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WORKING PAPER

Audit- and non-audit fees and company characteristics in Belgium

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Abstract

This paper investigates the link between audit and non-audit fees and company characteristics that can be observed in the financial statements: size of the client, complexity and business risk. Data on 83 listed companies in Belgium partly confirm the literature. The relation between fees and variables such as sales, total asses, solvency and the existence of losses agree with previous literature. For liquidity, return on assets and the ratio current assets/total assets, there are differences with the existing literature. The paper uses two different definitions for audit fees, taking into account the differences between US and Belgian regulations on disclosure. It is demonstrated that these differences have an impact on the relation between fees and company characteristics. Non-audit fees show similar relations to company characteristics as audit fees.

Literature review

Audit fees and company characteristics There is an extensive literature on the relation between audit fees and company characteristics such as company size, company complexity and business risk. Company size has been measured using total assets, sales and market value. Company size generally is the major variable influencing audit fees (Kamran and Goyal, 2005, Firth, 1997, Whisenant et al., 2003, Felix et al., 2001, Cobbin, 2002). Client complexity is often measured using dummy variables. Results are mixed, but Kamran and Goyal (2005) and Firth (1997) concluded that complexity has a positive, although not significant effect on audit fees. Business risk is measured by Firth (1997) as the ratio 'accounts receivable and inventory / Total assets'. Because short term assets such as inventories typically can be manipulated easier, a high ratio represents higher business risk. Given the level of audit risk, higher business risk requires more testing and consequently an audit that is more expensive. Kamran and Goyal (2005) consider business risk in relation with the financial health of a company. They construct an index measuring financial health based on return on assets, solvency and liquidity. The index is positively related with audit fees, but not always significant. Whisenant et al (2003) found that return on assets and liquidity have a negative and significant relation with audit fees, whereas solvency has a positive and significant relation. They also found a positive and significant relation with losses. Felix et al (2001) observe a positive and significant relation between solvency and audit fees.

In Belgium, Willekens and Gaeremynck (2005) found that total assets, sales and added value are positively and highly significantly related to audit fees. Audit fees are also related to being listed and are influenced by the industry. Financial performance variables related to profitability are significant and generally have a negative relation with audit fees. They use the ratio 'inventory to total assets' as a proxy for inherent risk and find a positive but non-significant relation with audit fees.

Most research includes company size, complexity and business risk as the major variables. Other variables are less widely included in the models. Industry affiliation is included by Butterworth and Houghton, 1995 and seems linked with risk variables. Concentrated ownership shows a significant and negative relation with audit fees (Chan et al., 1993). Corporate misconduct, such as bribery, is related with higher audit fees (Lyon and Maher, 2005). The presence of an internal audit department does not seem to have a significant impact (Felix et al, 2001), whereas important weaknesses in internal control are significantly and positively related with audit fees, at least in a post Sarbanes Oxley environment (Raghunandan and Rama, 2006). A similar relation exists with the independence and financial expertise of audit committees (Abbott et al., 2003), although interactions with board of directors characteristics confuse this relation (Carcello, Hermanson, Neal and Riley (2002). Frankel, Johnson and Nelson (2002) find a negative relation between audit fees and earnings management indicators, such as absolute discretionary accruals.

Table 1 summarizes the literature on the relation between audit fees and company characteristics.

Table 1: Relation between audit fees and company characteristics

Variable	Measurement basis	Article reference	Relation	Significance
Client size	total assets	Kamran and Goyal, 2005	+	S
		Whisenant et al, 2003	+	S
		Felix et al, 2001	+	S
		Cobbin, 2002	+	S
		Willekens and Gaeremynck, 2005	+	S
		Firth, 1997	+	S
	sales	Kamran and Goyal, 2005	+	S
		Cobbin, 2002	+	S
		Willekens and Gaeremynck, 2005	+	S
		Firth, 1997	+	S
	market value	Kamran and Goyal, 2005	+	S
	added value	Willekens and Gaeremynck, 2005	+	S
	Stock exchange listing	Willekens and Gaeremynck, 2005	+	S
Client complexity	part of a multinational group	Kamran and Goyal, 2005	+	NS

		Firth, 1997	+	NS
	(accounts receivable + inventory)/total assets	Kamran and Goyal, 2005	+	NS
	accounts receivable/total assets	Firth, 1997	+	NS
	inventory/total assets	Firth, 1997	+	NS
	number of subsidiaries or segments	Menon and Williams, 2001	+	NS
Client risk	(accounts receivable + inventory)/Total assets	Firth, 1997	+	NS
	inventory/total assets	Willekens and Gaeremynck, 2005	+	NS
	return on assets	Kamran and Goyal, 2005	+	NS
		Whisenant et al, 2003	-	S
	Solvency	Kamran and Goyal, 2005	+	NS
		Whisenant et al, 2003	+	S
		Felix et al, 2001	+	S
		Willekens and Gaeremynck, 2005	+	NS
	liquidity	Kamran and Goyal, 2005	+	NS
		Whisenant et al, 2003	-	S
		Willekens and Gaeremynck, 2005	-	S
	losses	Whisenant et al, 2003	+	S
		Willekens and Gaeremynck, 2005	-	S
	cash flow/total assets	Willekens and Gaeremynck, 2005	-	S
	Gross margin	Willekens and Gaeremynck, 2005	-	S
Corporate misconduct		Lyon and Maher, 2005	+	S
Client industry		Willekens and Gaeremynck, 2005 Butterworth and Houghton, 1995		
Institutional investors		Chan et al, 1993	-	S
Internal audit contribution		Felix et al, 2001	-	S
Weaknesses in internal control		Raghunandan and Rama, 2006	+	S
Audit comitee	independence	Abbott et al, 2003	+	S
	financial expertise	Abbott et al, 2003	+	S
	number of meetings	Abbott et al, 2003	No relation	
Board of directors	independence	Carcello et al, 2002	+	S
	dilligence	Carcello et al, 2002	+	S
	expertise	Carcello et al, 2002	+	S
discretionary accruals		Frankel et al, 2002	-	S
Bond ratings		Brandon et al, 2004	-	NS

Non-audit fees and company characteristics There is less research published on non-audit fees and company characteristics. Abbott et al (2003) investigate the relation between non-audit fees and the characteristics of the audit committee. They find a negative and significant relation between non-audit fees and audit committee independence. There is also a signicantly negative relation between non-audit fees and the importance of institutional investors (Mitra and Hossain, 2007) and with bond ratings (Brandon et al, 2004). Research results with respect to the relation

between non-audit fees and accruals are mixed (Larcker and Richardson, 2004, Ashbaugh, Lafond and Mayhew, 2003, Chung and Kallapur, 2003 and Frankel et al (2002).

Table 2 summarizes the relation between non-audit fees and company characteristics.

Table 2: Relation between non-audit fees and company characteristics

Variable	Measurement basis	Article reference	Relation	Significance
Audit committee	independence	Abbott et al, 2003	-	S
	number of meetings	Abbott et al, 2003	-	NS
Institutional investors		Mitra and Hossain, 2007	-	S
Unexpected accruals		Larcher and Richardson, 2004	+	
		Frankel et al, 2002	+	S
		Chung and Kallapur, 2003	No relation	
Bond ratings		Brandon et al, 2004	-	S

Relation between audit and non-audit fees Different relations might exist between audit and non-audit services. The provision of non-audit services can improve the financial performance of the audit firm and compensate losses on audit services (Hillison and Kennelley, 1988). Knowledge spillovers can reduce costs and impact audit pricing (Simunic, 1984, Butterworth and Houghton, 1995). Generally, the relation between both types of fees is positive (Hay et al., 2006). However, research outcomes are mixed for specific types of non-audit services. O'Keefe et al. (1994) do not find an association between audit fees and tax consulting, whereas Ezzamel et al. (2002) find a positive and significant relation for this type of services. Both papers do not find a significant relation between audit fees and management consulting.

Research design

The literature review shows that company characteristics have different relations with audit and non-audit fees. We investigate some of these relations for a sample of Belgian listed companies. The research is limited to relations that can be investigated on the basis of published financial statements. This excludes variables such as Board of Directors characteristics, institutional ownership, internal control system characteristics and audit committee characteristics.

There is a difference between the US and Belgium with respect to what is considered to be part of the audit fee. Table 3 summarizes the differences. The US model assumes that audit fees consist of the fee for the statutory audit of the financial statements. The non-audit fees include all other fees paid to the auditor and to parties related to the auditor (Van Der Elst, 2004). Belgian companies generally provide other information. Audit fees here include the fee for the statutory audit and all fees for audit work that was performed by the auditor and parties related to the auditor. This includes, e.g. audit work related to increases of capital in kind, audit work related to mergers and demergers, etc. In the US, some of these would not be included in audit fees. In Belgium, non-audit fees include tax fees and fees for non-audit work. We develop specific models to take these differences into account.

Table 3: Audit and non-audit fees, differences between US and European approach

Fee of the statutory audit	(1)	
Fee for specific assignments in the company, carried out by the statutory auditor		Other audit assignments (2)
		Tax consulting (3)
		Other non-audit work (4)
Fee for specific assignments in the company, carried out by parties related to the statutory auditor		Other audit assignments (5)
		Tax consulting (6)
		Other non-audit work (7)
AudHon_Am	= (1)	
NAudHon_Am	= (2) + (3) + (4) + (5) + (6) + (7)	
AudHon_Eur	= (1) + (2) + (5)	
NAudHon_Eur	= (3) + (4) + (6) + (7)	

The breakdown of the general research question about the relation between fees and company characteristics results in the following hypotheses:

H_{1a}: Total assets has a positive relation with audit fees

H_{1b}: Sales has a positive relation with audit fees

H_2: The ratio 'accounts receivable + inventory / total assets' is positively related with audit fees

H_3: Return on assets has a negative relation with audit fees

H_4: Solvency has a positive relation with audit fees

H_5: Liquidity has a negative relation with audit fees

H_6: Losses have a positive relation with audit fees

To test these hypotheses, we first run two regressions. Audit fees are defined following the US definition of audit fees (see below).

$$LnAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta_6 LnTA + \varepsilon$$

$$LnAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta_6 LnSales + \varepsilon$$

In a third and fourth regression we investigate the relation between the independent variables of the previous models and non-audit fees (again following US calculation). The third regression includes total assets, the fourth sales. These regressions test the following hypotheses.

H_{7a}: Total assets is positively related to non-audit fees

H_{7b}: Sales is positively related to non-audit fees

H_8: The ratio 'accounts receivable + inventory / total assets' is positively related with non-audit fees

H_9: Return on assets has a negative relation with non-audit fees

H_{10}: Solvency has a positive relation with non-audit fees

H_{11}: Liquidity has a negative relation with non-audit fees

H_{12}: Losses have a positive relation with non-audit fees

The regressions are:

$$LnNAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta_6 LnTA + \varepsilon$$

$$LnNAudHon\_Am = \beta_0 + \beta_1\ ARInv\_TA + \beta_2\ ROA + \beta_3\ Solvency + \beta_4\ Liquidity + \beta_5\ Losses + \beta_6\ LnSales + \varepsilon$$

The difference between the US and European approach results in four additional regressions, using the European definition of audit and non-audit fees:

$$LnAudHon\_Eur = \beta_0 + \beta_1\ ARInv\_TA + \beta_2\ ROA + \beta_3\ Solvency + \beta_4\ Liquidity + \beta_5\ Losses + \beta_6\ LnTA + \varepsilon$$

$$LnAudHon\_Eur = \beta_0 + \beta_1\ ARInv\_TA + \beta_2\ ROA + \beta_3\ Solvency + \beta_4\ Liquidity + \beta_5\ Losses + \beta_6\ LnSales + \varepsilon$$

$$LnNAudHon\_Eur = \beta_0 + \beta_1\ ARInv\_TA + \beta_2\ ROA + \beta_3\ Solvency + \beta_4\ Liquidity + \beta_5\ Losses + \beta_6\ LnTA + \varepsilon$$

$$LnNAudHon\_Eur = \beta_0 + \beta_1\ ARInv\_TA + \beta_2\ ROA + \beta_3\ Solvency + \beta_4\ Liquidity + \beta_5\ Losses + \beta_6\ LnSales + \varepsilon$$

Data

Data were collected using the Bel-First database. This database includes the Financial statements of 540 000 companies in Belgium and Luxemburg. The sample included only companies listed in Belgium and for which sufficient data were available to calculate sales, return on assets, solvency, liquidity, profit or loss and total assets. This results in a sample of 125 companies. Financial data related to 2006. Most variables could be calculated directly from the database.

To complete the data, however, financial statements were downloaded from the website of the National Bank of Belgium. This provided more detailed data on accounts receivable, inventory, provisions and deferred taxes that were necessary to calculate some of the independent variables.

Audit and non-audit fees were taken from the financial statements that were found on the website of the National Bank of Belgium. If they were not available on the website, data were taken from the websites of the companies involved. However, a significant number of companies did not disclose audit or non-audit fees, although this is prescribed by law. This resulted in a further reduction of the sample to 93 companies. A scatterplot analysis resulted in a further elimination of 10 outliers, resulting in a final sample of 83 companies.

Results

Descriptive statistics Table 5 provides descriptive data on the variables that are used in the regressions. The average audit fee (based on the US approach) is 157 580 Euro. Based on the European approach it is higher (177 750 Euro) due to the inclusion of 'other audit work' in the definition. Average non-audit fees are 83 690 Euro, and 63 520 Euro, respectively.

Table 5: Descriptive data (n=83)

Variable	Mean	Standard deviation	Minimum	Median	Maximum
Sales	188 789	601 429	0	5 707	3 982 229
LnSales	8,69	3,37	0	8,65	15,20
TotalAssets	1 172 546	3 289 952	861	105 893	22 372 664
LnTA	11,77	2,15	6,76	11,57	16,92
ARInv_TA	0,11	0,15	0	0,04	0,58
ROA	0,04	0,13	-0,26	0,02	0,82
Solvency	0,39	0,25	0,02	0,37	1,00
Liquidity	3,31	6,81	0,02	1,16	48,16
Losses	0,30	0,46	0	0	1
CF_TA	0,05	0,14	-0,34	0,04	0,59
AudFee_Am	157	547	0	34	4081
LnAudFee_Am	3,46	1,78	0	3,52	8,31
NAudFee_Am	83	149	0	21	699
LnNAudFee_Am	2,84	2,10	0	3,04	6,55
AudFee_Eur	177	565	0	40	4081
LnAudFee_Eur	3,86	1,47	0	3,69	8,31
NAudFee_Eur	63	129	0	10	577
LnNAudFee_Eur	2,28	2,13	0	2,30	6,36

Sales = Turnover in 1000s €
LnSales = Natural log Sales
TotalAssets = Total assets in 1000s €
LnTA = Natural log Total Assets
ARInv_TA = (accounts receivable + inventory)/total assets, %
ROA = return on assets, %
Solvency = (provisions + deferred taxes and debts)/Total assets, %
Liquidity = current assets/(short term debts and accruals, %
Losses = dummy variable, 1 if losses, 0 otherwise
CF_TA = cash flow/total assets, %
AudFee_Am = audit fee, US approach, 1000s €
LnAudFee_Am = Natural log AudFee_Am

NAudFee_Am	= non-audit fees, US approach, 1000s €
LnNAudFee_Am	= Natural logNAudFee_Am
AudFee_Eur	= audit fee, European approach, 1000s €
LnAudFee_Eur	= Natural log AudFee_Eur
NAudFee_Eur	= non-audit fees, European approach, 1000s €
LnNAudFee_Eur	= Natural log NAudFee_Eur

Correlation matrix The correlations between dependent and independent variables are given in table 6. There is a significant correlation between *LnTA* and the four dependent variables on a 99% reliability level. The same is observed for *LnSales*. There is a very high correlation between *ROA* and CF_TA. CF_TA will be eliminated from the regressions.

The results of the models that include *LnTA* will be more reliable than those that include *LnSales*. The independent variables *ARInv_TA*, *ROA*, *Solvency*, *Liquidity* and *Losses*, do not correlate with *LnTA*, whereas some of them are signficantly correlated with *LnSales.*

Table 6: Correlation matrix (n=83)

Pearson correlation matrix	LnTA	ARInv_TA	ROA	Solvency	Liquidity	Losses	CF_TA	LnSales
LnTA	1,000							
ARInv_TA	-0,170	1,000						
ROA	-0,075	0,078	1,000					
Solvency	0,099	0,422**	-0,014	1,000				
Liquidity	-0,167	-0,180	-0,064	-0,382**	1,000			
Losses	-0,183	-0,020	-0,434**	0,117	0,151	1,000		
CF_TA	0,054	0,121	0,853**	0,007	-0,192	-0,560**	1,000	
LnSales	0,338**	0,448**	0,084	0,546**	-0,360**	0,004	0,085	1,000
LnAudHon_Am	0,523**	-0,077	-0,023	0,375**	-0,170	0,029	-0,008	0,538**
LnNAudHon_Am	0,493**	-0,103	0,016	0,156	-0,140	0,082	0,065	0,359**
LnAudHon_Eur	0,585**	-0,147	0,004	0,380**	-0,171	0,020	0,037	0,502**
LnNAudHon_Eur	0,525**	-0,032	-0,034	0,173	-0,111	0,069	0,019	0,370**

** Correlation is significant at 0.01 (2-sided)

* Correlation is significant at 0.05 (2-sided)

ROA is negatively correlated with *LnAudHon_Am* and *LnNAudHon_Eur*, but positively with the other variables. *Solvency* is significantly correlated with *LnAudHon_Am* and *LnAudHon_Eur*, but not with the non-audit fee variables.

Regression models 1 & 2 Results of regressions on audit fees (US approach) are shown in table 7. The first model includes *LnTA*, the second *LnSales*. Adjusted R^2 is lower for the first model, 36.4% against 41.5%.

Table 7: Regression models 1 and 2

$$LnAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6\ LnTA + \varepsilon$$

$$LnAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6\ LnSales + \varepsilon$$

		Model 1		**Model 2**	
Variables	Expected relation	β	p-value	β	p-value
Constant			0,026**		0,382
ARInv_TA	+	-0,160	0,117	-0,451	0,000***
ROA	-	0,076	0,448	-0,052	0,583
Solvency	+	0,393	0,000***	0,253	0,023**
Liquidity	-	0,023	0,818	0,078	0,415
Losses	+	0,099	0,346	-0,046	0,637
LnTA	+	0,484	0,000***		
LnSales	+			0,635	0,000***
Adjusted R^2			0,364		0,415
F			8,817		10,691
Significance			0,000		0,000

*** p-value < 0,01
** p-value < 0,05
* p-value < 0,1

The expected sign for variable *ARInv_TA* does not correspond with the observed values. If *LnTA* is included in the model, the negative relation between *ARInv_TA* and *LnAudHon_Am* is not significant; however, in Model 2, the negative relation becomes very significant. Most other variables are not significant, with the exception of the *Solvency* variable and both size variables. These show the expected sign. The expected negative relation between return on assets and audit fees is only confirmed in Model 2. The hypothesis with respect to losses is only confirmed in Model 1.

Regression models 3 & 4 The results for non-audit fees (US approach) are shown in table 8. The model that includes *LnTA* (Model 3) has a higher adjusted R^2 than Model 4.

Table 8: Regression models 3 and 4

$LnNAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6 LnTA + \varepsilon$

$LnNAudHon\_Am = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6 LnSales + \varepsilon$

		Model 3		**Model 4**	
Variables	expected relation	β	p-value	β	p-value
Constant			0,006***		0,419
ARInv_TA	+	-0,069	0,531	-0,332	0,006***
ROA	-	0,165	0,131	0,040	0,723
Solvency	+	0,084	0,471	0,006	0,962
Liquidity	-	-0,060	0,576	-0,033	0,772
Losses	+	0,247	0,032**	0,096	0,410
LnTA	+	0,520	0,000***		
LnSales	+			0,488	0,000***
Adjusted R^2			0,253		0,162
F			5,628		3,643
Significance			0,000		0,003

*** p-value < 0,01
** p-value < 0,05
* p-value < 0,1

Again the variable *ARInv_TA* does not have the expected sign. In both models the sign is negative, although not significant in Model 3. The other variables are not significant, except for the size variables in both models and losses in Model 3.

Regression modes 5 & 6 Table 9 shows that the explanatory power of the models is higher when audit fees are calculated on the basis of the European model, especially in the model that estimates size on the basis of total assets. The variable *ARInv_TA* again has a sign opposite to expectations. Contrary to the American model, the relation is moderately significant in the *LnTA* model (p-value 0.012 < 0.05). If *LnSales* is included in the model, the results are similar to the US model, with a highly significant relation (p-value 0.000 < 0.01). The results for *Liquidity, ROA* and *Losses*.are similar to those obtained in the US Model.

Table 9: Regression models 5 and 6

$LnAudHon\_Eur = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6 LnTA + \varepsilon$

$LnAudHon\_Eur = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6 LnSales + \varepsilon$

		Model 5		Model 6	
Variables	expected relation	β	p-value	β	p-value
Constante			0,081		0,001***
ARInv_TA	+	-0,237	0,012**	-0,533	0,000***
ROA	-	0,119	0,194	-0,016	0,863
Solvency	+	0,427	0,000***	0,311	0,005***
Liquidity	-	0,030	0,738	0,074	0,431
Losses	+	0,111	0,245	-0,047	0,623
LnTA	+	0,537	0,000***		
LnSales	+			0,599	0,000***
Adjusted R^2			0,470		0,443
F			13,124		11,851
Significance			0,000		0,000

*** p-value < 0,01
** p-value < 0,05
* p-value < 0,1

Solvency shows the same relation with the dependent variable as in the American model. The relation is very significant in both models. Again, the size variables are very significant. In general, the conclusions for Models 1 and 2 on the one hand, and Models 5 and 6 on the other, are similar, except for *ARInv_TA* and *Solvency*. When *ARInv_TA* is included in a model with *LnTA*, the relation between *ARInv_TA* and *LnAudHon_Am* is not significant, whereas the relation between *ARInv_TA* and *LnAudHon_Eur* is moderately significant. If *Solvency* is included in a model with *LnSales*, the relation with the dependent variable is moderately significant in a US model, but highly significant in a European model.

Regression models 7 & 8 These models report relations with non-audit fees, calculated on the basis of the European scheme. The results are shown in table 10. The explanatory power of the models is close to the US based models. Model 7 is more powerful than Model 8.

Table 10: Regression models 7 and 8

$$LnNAudHon\_Eur = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6\ LnTA + \varepsilon$$

$$LnNAudHon\_Eur = \beta_0 + \beta_1 ARInv\_TA + \beta_2 ROA + \beta_3 Solvency + \beta_4 Liquidity + \beta_5 Losses + \beta 6\ LnSales + \varepsilon$$

		Model 7		Model 8	
Variables	expected relation	β	p-value	β	p-value
Constant			0,000***		0,915

ARInv_TA	+	0,026	0,811	-0,247	0,042**
ROA	-	0,098	0,363	-0,034	0,766
Solvency	+	0,081	0,486	0,014	0,914
Liquidity	-	-0,006	0,955	0,014	0,903
Losses	+	0,207	0,067	0,044	0,710
LnTA	+	0,566	0,000***		
LnSales	+			0,481	0,000***
Adjusted R^2			0,268		0,127
F			6,011		2,983
Significance			0,000		0,011

*** p-value < 0,01
** p-value < 0,05
* p-value < 0,1

The results for *ARInv_TA* are different from those obtained in Models 3 and 4. In Model 7, the relation with *LnNAudHon_Eur* is positive as expected, but not significant (p-value 0.811). In Model 3, this relation was negative. In Model 8, the relation between *ARInv_TA* and *LnNAudHon_Eur* is opposite to what was expected. The correlation is negative and moderately significant (p-value 0.042 < 0.05), whereas in Model 3 it is highly significant. The results are also different for *ROA* and *Liquidity* in Model 8. Again, the size variables are highly significant.

Summarizing, the regressions that include non-audit fees (calculated based on the European model) confirm the hypotheses with respect to Total assets, sales and solvency. The hypotheses concerning *ARInv_TA* and *Liquidity* are only confirmed in the model including total assets, *ROA* is only confirmed in the model including sales.

Conclusions

The literature discusses many company characteristics that have an impact on audit and non-audit fees. From this literature, it can be concluded that the major determinants for audit fees are company size, complexity and risk. This paper defines a number of variables that can be used to investigate the impact of these determinants on both audit and non-audit fees. It introduces specific regressions to take into account the differences between the US and Belgium with respect to the definition of audit and non-audit services.

Sales and total assets, as proxies for the size of a company, always have a positive and significant impact on both audit and non-audit fees. This confirms the literature. For other independent variables, some results were different from what was found before. Contrary to our

expectations, the ratio 'Accounts receivable + Inventory / Assets' has a negative relation with the different fees, except for the European non-audit fee model that includes total assets. We expected a negative relation between fees and return on assets. The relation is indeed negative in the models that include sales (except for the non-audit fees calculated using the American approach). In the models including total assets, the relation is positive, although not significant. Our results are thus comparable with those of Kamran and Goyal (2005).

Solvency is positively related with fees; however, the relation is not significant for non-audit fees, contrary to audit fees where the relation is always moderately to highly significant.

The results for liquidity are not very consistent across the models, neither in line with previous research. The relation with the dependent variable is not significant, and its sign is variable. With respect to losses, a positive relation with fees is expected. This is not confirmed in the audit fee models that include sales.

An important limitation of the research is the small sample size. This is partly due to the recent introduction of the obligation to disclose fee data in the financial statements. It can be expected that similar research in the future will have more data available. Data were taken from published financial statements. Consequently, non financial variables could not be included in the analysis. Further studies could also look at governance characteristics such as board composition, audit committee impact etc.

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