholders and creditors etc. since they seem to be the most important factors in determining the costs and benefits of disclosure for a firm.

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