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Audit Quality of Italian Industrial Non-Listed Firms: an Empirical Analysis

Marco Bisogno

University of Salerno, Italy

Abstract

The study measures audit quality of Italian non-listed SMEs, moving from two elements: i) the Italian law distinguishes between administrative and financial audit; ii) while listed companies have to assign administrative audit to the Board of Statutory Auditors (BSA), and financial audit to external auditors. However, non-listed firms, which are not "entities of public interest" and are not obliged to prepare consolidated financial statements, can assign both to the BSA. The research compares audit quality performed by these bodies.

Considering the independence of BSA's members, it is expected that there are no significant differences between the two alternatives. Moreover, it is hypothesized that Italian SMEs tend to underestimate earnings.

The approach adopted differs from previous studies because it analyses SMEs (which represent the wider market for audit services), while literature mainly analyses large listed firms. Moreover, the modified Jones' regression model is adopted to the characteristics of the Italian firms.

Keywords: *Audit Quality, Earning Management, Non-Listed Firms, External Auditors and Board of Statutory Auditors.*

1. Introduction

The importance of audit quality has been emphasised by recent international and Italian financial scandals; moreover, the present global crisis has highlighted the "manipulation" of earnings (the so called earnings management), with the aim of not showing losses or incomes that do not reflect the results of previous years. As a consequence, a renewed interest in the topic can be observed, as underlined by numerous papers concerning the role of auditors in providing constraints on earnings management.

The great part of these studies concerns listed companies while only few papers (e.g. Mariani *et al*, 2010; Van Tendeloo and Vanstraelen, 2008) pertain to non-listed firms. However, the European context is characterized by the prevalence of non-listed (small-medium sized) firms (European Commission, 2003), whose financial statements are not widely distributed to the public. As a consequence, non-listed firms represent the wider market for audit services and this justifies the relevance of a study concerning earnings managements and audit quality of these firms.

The Italian legislation concerning auditing prescribes a separation between *financial* audit, which has to be assigned to external auditors, and *administrative* audit, which is in charge of an internal body, named 'Board of Statutory Auditors' (BSA). However, in predefined situations (see below), non-listed firms (which represent more

* Corresponding author: mbisogno@unisa.it

than 95% of the Italian firms) could assign also financial audit to the BSA.

The aim of the paper is to understand if the choice of the Italian law to assign financial audit to the BSA influences the reliability of financial statements and, as a consequence, audit quality of Italian non-listed companies. In addition, this research tries to understand if this choice is consistent with the characteristics of Italian non-listed firms, whose main stakeholders are tax agencies and banks. More specifically, it is hypothesized that Italian non-listed firms tend to underestimate earnings because of a high alignment between financial statements and tax accounting.

The main result is that there are not significant differences between auditing activities performed by BSA and those carried out by external auditors.

International literature assesses the quality of audit in an indirect way, by examining earnings quality (Becker *et al*, 1998); in fact, the reliability of financial statements can be directly related to the efficiency of auditing activities because financial auditors have to express an opinion on the quality of annual reports, identifying and modifying unsound financial assessments. On the topic, the study of Hirst (1994) is emblematic: auditors take into account the incentives to earnings management in planning their activity and in expressing their opinion. Furthermore, many researches (see, among the others: Becker *et al*, 1998; Francis *et al*, 1999; Palmrose, 1988) assess that the auditor body influences earnings management, more specifically that Big 4 auditors are of higher quality compared to non-Big 4 auditors.

The paper adopts the modified Jones' regression model, which allows estimating the effects of different auditing bodies (external *vs.* statutory auditors) on discretionary accruals, even if some further modifications are introduced in order to take into account the characteristics of the Italian financial statements.

The paper is articulated as follows: The next section summarizes the Italian context; section 3 reviews the literature introducing research hypotheses; section 4 clarifies the research design and methodology; section 5 illustrates results while section 6 draws some conclusions, also discussing the limitations of the analysis.

2. The Italian context

The Legislative Decree No. 6/2003 reformed the Italian civil code, prescribing three alternative governance models: 'traditional', 'dualistic' and 'monistic' models. Table 1 summarises their characteristics.

Table 1

Auditing bodies in the Italian governance models

Model	Type of company	Administrative Audit	Financial Audit
Traditional	Listed	Board of Statutory Auditors (BSA)	Auditing company
	Non listed Type 1		Single Auditor or Auditing company
	Non-listed type 2		Single Auditor/Auditing company or BSA *
Dualistic	Listed	Surveillance Committee	Auditing company
	Non listed		Single Auditor or Auditing company
Monistic	Listed	Committee for Management Control	Auditing company
	Non listed		Single Auditor or Auditing company

* If foreseen by company's by-laws
Type 1: entities of public interest; obliged to prepare consolidated financial statements
Type 2: entities of no public interest; not obliged to prepare consolidated financial statements

The paper concentrates on the traditional corporate governance model (adopted by about 95% of Italian firms), in order to assess audit quality in non-listed companies that do not represent 'entities of public interest' and are not obliged to prepare consolidated financial statements, i.e. in cases in which financial auditing could be assigned alternatively to external auditors or to the BSA.

The so called 'Draghi Law' (Legislative Decree 24 February 1998, no. 58) introduced a distinction between *administrative* audit and *financial* audit.

The *financial auditors* have to assess the correctness of both bookkeeping entries and documents concerning the reporting of management operations, in order to verify that accounts are kept appropriately and that annual reports give a true and fair view of financial position, financial performance and cash flows of the company.

The *administrative auditors* have to respect both laws and corporate by-laws, attend to the principles of correct management and verify the acceptableness of administrative, organizational and accounting patterns and also pay attention to the procedures adopted by management in pursuing the objectives of the firm.

The administrative audit, a very multifaceted activity, is in charge of the BSA, a mandatory body in all stock corporations as well as in limited liability companies whose equity is more than 120,000 Euros. Members of the BSA must take part in all meetings of both the board of directors and shareholders, their duties being keeping under surveillance their activities in order to ensure that no fraud or illegal acts occur. These activities involve a monitoring of the internal control system of the company, representing a sort of assurance for stakeholders against its failure.

The Italian Civil Code (art. 2403) regulates all activities of members of the BSA, prescribing skills, responsibilities and obligations, which the Draghi Law subsequently reinforced by increasing their qualitative standard (also specifying the BSA's duties more clearly and granting it the power to report to the Court any serious irregularities performed by management). In addition, the civil code indicates many limitations and incompatibilities in designating members of the BSA also asking for several personal requirements in order to preserve their independence especially from the board of directors.

Finally, the Preda Code of Conduct (2002) endorses that in listed firms (but this rule is also applied in non-listed companies) members of the BSA have to perform their activities in the interests of all the stakeholders of the firm and not of specific shareholders or managers.

In substance, the BSA is a qualified body in accounting and auditing, representing a distinctive feature of the Italian traditional corporate governance model (Melis, 2004) and the Italian legislation summarised above guarantees to its members the same level of independence of external auditors.

In addition, according to the Decree No. 39/2010, both members of the BSA and external auditors must perform their duties professionally and correctly, consistent with the specific nature of their job; moreover, they are responsible for their declarations. Even if external auditors and members of the BSA have different duties, they play complementary activities and need to co-operate, both acting in the interests of all the stakeholders of a firm (Cortesi *et al*, 2009: 79); in other words, having the same objectives (to guarantee stakeholders the correctness of financial statements and fairness of the financial and organizational system), the Italian civil code encourages them to exchange information regularly, creating interaction and synergy (avoiding, at the same time, any duplication).

3. Previous Literature and Hypothesis Development

Managers of a company are responsible for the preparation of financial statements, which have to conform to Generally Accepted Accounting Principles (GAAP).

Normally, GAAP are characterized by a certain degree of flexibility; as a result, managers can exercise their discretion, choosing between different principles and/or techniques. This implies a possible manipulation of financial data.

Auditors are responsible for the reliability of financial statements, expressing an opinion on the

fairness of annual reports of a company. They play a crucial role not only in discovering GAAP violations (the so-called *earnings management against GAAP*) but also in asking for appropriate modifications when managers manipulate financial data by, for example, overestimating earnings (the so-called *earnings management within GAAP*; see Brown, 1999; Rosner, 2003, p. 367).

In this way, auditors (BSA or external auditors) can impose a correct application of GAAP, contributing to improve the reliability of financial statements, which depends (also) on the high quality of the audit process, defined as the probability that auditors discover errors and anomalies in annual reports and reveal them to the stakeholders (DeAngelo, 1981).

As a consequence, earnings management behaviour represents an indirect way of measuring the quality of auditing, the implicit assumption being the following: the least aggressive are earnings management behaviour, high are earnings quality and the higher is the quality of auditing.

A wide research (Leuz *et al*, 2003), which analysed earnings management in 31 countries, evidences the relevance of the topic; Scholars calculated an aggregate earnings management score, classifying countries in a descending order (see Table 2).

Italy shows a high score, giving a wide diffusion of earnings management behaviour.

In analysing audit quality, many studies assess that the large and brand name audit networks (the *Big Eight*, who have today become the *Big Four*) guarantee a higher quality of auditing compared with the non-Big four, because they are more likely to curb opportunistic accounting practices (see, among the others, Becker *et al*, 1998; DeFond and Jiambalvo, 1993; Francis *et al*, 1999; Gaver and Paterson, 2001; Teoh and Wong, 1993).

In this paper, it a different dichotomy is analyzed: BSA *vs.* external auditors, in order to assess if the choice of the Italian law (to assign financial audit to the BSA) is correct (i.e. BSA guarantees the same quality as external auditors) or not (i.e. BSA assures a lower audit quality than external auditors) (Cameran and Prencipe, 2011).

Table 2

Aggregate earnings management score

Countries	Aggregate earnings management score
Austria	28.3
Greece	28.3
South Korea	26.8
Portugal	25.1
Italy	*24.8*
Taiwan	22.5
Switzerland	22.0
Singapore	21.6
Germany	21.5
Japan	20.5
Belgium	19.5
Hong Kong	19.5
India	19.1
Spain	18.6
Indonesia	18.3
Thailand	18.3
Pakistan	17.8
Netherlands	16.5
Denmark	16.0
Malaysia	14.8
France	13.5
Finland	12.0
Philippines	8.8
UK	7.0
Sweden	6.8
Norway	5.8
South Africa	5.6
Canada	5.3
Ireland	5.1
Australia	4.8
USA	2.0

(*Source:* Leuz *et al*, 2003)

Generally speaking, external auditors are outside of the firm perimeters so they should have a greater independence than members of the BSA; in addition, while the BSA is in charge of both administrative and financial audit, external auditors focus their attention only on financial audit, having more power in limiting earnings management behaviour.

However, as stated above, auditing profession is strictly regulated by Italian public authorities and members of the BSA have the same level of

responsibility as that of external auditors. On the topic, Piot and Janin (2007) pointed out that the French civil law context (to which the Italian one is almost similar) is characterized by a lower litigation risk compared with the US common law system, one of the most relevant implication being that the presence of a Big Five auditor makes no difference regarding earnings management activities.

Moreover, the BSA is an internal body and it is in charge of both administrative and financial audit, as a result, it should have a greater knowledge of operations and a better control on the behaviour of management.

Moreover, members of the BSA carry out their activities with the necessary independence. In fact, the Legislative Decree no. 39/2010 establishes that:

- The administrative board of a firm cannot dismiss both external and internal auditors because of a divergence on accounting treatments or audit procedures; in more general terms, auditors can only be dismissed for motivated reasons;
- Auditor rotation is mandatory, inasmuch as auditors are chosen for three financial years, and members of the BSA have a strong legal protection, which gives them a greater ability to resist managerial pressure and keep earnings management practices in check (Piot and Janin, 2007). As a consequence, in the Italian context, the independence of members of the BSA is not threatened by the long term relationship between auditor and client. However, in more general terms, the assumption that audit tenure negatively influences audit quality does not seem sufficiently supported by empirical evidences: Geiger and Raghunandan (2002) suggest that audit quality improves over time while other researches (Frankel *et al*, 2002; Myers *et al*, 2003) show a negative relationship between auditor tenure and abnormal accruals (see also Knapp, 1991). Moreover, some studies (DeFond and Subramanyam, 1998; Lys and Watts, 1994) report that auditor tenure does not diminish the probability of an auditor to be subjected to legal actions;
- Members of the BSA cannot provide non-audit services. As a consequence, there are not any risks that auditors tend to have a more permissive approach in audit services because of obtaining high fees for providing also non-audit services (see Frankel *et al*, 2002; Kinney *et al*, 2004; Ruddock *et al*, 2004).

In addition, members of the BSA, because of their internal position, play an important role in strengthening the internal control system of the company, as underlined by the Italian Institute of Chartered Accountants (CNDCEC, 2012), and this should guarantee a better quality of accruals as well as a better reliability of financial statements, as pointed out by Ashbaugh-Skaife *et al* (2008) and Doyle *et al* (2007).

The above mentioned characteristics imply that members of the BSA should have the same level of skills and independence of external auditors. Hypothesis 1 can be summarised as follows:

H1. BSA guarantees the same audit quality compared to external auditors.

Non-listed firms have different peculiarities that need to be taken into account in order to perform a proper analysis of earnings management and audit quality.

First of all, earnings management is more pervasive in private firms than in publicly traded firms (Burghstahler *et al*, 2006), contrary to the idea that capital markets intensify incentives to manage earnings.

Secondly, Italian non-listed SMEs are mainly family-owned and often there is no separation between ownership and management. Moreover, the main stakeholders are tax agencies and banks (Matonti, 2009; Paoloni and Demartini, 1997; Vinciguerra and Cipullo, 2009).

Focusing the attention on the latter aspect (because of its link with the reliability of financial statements), the Italian high alignment between financial statements and tax accounting (Viganò, 2010) needs to be taken into account as a basic point.

The main consequence of this alignment is that tax authorities tend to scrutinize financial statements more, compared with countries with a low tax alignment (Van Tendeloo and Vanstraelen, 2008).

In other words, financial statements of Italian firms are taken as a basis for taxation.

Moreover, Burgstahler *et al* (2006) document that stronger tax alignment is associated with more earnings management and this effect is accentuated for non-listed firms. This should imply a wide approach to underestimate earnings.

On the other hand, the strong relationship between Italian SMEs and banks should imply an opposite approach to overestimate earnings: the better are the performances showed by financial statements, the higher is the probability to obtain credits from banks.

However, as highlighted by Ball and Shivakumar (2005), private companies are more likely to resolve information asymmetry by an ‘‘insider access’’ model, the main consequences being that:

- They are less likely to use public financial statements in contracting with lenders;
- Their financial statements are correspondingly more likely to be influenced by taxation.

Thereby, it is arguable that they need not have a high quality auditing (related to high quality financial statements). Therefore, on a sample of 386 Italian private firms, it is found that about 70% of them are audited by the BSA.

Hypothesis 2 can be summarised as follows:

H2. Italian non-listed SMEs tend to underestimate earnings.

4. Research Design and Research Methodology

4.1. Research design

These hypotheses are tested by analysing financial statements of three years (2008, 2009 and 2010) of a sample of 386 non-listed companies which adopt a traditional corporate governance model; are not entities of public interest and are not obliged to prepare consolidated financial statements (i.e. non-listed companies type *b* in Table 1). All firms included in the sample belong to the industrial sector (classes C.10 to C.33 of the ATECO 2007 classification, which is similar to the US SIC one). This sector is chosen because it is characterized by a high incidence of fixed assets and, as a consequence, of depreciation and amortisation expenses.

AIDA Italian database is used, which includes financial statements of all Italian limited liability and stock corporation companies, assembled from the Italian local Chamber of Commerce depository. Firms that do not have any BSA are excluded, according to the Italian civil code (art. 2435*bis* and art. 2327). As a result, 12,560 firms compose the whole population; considering $\varepsilon = 0.05$ and $\alpha = 0.05$, From the whole population a simple random sample of 386 firms is extracted, applying the formula represented below:

$$n \leq \frac{z^2_{(1-\alpha/2)}}{4\varepsilon^2}$$

Table 3 describes the sample of firms whose financial statements were analysed, also showing the number of cases in which financial audit was assigned to the BSA or to external auditors (single auditor; non-BIG 4 company; BIG 4 company).

The table shows that about 70% of the Italian non-listed firms included in the sample assign financial auditing to the BSA.

This result is probably due to the above mentioned characteristics of Italian non-listed firms, which are prevalently family-owned and it appears consistent with the findings of Niskanen *et al* (2010), who highlighted that family firms are less likely to use Big 4 auditors than nonfamily business and that an increase in family ownership decreases the likelihood of a Big 4 audit.

Table 3

Sample Description

Sample characteristics			
Number of observations:	386 firms		
Period:	2008-2009-2010		
Type of company:	Non-listed, no consolidated financial statements		
Legal form:	Stock corporation and Limited liability companies		
Nominal Shared Capital	Up to € 120,000		
Financial audit assigned to:	BSA	270	69,95%
	Single external auditor	33	8,55%
	Non-BIG 4 audit company	29	7,51%
	BIG 4 audit company	54	13,99%
	Total	**386**	**100,00%**

4.2. Research Methodology

Literature concerning audit quality has adopted different methodologies based on earnings management, in order to discover earnings manipulation and to measure their impact on the reliability of financial statements.

The methodological approach adopted in this paper is based on the modified Jones' regression model, using the discretionary component of total accruals as a measure of reliability of financial statements.

Total accruals at the time *t* (TA_t) are expressed as the difference between accounting earnings and operating cash flows; an indirect formula is adopted here, based on balance sheet and income statement items, because cash flow statements are not mandatory in Italy and they are not systematically included in the AIDA database.

$$TA_t = \begin{array}{l} (\Delta Current\ Assets_t - \Delta Cash_t) - (\Delta Current\ Liabilities_t) - \\ Depreciation\ and\ Amortisation\ Expenses_t - \\ Provisions\ for\ contingent\ losses\ and\ liabilities_t \end{array} \quad [1]$$

According to the Italian format of income statement, in the equation [1] not only depreciation and amortisation expenses are included but also Provisions for contingent losses and liabilities (items no. B12 and B13; see art. 2425 of the Italian civil code), which represent one of the main categories of earnings management attempts (Nelson *et al*, 2003; Prencipe, 2006, p. 43).

Total accruals (TA) can be articulated into discretionary accruals (DA) and non-discretionary accruals (NDA); obviously, the same distinction can be assumed taking into account total accruals changes:

$$\Delta TA_t = (TA_t - TA_{t-1}) = (DA_t - DA_{t-1}) + (NDA_t - NDA_{t-1}) \quad [2]$$

According to the modified Jones' regression model (Jones, 1991; Dechow *et al*, 1995), total accruals can be expressed in the following terms:

$$\frac{TA_t}{A_{t-1}} = \frac{\alpha}{A_{t-1}} + \frac{\beta_1(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \frac{\beta_2\,(PPE_t)}{A_{t-1}} + \frac{\beta_3\,(PROV_t)}{A_{t-1}} + \varepsilon_t \qquad [3]$$

Where:

TA_t = Total Accruals in year *t*;

ΔREV_t = Revenues in year *t* less revenues in year *t–1*;

ΔREC_t = Receivables in year *t* less receivables in year *t–1*;

PPE_t = Property, plant and equipment + Long-term deferred expenses in year *t*;

$PROV_t$ = Provisions in year *t*, according to the Italian format of balance sheet;

A_{t-1} = Total assets in year *t–1*;

ε_t = Error term in year *t*.

Total accruals include changes in working capital components, such as receivables, inventory and payables, which are influenced by changes in revenues (ΔREV_t). The model also includes long-term deferred expenses, according to the Italian structure of balance sheet.

Property, plant and equipment and long-term deferred expenses as well as changes in revenues are included in the model with the aim of controlling changes in non-discretionary accruals caused by changing external conditions. Revenues are also included in the model because they can be interpreted as a rationale and objective measures of the operation of a firm before managers' manipulations, even if they are not completely exogenous (they are used in order to control the economic environment of the firm). Gross property, plant and equipment as well as long-term deferred expenses (PPE_t) are included with the aim of controlling the portion of total accruals related to non-discretionary depreciation expenses; the model includes gross value rather than changes in these accounts because total depreciation expenses (versus changes in depreciation expenses) are included in the total accruals measure. The AIDA database does not show gross value of these accounts; as a consequence, net values are used, which seem to be a significantly explicative terms of the regression equation (Mariani *et al*, 2010: 33).

The model also includes Provisions for pensions and similar obligations and Other Provisions, according to the Italian structure of balance sheet (items no. B1 and B3; see art. 2424 of the Italian civil code), considering values rather than changes in these accounts because total provisions for contingent losses and liabilities (versus changes in provisions) are included in the total accruals measure (equation [1]).

In order to reduce heteroscedasticity, all variables included in the model are scaled by lagged assets (Piot and Janin, 2007, p. 436).

The general approach adopted in estimating discretionary accruals via a regression model consists in considering them as the unexplained (i.e. the residual) components of total accruals (Belkaoui, 2005, p. 456). In other words, error terms ε (see equation [3]) represent estimated discretionary accruals [$E(DA_t)$]:

$$E(DA_t) = \frac{TA_t}{A_{t-1}} - \frac{\alpha}{A_{t-1}} + \frac{\beta_1(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \frac{\beta_2\,(PPE_t)}{A_{t-1}} + \frac{\beta_3\,(PROV_t)}{A_{t-1}} \qquad [4]$$

According to previous studies (Balsam *et al*, 2003; Jenkins *et al*, 2006; Rong and Yuping, 2012), the absolute value of discretionary accruals (estimated in equation [4]) is used to emphasize the magnitude of accruals, regressing them on a dummy variable concerning auditor type and some control variables:

$$|E(DA_t)| = \alpha + \beta_1 TYPE_t + \beta_2 SIZE_t + \beta_3 LEV_t + \beta_4 AGE_t + \beta_5 ROA_t + \beta_6 ATA_t + \varepsilon_t \quad [5]$$

Where:

$|E(DA_t)|$ = Absolute value of estimated discretionary accruals;

$TYPE_t$ = Auditor type; dummy variable equals to 1 if the financial audit is conducted by BSA (0 otherwise);

$SIZE_t$ = Size of firms, expressed as a natural logarithm of total assets;

LEV_t = Leverage ratio of firms;

AGE = Age of firms;

ROA = Return On Assets of firms;

ATA_t = Natural logarithm of Absolute value of total accruals;

ε_t = Error term in year.

The variable TYPE defines the auditor is in charge of financial audit (equals to 1 if the financial audit is conducted by BSA, 0 otherwise).

In order to measure the quality of financial audit, the regression model [5] introduces the following control variables:

- SIZE, calculated as a natural logarithm of total assets. According to Jeong (1999), earnings management behaviours should be more frequently in large firms than in small companies; however, according to Burgstahler *et al* (2006) and consistently with the second hypothesis, It is expected that this variable has a negative sign, underlined that earnings management is more pervasive in private firms (expected sign: –);
- LEV expresses the leverage ratio of firms included in the sample. Even if accounting manipulation seems to be more frequent in firms with high leverage (see, for example, Press and Weintrop, 1990), the Italian context is characterized by a wide orientation to the debtors, the great part of Italian non-listed firms having a high leverage ratio; as a consequence, it should be expected that this variable does not have any influence on audit quality. However, the period analysed (from 2008 to 2010) is characterized by an increasing economic and financial crisis, one of the main effects being the difficulty in obtaining credit, so it is expected that leverage ratio should influence audit quality at least in 2010, showing a positive sign (expected sign: +);
- AGE; generally speaking, older firms should pay more attention than younger companies to the relationship with their stakeholders, to which they should guarantee reliable information through their financial statements. For example, international literature concerning voluntary disclosure states that the level of disclosure is higher in more mature firms than in younger companies (see, for example, Apostolou, 2000; Owusu-Ansah, 1998). However, the empirical evidences are contradictory and, in addition, this variable is not significant in the case of Italian non-listed firms (Bisogno and Matonti, 2012), the level of disclosure being independent from their age (expected sign: ?);
- ROA (Return on Assets). Some studies (Burgstahler and Dichev, 1997; Hayn, 1995) analysed earnings management behaviour by investigating earnings frequency distribution.

This approach derives from the assumption that in a world without earnings management, earnings and their variations tend to assume a smooth distribution (Prencipe, 2006, p. 64); if the empirical analysis shows a different (i.e. non-smooth) distribution, that is to say frequency distribution shows some discontinuity especially near specified threshold (i.e. near the zero), this denotes earnings management behaviour and then less reliability of earnings. In this paper, ROA is used as a control variable in the regression model (expected sign: ?):

- ATA; according to Francis *et al* (1999) a positive coefficient for this variable is expected because firms with high discretionary accruals should have high absolute value of total accruals (expected sign: +).

Earnings management and audit quality are analysed by applying the regression model separately for each year (2008, 2009 and 2010) in order to maintain the statistical independence of each variable and to take into account changes in each variable from year to year, underlining the possible effect of the economic and financial crisis and highlighting the potential incidence of external changing conditions.

5. Results

The descriptive statistics for the dependent and explanatory variables are illustrated below.

Table 4

Variables Descriptive Statistics (n = 386)

Variables	Mean	St.dev.	Q. 1	Median	Q. 3	Min	Max
(2008)							
$E(DA_t)$	-0.164	0.168	-0.255	-0.154	-0.069	-0.987	0.928
$\|E(DA_t)\|$	0.185	0.145	0.085	0.161	0.258	0.001	0.987
SIZE	16.913	1.027	16.249	16.677	17.355	15.049	21.282
LEV	0.651	0.194	0.522	0.682	0.810	0.103	0.980
AGE	28.085	15.428	19.000	27.000	36.000	1.000	100.000
ROA	0.019	0.065	-0.003	0.011	0.040	-0.513	0.295
ATA	13.807	1.536	12.850	13.711	14.682	9.312	18.824
(2009)							
$E(DA_t)$	-0.023	0.093	-0.068	-0.024	0.020	-0.357	0.493
$\|E(DA_t)\|$	0.069	0.067	0.023	0.050	0.092	0.000	0.493
SIZE	16.868	1.039	16.182	16.675	17.312	14.590	21.405
LEV	0.630	0.205	0.475	0.643	0.793	0.087	1.033
AGE	29.085	15.428	20.000	28.000	37.000	2.000	101.000
ROA	0.006	0.080	-0.015	0.005	0.033	-0.765	0.335
ATA	13.864	1.532	12.991	13.806	14.776	7.189	18.693
(2010)							
$E(DA_t)$	-0.019	0.103	-0.071	-0.019	0.032	-0.487	0.604
$\|E(DA_t)\|$	0.073	0.074	0.024	0.051	0.100	0.001	0.604
SIZE	16.926	1.034	16.240	16.727	17.411	14.984	21.529
LEV	0.642	0.203	0.499	0.665	0.804	0.064	1.030
AGE	30.085	15.428	21.000	29.000	38.000	3.000	102.000
ROA	0.019	0.055	-0.003	0.009	0.038	-0.196	0.253
ATA	13.847	1.572	12.939	13.842	14.750	7.191	18.873

According to the second hypothesis, the median of E (DA_t) has negative values indicating that more than half of the firms present underestimated earnings.

Moreover, the mean and the median for the absolute value of discretionary accruals (|E (DA_t)|) are about 0.09 and 0.05 respectively in 2008, 0.07 and 0.05 in 2009, 0.08 and 0.07 in 2010.

The mean of LEV is over 0.6 in more than half of the sample firms, reflecting the wide debt-orientation of many Italian firms and confirming the common situation of undercapitalisation, which permeate Italian non-listed companies.

The ROA indicates that more than half of the firms present low performances in the period analysed. Finally, more than half of the firms have high value of ATA (the median being about 13).

Table 5 illustrates correlations between control variables (SIZE, LEV, AGE, ROA and ATA), showing moderate correlations between them, except in the case of correlation between SIZE and ATA. However, the values of correlation coefficients exceeding 0.8 are interpreted as indicating significant multicollinearity problems (Niemi, 2005, p. 315). In this case, the correlation coefficients are well below 0.8; as a consequence, multicollinearity is not a serious problem. Table 6 shows the regression estimation results for the regression model (equation [5]).

Table 5

Correlation matrix for control variables

2008	$SIZE_t$	LEV_t	AGE_t	ROA_t	ATA_t
$SIZE_t$	1				
LEV_t	-0.026	1			
AGE_t	0.069	-0.216	1		
ROA_t	0.030	-0.370	0.092	1	
ATA_t	0.660	0.028	-0.015	-0.042	1
2009	$SIZE_t$	LEV_t	AGE_t	ROA_t	ATA_t
$SIZE_t$	1				
LEV_t	-0.021	1			
AGE_t	0.063	-0.222	1		
ROA_t	-0.015	-0.354	0.006	1	
ATA_t	0.675	0.022	0.003	-0.016	1
2010	$SIZE_t$	LEV_t	AGE_t	ROA_t	ATA_t
$SIZE_t$	1				
LEV_t	-0.012	1			
AGE_t	0.060	-0.207	1		
ROA_t	-0.001	-0.406	-0.029	1	
ATA_t	0.686	0.053	0.006	-0.072	1

Table 6

Association between discretionary accruals and auditor type

Variables	Estimate	Std error	t value	p-value	
2008					
(Intercept)	0.330	0.131	2.522	0.012	**
$TYPE_t$	-0.030	0.016	-1.850	0.065	*
$SIZE_t$	-0.047	0.009	-5.169	0.000	***
LEV_t	-0.092	0.037	-2.466	0.014	**
AGE_t	0.000	0.000	0.640	0.523	
ROA_t	-0.362	0.110	-3.302	0.001	***
ATA_t	0.053	0.006	9.147	0.000	***
R^2	0.225				
R^2 adjusted	0.212				
2009	Estimate	Std error	t value	p-value	
(Intercept)	0.211	0.046	4.602	0.000	***
$TYPE_t$	-0.002	0.006	-0.259	0.796	
$SIZE_t$	-0.043	0.003	-13.508	0.000	***
LEV_t	0.009	0.013	0.730	0.466	
AGE_t	0.000	0.000	-0.523	0.601	
ROA_t	0.018	0.033	0.541	0.589	
ATA_t	0.042	0.002	19.666	0.000	***
R^2	0.518				
R^2 adjusted	0.510				
2010	Estimate	Std error	t value	p-value	
(Intercept)	0.246	0.055	4.472	0.000	***
$TYPE_t$	-0.006	0.007	-0.816	0.415	
$SIZE_t$	-0.048	0.004	-12.446	0.000	***
LEV_t	0.044	0.016	2.818	0.005	***
AGE_t	0.000	0.000	1.759	0.079	*
ROA_t	0.189	0.056	3.380	0.001	***
ATA_t	0.044	0.002	17.768	0.000	***
R^2	0.469				
R^2 adjusted	0.461				

Significant at: 99% level (***); 95% level (**); 90% level (*)

R square and *R square adjusted* show a variable trend, moving from 0.2 in 2008, to about 0.5 in the subsequent years, explaining a sufficient part of the total variability of the phenomenon investigated.

The variable TYPE is significant at 90% level only in 2008, showing a negative sign; according to Hypothesis 1, this result suggests that the internal position of the BSA, compared to the external position of an auditing company (or a single auditor) affect positively the quality of auditing; however, the variable is not significant in 2009 and 2010.

The variable SIZE is always significant at 99% level, showing negative coefficients, as expected.

The variable LEV is significant in 2008 and 2010; taking into account the high level of leverage ratio illustrated in Table 4 (mean is over 0.6), this result confirms the general situation of undercapitalisation of many Italian non-listed companies.

The variable AGE is not significant (except in 2010), so, as expected, it does not affect the quality of auditing, confirming that it is not relevant in the case of small and medium sized non-listed firms.

With the exception of 2009, the variable ROA is significant, showing a negative coefficient in 2008 and a positive coefficient in 2010; probably, the results of 2010 differs from those of 2008 and 2009 because of the general economic and financial crisis; in more general terms, this result underlines the role of performance in understanding earning managements attempts and, as a consequence, in explaining the quality of audit.

The variable ATA is always significant, pointing out that there are earnings management behaviours in the three years analysed.

6. Conclusions

This study differs from previous literature essentially for two reasons. First of all, it addresses itself towards non-listed companies, while most of the research about audit quality concerns big listed firms. Moreover, only a limited number of studies focus on audit markets in Continental European countries.

Secondly, this research focuses the attention on the Italian audit market, which is characterized by the coexistence of two bodies (BSAs and external auditors), to which financial audit can be assigned.

This feature raises the problem of measuring audit quality, comparing the performances of these two bodies. Previous researches concerning this topic showed different results: Mariani *et al* (2010) pointed out that external auditors guarantee a better audit quality, compared to the BSA, while Cameran and Prencipe (2011) achieved different results.

However, these studies adopted different methodological approaches: the first one is based on the modified Jones' regression model, while the second one was based on the analysis of SPOS (Small Positive Earnings).

Even if this study adopts the same model of the first research above mentioned, it differs in some aspects: first of all, both small and medium size firms are included in the sample, while Mariani *et al* (2010) included also medium companies (with a number of employees ranging from 50 to 200 and with total net assets ranging from €20 to 25 million); secondly, some modifications are suggested in applying the Jones' regression model, including provision on contingent losses and liabilities in order to better determine total accruals.

The results of this study show that there are no significant differences in audit quality between auditing activities carried out by external auditors and the BSA. Moreover, the results emphasize that Italian SMEs tend to underestimate earnings, indirectly confirming the high alignment between financial statements and tax accounting.

The results also show that the performance is an important variable in discovering earnings management behaviour, consistently with other studies based on the analysis of frequency distribution of ROA (Hayn, 1995; Burgstahler and Dichev, 1997).

According to Burgstahler *et al* (2006) and Ball and Shivakumar (2005), the results concerning the variable SIZE confirm that non-listed firms tend to underestimate earnings, because of the influence of taxation.

Finally, the empirical analysis shows the wide debt-orientation of the investigated firms.

Taking into account that the recent reform of the Italian law concerning audit has confirmed the dichotomy BSA *vs.* external auditors, it is assumed that the results of this study are due to the great responsibility both bodies have in performing their duties, according to the Decree 39/2010.

Moreover, if the general lack of flexibility and openness of small and medium size entities towards control systems is considered, then it can be understood why the great part of Italian non-listed firms assign financial audit to the BSA (see Table 3).

In this perspective, the results of this study suggest that if the law assigns to members of the BSA a clear responsibility for their declarations (as in the Italian context), they tend to guarantee a good audit quality.

The study presents two main limitations.

First of all, the model does not include some variables concerning several relevant characteristics of Italian non-listed firms, such as family ownership and/or ownership concentration, in order to understand their effect on audit quality. Actually, and in more general terms, international

literature (Niskanen *et al*, 2010; Trotman and Trotman, 2010) only recently has analyzed the relationship between auditing and family business, pointing out that differences between family and non family business could likely affect auditing of these firms.

Secondly, the study could be improved by taking into account the reasons for why many Italian non-listed firms assign financial audit to the BSA. The determinants of this choice could be highly related with the earnings quality of Italian non-listed firms, whereby could be a causality issue.

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