

AN EMPIRICAL ANALYSIS OF VOLUNTARY DISCLOSURE OF SALES BY SMALL AND MEDIUM SIZED ENTERPRISES

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Abstract

In Europe, small and medium sized enterprises (SMEs) are allowed to publish their financial statements in an abridged format, rather than a full format which applies to large firms. One of the main characteristics of this abridged format is that disclosure of sales is non obligatory. It is left entirely to the decision of the firm.

In this paper we use a sample of 22 000 Belgian SMEs to determine which firms are more likely to disclose sales. A LOGIT model is used to test the relationship between firm characteristics like profitability, competitive environment or financial position and disclosure. Our findings suggest that especially for very small SMEs such a relation can indeed be found. Depending on profitability, the nature of the firm's activity and its location, different relations can be identified.

In the second part of the research, we focus on voluntary disclosure of sales in the first year of operation. We relate this first disclosure decision to the percentage of disclosing firms in the sector to see whether new firms tend to follow what is 'common practice' in the market they enter. Finally, we look at disclosure at the sector level. In a linear regression model we study the relation between the percentage of disclosing firms and sector characteristics.

This paper contributes to the empirical voluntary disclosure literature in two ways. First, we clearly focus on SMEs whereas empirical accounting research usually studies large, often listed firms. Second, we believe it is important to know how SMEs react to the possibility *not* to disclose sales as this may be an indication of how they react to disclosure requirements in general. This information will definitely be useful for future accounting and disclosure legislation.

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I. Introduction

In most countries of the European Union, Small and Medium Sized Enterprises (SMEs), like large firms, are required to publish financial statements. However, they are allowed to use an abridged format¹. An interesting characteristic of the abridged profit and loss account is that certain items may be aggregated into a ‘gross margin’ or ‘gross result’. This means that SMEs, in contrast to large firms, have no obligation to publish their sales figure. Only the difference between ‘sales’ and ‘the cost of raw materials, consumables, goods for resale and services and other goods’ has to be disclosed. The SME has the possibility, however, to voluntarily disclose sales separately.

In this paper we try to determine which firms are more likely to disclose sales², using other accounting data that are available in the abridged format of the financial statements. Our research should therefore be situated in the wide area of empirical voluntary disclosure research. In this type of research the extent of voluntary disclosure in the annual report of large, often listed firms is measured through a disclosure score or index, calculated by the researchers, and used as the dependent variable in a linear regression analysis. The explanatory variables are proxies for firm characteristics like size, listing status, leverage or type of activity. It is found for example that larger, multiple-listed firms disclose more information and that industrial firms are more likely to disclose information concerning social or environmental responsibility. Examples are Chow and Wong-Boren (1987) for Mexico, Cooke (1989) for Sweden, Cooke (1991) for Japan, Raffournier (1995) for Switzerland and Meek, Roberts and Gray (1995) for U.S., U.K. and Continental European Multinational Corporations.

Our focus on SMEs implies two major contributions to the voluntary disclosure literature. First, the voluntary disclosure literature focuses on large firms, while relatively little empirical accounting research has been carried out for small companies. Although some normative literature exists on accounting for small firms, the actual accounting or disclosure practice of SMEs is not often the topic of research. Nevertheless, SMEs make a very important contribution to our economy. In Belgium today over 97% of the total number of companies have less than 50 employees. Together they provide more than 40% of total employment.

¹ An enterprise qualifies for the right to present the financial statements in the abridged format if it does not exceed more than one of the following criteria :

- number of employees 50
- sales 6 250 000 EUR
- balance sheet total 3 125 000 EUR

An enterprise with more than 100 employees must always present the financial statements in the full format.

² This paper is written from a ‘sales’ point of view. However, the same analysis applies to the ‘cost of raw materials, consumables, goods for resale and services and other goods’ as this variable can easily be derived from the ‘gross margin’ if ‘sales’ are disclosed.

Second, voluntary disclosure of sales can be used as a test for the willingness of SMEs to disclose information and to adopt new disclosure regulation in the future. Moreover, the choice to limit the research to one single information item in the financial statements, the sales figure, also implies an important methodological advantage. Disclosure or non disclosure of sales in the profit and loss account, can easily be observed. There is no need to measure (narrative) disclosure through a disclosure score or index which allows us to avoid the problem of subjectivity in the data collection process or in weighing different disclosure items (see e.g. Marston and Shrives, 1991).

The remainder of this paper is organized as follows. In section II we describe the theoretical background on which the LOGIT model, presented and estimated in section III, is built. The potential influence of the firm's size, industry, location and profitability on the estimation results, is investigated in section IV. In section V we focus on newly established firms that do or do not disclose sales in their first year of operation. Section VI looks at voluntary disclosure of sales at the sector level. We relate the percentage of disclosing firms to sector characteristics in a linear regression model. Finally, we sum up the major conclusions of our research.

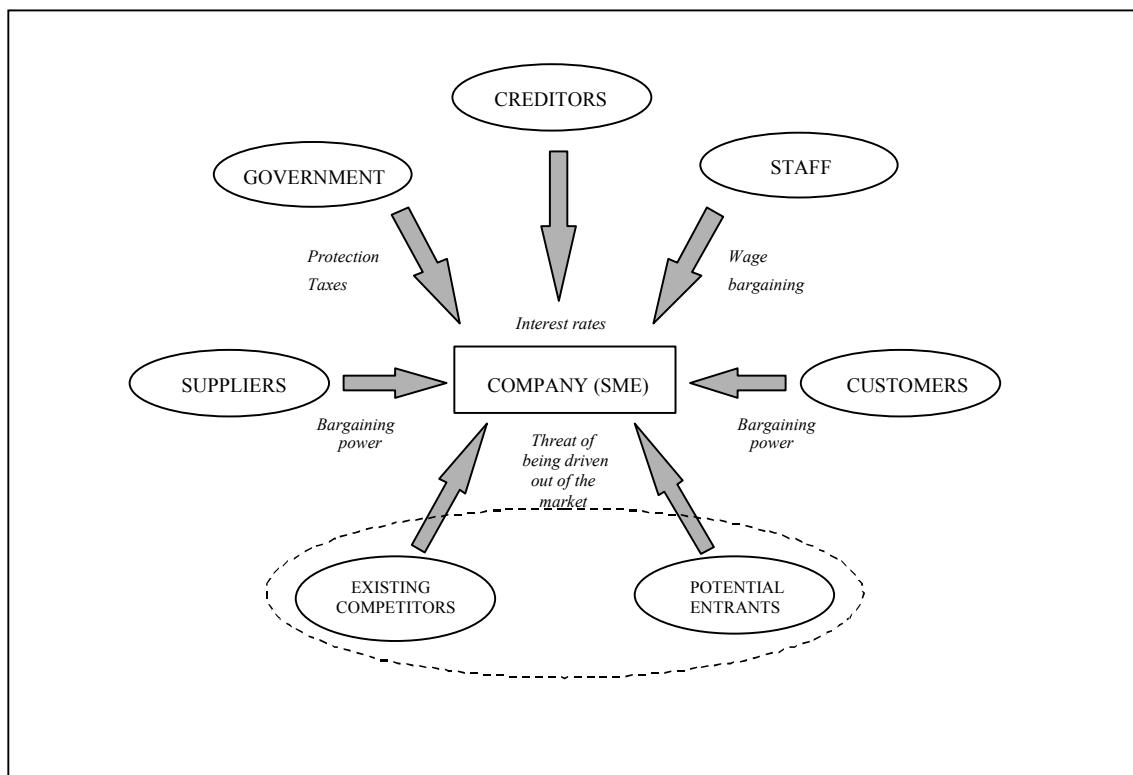
II. Theoretical background : the firm and its environment

The design of the model is inspired by earlier analytical research (Van de Wiele and Vandebussche, 1999 and Van de Wiele, 2001) and suggestions from the voluntary disclosure literature that apply to large firms (Chow and Wong-Boren (1987), Cooke (1989 and 1991), Raffournier (1995), Meek, Roberts and Gray (1995) and Tauringana (1996)).

The optimal disclosure decision of a firm depends on the reaction this decision would elicit from the firm's environment. In figure 1, which is inspired by the way Michael E. Porter modeled the state of competition in an industry (Porter, 1980), we show that an SME is influenced by the government, competitors, staff, creditors, suppliers and customers. The government may watch the SME not only for tax purposes, but also in an attempt to protect it from unexpected business failure by following up the performance of all SMEs that publish financial statements and by checking a few variables that are regarded as 'flashlights' indicating an increased risk of failure. Existing competitors use the information provided in the financial statements, especially 'sales' if they are available, to set their own quantities and/or prices. Potential entrants may observe the financial statements of the firms that are already in the market to optimize their entry decision. Again, 'sales', if it is reported, will receive special attention. The firm's staff may be interested in the sales figure, together with the gross margin and profit, to find out whether there are

opportunities for wage bargaining and whether the firm can continue to provide employment in the near future. Most SMEs are financed by two types of creditors. First, there are creditors to whom the SME privately communicates all necessary information, for example financial institutions, and second, there are creditors who rely on the published financial statements as their primary source of information, like suppliers. Suppliers can evaluate the SME's creditworthiness using financial statement information. This may have an impact on the prices and/or payment conditions set by suppliers. Especially if a firm depends on only a few customers, financial statement information can be used by customers to estimate their bargaining power. If the total sales figure of the SME is disclosed, customers can assess their importance to the SME and use this information for example in price negotiations.

Figure 1 : The SME and its environment



III. A cross-sectional analysis of voluntary disclosure of sales

The potential influence of the SME's environment on the disclosure decision is tested empirically using a sample of 22 000 Belgian SMEs (approximately 10% of the population). The dependent variable is dichotomous : disclosure versus non-disclosure. Therefore we use a LOGIT model to

determine which SMEs are more likely to disclose sales. The explanatory variables are company characteristics that proxy the position of the SME in relation to its environment.

A. Sample selection and data collection

The published financial statements for all SMEs that fall within the scope of the Accounting Law of 1975 are collected by the National Bank of Belgium. They are available on CD-ROM from both the National Bank and the electronic publishing company ‘Bureau Van Dijk’. The selection procedure and analysis tools that are included in the Bureau Van Dijk software are more extensive, therefore we opted for the Belfirst (FInancial Reports and STatistics on BELgian and Luxembourg companies) CD-ROM, update January 2000, as our data source.

The population for our research consists of all firms that have published financial statements in the abridged format over the years 1994 to 1997 and that operate in non-financial sectors. We exclude firms with a major financial activity (Nace-bel code³ 65, 66 and 67) because the profit and loss account for this type of firm has a different structure and cannot be compared to that of industrial or commercial firms. Although our analysis is mainly cross-sectional, we limit the research in this section to SMEs for which financial statements have been published over four consecutive years. The disclosure decision for newly established is studied in section V. There are 221 385 firms in the population. To avoid the risk that the sample may be biased because it contains more relatively small SMEs or more firms that are located in a certain province or operate within a certain industry, we have made sure that the proportions regarding size (3 categories measured by the number of staff), industry (13 types of activities represented by NACE-bel code) and location (10 provinces and Brussels Capital Region) as they appear in the population are respected in the sample. Based on size, industry and location, we designed a ‘three-dimensional matrix’ that lists the proportion of each section in the population so that we know which percentage of all Belgian SMEs are e.g. manufacturers of food and beverages with more than five employees and located in Antwerp. These percentages were then applied to 22 000 (a little less than 10% of the population of 221 385 firms) to arrive at the number of firms that have to be selected in each section. Selection within each section was random.

B. The dependent variable

The dependent variable is binary : 1 for disclosure and 0 for non-disclosure of sales in the accounting year 1997. In the logit model the dependent variable is transformed into the log of the odds in favor of disclosure.

³ The NACE-bel code is comparable to the SIC-code that is used in the United States.

1997 is not the most recent year for which data were available at the time the sample was selected. However, experience with working with financial statement information published on CD-ROM has learned that the figures that are provided for the most recent year (this would have been 1998) are often incomplete. To restrict the problem of missing values to a minimum, we opted for the next recent year, 1997. In this cross-sectional analysis, the observations are limited to one accounting year. The definition of the dependent variable is not influenced by disclosure or non-disclosure in previous years.

C. The independent variables

Table 1 lists the independent variables that are included in the analysis. In the previous section it was shown that the SME's environment creates several potential effects of voluntary disclosure. Although it is impossible to perfectly measure these effects of disclosure empirically, we have tried to translate their relative importance into a few characteristics that can be derived from the published financial statements.

The competitive environment is proxied by the importance of SMEs versus large firms within an industry. We relate the value added that is produced by SMEs to the total value added (INDSTRUCT). If this percentage is relatively high, then competition comes mainly from other SMEs while a relatively low percentage indicates that the competitors are mainly large firms. The industries are identified by the NACE-bel code on a two-digit level. This means that the classification used here is more precise than the classification that was used to select the sample, with 57 different industries versus 13. The competitive position of a firm within an industry is also influenced by its financial position and profitability. A financially weak firm will probably find it more difficult to fight competition due to a lack of financial resources or a firm with low profitability may have less possibilities for price bargaining. We therefore chose to include standard measures of liquidity, solvency and profitability represented by respectively the acid test (ACID), equity over total assets (LEV) and net return on total assets (NRTA). A firm that scores higher on each of these measures is assumed to be financially (and competitively) stronger⁴.

The potential impact of creditors on the disclosure decision can be proxied by the relative importance of different types of debts in the firm's financial structure. Creditors that probably rely on the published financial statements as their primary or only source of information are

⁴ Another option would have been to use relative performance measures in which the average performance in the industry is used as a benchmark to assess the performance of the individual firm. We have tested the use of these relative measures, but we have chosen not to report the results here for two reasons. First, the correlations between the independent variables are much stronger for relative than for absolute measures. This implies that less variables can be included in the model. Second, the results do not show a significantly better explanation of the likelihood of observing disclosure if relative measures are used.

suppliers. We therefore look at the amount of short term trade debts related to total short term debts (SUPP). On the other hand, financial institutions that grant short term loans to the firm usually require access to private financial information to negotiate the terms and conditions of the loan. If this type of debt is more important, this implies that the creditors' reaction to the disclosure decision is less important so we include the amount of short term debts to financial institutions related to total short term debts in the analysis (FIN). The same applies to secured debts. Here the information in the published financial statements is again less important. The explanatory variable is defined as the amount of secured debts related to total short and long term debts (SECDEBT). Of course, equity over total assets (LEV) which was included to assess the financial strength of the firm can also be taken into account here as a measure of the importance of external creditors in general.

Table 1 : Definition of independent variables

Variable	Definition
DISC96	disclosure (1) or non-disclosure (0) in the previous accounting year
TAXDEBT	expired tax and social security debts / total debts (%)
SELFDUM	dummy variable indicating a positive (0) or a negative (1) self financing ratio (accumulated profits or losses + reserves) / total assets
TAXRATE	taxes / profit before taxes (%)
ACID	acid ratio (X)
LEV	equity / total assets (%)
NRTA	(profit before taxes + financial costs) / total assets (%)
DIFF	the absolute difference between the ratios (profit before taxes + financial costs + wages paid) / total assets and NRTA (%)
LABOR	wages paid / value added (%)
SUPP	short term trade debts / total short term debts (%)
FIN	short term debts to financial institutions / total short term debts (%)
SECDEBT	secured debts / total short and long term debts (%)
OWNER	percentage of shares owned by another company (%)
INDSTRUCT	industry value added provided by SMEs / total industry value added (%)
ASSETS	total assets (BEF)
STAFFAV	average number of staff in full time equivalents
AGE	number of years of operation between the year of establishment and 1997

Unfortunately, we have no firm level data on the number of customers or the share of the major customer in the total sales figure. Therefore, it is very difficult if not impossible to measure or

proxy the customer effect of disclosure. The customer effect of disclosure should be interpreted as the threat of aggressive price bargaining by the firm's major customer. We did not include a specific variable to represent the customer effect of disclosure in the empirical model. However, the general measures of the firm's financial position, ACID, LEV and NRTA, may indicate whether the firm finds itself in a 'comfortable position' or not to face potential price bargaining.

Total assets (ASSETS) and the average number of staff (STAFFAV) are included as measures of the size of the firm. From the empirical voluntary disclosure literature we learn that size is usually an important significant explanatory variable for voluntary disclosure in the annual report (see e.g. Chow and Wong-Boren, 1987, Cooke, 1989 or Raffournier, 1995)⁵. A variable that may be related to size is the number of years the firm has been in operation (AGE). Recently established firms are managed differently compared to firms that have been in operation for several years.

Employees may also have an impact on the disclosure decision. The profit figure in the published financial statements is the basis for the profit on which taxes are imposed. Even if taxes do not depend on the disclosed sales figure there may be an indirect effect of taxes on the disclosure decision. We therefore take the effective tax rate, that is the amount of taxes divided by the profit before taxes, into account (TAXRATE). The government also watches the financial performance of SMEs in order to detect firms that suffer serious financial problems. Not paying tax debts is regarded as a final attempt to bridge a period of financial distress, often without success. Therefore, companies that have a relatively high amount of expired tax debts are more likely to be watched not only by the government but by all external parties because they signal financial weakness. The variable we included is defined as expired tax and social security debts over total debts (TAXDEBT). Another ratio that may be interpreted as a flashlight indicating that the firm may be in financial distress is the self financing ratio. To stress the unfavorable signal that is sent by a negative self financing ratio we created a dummy variable (SELFDUM) that indicates whether the ratio is positive (0) or negative (1). As for the impact of employees on the disclosure decision, it is again very difficult to define a variable that proxies this effect⁶. Two variables are tested. First, we look at the difference between net return on total assets and a profitability measure that does not take wages paid into account (DIFF). This way we see how much profitability the firm 'loses' to its employees. In other words, how much 'pressure' do wages put on the SME's profitability ? Second, we use the ratio wages paid over value added

⁵ To avoid the risk of multicollinearity, only one size variable will be included in the same estimation process.

⁶ It was suggested to include the extent of wage bargaining or unionization in the sector to proxy the impact of staff on the disclosure decision. Unfortunately, we were unable to find data on either of these issues for Belgian SMEs.

(LABOR) to proxy whether a firm is labor intensive or not and therefore more or less dependent on its staff.

We also look at the ownership structure of the SME. Some enterprises that grow from small into large firms are legally split into several entities. This is usually done to avoid the mandatory establishment of a works council or for tax purposes, for example when the firm's buildings are transferred to a separate legal entity, but this operation also has an impact on the disclosure requirements. For large firms disclosure of sales is mandatory, so splitting an enterprise before it becomes a large firm involves the opportunity to keep the sales figure private. The explanatory variable we use to measure this effect is the percentage of the firm's shares that are kept by other firms in stead of private persons (OWNER)⁷.

Finally, we included a dummy variable that indicates disclosure (1) or non-disclosure (0) of sales in the previous year, 1996 (DISC96). For many firms the disclosure decision is not really dependent on the specific situation in one year but rather based on an overall assessment of the firm's position. Only when this position changes, for example due to the loss of an important customer or the entrance of a new major competitor, the disclosure decision is revised. To capture this type of attitude towards the disclosure decision, it is necessary to take disclosure or non-disclosure in the previous year into account.

D. Research hypotheses

The aim of the empirical analysis is to test whether the selected independent variables are significantly related to the likelihood that an SME discloses sales. It is difficult to predict whether the relation is positive or negative. Arguments can often be found in favor of both directions. Nevertheless we summarize our major prior expectations in the following research hypotheses.

Hypothesis 1 : Firms with a higher tax rate are less likely to disclose sales.

If a firm has a higher tax rate, the psychological influence of taxes on the disclosure decision is expected to be stronger, leading to a higher expected probability of non-disclosure.

⁷ We acknowledge that there may be various other reasons why the owner of the firm is legally structured as another company rather than a private person, but we found no other suitable variable to proxy this factor in the disclosure decision.

Hypothesis 2 : Firms with more expired tax debts are less likely to disclose sales.

Expired tax debts indicate financial distress which puts the firm in a weak position towards competitors so that non-disclosure of sales is probably considered optimal.

Hypothesis 3 : Firms with a negative self financing ratio are less likely to disclose sales.

The same argument applies as in hypothesis 2. The negative self financing ratio may be interpreted as a signal of serious financial difficulties.

Hypothesis 4 : A financially stronger firm is more likely to disclose sales.

The firm's financial performance is measured by liquidity, solvency and profitability ratios. The better the score on each of these measures, the stronger the firm's competitive position is assumed to be. So therefore we might argue that it is less harmful for a financially strong firm to disclose sales, leading to a higher expected probability of disclosure. Chow and Wong-Boren (1987) and Marston and Shrives (1996) argued that a highly leveraged firm is expected to disclose more information because it would have more difficulties to find extra financial resources and because it would have to account to existing creditors. A profitable firm would be able to distinguish itself from weak firms through voluntary disclosure (Meek, Roberts and Gray, 1995) and disclosure would allow management to show the positive results of their efforts (Raffournier, 1995 and Taurigana, 1996). Moreover, and most related to our model, a more profitable firm would be less harmed by possible proprietary costs of disclosure due to the reaction of competitors.

Hypothesis 5 : A firm with a higher difference between net return on total assets before and after wages paid and/or higher wages paid/value added is less likely to disclose sales.

A firm that watches a large share of its profitability flow away to its employees may want to avoid (additional) wage bargaining by withholding the sales figure from its employees. This way the staff cannot perfectly assess the SME's position in the bargaining process. The same argument applies to the ratio wages paid over value added. If the firm is more labor intensive, there is a higher risk of wage bargaining.

Hypothesis 6 : A firm with relatively more short term trade debts is more likely to disclose sales.

Suppliers are creditors who rely on the financial statements as their only source of information. If sales are disclosed then suppliers can assess the SME's creditability more fairly. Hypothesis 6 is formulated under the assumption that this assessment is improved by disclosure, leading to better financial conditions.

Hypothesis 7 : A firm with relatively more financial and / or secured debts is less likely to disclose sales.

This hypothesis complements the previous one. For financial or secured debts, there is usually a closer relation between the creditors and the firm so that there is a possibility for private communication of all required information. There is no need to publicly disclose sales to creditors so that avoiding negative competitive reactions becomes more important leading to a lower expected probability of disclosure.

Hypothesis 8 : Firms that are owned by other firms rather than private persons are less likely to disclose sales.

One of the implications of splitting a growing enterprise into separate legal entities is that each of these entities is allowed to use the abridged format for the published financial statements. There may be a competitive advantage in withholding the sales figure for these firms, compared to their competitors that are of equal economic size but are structured as a single legal entity and thus face mandatory disclosure of sales in the full format of the profit and loss account. Therefore we expect firms that are (partly) owned by other firms to be less likely to disclose sales.

Hypothesis 9 : SMEs within an industry that is dominated by large firms are less likely to disclose sales.

We expect that a large competitor may be more intimidating to a small firm, which makes the SME feel more vulnerable. Also, large firms may enjoy a competitive advantage like economies of scale. This may induce the SME to safeguard its own information advantage by not disclosing sales. Therefore we expect that empirically a positive relation between the share of valued added produced by SMEs and disclosure is more likely to be observed.

Hypothesis 10 : Larger firms are more likely to disclose sales.

Referring to the abundant empirical evidence of a positive relation between firm size and disclosure of information in the annual report (see e.g. Chow and Wong-Boren, 1987, Cooke,

1989 and Raffournier, 1995) we also expect to find that larger SMEs are more likely to disclose sales.

Hypothesis 11 : Older firms are more likely to disclose sales

Hypothesis 11 is inspired by the relation between size and disclosure. Also, we expect that recently established firms are more vulnerable and therefore more reluctant to disclose information than older firms (see also section V).

E. Estimation results for the LOGIT model

The model is a simple linear relation between the above mentioned explanatory variables and the log of the odds in favor of disclosure of sales.

$$Z_i = \log\left(\frac{P_i}{1-P_i}\right) + \varepsilon_i \quad (1)$$

with P_i the probability that firm i discloses sales in 1997

$$\begin{aligned} Z_i = & \alpha + \beta_1 DISC96_i + \beta_2 TAXDEBT_i + \beta_3 TAXRATE_i + \beta_4 ACID_i + \beta_5 LEV_i + \beta_6 NRTA_i + \\ & \beta_7 SUPP_i + \beta_8 FIN_i + \beta_9 SECDEBT_i + \beta_{10} OWNER_i + \beta_{11} INDSTRUCT_i + \beta_{12} DIFF_i + \\ & \beta_{13} LABOR_i + \beta_{14} SELFDUM_i + \beta_{15} SIZE_i + \beta_{16} AGE_i + \varepsilon_i \end{aligned} \quad (2)$$

The estimation outputs for equation (2) applied to the whole sample of 22 067 firms are reported in tables 2a, 2b and 2c. The estimation procedure was run three times : twice with a different measure for the variable SIZE and once including AGE. The reason why AGE was tested in a separate model is twofold. First, we wanted to avoid possible interactions with SIZE. Second, and most important, including AGE reduces the sample with 1470 observations. We do not know for which firms the number of years of operation is missing so we do not know whether the sample is biased if we leave these observations out. Therefore we have tested the model with and without AGE as an explanatory variable. Due to missing data for some of the other independent variables 2 384 observations (3 854 when age is included) are excluded from the analysis, which still leaves a sample of 19 683 (18 212) observations.⁸

⁸ The large number of missing values can be explained by a deficiency in the selection procedure in the Belfirst software. A lot of companies were selected for which there are no financial statements available over the accounting year 1997, although this was explicitly included as a selection criterion. For 1 470 additional SMEs the year of establishment is not available so that the number of years of operation could not be calculated.

Table 2a : Estimation output total sample for SIZE = ASSETS

Dependent Variable: DISC97				
Method: ML - Binary Logit				
Sample: 1 22067				
Included observations: 19683				
Excluded observations: 2384				
Convergence achieved after 11 iterations				
GLM Robust Standard Errors & Covariance				
Variance factor estimate = 1.000906158				
Covariance matrix computed using second derivatives				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.356672	0.069627	-33.84714	0.0000
DISC96	4.052696	0.045557	88.95955	0.0000
TAXDEBT	2.601271	0.423095	6.148196	0.0000
SELFDUM	0.107185	0.046613	2.299471	0.0215
TAXRATE	0.001234	0.004714	0.261771	0.7935
ACID	-0.000500	0.000379	-1.318582	0.1873
NRTA	-0.002187	0.001464	-1.494194	0.1351
LABOR	-0.003041	0.006229	-0.488215	0.6254
DIFF	0.080832	0.047855	1.689091	0.0912
SUPP	0.236008	0.079993	2.950347	0.0032
FIN	0.239186	0.120528	1.984485	0.0472
SECDEBT	-0.266014	0.102861	-2.586151	0.0097
OWNER	-0.002511	0.001139	-2.205276	0.0274
INDSTRUCT	0.114410	0.087785	1.303299	0.1925
ASSETS	-9.86E-07	4.74E-07	-2.082305	0.0373
Mean dependent var	0.395062	S.D. dependent var	0.488876	
Log likelihood	-6905.774	S.E. of regression	0.316481	
Restr. log likelihood	-13206.48	Sum squared resid	1969.955	
LR statistic (14 df)	12601.40	Avg. log likelihood	-0.350850	
Probability(LR stat)	0.000000	McFadden R-squared	0.477092	
Obs with Dep=0	11907	Total obs	19683	
Obs with Dep=1	7776			

Table 2b : Estimation output total sample for SIZE = STAFFAV

Dependent Variable: DISC97				
Method: ML - Binary Logit				
Sample: 1 22067				
Included observations: 19683				
Excluded observations: 2384				
Convergence achieved after 5 iterations				
GLM Robust Standard Errors & Covariance				
Variance factor estimate = 1.000847593				
Covariance matrix computed using second derivatives				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.371472	0.069178	-34.28054	0.0000
DISC96	4.053355	0.045557	88.97362	0.0000
TAXDEBT	2.610142	0.421940	6.186054	0.0000
SELFDDUM	0.113364	0.046461	2.439979	0.0147
TAXRATE	0.001305	0.004718	0.276693	0.7820
ACID	-0.000581	0.000386	-1.505084	0.1323
NRTA	-0.002174	0.001464	-1.484569	0.1377
LABOR	-0.002938	0.006261	-0.469140	0.6390
DIFF	0.091637	0.050262	1.823180	0.0683
SUPP	0.243394	0.080170	3.035987	0.0024
FIN	0.223104	0.120097	1.857692	0.0632
SECDEBT	-0.279220	0.102629	-2.720665	0.0065
OWNER	-0.002662	0.001135	-2.344798	0.0190
INDSTRUCT	0.115111	0.087776	1.311423	0.1897
STAFFAV	-0.002457	0.001893	-1.297626	0.1944
Mean dependent var	0.395062	S.D. dependent var	0.488876	
Log likelihood	-6907.113	S.E. of regression	0.316509	
Restr. log likelihood	-13206.48	Sum squared resid	1970.298	
LR statistic (14 df)	12598.73	Avg. log likelihood	-0.350918	
Probability(LR stat)	0.000000	McFadden R-squared	0.476990	
Obs with Dep=0	11907	Total obs	19683	
Obs with Dep=1	7776			

Table 2c : Estimation output total sample including AGE

Dependent Variable: DISC97				
Method: ML - Binary Logit				
Sample(adjusted): 1 22066				
Included observations: 18212				
Excluded observations: 3854 after adjusting endpoints				
Convergence achieved after 11 iterations				
GLM Robust Standard Errors & Covariance				
Variance factor estimate = 1.000267821				
Covariance matrix computed using second derivatives				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.169404	0.077557	-27.97160	0.0000
DISC96	4.060091	0.047797	84.94374	0.0000
TAXDEBT	2.613881	0.462811	5.647831	0.0000
SELFDUM	0.081625	0.048827	1.671728	0.0946
TAXRATE	0.001085	0.004903	0.221407	0.8248
ACID	-0.000208	0.000371	-0.561010	0.5748
NRTA	0.009007	0.012363	0.728564	0.4663
SUPP	0.241073	0.083681	2.880858	0.0040
FIN	0.212640	0.125377	1.696002	0.0899
SECDEBT	-0.300567	0.105943	-2.837058	0.0046
LABOR	-0.003143	0.006209	-0.506187	0.6127
DIFF	0.250276	0.079661	3.141753	0.0017
OWNER	-0.001641	0.001190	-1.379052	0.1679
INDSTRUCT	0.088438	0.091033	0.971492	0.3313
ASSETS	-4.07E-07	4.78E-07	-0.850943	0.3948
AGE	-0.016198	0.002443	-6.630380	0.0000
Mean dependent var	0.395838	S.D. dependent var	0.489043	
Log likelihood	-6413.418	S.E. of regression	0.317586	
Restr. log likelihood	-12225.50	Sum squared resid	1835.269	
LR statistic (15 df)	11624.16	Avg. log likelihood	-0.352153	
Probability(LR stat)	0.000000	McFadden R-squared	0.475406	
Obs with Dep=0	11003	Total obs	18212	
Obs with Dep=1	7209			

Table 3 lists the correlations between each of the independent variables. Due to the large number of observations in the sample, many of the explanatory variables are significantly correlated. Theoretically, this implies that there is a risk of multicollinearity and the results may be influenced in this way that the individual significance of the coefficients is reduced. This is mainly a problem if the aim of the research is to make predictions, because then the actual value of the coefficients is important. Our primary concern however, is to test the relations between the likelihood of observing disclosure and each of the independent variables. If the correlations affect the estimations, then they reduce the individual significance of the relations we find. Therefore, we have chosen to ignore the risk of multicollinearity if the correlation between the variables is less than 0.25. The correlation between LEV and NRTA is 0.6. After running the

estimation procedure with each of these variables tested separately, we chose to exclude LEV because this variable proved to be insignificant while NRTA is marginally significant ($p<0.15$).

Table 3 : Correlation matrix total sample (* $p<0.01$ two-tailed significance)

	DISC96	TAXDEBT	TAXRATE	ACID	LEV	NRTA	SUPP
DISC96	1						
TAXDEBT	0.06*	1					
TAXRATE	-0.01	0.00	1				
ACID	-0.01	-0.00	-0.00	1			
LEV	0.01	-0.00	0.00	0.00	1		
NRTA	0.01	0.00	0.00	0.00	0.60*	1	
SUPP	0.02*	-0.05*	0.01	0.03*	0.02*	0.02*	1
FIN	0.02*	-0.01	0.00	-0.01	0.00	0.00	-0.21*
SECDEBT	-0.03*	-0.05*	-0.01	-0.01	0.01	0.00	-0.09*
OWNER	-0.04*	-0.02*	0.03*	0.01	0.01	0.00	0.07*
INDSTR	-0.01	-0.00	-0.00	0.01	0.01	0.00	-0.10*
DIFF	0.04*	0.03*	0.00	-0.01	-0.24*	-0.18*	0.03*
LABOR	0.01	-0.00	0.00	-0.00	0.00	0.00	0.02*
SELF DUM	0.03*	0.02*	-0.03*	.0.01	-0.04*	-0.04*	-0.11*
ASSETS	-0.03*	-0.04*	0.01	0.01	0.01	0.01	0.01
STAFFAV	0.00	-0.02*	0.01	-0.01	0.01	0.01	0.08*
AGE	-0.00	-0.02*	0.01	0.02*	0.01	0.01	0.06*
	FIN	SECDEBT	OWNER	INDST	DIFF	LABOR	SELF D
FIN	1						
SECDEBT	0.04*	1					
OWNER	-0.01	0.01	1				
INDSTR	-0.00	0.03*	-0.05*	1			
DIFF	-0.04*	-0.07*	0.04*	-0.02*	1		
LABOR	-0.02*	-0.00	0.01	-0.01	0.04*	1	
SELF DUM	0.13*	-0.00	-0.00	0.03*	0.08*	-0.02*	1
ASSETS	0.07*	0.07*	0.10*	-0.02*	-0.06*	-0.00	-0.09*
	ASSETS	STAFFAV	AGE				
ASSETS	1						
STAFFAV	0.14*	1					
AGE	0.15*	0.10*	1				

Although we find significant relations between the likelihood of disclosure and some of the explanatory variables, the directions of these relations are not always as expected. First, there is clearly an important positive relation ($p<0.01$) between disclosure or non-disclosure in the previous year and the disclosure decision in this year⁹. Many firms choose to follow a consistent disclosure strategy. Second, we find a positive relation ($p<0.01$) between the relative amount of expired tax debts and disclosure. This rejects hypothesis 1. We already pointed out that in many cases arguments can be found in favor of both a positive and a negative relation between disclosure and the explanatory variables. This is also the case here. Expired tax debts are an important signal that the firm is in financial distress. Disclosure of sales may be interpreted as an attempt to ‘correct’ this signal. The positive relation ($p<0.05$ for 2a and 2b, $p<0.1$ for 2c)¹⁰ between disclosure and a negative self financing ratio confirms this argument. Third, we find a marginally significant negative relation between disclosure and both net return on total assets ($p<0.15$) and the acid test ($p<0.15$ for 2b). This rejects also hypothesis 4. Apparently, well performing firms are less inclined to disclose sales. A possible explanation may be that these firms have no need to provide additional information to convince external parties that they are doing well. The profitability and liquidity ratios based on published information ‘speak for themselves’. Or, for some firms, disclosure of sales may even reduce the positive image that is built by the published information. Yet another explanation may be that well performing firms have more to lose and are therefore more reluctant to disclose information, for example to deter entry. Fourth, the positive difference between the net return on total assets with and without deduction of wages paid, is positively related to disclosure of sales ($p<0.1$ for 2a and 2b, $p<0.01$ for 2c). This means that if wages put a heavier burden on the firm’s profitability this firm is more likely to disclose sales. This rejects hypothesis 5. Our argument in the formulation of this hypothesis was that firms may wish to avoid wage bargaining by not disclosing sales. The estimation results may either indicate that the opposite is true or that the variable DIFF is an inappropriate measure for the potential threat of wage bargaining. Unfortunately, the alternative variable LABOR is not significantly related to the observation of disclosure so we did not find additional evidence. Fifth, the positive relation ($p<0.01$) between the relative amount of trade debts and disclosure, confirms hypothesis 6. Firms with relatively more trade debts are more likely to disclose sales. However, we also find a positive relation ($p<0.05$ for 2a, $p<0.1$ for 2b and 2c) between short term debts to financial institutions and disclosure, while the relation between disclosure and secured debts is negative ($p<0.01$). In the formulation of research hypothesis 7 we treated short term financial debts and secured debts as the same type of debts. This may have been too simplifying. For secured debts there is not only the close relation

⁹ We did not formulate a hypothesis regarding disclosure in the previous year. The reason is that the positive relation between disclosure in 1996 and 1997 is clearly ‘visible’ in the data so that after the data collection process was completed, it was no longer possible to formulate an unbiased expectation.

¹⁰ The different significance may be due to the different sample sizes.

between the SME and the creditor that has to be taken into account, but also the fact that there is an asset underlying the debt. So if the SME fails to repay, there is a sort of built-in security for the creditor which probably reduces the need for public disclosure of information. For short term financial debts, the published financial statements may still, to some extent, be a source of information that the creditors rely on. Sixth, we find a negative relation ($p<0.05$ for 2a and 2b) between the percentage of the SME's shares that are owned by other firms and the probability of disclosure. This confirms hypothesis 8. There is no evidence to either confirm or reject hypothesis 9. Finally, the size variable ASSETS is negatively related ($p<0.05$ for 2a) to disclosure, indicating that larger or more mature firms are less likely to disclose sales. This not only contradicts hypothesis 10, but is also in sharp contrast to the result generally found in the literature that larger firms tend to disclose more information. We therefore conclude that what is found for large, listed firms does not necessarily apply to SMEs. The negative relation between size and disclosure of sales for SMEs may be interpreted in line with the negative relation between disclosure and the percentage of the firm's shares that are held by other firms. There is no significant relation between disclosure and size measured by the average number of staff.

The significantly negative relation ($p<0.01$) between the likelihood of observing disclosure and the number of years the firm has been in operation rejects hypothesis 11. It is striking that for a lot of firms for which we have all the other necessary data the year of establishment is not available. Moreover, this reduction of the sample clearly influences the outcomes of the estimation for the other explanatory variables. This raises the question in which way the sample is biased if AGE is included, especially concerning the frequency of disclosure. To test whether disclosure is observed less often in the subsample of SMEs that do not report the year of establishment, we have run a chi-square test with AGE (available=1, not available =0) as the grouping variable. It was shown that in our sample firms for which the year of establishment is not available indeed seem to disclose less frequent (chi-square 192.612, significance 0.000). Moreover, the group for which the year of establishment is not available also contains significantly more firms that fail to report the number of staff in the notes to the financial statements. These findings may indicate a reluctance to disclose information in this group.

The LR-statistic, which shows whether the overall significance of the model is larger than a model with only a constant term, is significant at the 0.5% level. The Mc-Fadden R² is 0.48 for each of the estimated equations. Interpretation of the goodness-of-fit should, however, be very careful. Because a lot of firms in the sample follow a consistent disclosure strategy over the years, the dummy variable DISC96 has a very strong explanatory power which may inflate the Mc-Fadden R² (see also section IV.F.).

IV. Looking for size, age, industry, location and profitability effects

The SMEs that are included in the total sample are diversified regarding size, location and type of activity. It is possible that these characteristics also have an effect on the disclosure decision. One way to test this would be to add explanatory (dummy) variables to the model. This way we would only learn in which industry, province or size category disclosure is more likely to be observed for the firms included in the sample. The estimation results for this type of extended model are rather poor for location and type of activity and do not seem to provide additional insights into the disclosure decision. We therefore chose not to report them here. However, there might be an influence of size, age, location and/or industry on the disclosure decision that is of a very different nature. It is possible that the significant relations between the likelihood of disclosure and the explanatory variables change depending on the selection of the sample. If we restrict the analysis e.g. to trading companies or to manufacturing companies, the picture may change. Besides size, location and type of activity, which were selection criteria in the composition of the sample, we further investigate the impact of the number of years the firm has been in operation and the firm's profitability. In the previous section we found that age is negatively related to the likelihood of observing disclosure. In this section we test whether the average age of the firms included in the sample influences the results for the other independent variables. The sample of SMEs contains a lot of firms that suffer losses, which implies that the average values for some of the performance measures are rather low. It is possible that the relations between the observation of disclosure and company characteristics are different for profit making versus loss suffering firms, for example because they have different priorities. Therefore, we also split the sample in profit making versus loss suffering SMEs. To avoid an overflow of estimation output tables, we simply report for which explanatory variables the estimated coefficients are significant and the sign of the relation. This is done for each subsample.

A. Size effects

The number of staff is used as a measure of size to divide the sample¹¹. The definition of the subsamples is based on a pilot study¹². Three subsamples were defined : SMEs with 1 to 5 employees, SMEs with more than 5 employees and SMEs with no employees reported in the social balance sheet. This last category may contain firms for which the number of staff is actually zero as well as firms that fail to report the number of staff. Table 4 indicates which of the tested variables are significantly related to the observation of disclosure in each of these

¹¹ Splitting the sample according to total assets as a measure of size, leads to the same major conclusions.

subsamples. The size measure that is included in the estimations is total assets. This way we want to take size differences within the subsamples into account. Also, total assets may indicate another ‘type’ of firm size than the average number of staff. The correlation matrix was recalculated for each of the subsamples separately. Again it was sometimes necessary to exclude either LEV or NRTA and DIFF from the analysis. To optimize comparability with the estimation results for the total sample, we chose to exclude LEV unless this variable showed a significant relation with disclosure in the specific subsample.

Table 4 : Estimation results for the subsamples based on firm size measured by the average number of staff

	1 to 5 employees	> 5 employees	no employees	total sample
Observations ¹³	7625	2573	9804	19683
C	-****	-****	-****	-****
DISC96	+****	+****	+****	+****
TAXDEBT	+****	+***	+****	+****
SELDUM	+****	+**	n.s.	+***
TAXRATE	n.s.	n.s.	n.s.	n.s.
ACID	n.s.	n.s.	-***	n.s.
LEV	+***	excl.	excl.	excl.
NRTA	excl.	+**	-**	-*
DIFF	excl.	+****	(+***)	+**
LABOR	n.s.	-***	(+*)	n.s.
SUPP	n.s.	+**	+****	+****
FIN	n.s.	n.s.	+****	+***
SECDEBT	-*	n.s.	-**	-****
OWNER	n.s.	n.s.	-****	-***
INDSTRUCT	+***	n.s.	n.s.	n.s.
ASSETS	-**	n.s.	n.s.	-***
****p≤0.01 ***p≤0.05 **p≤0.1 *p≤0.15				
n.s. : not significant				
excl. : excluded from estimation to avoid multicollinearity				

¹² The results of the pilot study are reported in the paper ‘An Empirical Analysis of Voluntary Disclosure of Sales by SMEs’, that was presented at the 22nd congress of the EAA in Bordeaux, France, 1999.

¹³ The sum of the number of observations for the subsamples is not equal to the number of observations for the total sample. This is due to a different number of missing values for the explanatory variables LEV versus NRTA and DIFF.

We see that the results found for the total sample mainly apply to smaller firms with up to five or no employees. On the one hand it is of course not surprising that the two largest subsamples are responsible for the estimation results in the total sample. On the other hand however, it is a little bit surprising that the results suggest that middle sized firms seem to follow a disclosure strategy that is more ‘random’ and less influenced by economic considerations. Of course, there may be other decision factors for these middle sized firms that are not included in our model and are therefore not revealed here. *A priori* we expected that middle sized firms would be more aware of disclosure effects and would therefore be more rational in the disclosure decision. While for the smallest firms, especially those with no other employees than the manager-owner, it might have been more ‘acceptable’ if there were no relations between the observation of disclosure and economic characteristics.

Although we found no significant relation between the ratio equity over total assets for the total sample, the results for SMEs with 1-5 employees suggest a positive relation. Moreover, for this group of firms we also find a positive relation between the share of SMEs in the industry’s total value added and the likelihood of disclosure. This confirms hypothesis 9 for this subsample. Conflicting results are found for the ratios wages paid over value added and net return on total assets. For firms with more than 5 employees, there seems to be a negative relation between disclosure and LABOR. This is in line with the hypothesis that SMEs with a higher risk of wage bargaining tend to disclose less information. The positive relation we find for firms with no employees, on the other hand, must be interpreted very carefully. Obviously, for these firms the ratio is equal to zero in most cases. Although statistically we find a weakly significant positive relation between LABOR and the likelihood of observing disclosure, this may not be the correct economic interpretation. The same applies to the variable DIFF¹⁴. Moreover, the positive relation between the observation of disclosure and DIFF for middle sized firms contradicts the negative relation between the observation of disclosure and LABOR within this subsample. The marginally significant negative relation between NRTA and the likelihood of disclosure for the total sample, is confusing on the level of the subsamples. There is an indication that for SMEs with no employees more profitable firms are again less likely to disclose sales. However, for SMEs with more than 5 employees there is a positive relation.

B. Effects of the number of years of operation

The management of young, newly established firms may be different from older firms that have earned their place in the market over the years. In section III we found a significantly negative relation between the age of the firm and the likelihood of disclosure. Here we divide the sample

in six categories based on the number of years of operation. We have tried to match the sizes of the subsamples as much as possible. The estimation results are shown in table 5.

Table 5 : Estimation results for subsamples based on age

	< 5	5 - 7	8 - 10	11 - 14	15 - 25	> 25	Total
Obs	3518	3764	3862	2728	2996	1344	19683
C	-****	-****	-****	-****	-****	-****	-****
DISC96	+****	+****	+****	+****	+****	+****	+****
TAXDT	+****	+**	+****	+****	+****	n.s.	+****
SELF.D	n.s.	n.s.	n.s.	+***	n.s.	n.s.	+***
TAXRT	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
ACID	-****	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LEV	excl.	excl.	excl.	excl.	excl.	excl.	excl.
NRTA	n.s.	+***	n.s.	+**	n.s.	n.s.	-*
DIFF	n.s.	+****	+*	+**	n.s.	n.s.	+**
LABOR	n.s.	n.s.	n.s.	n.s.	+**	n.s.	n.s.
SUPP	n.s.	+***	n.s.	+*	n.s.	n.s.	+****
FIN	n.s.	+**	n.s.	n.s.	+**	n.s.	+***
SECDT	n.s.	-**	n.s.	n.s.	n.s.	-***	-****
OWNER	n.s.	-****	-****	n.s.	n.s.	+	-***
INDSTR	n.s.	n.s.	n.s.	n.s.	+**	n.s.	n.s.
ASSETS	n.s.	n.s.	n.s.	n.s.	-***	+	-***

****p≤0.01 ***p≤0.05 **p≤0.1 *p≤0.15
n.s. : not significant
excl. : excluded from estimation to avoid multicollinearity

It is immediately clear that the results for the total sample especially apply to firms that have been in operation for 5 to 7 years. The results for younger or older firms are less satisfying. Again we find conflicting results for NRTA. Whereas the relation between profitability and disclosure is negative for the total sample, we find a positive relation for two of the subsamples here. Nevertheless, the conflicting results for profitability should not be surprising. From the review of the empirical voluntary disclosure literature we learn that also for the relation between voluntary disclosure in the annual report of large firms and profitability, the results may be

¹⁴ Leaving LABOR and DIFF out of the estimation for this subsample does not change the results for the other independent variables.

confusing or insignificant (see e.g. Meek, Roberts and Gray, 1995, Raffournier, 1995 or Tauringana, 1996). For the oldest firms (>25 years) we find a marginally positively significant relation between size measured by total assets and the likelihood of observing disclosure. This is in contrast to the result for the total sample.

C. Location effects

The firms in the total sample are located all over Belgium. To look for location effects in the estimation results we have divided Belgium in eleven geographic areas : the ten provinces plus Brussels capital region. It has been shown that financial and economic performance is different, for example, for Flemish versus Walloon firms (Jorissen and Verhetsel, 1992). Because the firm characteristics we included as explanatory variables also reflect financial and economic performance, it is interesting to test whether the relations we found for the total sample also hold for each province and Brussels considered separately. Table 6 presents first, the estimation results for the ten provinces and Brussels capital region tested separately and second, for Flanders (Antwerp, Limbourg, East-Flanders, West-Flanders and Flemish Brabant) and Wallonia (Henegouwen, Luik, Namen, Luxembourg and Walloon Brabant). We opted for total assets as a measure of size because total assets are significantly related to disclosure for the total sample.

It is immediately clear that, again, not all results for the total sample apply to each of the subsamples. Apparently, the results for the Flemish firms (especially those located in West-Flanders) drive the estimation results for the total sample. We find less significant relations between disclosure and the tested independent variables for the Walloon and the Brussels based firms. It is impossible to try to explain why certain relations are significant in one province while they are insignificant in another province. The most important conclusion here is that our research shows that the economic differences between Flemish and Walloon firms are also reflected in the disclosure strategy.

Whereas the effective tax rate shows no significant relation with disclosure for the total sample, we find a weak negative relation for Antwerp and Limbourg. This result is in line with hypothesis 1. We find again confusing results for NRTA so that these relations have to be interpreted very carefully.

Table 6 : Estimation results for subsamples based on firm location

	Antw	Limb	East Fl	West Fl	Flem Br	Flanders	Hene	Luik	Namen	Luxem	Wall Br	Wallonia	Bruss	Total
Observ.	4051	1279	2714	2590	1783	12420	1406	1418	578	294	756	4452	2811	19683
C	-****	-****	-****	-****	-****	-****	-****	-****	-****	-****	-****	-****	-****	-****
DISC96	+****	+****	+****	+****	+****	+****	+****	+****	+****	+****	+****	+****	+****	+****
TAXD	+****	+****	+****	+***	+**	+****	+****	n.s.	+**	n.s.	n.s.	+****	+****	+****
SELFD	n.s.	n.s.	n.s.	+**	+**	+**	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	+***
TAXR	+	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
ACID	n.s.	-*	n.s.	n.s.	n.s.	n.s.	n.s.	-***	n.s.	n.s.	n.s.	-**	n.s.	n.s.
LEV	excl.	-*	excl.	-*	excl.	excl.	excl.	excl.	excl.	excl.	excl.	excl.	excl.	excl.
NRTA	n.s.	excl.	n.s.	excl.	+***	-*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-**	-*
DIFF	n.s.	excl.	+**	excl.	+***	n.s.	n.s.	n.s.	+***	n.s.	n.s.	+	n.s.	+**
LABOR	n.s.	n.s.	n.s.	n.s.	n.s.	-*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
SUPP	+**	n.s.	n.s.	+****	+	+****	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	+****
FIN	n.s.	n.s.	n.s.	+***	n.s.	+***	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	+***
SECD	n.s.	n.s.	n.s.	-***	n.s.	-***	n.s.	n.s.	-***	n.s.	n.s.	n.s.	n.s.	-****
OWN	n.s.	n.s.	n.s.	-****	n.s.	-**	n.s.	n.s.	-***	n.s.	-***	n.s.	n.s.	-***
INDST	n.s.	n.s.	+	n.s.	+	n.s.	+	n.s.	n.s.	n.s.	+	+	n.s.	n.s.
ASSET	n.s.	n.s.	n.s.	n.s.	-***	-**	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-***

****p≤0.01 ***p≤0.05 **p≤0.1 *p≤0.15; n.s. : not significant; excl. : excluded from estimation to avoid multicollinearity

D. Industry effects

The industries we defined for the subsamples are more aggregated than the categories used in the sample selection process. We consider six different types of activity : primary sector, manufacturing, distributive trades, services, hotels and restaurants and building. Table 7 shows the proportions of firm size categories within an industry because we expect that middle sized firms may be concentrated in certain industries. This may have an impact on the estimation results, given what was found in section A. The estimation results are summarized in table 8. For the primary sector and manufacturing activities the results are very poor. For manufacturing firms this is in line with what was found for firms with more than 5 employees. This was to be expected because the cross-section of these two subsamples is large, as shown in table 7. It appears that especially commercial (in the first place hotels and restaurants and services) and building firms are responsible for the results in the total sample. Again, the most important conclusion is that there are differences between industries, which provides additional insights into the results for the total sample.

Table 7 : Proportions of firm size categories within an industry

	1-5 employees	>5 employees	no employees
Primary sector	55 %	12 %	33 %
Chemical manufacture	42 %	33 %	25 %
Metal manufacturing	41 %	34 %	25 %
Food manufacturing	39 %	29 %	32 %
Other manufacturing	44 %	30 %	26 %
Building	50 %	24 %	26 %
Food distribution	53 %	18 %	29 %
Hotels and restaurants	30 %	9 %	61 %
Other distributive trades	56 %	13 %	31 %
Transport and communication	46 %	25 %	29 %
Services 1	54 %	5%	41 %
Services 2	55 %	11 %	34 %
Incomplete information	38 %	1 %	61 %

Source : Segmentation analysis (NACE-bel code and number of staff), Belfirst CD-ROM, Update January 2000, Bureau Van Dijk

Table 8 : Estimation results for subsamples based on industry type

	Primary sector	Manufacturing	Trade	Services	Hotels and restaurants	Building	Total sample
Observations	404	1724	6090	8290	1100	2075	19683
C	-****	-****	-****	-****	-****	-****	-****
DISC96	+****	+****	+****	+****	+****	+****	+****
TAXDEBT	n.s.	+****	+****	+****	+****	+****	+****
SELDUM	n.s.	+**	n.s.	n.s.	n.s.	n.s.	+***
TAXRATE	n.s.	n.s.	+***	n.s.	n.s.	n.s.	n.s.
ACID	n.s.	n.s.	n.s.	n.s.	n.s.	-**	n.s.
LEV	excl.	excl.	excl.	excl.	excl.	excl.	excl.
NRTA	n.s.	n.s.	n.s.	-*	n.s.	n.s.	-*
DIFF	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	+**
LABOR	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
SUPP	n.s.	n.s.	n.s.	+****	+****	n.s.	+****
FIN	n.s.	n.s.	n.s.	+***	+**	n.s.	+***
SECDEBT	n.s.	n.s.	-*	-**	n.s.	n.s.	-****
OWNER	-**	n.s.	n.s.	n.s.	-*	n.s.	-***
INDSTRUCT	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
ASSETS	-***	n.s.	-*	n.s.	-**	-****	-***

*p≤0.01 **p≤0.05 ***p≤0.1 ****p≤0.15; n.s. : not significant; excl. : excluded from estimation to avoid multicollinearity

E. Profit making versus loss suffering firms

More than one third of all firms in the sample suffer a loss in 1997. It is possible that these firms have other priorities than profit making firms and that they take other factors into account in their disclosure decision. Table 9 shows the estimation results for the sample that is split according to the simple criterion that profits in 1997 are either positive or negative.

Table 9 : Estimation results for profit making versus loss suffering firms

	Profit	Loss	Total sample
Observations	12 575	7 108	19 683
C	-****	-****	-****
DISC96	+****	+****	+****
TAXDEBT	+****	+****	+****
SELDUM	n.s.	+****	+***
TAXRATE	n.s.	n.s.	n.s.
ACID	n.s.	n.s.	n.s.
LEV	excl.	excl.	excl.
NRTA	-**	n.s.	-*
DIFF	+**	n.s.	+**
LABOR	n.s.	n.s.	n.s.
SUPP	+*	+****	+****
FIN	+***	n.s.	+***
SECDEBT	-***	-**	-****
OWNER	-****	n.s.	-***
INDSTRUCT	n.s.	+**	n.s.
ASSETS	n.s.	-**	-***
****p≤0.01 ***p≤0.05 **p≤0.1 *p≤0.15			
n.s. : not significant			
excl. : excluded from the analysis to avoid multicollinearity			

In both cases we confirm the positive relation between disclosure and the relative amount of expired tax debts, consistency in the disclosure decision, and the negative relation between disclosure and the relative amount of secured debts. However, the other significant relations are different. Profit making firms show a negative relation between disclosure and both net return on total assets and the percentage of shares held by other companies, while a positive relation is found between disclosure and the relative amount of financial debts and the part of the firm's

profitability that flows away to staff. More profitable firms may need less disclosure of additional information to convince other parties of their performance or may keep information private to safeguard their good position. Also, if firms need to worry less about profitability, they may afford to take secondary effects of disclosure, like the reaction of staff or the ownership structure, into account in the disclosure decision. Loss suffering firms with a negative self financing ratio are less likely to disclose sales. Further, they show a positive relation between disclosure and both the relative amount of trade debts and the share of total industry value added that is produced by SMEs. Finally, we find a negative relation between disclosure and size measured by total assets. Here, it are the variables that proxy the the competitive environment that are significantly related to the observation of disclosure. The negative self financing ratio which serves as a flashlight may be a bigger worry for loss suffering than for profit making firms, because the latter show they are improving their position. Also, concerning short term debts, trade debts may be more important to loss suffering or financially weak firms as a financial resource, therefore, the reaction of suppliers may be more important.

F. Consistent disclosure strategies

The estimation results for both the total sample and each of the subsamples clearly show that many firms follow a consistent disclosure strategy. This should not be surprising. Consistency in the choice and application of accounting methods is one of the generally accepted accounting principles. If firms are required to follow a consistent method of depreciation or valuation of inventories, then why would they not (voluntarily) apply the same principle to their disclosure strategy. A strategy that switches from disclosure to non-disclosure or vice versa many times may signal inconstancy and may be interpreted negatively by external parties. Also, a non-disclosure signal following disclosure of sales in previous years may have a stronger effect than a non-disclosure signal that is part of a consistent non-disclosure strategy. While intuitively it does not seem harmful to switch from non-disclosure towards disclosure, the opposite may induce negative reactions. So a firm that switches from disclosure to non-disclosure must have a stronger incentive to keep information private than a newly established firm that chooses non-disclosure in its first year of operation.

Besides these fundamental reasons, there may also be practical considerations in the choice for a consistent disclosure strategy. An important example is the influence of the accountant. Most SMEs rely on an external accountant for the preparation and publication of their financial statements. Especially for the smallest firms, which are the largest group in the population and in our sample, the accountant's advice probably determines the disclosure decision. All then depends on the accountant's attitude towards voluntary disclosure of sales. Some accountants

probably choose the same strategy for every client, regardless of firm-specific characteristics, while others may follow what is common practice in the client's industry or make an individual disclosure decision for each firm.

To evaluate the importance of the consistency factor in the empirical analysis, we have re-estimated equation (2) for the whole sample without the dummy variable DISC96. The size measure is total assets. The results are presented in table 10.

Table 10 : Re-estimation of equation (2) with SIZE=ASSETS excluding DISC96

Dependent Variable: DISC97				
Method: ML - Binary Logit				
Sample: 1 22067				
Included observations: 19683				
Excluded observations: 2384				
Convergence achieved after 10 iterations				
GLM Robust Standard Errors & Covariance				
Variance factor estimate = 1.008680487				
Covariance matrix computed using second derivatives				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.540512	0.043387	-12.45778	0.0000
TAXDEBT	2.972063	0.331550	8.964142	0.0000
SELFDUM	0.069384	0.030495	2.275226	0.0229
TAXRATE	-0.001795	0.003803	-0.472097	0.6369
ACID	-0.000734	0.000311	-2.364323	0.0181
NRTA	0.000230	0.001500	0.153189	0.8782
LABOR	0.004639	0.005145	0.901633	0.3673
DIFF	0.158662	0.047653	3.329500	0.0009
SUPP	0.244224	0.052175	4.680853	0.0000
FIN	0.315009	0.078588	4.008347	0.0001
SECDEBT	-0.242393	0.067864	-3.571749	0.0004
OWNER	-0.003597	0.000762	-4.721615	0.0000
INDSTRUCT	-0.021373	0.057325	-0.372840	0.7093
ASSETS	-1.14E-06	3.94E-07	-2.893291	0.0038
Mean dependent var	0.395062	S.D. dependent var	0.488876	
Log likelihood	-13094.15	S.E. of regression	0.486058	
Restr. log likelihood	-13206.48	Sum squared resid	4646.854	
LR statistic (13 df)	224.6462	Avg. log likelihood	-0.665252	
Probability(LR stat)	0.000000	McFadden R-squared	0.008505	
Obs with Dep=0	11907	Total obs	19683	
Obs with Dep=1	7776			

The overall significance of the model is still larger than a model with only a constant term, although the McFadden R² is now extremely low so that the predictive ability of the model is almost non-existent. However, leaving DISC96 out of the estimation does not reduce the significance of the individual coefficients, on the contrary. All significant relations that were

found earlier, are confirmed and most of them are stronger in the model without DISC96. This can easily be explained. We already mentioned that the significant correlations between some of the independent variables may weaken the estimation results. This is clearly what we observe here. If an explanatory variable is related to the likelihood of observing disclosure in 1997 and this variable is rather stable (it does not show high fluctuations over the years) then it is very likely that the value of this variable in 1997 is also related to the likelihood of observing disclosure in 1996.

V. Voluntary Disclosure of Sales by Newly Established Firms

One of the possible considerations in the disclosure decision that were not explicitly taken into account in the models tested in sections III and IV, is to follow what is ‘common practice’ in the sector. The problem is that if a firm in the sample is part of a sector with a high percentage of disclosure, it is by definition always more likely that disclosure is observed for that firm than for a firm that lies within a sector with a very low percentage of disclosure. Therefore it would be useless to include the disclosure percentage as an explanatory variable to test this effect. However, we can look at new entrants in the sector to see whether they tend to follow the existing firms in their disclosure decision or not. The disclosure percentage in the sector may be interpreted as an average disclosure decision. A positive relation between the disclosure decision in the first year of operation and the disclosure percentage could be an indication that new entrants are likely to follow the example that is set by the existing firms.

Hypothesis 12 : The likelihood of disclosure in the first year of operation is positively related to the disclosure percentage in the sector.

The formulation of this hypothesis is intuitive. There is no reason why a new entrant would *not* follow what may be considered to be ‘common practice’ in the sector. Therefore we do not expect the relation to be negative. However, it is not unlikely that the relation would be insignificant. In the first year of operation a firm may be more vulnerable than a well established firm so that avoiding profit reducing effects of disclosure is considered to be more important. This may lead to non-disclosure. Or, a firm may simply want to wait and see for a few years, keeping its sales figure private. Especially for new firms the psychological reflex not to publish too much information unless it is required, may be an important decision factor. These arguments lead to the following hypothesis :

Hypothesis 13 : A firm is less likely to disclose sales in the first year of operation.

Hypothesis 13 contradicts hypothesis 12. A new firm will either follow the prevailing disclosure strategy in the sector or choose (not) to disclose for other reasons. If hypothesis 12 is accepted then we should find a rejection of hypothesis 13 and vice versa.

To test hypothesis 12 we relate the binary dependent variable disclosure (1) or non-disclosure (0) in the first year of operation to the percentage of disclosure in the sector. We also include the independent variables from the cross-sectional analysis in section III that are relevant for newly established firms to control for other factors that may be related to disclosure.

$$Z_i = \log\left(\frac{P_i}{1-P_i}\right) + \varepsilon_i \quad (3)$$

with P_i the likelihood of observing disclosure in the first year of operation

$$Z_i = \alpha + \beta_1 DISCIND_i + \beta_2 TAXDEBT_i + \beta_3 ACID_i + \beta_4 NRTA_i + \beta_5 LEV_i + \beta_6 DIFF_i + \beta_7 LABOR_i + \beta_8 OWNER_i + \beta_9 SECDEBT_i + \beta_{10} SUPP_i + \beta_{11} FIN_i + \beta_{12} ASSETS_i + \varepsilon_i \quad (4)$$

with $DISCIND_i$ the percentage of disclosure in firm i 's sector, for the definition of the other independent variables, we refer to table 1. The tax rate was zero for all firms.

We have selected a sample consisting of all firms that are established in 1997. We look at disclosure in 1997, or 1998 if there were no financial statements published in 1997. This way we have a total of 12 573 observations. The sector is defined by location (province) and type of industry (two-digit Nace bel code). There are many missing observations for the percentage of disclosure in the sector. For 1496 firms the NACE-bel code was not available (yet). This may indicate a reluctance to disclose information for those firms. We find a disclosure percentage of 31.89% for this group versus a disclosure percentage of 40.30% for the firms for which the NACE-bel code is available.

The estimation output for the logit model is given in table 11. Our results confirm hypothesis 12. We find a significantly positive relation between the likelihood of observing disclosure in the first year of operation and the disclosure percentage in the sector. We acknowledge that the results may suggest a stronger relation than the actual influence of the sector. We cannot distinguish between firms that follow the sector blindly and firms that arrive at the average disclosure decision because they take the same sector specific factors into account. The other significant relations are in line with what was found for the cross-sectional analysis in section III.

There is a positive relation between the likelihood of disclosure and the relative amount of expired tax debts and the relative amount of short term trade debts. A negative relation is found between the likelihood of disclosure and the ownership structure, firm size measured by total assets and liquidity. The variables DIFF and LEV were excluded from the estimation to avoid the risk of multicollinearity. The correlation matrix is presented in table 12. LABOR was excluded because there were many additional missing observations for this variable. Neither of these were significant in an alternative model.

Table 11 : Estimation output disclosure of sales in the first year of operation

Dependent Variable: DISC				
Method: ML - Binary Logit				
Sample(adjusted): 2 12571				
Included observations: 10800				
Excluded observations: 1770 after adjusting endpoints				
Convergence achieved after 9 iterations				
GLM Robust Standard Errors & Covariance				
Variance factor estimate = 1.006697948				
Covariance matrix computed using second derivatives				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.839493	0.093388	-19.69721	0.0000
DISCIND	0.042763	0.002570	16.63839	0.0000
TAXDEBT	2.184953	0.306220	7.135229	0.0000
SELF DUM	0.043758	0.040681	1.075636	0.2821
ACID	-0.002397	0.001164	-2.060068	0.0394
NRTA	-0.001300	0.003261	-0.398628	0.6902
SUPP	0.152541	0.065428	2.331437	0.0197
FIN	0.017950	0.117026	0.153388	0.8781
SECDEBT	-0.127083	0.087827	-1.446978	0.1479
OWNER	-0.004746	0.001565	-3.032664	0.0024
ASSETS	-4.22E-06	1.04E-06	-4.072719	0.0000
Mean dependent var	0.402963	S.D. dependent var	0.490516	
Log likelihood	-7050.204	S.E. of regression	0.480152	
Restr. log likelihood	-7281.304	Sum squared resid	2487.358	
LR statistic (10 df)	462.1983	Avg. log likelihood	-0.652797	
Probability(LR stat)	0.000000	McFadden R-squared	0.031739	
Obs with Dep=0	6448	Total obs	10800	
Obs with Dep=1	4352			

For hypothesis 13 we run a t-test to investigate whether the disclosure percentage in the first year of operation (38.86% for 12 573 observations) is significantly different from the overall disclosure percentage in 1997 (39.32% for 221 385 observations). The t-statistic is -1.4851 ($p>0.20$) which indicates that the percentage of disclosing firms in the first year of operation is not significantly different from the percentage of disclosing firms in the whole population. As

we would expect from the significant relation between the likelihood of observing disclosure and the disclosure percentage in the sector, this rejects hypothesis 13.

Table 12 : Correlation matrix (*p<0.01 two-tailed significance)

	DISCIND	TAXDT	ACID	NRTA	LEV	DIFF	LABOR
DISCIND	1						
TAXDEBT	0.04*	1					
ACID	-0.02*	-0.00	1				
NRTA	0.00	-0.01	0.02*	1			
LEV	-0.01	0.01	0.01	0.74*	1		
DIFF	0.06*	0.05*	-0.01	-0.27*	-0.57*	1	
LABOR	0.01	0.00	0.00	0.00	0.00	-0.00	1
	DISCIND	TAXDT	ACID	NRTA	LEV	DIFF	LABOR
SUPP	0.09*	-0.05*	0.04*	0.02*	0.03*	0.00	-0.01
FIN	-0.01	-0.03*	-0.01	0.01	-0.00	-0.02*	0.00
SECDEBT	-0.06*	-0.03*	-0.01	0.01	-0.01	-0.02*	-0.00
OWNER	-0.01	-0.02*	0.04*	-0.00	-0.01	0.04*	0.00
ASSETS	-0.03*	-0.02*	0.07*	0.00	0.01	-0.02*	0.00
SELF DUM	-0.01	-0.04*	0.01	-0.07*	-0.08*	0.03*	-0.01
	SUPP	FIN	SECDT	OWN	ASSETS	SELF DUM	
SUPP	1						
FIN	-0.18*	1					
SECDEBT	0.04*	0.04*	1				
OWNER	0.07*	0.03*	0.01	1			
ASSETS	0.01	-0.03*	0.03*	0.07*	1		
SELF DUM	0.11*	0.05*	0.05*	0.05*	-0.00	1	

VI. Voluntary Disclosure of Sales at the Sector Level

In the previous sections we looked at the likelihood of observing disclosure at the level of the individual firm. It was shown that depending on size, type of industry, location and profitability, different relations between firm characteristics and disclosure can be found. A logical question that follows from these results is whether disclosure is more likely to be observed in one sector than in another, or more precisely, which sector characteristics are related to the share of SMEs

within this sector that choose to voluntarily disclose sales. To study this question, we design a linear regression model in which the dependent variable is the percentage of disclosing firms within a sector. The sector is defined using both a location and a type of activity criterion. Factors that potentially influence disclosure on the sector level are probably related to the nature and type of competition within that sector. The independent variables should therefore in the first place describe the competitive environment.

The Belfirst software allows to make segmentations of selected samples based on location, type of activity and sales figure. This way we selected 627 different sectors (11 locations and 57 activities¹⁵ based on the two-digit NACE-bel code) and determined how many firms disclose sales for the accounting year 1997. The percentage of disclosure for each sector is the dependent variable in the linear regression model.

For the explanatory variables we selected again the share of total industry value added produced by SMEs. This variable was also included in the firm level analysis in sections III and IV, however, the results were rather poor. It is possible that the influence of this variable is more likely to be significant at the sector level. Second, we included the size of the sector, simply measured by the number of firms, both SMEs and large firms, within that sector¹⁶. Third, we included three variables that proxy the financial performance of the sector. These are the current ratio as a measure of liquidity, equity over total assets as a measure of solvency and net return on total assets as a measure of profitability. Finally, we included the average number of staff per firm and value added over the number of staff as a proxy for the labour intensity of the sector's activity. The latter also indicates productivity. Each of the ratios are calculated using the aggregated financial statements for the sector.

This results in the following linear regression model :

$$DISC_i = \alpha + \beta_1 STRUCT_i + \beta_2 SIZE_i + \beta_3 LIQ_i + \beta_4 LEV_i + \beta_5 NRTA_i + \beta_6 VASTAFF_i + \beta_7 STAFF_i + \varepsilon_i \quad (5)$$

with $DISC_i$ the percentage of disclosing firms in sector i

$STRUCT_i$ the share of total value added for sector i produced by SMEs

$SIZE_i$ the number of firms in sector i

¹⁵ The number of observations in the analysis, however, is smaller than 627. Some activities are not included in the actual sample because they are, for example, activities for which there are only large firms and no SMEs with abridged financial statements.

¹⁶ Alternative size measures are total assets, value added or the total number of staff. However, these measures are highly correlated with some of the other explanatory variables, which would increase the risk of multicollinearity.

- LIQ_i the current ratio
- LEV_i equity over total assets
- NRTA_i net return on total assets
- VASTAFF_i value added over total number of staff
- STAFF_i the average number of staff per firm

We expect the analysis at the sector level to confirm the results that were found for the individual firms concerning the performance measures. For the structure and size of the industry we formulate the following research hypothesis.

Hypothesis 14 : Disclosure is observed less frequently in larger sectors and/or sectors with a relatively bigger share of value added produced by large firms

This hypothesis follows directly from hypothesis 9 which was formulated in section III. We expect that competition within larger sectors and/or sectors that are dominated by large firms, is more fierce, leading to less voluntary disclosure of strategic information. Also, when the competitive effect of disclosure becomes primordial, which may be the case in larger sectors, we expect non-disclosure to be optimal following the information sharing literature.

At the level of the individual firm we found a positive relation between the profitability that is absorbed by wages paid (DIFF) and the likelihood of disclosure. Given this result we expect that for sectors with labour intensive activities the disclosure percentage will be higher.

Hypothesis 15 : Disclosure is observed more frequently in sectors with higher value added per worker and/or a higher average number of staff per firm.

The estimation method we use is least squares. As in the maximum likelihood estimation of the logit model, it is important that we avoid the problem of multicollinearity. Table 13 presents the correlation matrix for the independent variables that are included in the estimation. There is a potential risk of multicollinearity if we estimate the variables LEV and NRTA or STAFF and STRUCT in the same model.

White's test (see e.g. Gujarati, 1995) showed the presence of heteroskedasticity. Therefore we use the heteroskedasticity consistent covariance matrix estimator also developed by White, which provides correct estimates in the presence of heteroskedasticity of an unknown form (see Eviews 3.1. manual). The estimation output is given in table 14.

Table 13 : Correlation matrix (*p<0.01 two-tailed significance)

	STRUCT	SIZE	LIQ	LEV	NRTA	VASTAFF	STAFF
STRUCT	1						
SIZE	0.1014	1					
LIQ	0.0347	-0.0319	1				
LEV	-0.1259*	0.0247	0.0569	1			
NRTA	-0.1286*	-0.0651	-0.0209	0.2543*	1		
VASTAFF	-0.0832	-0.0319	-0.0018	0.0643	0.1303*	1	
STAFF	-0.3541*	-0.1289*	-0.0065	0.0186	0.0202	-0.0133	1

Table 14 : Voluntary disclosure of sales at the sector level

Dependent Variable: DISC				
Method: Least Squares				
Sample: 1 660				
Included observations: 506				
Excluded observations: 154				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.389740	0.018050	21.59248	0.0000
SIZE	-1.25E-05	7.00E-06	-1.787370	0.0745
VASTAFF	4.56E-07	2.59E-07	1.760197	0.0790
NRTA	-0.327832	0.168654	-1.943809	0.0525
STAFF	-0.000131	0.000131	-0.998439	0.3185
LIQ	-0.002615	0.002113	-1.237528	0.2165
R-squared	0.030270	Mean dependent var	0.353315	
Adjusted R-squared	0.020573	S.D. dependent var	0.175301	
S.E. of regression	0.173489	F-statistic	3.121533	
Sum squared resid	15.04918	Prob(F-statistic)	0.008729	
Log likelihood	171.3660	Durbin-Watson stat	2.041337	

To avoid multicollinearity the variables STRUCT and LEV are excluded. They were tested in an alternative model in which neither STRUCT nor LEV were significantly related to the percentage of disclosure. So again no significant relation is found between the percentage of disclosing firms and the relative importance of SMEs within the sector. The estimation results confirm the negative relation between sector size and disclosure. It is the number rather than the type of firms that is related to disclosure. Whereas the relation between profitability and disclosure was confusing at the level of the individual firms, we now find a negative relation between the percentage of disclosure and net return on total assets. The positive relation between disclosure and value added per employee or worker may be an indication that in labour intensive sectors

firms may feel more pressured to disclose information. However, this is not confirmed by the average number of staff per firm.

To investigate whether the sector's location and type of activity themselves are related to the percentage of disclosure, we apply univariate non-parametric tests. We test whether the percentage of disclosure is significantly different first in Flanders, Wallonia or Brussels and second for industrial (dummy variable ACTIVITY = 1) versus commercial (ACTIVITY = 0) firms using a Mann-Whitney U-test. The results presented in table 15 show that the disclosure percentage is not significantly different depending on the type of activity. However, disclosure is observed less frequently in Flanders and more frequently in Wallonia or Brussels.

Table 15 : Univariate tests for location and type of activity

Grouping variable	Mean Disclosure %		Standard Deviation	Number of observations	Mann-Whitney U (2 tailed sign.)
FLANDERS	1	28.06 %	15.20	252	19104.000 (0.000)
	0	40.12 %	19.67	300	
WALLONIA	1	41.04 %	20.77	247	21229.500 (0.000)
	0	29.41 %	15.06	305	
BRUSSELS	1	35.83 %	12.81	52	10766.500 (0.041)
	0	34.49 %	19.26	500	
ACTIVITY	1	34.21 %	19.22	311	36302.000 (0.528)
	0	35.14 %	18.14	241	

VII. Conclusion

In this paper we looked at the actual disclosure decision for SMEs that are allowed to keep the sales figure private in the abridged profit and loss account. We learned that many firms follow a consistent disclosure or non-disclosure strategy through time. Further, we found a positive relation between the likelihood of disclosure and the relative amount of expired tax and social security debts, the difference between net return on total assets before and after deduction of wages paid, and both the share of trade debts and financial debts in the firm's total short term debts. Also, firms with a negative self financing ratio are more likely to disclose sales. A negative relation was found between the likelihood of disclosure and the firm's liquidity, net return on total assets, relative amount of secured debts, the percentage of the SME's shares that are held by

companies rather than private persons, firm size measured by total assets and the number of years the firm has been in operation. In the selection of the sample we respected the proportions regarding firm size (measured by the number of staff), location and type of activity that apply to the population. This proved to be a very important consideration. To study the effects of firm size, location, type of activity and profitability on the estimation results, we split the sample into several subsamples based on one of these criteria. It was shown that first, for different subsamples, different relations are significant, second, some of the (larger) subsamples drive the results for the total sample and third, some of the relations change depending on the composition of the sample. The most important conclusion here is that interpretation and especially generalization of the estimation results should be very careful and take the influence of firm size, location, type of activity and profitability into account.

Many firms follow a consistent disclosure or non-disclosure strategy. The reason why these firms initially opted for either disclosure or non-disclosure is not clear. We acknowledge that there are obviously some explanations that are not included in this paper. The most important factors in the disclosure decision that were not taken into account are probably the influence of the accountant and the irrational choice to keep business information private as much as possible. For some SMEs the preparation of the financial statements and any decisions that are involved with the publication are left entirely to the discretion of an external accountant. It is possible that an accounting firm chooses a consistent disclosure or non-disclosure strategy for all its clients, regardless of the specific situation of the SME.

To study the influence of the sector on the disclosure decision for the individual firm, we looked at newly established firms. In the first year of operation, newly established firms are likely to follow the example that is set by the existing firms in the market they enter. This means that there may be some influence of what may be considered ‘common practice’ in the industry. Finally, we studied voluntary disclosure of sales at the sector level. We found that the percentage of disclosing firms is negatively related to the number of firms in the sector and the sector’s profitability, while a positive relation is found between the percentage of disclosure and the productivity of labour. We also observed less disclosure in Flanders compared to Wallonia and Brussels.

The empirical research reported in this paper is built entirely on externally available information. An option for future research is to collect more information, through surveys and/or interviews, for a limited sample of SME’s. This way a more accurate measure for the competitive position could be designed and the influence of the accountant or possible irrationalities in the disclosure

decision may be studied. It would also allow the researcher to study the decision *process* rather than the outcome of the disclosure decision.

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