repec

Revista de Educação e Pesquisa em Contabilidade
Journal of Education and Research in Accounting
Revista de Educación e Investigatión en Contabilidad

REPeC, Brasília, v. 7, n. 3, art. 6, p. 293-314, Jul./Sep. 2013
Available online at *www.repec.org.br*

ISSN 1981-8610

The Relationship Between Auditing Quality and Accounting Conservatism in Brazilian Companies

Abstract

Over time, researchers have been using a set of many different attributes attempting to explain the relationship between the quality of accounting information and other variables, especially in the securities market. In this context, conservatism is indicated as one of the main quality characteristics of accounting information, which can result from factors present in the accounting environment, such as the legal system and accounting standards, among others. The auditing of financial statements influences the quality of accounting information. Previous research of the relationship between audit and accounting information quality has usually used a single feature of the audit, for example, the size of the audit firm. This study aimed to investigate the influence of several audit quality characteristics on the quality of accounting information, measured by conservatism. We evaluated the accounting information produced by Brazilian companies in the period 2000-2011, using the model developed by Ball and Shivakumar (2005). Among the results, we found that the conservatism of accounting information is positively affected by the size of the audit firm and negatively affected by the time of engagement of the auditors, the distance between the date of the opinion and publication date of the financial statements. We also observed that variables such as the existence of an audit committee, the provision of non-audit services, the importance of the client to the auditor and audit specialization does not affect accounting conservatism.

Keywords: auditing; quality of auditing; accounting conservatism; quality of accounting information.

Iana Izadora Souza Lapa de Melo Paulo
Master in Accounting (UnB/UFPB/UFRN), Researcher at Universidade Federal da Paraíba (UFPB). **Contact:** Cidade Universitária - Campus I, Castelo Branco, João Pessoa, Paraíba, CEP: 58059-900.
E-mail: iana.melo@hotmail.com

Paulo Roberto Nóbrega Cavalcante
PhD in Accounting (USP), Professor at Universidade Federal da Paraíba (UFPB). **Contact:** Cidade Universitária - Campus I, Castelo Branco, João Pessoa, Paraíba, CEP: 58059-900.
E-mail: paulocavalcante@ccsa.ufpb.br

Edilson Paulo
PhD in Accounting (USP), Professor at Universidade Federal da Paraíba (UFPB). **Contact:** Cidade Universitária - Campus I, Castelo Branco, João Pessoa, Paraíba, CEP: 58059-900.
E-mail: e.paulo@uol.com.br

The authors thank CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico) for support and funding provided to the research project that led to this paper.

Published in Portuguese, English and Spanish. Original Version in Portuguese.

Received in 01/07/2013. Ask to Revise on 24/08/2013. Resubmitted on 05/09/2013. Accepted on 08/09/2013 by Valcemiro Nossa (Editor). Published on 30/09/2013. Organization responsible for the journal: CFC / FBC / ABRACICON.

1. Introduction

Despite numerous studies in the international literature, the quality of accounting information is a matter that needs further investigation in different economic environments (Dechow, Ge & Schrand, 2010), including the Brazilian context. Defining accounting information quality is not a simple task. An event or transaction disclosed or measured according to a particular accounting standard may be considered as good information by one agent and not by another.

The complexity and dynamics of business activities hinder a concrete conceptualization of quality of accounting information. Given this difficulty, the research on the topic (Dechow & Schrand, 2004; Burgstaher, Hail & Leuz, 2006; Dechow et al., 2010) describes various attributes (or characteristics) of the quality of the informational content of accounting.

Conservatism is a major feature of the quality of accounting information, subjective in nature, and is included in most conceptual frameworks of accounting. Several studies have analyzed conservatism in different economic and financial environments (Basu, 1997; Ball, Kothari & Robin, 2000; Ball & Shivakumar, 2005; Paulo Antunes & Formigoni, 2008; Dechow et al., 2010). Overall, these studies consider conservatism as a practice of asymmetric recognition that focuses on the accounting criterion with the lowest assets/revenue of highest liabilities/expenses. More timely recognition of losses (bad news) is usually associated with accounting conservatism (Basu, 1997).

Accounting conservatism can be influenced by the idiosyncrasies of each economic environment. One factor is the set of accounting standards adopted in the country. For example, Ball et al. (2000) observed that the results of accounting firms in countries with common law legal systems are more conservative than those of firms in countries with code law systems. Barth, Landsman & Lang (2008) showed that firms that adopt International Financial Reporting Standards (IFRS) report losses more timely than those that do not adopt them.

According to Dechow et al. (2010), loss recognition is more appropriate when the enforcement mechanisms are stronger, due to the legal system, auditing, corporate governance etc. Among the mechanisms that lead managers to practice conditional conservatism is external auditing. The work of the independent auditors is to check if the financial reports produced are in accordance with the accounting standards that the entity is required to follow.

Dechow et al. (2010) explain that the impact of auditors on the quality of accounting information derives from their role in mitigating the misrepresentation, intentional or unintentional, of the economic and financial reality of the firm. Thus, the financial statements audited by an independent auditor tend to have better information content, leading users to make better decisions and thus generating greater economic benefits.

Many studies have focused on the effect of audit firm size (a proxy for audit quality) on the financial information. For example, Francis & Wang (2008) observed that recognition of losses is more timely in companies that are audited by an independent auditing firm, ranked Big (Big Five or Big Four).

In the current literature, however, there are few studies that analyze the influence of the other audit features on the quality of accounting information, such as length of relationship between the auditor and client, the expertise of the auditor, client type etc. Even when studies have observed these traits, they generally focus on aspects of earnings management.

Despite the relevance of the articles published so far, they have analyze in segregated form the relationship between the quality characteristics of the independent auditor and the level of conservatism in the financial statements. This is particularly true in the Brazilian capital market. Therefore, we posed the following research problem: **Do the characteristics of the quality of independent auditing affect the level of conservatism of financial reports published by the audited companies?** The objective of this study is to verify whether the level of conservatism reflected in the financial statements is influenced by the quality characteristics of independent auditing in the Brazilian capital market.

The current literature suggests a set of attributes to measure the quality of auditing and accounting information quality. But research so far has focused primarily on assessing the quality of earnings and its

relation to the size of the independent auditing firm. The investigation solely of the size of the audit firm and discretionary accruals does not include many of the variables that affect audit quality and the quality of accounting information.

Therefore, this study sought to analyze the set of audit quality characteristics, investigating factors such as client type, length of engagement of the auditor and the time of issuing the audit report, consultancy services provided by audit firms to their clients and importance of the client to the auditor. These characteristics have been studied in other environments and even in the Brazilian context, but very little interest has been paid to the relationship between the quality characteristics of auditing and accounting conservatism, one of the main attributes of accounting information quality.

The second section presents a review of the literature on accounting conservatism and also the relevance of auditing and its characteristics. The third section presents the methodological procedures, followed in the fourth section by presentation and analysis of the empirical results. Finally, we describe the final considerations, limitations and suggestions for future research.

2. Theoretical References

2.1 Accounting Information and Conservatism

Accounting information can influence individual decisions of its users, affecting the allocation of resources and the functioning of markets, and hence the efficiency of the economy. Iudícibus (2004, p. 25) states that "the basic objective of accounting [...] can be summarized as providing economic information to multiple users to enable rational decisions."

Examining agency theory, Lopes & Martins (2005, pp. 32-33) state that the firm's objective "is to reduce the various costs associated with contracts, and its operation depends on the contractual balance established, which can be impaired or disrupted if either party is dissatisfied." Thus, the proper functioning of contracts and, consequently, of the firm depends on good information.

Accounting aims to present useful information to its various users. But the growing volume of transactions and greater complexity of business activities causes the information needs of managers and other users of accounting to become increasingly distinct.

Among the attributes of accounting information quality, conservatism is one of the most discussed by accounting research. Some studies (Basu, 1997; Ball & Shivakumar, 2005, Dechow et al., 2010) conceptualize conservatism as recognition of bad news faster than good news. For Basu (1997, p. 3), conservatism is a result that reflects bad news faster than good news, leading to the "systematic differences between the periods of bad news and good news in timeliness and persistence of results". Therefore, conservatism implies decisions about the moment of timely recognition of gains and losses and therefore influences the accounting choice.

However, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB), using the Discussion Paper on the Review of the Conceptual Framework (IASB, 2013), state that conservatism is not a desirable quality for accounting information, as this attribute probably generates a bias in financial position and performance reported by companies. Thus, preparers should take a neutral position when dealing with uncertainty.

However, Holthausen & Watts (2001), Watts (2003a, 2003b) and Ball & Shivakumar (2005) argue that conservatism is important in the establishment of contractual relations between the firm and its creditors, in order to ensure minimum guarantees for the fulfillment of obligations and reduce the likelihood that funds will be distributed inappropriately to some agents. In this line, conservatism increases the efficiency of procurement by reducing optimistic management of results (upward) of the firm. This relationship between conservatism and contracts is more evident in environments where the main source of financing of firms is the credit market, particularly in the contracts for public placement of bonds (Ball et al., 2000; Nikolaev, 2010).

However, this importance can be considered relative because, according to Penman & Zhang (2002), conservatism leads to poor accounting numbers when, for example, it creates reserves to mask the true performance of the company.

Thus, the discussion about the benefits of accounting conservatism is still an inconclusive matter. This questioning of the usefulness or not of conservatism is recognized even in the Discussion Paper on the Review of the Conceptual Framework (IASB, 2013).

2.2 Characteristics of the Quality of Independent Auditing

According to Sunder (1997), auditing's main contribution to the company is the verification of the accounting systems. Auditing reduces information asymmetry by examining and validating the accounting information reported. For Ruddock, Taylor & Taylor (2006, p. 4), "auditors can add value to the financial statements by reducing the likelihood of deliberate misrepresentation of accounting information."

Sunder (1997) warns that most decisions of auditors are based on their subjective beliefs and judgments about the financial information reported and the economic and financial aspects of the client. Additionally, this judgment is also related to the experience of the auditor and the relationship with the audited company. Even in the face of subjectivity, the user's perspective is that the audit opinion expresses full confidence in the economic and financial reality of the audited company.

According to DeAngelo (1981, p. 186), the quality of the audit is composed of the joint probability that the auditor can detect and report material errors in the client's accounting system. Detection of material errors is related to technical competence, while the disclosure of these errors refers to the auditor's independence. According to the author, auditor competence is strongly influenced by the technical skill of the professional procedures and scope of the examinations. O'Keefe, King & Gaver (1994, p. 44) describe the following audit quality function:

$$AQ = f(L;ISK;GK;CSK;CC) \quad (1)$$

Where:
AQ = audit quality;
L = effort (labor);
ISK = industry specific knowledge;
GK = general knowledge;
CSK = client specific knowledge; and
CC = client characteristics.

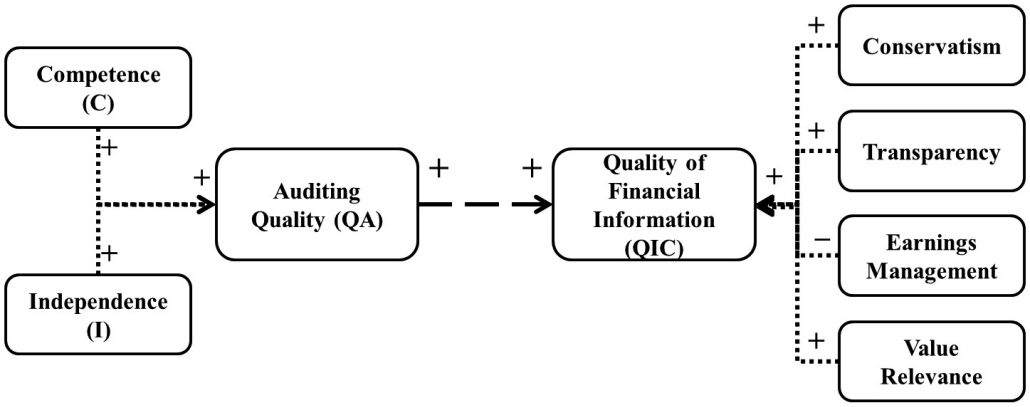
Therefore, the quality of auditing is the result of the most effective labor and the allocation of resources in specific and general knowledge, also being affected by the organizational and institutional characteristics of the client.

2.3 Relationship between the audit quality characteristics and the quality of accounting information

The quality of accounting information is influenced by the quality of the audit, as it restricts the manipulation of accounting numbers. In this line of reasoning, Becker et al. (1998) show that companies audited by larger audit firms have lower levels of opportunistic behavior. Piot (2005), based on a sample of French companies, presents results that corroborate the findings of Becker et al. (1998). Thus, according to the literature, audit quality positively affects the quality of accounting information. With respect to

conservatism, it is expected that accounting conservatism is greater in the financial statements of companies that use the best auditing services.

Figure 1 shows the relationship between the characteristics of the audit and the quality of accounting information:



Auditing characteristics	Effect on the AQ	Effect on the QFI
Size of the independent audit firm (C/I)	+	+
Time of auditor service to the client (C/I)	?	?
Specialization of the audit firm (C)	+	+
Provision of non-auditing services to the client (I)	–	–
Type of client (management or audit committee*)(I)	+*	+*
Importance of the client	–	–
Delay in issuing the audit report		–

Figure 1. Relationship between the characteristics of the auditing quality and the quality of accounting information

Source: authors

As described earlier, audit quality is related basically to two attributes: the competence and independence of audit professionals (DeAngelo, 1981). The literature indicates that the quality of audit services is positively related to these two attributes, i.e., the higher the skill and/or independence of the auditor, the higher the audit quality will be. This relationship can be seen at the top of Figure 1.

Similarly, Dechow et al. (2010) report that several studies show a set of attributes (constructs) to measure the quality of accounting information, although with a certain degree of difficulty. Among these various constructs are conservatism, transparency, earnings management and value relevance. Most of these attributes have a direct relationship with the quality of accounting information, such as conservatism and transparency. For others, however, the relationship is inverse, such as earnings management. For example, more conservative accounting numbers have higher quality than the less conservative ones, i.e., positive relationship. In the case of earnings management, from the opportunistic perspective, the lower the degree of discretionarity, the higher the quality of accounting information.

Despite many attributes and can effectively be used to indicate the quality of accounting information (Figure 1), in this work we opted for conservatism, since it is the attribute most often used in studies of the quality of accounting information.

Finally, better quality of audit services should positively affect the quality of accounting information. Consequently, the competence and independence of the audit firm should affect the quality of the numbers reported by accounting.

The attributes that indicate audit quality, namely: independence and competence, can be measured with the use of various characteristics. Among them, some are related to both competence and independence, while others are associated only to independence, which are analyzed in this study.

a) Size of the independent audit firm:
Competence: The largest audit firms are considered to have more resources (financial and operational) and therefore they can provide better services. Thus, the larger the audit firm, the higher should be the quality of the audit and the better the quality of the accounting information reported (DeAngelo, 1981; O'Keefe et al., 1994; Braunbeck, 2010).
Independence: The larger audit firms are considered to have more financial independence, making them less likely to accept discretionary or aggressive accounting practices. Thus, the larger the audit firm, the higher should be the quality of the audit and the better the quality of the accounting information reported (DeAngelo, 1981 Fargher, Taylor & Simon, 2001; Cupertino & Martinez, 2008; Almeida & Almeida, 2009.)

b) Tenure of auditor engagement:
Competence: A longer the relationship between an audit firm and its client should allow the auditor to obtain more knowledge about the client's activities, leading to better service (learning effect). Thus, the longer the relationship, the higher should be the quality of audit services and better the quality of the accounting information reported (Ghosh & Moon, 2005 Velury & Jenkins, 2008, Azevedo & Costa, 2012).
Independence: On the other hand, many authors consider that a longer relationship causes the auditor to have greater proximity to its client, which negatively affects the quality of services provided. Thus, the longer the relationship, the lower should be the quality of audit services and the worse the quality of the accounting information reported (DeFond & Subramanyam, 1998, Li, 2010).

c) Specialization of the audit firm:
Competence: The more specialized (better knowledge) an auditing firm is in a particular economic sector, the greater should be its knowledge about the activities of the client and the better the services. Thus, the more specialized the audit firm is in a particular sector, the higher should be the quality audit services and the better the quality of the accounting information reported (O'Keefe et al., 1994; Sun & Liu, 2011).

d) Provision of non-auditing services to the client:
Independence: The provision of non-audit services is considered to cause the auditor to become more dependent on its client, which negatively affects the quality of services. Thus, the more non-audit services provided, the lower should be the quality of audit services and worse the quality of the accounting information reported (Kallapur & Chung, 2003; & Ken Francis, 2006; Ruddock et al., 2006).

e) Type of client (management or audit committee):
Independence: Most authors consider that the audit firm may be contracted by the managers or the audit committee, and that the auditor's independence is higher when hired by the audit committee, increasing the quality of the services provided. Thus, when the auditor is engaged by that committee, the quality of audit services should be higher and the quality of accounting information reported should be better (Myers, Myers & Omer, 2003; Chen, Lin & Lin, 2008; Koch, Weber & Wüstemann 2012).

f) Importance of the client:
Independence: it is considered that some customers are important to the audit firm (consulting), such that the auditor may be more prone to accept certain discretions of these customers, adversely affecting the quality of the audit. Thus, the more important the customer, the lower the quality of audit and accounting information reported by your client (DeAngelo, 1982; Kallapur & Chung, 2003; Chin, Douthett & Lisic, 2012).

g) Delay in issuing the audit report:
Some studies show evidence that delay in issuing the audit report is a sign there are problems in the client's accounting. Therefore, it is suggested that the audited company has lower quality of accounting information. This feature cannot be easily attributed to the auditor's competence and/or independence, because, for example, the delay in issuing the opinion may be related or unrelated to the ability to detect flaws in the client's accounts (Lobo & Zhou, 2005; Krishnan & Yang, 2009).

3. Methodology

3.1 Research Type

This work can be classified as a descriptive study regarding its objectives, as our aim is to observe, record, analyze and correlate facts and phenomena without manipulating them. As for the procedures, this work can be classified as a literature review, seeking explanations of the characteristics of independent audit services and the conservative behavior of financial reporting from theoretical frameworks that support the development of research hypotheses. Finally, this study uses the quantitative approach because we employ statistical methods to process the data (Beuren et al., 2006).

3.2 Sample Collection and Composition

The data were obtained from the databases of the Brazilian Securities Commission (CVM), Reuters and published financial statements by listed companies in the period 2000-2011. To avoid bias in the sample and specification problems in the estimation of the models, we excluded from this study: a) companies with missing data and b) companies engaged in financial activities, management of companies and undertakings or that have operating revenues derived exclusively from shareholdings, as their accounting measurement procedures differ substantially from those of other companies, and probably are not adequately captured by the models analyzed (Ball & Shivakumar, 2005).

3.3 Working Hypotheses

To achieve the overall goal of this work, we formulated some research hypotheses.

According to the literature, conservatism is affected by scale (size) of the independent auditing firm, suggesting that larger audit firms provide better audit quality, which positively affects the quality of the accounting information reported (DeAngelo, 1981, DeFond & Subramanyam, 1998; Fargher, Taylor & Simon, 2001; Cupertino & Martinez, 2008; Almeida & Almeida, 2009). Thus, our first hypothesis is:

Hypothesis 1: The level of conservatism contained in the financial statements is greater in companies audited by larger audit firms than by smaller ones.

Given the great concern about the independence of auditing, some companies attribute hiring these services to an audit committee (Myers, Myers & Omer, 2003; Koch, Weber & Wüstemann, 2012). This leads to our second hypothesis:

Hypothesis 2: The existence of an audit committee responsible for hiring the independent auditor positively affects the level of conservatism in the financial statements.

In another aspect, a longer relationship between the auditor and its client can negatively affect audit quality. But it should be noted that some studies in the literature also indicate that a longer relationship between auditor and client can be beneficial because the auditors over time acquire more knowledge about the client and its industry (De Fond & Subramanyam, 1998, Ghosh & Moon, 2005; Jenkins & Velury, 2008; Li, 2010; Azevedo & Costa, 2012). However, starting from the initial assumption, our third hypothesis is:

Hypothesis 3: A longer the relationship between the auditor and the client negatively affects the conservatism of accounting numbers.

The evidence presented in some studies demonstrates that a delay in issuance of the audit report as a sign of problems in the client's accounts (Lobo & Zhou, 2005; Krishnan & Yang, 2009). Therefore, our fourth hypothesis is:

Hypothesis 4: The length of the period between the date of the financial statements and the date of issuance of the auditor's report is inversely related to the level of conservatism found in the financial statements.

As noted earlier, other studies suggest that the provision of non-audit services to the client impairs the auditor's independence, because the auditor may hesitate to criticize colleagues who provide consulting services and the remuneration from non-audit services can be linked to the positive performance of the firm, which creates incentives for opportunistic behavior (Chung & Kallapur, 2003; Francis & Ken, 2006; Ruddock et al., 2006). Therefore, our fifth hypothesis is:

Hypothesis 5: The provision of non-audit services negatively affects the conservatism of accounting figures of the audited company.

Another relevant factor for audit firms is the importance of major clients. Thus, it is considered that some clients are very important strategically to the auditor's business, which increases the likelihood the auditor will acquiesce to less conservative accounting practices. In addition, audit firms with a larger number of clients have less incentive to behave opportunistically, which generates a perception of higher audit quality (DeAngelo, 1982; Gaver & Paterson, 2001; Chung & Kallapur, 2003; Chin, Douthett & Lisic, 2012). Therefore, our sixth hypothesis is:

Hypothesis 6: The importance of the client to the audit firm negatively affects the level of conservatism in the financial statements.

Finally, greater specialization of the audit firm means it has more knowledge about the activities of the client, positively affecting the audit quality and the accounting information reported by the client. With greater knowledge, it is believed that the auditor will be more likely to detect failures/material errors in the financial statements (O'Keefe et al., 1994; Balsam, Krishnan & Yang, 2003; Sun & Liu, 2011). Therefore, our seventh and final hypothesis is:

Hypothesis 7: Greater the specialization of the auditor in a branch of economic activity positively affects the conservatism of accounting numbers reported by the client.

3.4 Definition of the Model Used and Operational Variables

We use the model developed by Ball and Shivakumar (2005) to assess the level of accounting conservatism. However, to capture the effects of the audit, we included an additional variable (C_{it}) to represent each feature of the audit in the original model. Thus, the model used to test the hypotheses is described as follows:

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 \Delta NI_{it-1} \cdot D\Delta NI_{it-1} + \alpha_4 C_{it} + \alpha_5 C_{it} \cdot D\Delta NI_{it-1} + \alpha_6 C_{it} \cdot \Delta NI_{it-1} + \alpha_7 C_{it} \cdot \Delta NI_{it-1} \cdot D\Delta NI_{it-1} + \varepsilon_{it} \quad (2)$$

Where:

ΔNI_{it} = variation in the net income of firm *i* in year *t-1* to year *t* weighted by total assets at the beginning of year *t*;

ΔNI_{it-1} = variation in the net income of firm *i* in year *t-2* to year *t-1* weighted by total assets at the beginning of year *t-1*;

$D\Delta NI_{it-1}$ = dummy variable to indicate whether there is a negative change in the net income of firm *i* in year *t-1* to year *t*, taking value *1* if $\Delta NI_{it} < 0$, and *0* in other cases;

C_{it} = characteristic of the auditing quality for firm *i* in year *t*;

ε_{it} = regression error.

According to Ball & Shivakumar (2005), for positive results to become a persistent component of accounting income, the coefficient α_2 should be zero ($\alpha_2 = 0$), for the recognition of gains is deferred until such time that the cash flows are realized. When the coefficient α_2 is less than zero ($\alpha_2 < 0$), this implies timely recognition, demonstrating that the gains are transitory components of results in the current period and tend to be reversed in subsequent periods. On the other hand, when the coefficient α_3 is significantly smaller than zero ($\alpha_3 < 0$), it is considered that there is timely recognition of losses.

To capture whether a particular feature of the audit affects conservatism, one must analyze the multiplicative variable between this feature (C_{it}) and the variables of the original model (and $D\Delta NI_{it-1}$ and ΔNI_{it-1}) because it produces distinct slope coefficients, enabling verification of the change in the level of conservatism of the model through the inclusion of a qualitative variable. If these multiplicative variables were not included, the variable C_{it} would only reflect how much the audit characteristic affects the change in net income from period t - 1 to period t (ΔNI_{it}) and not the variation in the level of conservatism.

Therefore, to evaluate the analyzed characteristic of the audit, we assume there is more timely recognition of losses when the coefficient α_7 is significantly smaller than 0 ($\alpha_7 < 0$).

All regressions are estimated by pooling of independent cross sections. Dummy variables were created for each year of the sample, except for 2000, and for each sector of economic activity except for the category 'Other', according to the classification established by the *Economática* database. The goal of this procedure is to minimize the problems of heteroscedasticity. Additionally, seeking better estimates of parameters and, consequently, better inferences about the most appropriate models analyzed, we used the White estimator to obtain the standard robust error in relation to heteroskedasticity (Wooldridge, 2002).

The current literature does not provide a clear and consistent theoretical basis to properly identify the endogenous and exogenous factors in research on auditing, including in respect of the simultaneity of the variables employed (Fargher et al., 2001, p. 409). For each of the audit quality characteristics, we established proxies according to literature, despite their complexity. These proxies represent the variable 'audit quality characteristic' (C_{it}) described above in equation 2.

A. Size of the independent audit firm (*AUDSIZE*$_{it}$)
Research on auditing (DeFond & Subramanyam, 1998; Fargher et al., 2001; Cupertino & Martinez, 2008; Lennox, Francis & Wang, 2012) consider audit firm size (*AUDSIZE*$_{it}$) as a proxy, usually related to reputation, based on whether or not it is one of the Big Four (or Big Five, if appropriate). In this case, if the company's audit was performed by one of the big firms (four or five), the Size$_{it}$ variable assumes value 1, otherwise 0. Here we considered the Big Four to be PricewaterhouseCoopers, Deloitte Touche Tohmatsu, KPMG and Ernst & Young, with the Big Five including Arthur Andersen as well. Additionally, due their presence in Brazil, we also considered BDO Trevisan Auditores Independentes, and Grant Thornton and Chaplet, here called Middle firms.

B. Client Type (*AUDCOM*$_{it}$)
Studies of auditing, such at Koch et al. (2012), consider that the existence of an audit committee in the client company can contribute to the independence of the audit. Thus, if the audited company had an audit committee within its governance structure, the variable *AUDCOM*$_{it}$; takes the value 1 and 0 otherwise.

C. Tenure of auditor engagement (*TENURE*$_{it}$)
Consistent with the work of Jenkins & Velury (2008), Li (2010) and Chin et al. (2012), we used as a proxy for the time of service to the client (*TENURE*$_{it}$) the number of consecutive years in which the audit is performed by the same firm.

D. Delay to issue the audit report (*DELAY*$_{it}$)
The variable *DELAY*$_{it}$ represents the time to issue the audit report, defined as in Ng & Tai (1994) by the number of days between the end of the year and date of the auditor's report.

E. Provision of non-audit services to the client (*NASit*)
To indicate whether the audit firm provided other services to the client, we created the NAS*it* variable, which takes value 1 when in that year there were such services, and 0 otherwise (Chung & Kallapur, 2003, Ken & Francis, 2006). Information on the provision or not of other non-audit services to the client was obtained through the notes and management report.

F. Importance of the client (*IMPCLI*$_{it}$)
To indicate if a particular client is important in the client portfolio of the independent audit firm, we created a proxy (*IMPCLI*$_{it}$) that takes value 1 if the natural logarithm of the auditor's net revenue from the client in question accounts for over 15% of the total revenue from all clients of the audit firm, and 0 otherwise (Li, 2010; Sun & Liu, 2011).

G. Specialization of the audit firm (*AUDEXP* $_{it}$)
To indicate the specialization, or expertise, of the independent auditor, we created a proxy (*AUDEXP*$_{it}$) that takes value 1 if the audit firm has a portfolio of clients from the same economic sector representing more than 15% of its net revenue from clients in the same economic activity, and 0 otherwise. This is consistent with the metric used by O'Keefe et al. (1994) and Liu & Sun (2011).

H. Control variables
Audit studies often use several variables to minimize the effects of endogeneity on the results (Lennox et al., 2012). In this study we used the following variables:

a) Logarithm of the total assets of client ($LnTA_{it}$), according to Weber & Willenborg (2003), Chaney, Jeter & Shivakumar (2004) and Pittman & Fortin (2007);
b) Dummy variable for losses of the client ($DLoss_{it}$), according to Chaney et al. (2004), Fortin & Pittman (2007) and Behn, Choi & Kang (2008);
c) Return on assets of the client (ROA_{it}), according to Lennox et al. (2012) ;
d) Leverage the client (Lev_{it}), according to Lennox et al. (2012); and
e) Operating cash flow (OCF_{it}), according to Lennox et al. (2012) ;

The variable logarithm of total assets aims to control for the size of the audited company, as the variables $DLoss_{it}$ ROA_{it} and seek to control fro the effects of profitability, while Lev_{it} and OCF_{it} control, respectively, for debt and cash flow. For all the audit quality characteristic we collected data for every year throughout the study period. The variable OCF_{it} is calculated by operating cash flow in period *t* scaled by total assets in period *t-1* of firm *i*.

4. Presentation and Analysis of the Results

4.1 Descriptive analysis of the variables

To attain the goal of this study, we assessed information from 2805 financial statements in the period from 2000 to 2011, observing growth in the number of reports, from 177 in 2000 to 280 in 2011 (Table 1).

Table 1
Number of audited financial statements – auditing firm X year

Year	DL	PWC	EY	KPMG	AA	BDO	TGT	OUT	Total
2000	17	29	20	9	43	14		45	177
2001	19	33	21	8	40	16		45	182
2002	46	47	19	10		14		52	188
2003	48	37	23	11		12	1	60	192
2004	55	29	20	16		14	1	64	199
2005	64	28	22	19		15	1	70	219
2006	79	26	27	29		17	8	69	255
2007	56	35	33	44		21	15	68	272
2008	53	36	35	45		27	18	60	274
2009	51	36	45	46		27	19	57	281
2010	53	45	66	45		28	1	48	286
2011	52	47	70	59		3	2	47	280
Total Geral	**593**	**428**	**401**	**341**	**83**	**208**	**66**	**685**	**2,805**

Key: DL = Deloitte; PWC = PWC; EY = Ernst & Young; KPMG = KPMG; AA = Arthur Andersen; DBO = DBO Trevisan; TGT = Terco Grant Thornton; OUT = Other Auditing Firms.

Source: authors

In Table 1, there is also a high concentration of companies' financial statements audited by the group of major international auditing firms, called the Big Four (or Big Five, when including Arthur Andersen), which issued 65.8% (1846/2805) of the reports analyzed in this study throughout the period. If one considers the firms BDO Trevisan and Chaplet Grant Thornton (Middle), this participation is approximately 75%. Additionally, the high concentration of companies audited by Big firms grew over time, from 66.7% in 2000 to 81.4 % in 2011.

Table 2 shows that during the study period on average 90% of the reports of the independent auditor on the financial statements and independent auditor's opinion, as it was called until the repeal of NBC T 11, was unmodified, previously known as unqualified opinion. Over the years, the number of unmodified opinions increased in percentage terms. This may suggest that public companies improved their internal control and accounting procedures in response to various financial scandals in 2001 and 2002.

However, it is noteworthy that these data may also suggest a reduction in attention on the numbers of public companies by the audit firms after a temporary response to these scandals.

Table 2

Percentage of audited financial statements – auditing firm X year

Year	Type of Auditing Report									
	Unmodified Opinion (Without Reservation)		Unmodified Opinion						Total	
			With reservation		Negative Opinion		Adverse			
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
2000	151	85.3	24	13.6	1	0.6	1	0.6	177	100
2001	153	84.1	27	14.8	1	0.5	1	0.5	182	100
2002	161	85.6	25	13.3	1	0.5	1	0.5	188	100
2003	160	83.3	30	15.6	1	0.5	1	0.5	192	100
2004	167	83.9	31	15.6	1	0.5		0.0	199	100
2005	196	89.5	23	10.5		0.0		0.0	219	100
2006	236	92.5	17	6.7	2	0.8		0.0	255	100
2007	257	94.5	14	5.1	1	0.4		0.0	272	100
2008	252	92.0	20	7.3	2	0.7		0.0	274	100
2009	266	94.7	12	4.3	3	1.1		0.0	281	100
2010	264	92.3	19	6.6	3	1.0		0.0	286	100
2011	261	93.2	16	5.7	3	1.1		0.0	280	100
Total	**2,524**	**90.0**	**258**	**9.2**	**19**	**0.7**	**4**	**0.1**	**2,805**	**100**

Source: authors

Table 3 shows an increase in the deployment of the audit committee by the companies listed on the BM&FBovespa, probably motivated by the search for improvements in their corporate governance systems. Moreover, it appears that gradually there was a reduction in the amount of other services rendered by the audit firms (NAS). This fact can also be explained by the search for improvement of corporate governance systems, whether voluntary or coercive through market regulation (e.g., Sarbanes-Oxley in the United States). The mere disclosure that the audit firm obtains other income other than from audit services may lead the reader of financial statements to consider that such a relationship may have affected the audit quality and consequently the quality of information reported by the company.

Note that only since 2002 was there information on non-audit services rendered to Brazilian companies.

Table 3

Evolution of Audit Committee and Non-Auditing Services (NAS)

Year	Audit Comittee						Non-Auditing Services (NAS)					
	No		Yes		Total		No		Yes		Total	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
2000	175	98.9	2	1.1	177	100.0						
2001	179	98.4	3	1.6	182	100.0						
2002	179	95.2	9	4.8	188	100.0	160	85.1	28	14.9	188	100.0
2003	180	93.8	12	6.3	192	100.0	169	88.0	23	12.0	192	100.0
2004	180	90.5	19	9.5	199	100.0	183	92.0	16	8.0	199	100.0
2005	190	86.8	29	13.2	219	100.0	200	91.3	19	8.7	219	100.0
2006	218	85.5	37	14.5	255	100.0	235	92.2	20	7.8	255	100.0
2007	220	80.9	52	19.1	272	100.0	251	92.3	21	7.7	272	100.0
2008	216	78.8	58	21.2	274	100.0	248	90.5	26	9.5	274	100.0
2009	220	78.3	61	21.7	281	100.0	253	90.0	28	10.0	281	100.0
2010	221	77.3	65	22.7	286	100.0	245	85.7	41	14.3	286	100.0
2011	207	73.9	73	26.1	280	100.0	234	83.6	46	16.4	280	100.0
Total	**2,385**	**85.0**	**420**	**15.0**	**2,805**	**100.0**	**2,877**	**91.5**	**268**	**8.5**	**3,145**	**100.0**

Source: authors

Table 4 presents the descriptive statistics of the continuous variables used in this study. None of the variables have normal distribution, according to the Jarque-Bera test. Although on average earnings of the period are positive, the sample shows a negative average change in profit, with an also negative return on assets (ROA). On the other hand, companies had positive average operating cash flow in the period.

Table 4

Descriptive Statistics of the Continuous Variables

	NI_{it}	ΔNI_{it}	$LnTA_{it}$	ROA_{it}	Lev_{it}	OCF_{it}
Mean	0.0092	-0.4973	14.2929	-0.5315	0.3250	0.0676
Median	0.0458	0.0100	14.3528	0.0550	0.2856	0.0815
Standard-Deviation	0.6339	20.1161	1.9003	21.6813	0.6218	0.1656
Jarque-Bera	74639772 (0.000)	139000000 (0.000)	89 (0.000)	139000000 (0.000)	16011858 (0.000)	67879 (0.000)
Observations	1,502	1,502	1,502	1,502	1,502	1,502

Where: NI_{IT} = net profit of company *i* from year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it} = change in net income of firm *i* in year *t-1* to year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it-1} = change in net income of firm *i* in year *t-2* to year *t-1* weighted by total assets at the beginning of the year *t-1*; $D\Delta NI_{it-1}$ = dummy variable to indicate a negative change in net income of firm *i* from year *t-1* to year *t*, taking value 1 if $\Delta NI_{it} < 0$, and 0 in other cases; C_{it} = quality characteristic of audit firm *i* in year *t*; $LnTA_{it}$ = logarithm of total assets of the audited firm; $DLoss_{it}$ = dummy variable to indicate whether the net profit of firm *i* in year *t* was negative, assuming value 1 if $NI_{IT} < 0$, and 0 in other cases; ROA_{it} = return on assets of the audited company *i* in year *t*; Lev_{it} = leverage of firm *i* in year *t*; (OCF_{it}) = operating cash flow of firm *i* in year *t* weighted by total assets at the beginning of year *t*.

Source: authors

4.2 Analysis of Research Hypotheses

To analyze the effect of each audit firm characteristic, we first estimated the parameters for the original model described by Ball and Shivakumar (2005), named in this work as Original. Then we estimate the parameters of the equation in which a dummy variable was included to indicate each characteristic for company-year, in order to test the hypotheses of this research.

The first hypothesis seeks to analyze whether the level of conservatism in the financial statements is affected by the size of the audit firm.

Initially, based on the data shown in the column Original, it appears that the results presented in Table 5 indicate that the coefficient α_2 is statistically equal to zero (*p-value* > 0.05), confirming the expectation that positive results are not reversed in subsequent periods, becoming a persistent component of income. In contrast, the coefficient α_3 was negative and significant, indicating that the negative changes in accounting earnings are more transitory. This suggests that losses are recognized faster than gains. Moreover, we observe that the sum of the coefficients α_2 and α_3 (0.5416 to 0.9712 = -0.4296) is, according to the Wald test, significantly less than zero ($\alpha_2 + \alpha_3 < 0$), which corroborates the hypothesis of timely recognition of losses. This evidence suggests that Brazilian companies have significant differences in timely recognition of accounting losses, i.e., they have conservative behavior.

Table 5

Relationship of Conservatism with Size of the Audit Firm and the Type of Client

	Original		Size of the audit firm (BIG)		Size of the audit firm (BIG + Middle)		Type of client (AUDCOM)	
	coefficient	*p-value*	coefficient	*p-value*	coefficient	*p-value*	coefficient	*p-value*
Intercept	-0.018	0.928	0.150	0.387	0.128	0.461	-0.031	0.870
$D\Delta NI_{it-1}$	0.064	0.020	0.036	0.350	0.063	0.154	0.074	0.010
ΔNI_{it-1}	0.541	0.127	-0.184	0.027	-0.127	0.143	0.544	0.000
$\Delta NI_{it-1} * D\Delta NI_{it-1}$	-0.971	0.041	-0.188	0.151	-0.083	0.557	-0.969	0.000
C_{it}			0.003	0.922	0.009	0.793	0.092	0.075
$C_{it}*D\Delta NI_{it-1}$			0.013	0.781	-0.014	0.792	-0.101	0.198
$C_{it}*\Delta NI_{it-1}$			0.762	0.000	0.700	0.000	-1.089	0.063
$C_{it}*\Delta NI_{it-1}*D\Delta NI_{it-1}$			-0.506	0.000	-0.747	0.000	1.071	0.229
$LnTA_{it-1}$	-0.007	0.650	-0.019	0.008	-0.019	0.011	-0.008	0.261
$DLoss_{it-1}$	-0.109	0.000	-0.082	0.004	-0.086	0.003	-0.108	0.000
ROA_{it-1}	0.030	0.012	0.008	0.144	0.018	0.000	0.030	0.000
$ALAV_{it-1}$	0.003	0.748	0.000	0.654	0.004	0.055	0.003	0.053
OCF_{it-1}	0.271	0.058	0.260	0.000	0.252	0.000	0.281	0.000
R^2	0.291		0.321		0.316		0.295	
Adjusted R^2	0.276		0.305		0.300		0.278	
F-statistic	20.087	0.000	20.989	0.000	20.514	0.000	17.786	0.000
White Test	23.849	0.000	38.133	0.000	32.106	0.000	20.722	0.000
Serial Correlation LM	83.722	0.000	127.168	0.000	124.300	0.000	80.358	0.000
Jarque-Bera	1.4E+7	0.000	1.4E+7	0.000	1.4E+7	0.000	1.1E+7	0.000
Observations	1.998		1.998		1.998		1.871	

Adapted model (equation 2) $\Delta NI_{it} = \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 \Delta NI_{it-1*} D\Delta NI_{it-1} + \alpha_4 C_{it} + \alpha_5 C_{it*} D\Delta NI_{it-1} + \alpha_6 C_{it*} \Delta NI_{it-1} + \alpha_7 C_{it*} \Delta NI_{it-1*} D\Delta NI_{it-1} + \varepsilon_{it}$
Where: NI_{IT} = net profit of company *i* from year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it} = change in net income of firm *i* in year *t-1* to year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it-1} = change in net income of firm *i* in year *t-2* to year *t-1* weighted by total assets at the beginning of the year *t-1*; $D\Delta NI_{it-1}$ = dummy variable to indicate whether a negative change in net income of firm *i* year *t-1* to year *t*, taking value 1 if $\Delta NI_{it} < 0$, and 0 in other cases; C_{it} = audit quality characteristic of firm *i* in year *t*; $LnTA_{it}$ = logarithm of total assets of the audited company; $DLoss_{it}$ = dummy variable to indicate whether the net profit of firm *i* in year *t* was negative, assuming value 1 if $NI_{IT} < 0$, and 0 in other cases; ROA_{it} = return on assets of the audited company *i* in year *t*; Lev_{it} = leverage of firm *i* in year *t*; (OCF_{it}) = operating cash flow of firm *i* in year *t* weighted by total assets at the beginning of year *t*.

Analyzing the model parameters for the proxies size of the audit firm (Big 4, Big 5 and Big 5 + Middle), we found that the coefficients α2 and α3 are not significantly different from zero, but the same variables multiplied by $AUDSIZE_{it}$ are relevant in the expanded model (equation 2).

The sum of the coefficients α2, α3, α6 and α7 is less than zero, indicating that the financial statements of public companies have timely recognition of losses. Assessing the behavior of conservative accounting numbers on the size of the audit firm, the coefficient α7 is negative and significant (for all samples), indicating that negative variations in results are less persistent than earnings. This evidence suggests that Brazilian companies have a higher level of accounting conservatism when they are audited by one of the large audit firms.

Thus, the results support the first research hypothesis, which posits that the level of conservatism contained in the financial statements is greater in companies audited by large independent audit firms than by smaller audit firms.

The literature on the topic describes indicates that the type of client affects audit quality. The type of client refers to the person administrative body of the company that is responsible for hiring the independent auditor. With the implementation of audit committees by the companies, the engagement of the auditor has become the responsibility of this committee, increasing the independence of the audit firm and, consequently, improving the quality of their services.

It can be noted in the last column of Table 5 that the coefficients α4, α5, α6, and α7, which represent the variable $AUDCOM_{it}$ (audit committee) and the interactions of this variable with the others in the original model are not significantly different from zero (*p- value* > 0.05). The sum of the coefficients α2, α3, α6, and α7 is equal to -0.4424, indicating timely recognition of losses, sine it is less than zero. However, this sum is not significantly different from the sum of the coefficients α2 and α3 (-0.4248), corroborating previous evidence. These results suggest that the creation of the audit committee does not significantly affect the conservative accounting behavior of the firms surveyed. Therefore, this confirms the hypothesis that the existence of an audit committee responsible for hiring independent auditors positively affects the level of conservatism in the financial statements.

Another hypothesis in the research is that the relationship time reduces accounting conservatism, since it can affect the quality of auditing and accounting information.

Table 6

Relationship between Conservatism and Tenure, Rotation and Audit Delay

	Original		TENURE		Rotation		Audit Delay	
	coefficient	*p-value*	coefficient	*p-value*	coefficient	*p-value*	coefficient	*p-value*
Intercept	-0.018	0.928	-0.232	0.328	-0.114	0.528	0.286	0.203
$D\Delta NI_{it-1}$	0.064	0.021	0.200	0.030	0.032	0.088	-0.116	0.120
ΔNI_{it-1}	0.542	0.128	2.012	0.040	0.769	0.000	-1.957	0.025
$\Delta NI_{it-1} * D\Delta NI_{it-1}$	-0.971	0.041	-2.667	0.007	-0.570	0.000	2.168	0.048
C_{it}			0.029	0.066	0.008	0.601	-0.003	0.010
$C_{it} * D\Delta NI_{it-1}$			-0.023	0.184	-0.024	0.390	0.002	0.042
$C_{it} * \Delta NI_{it-1}$			-0.323	0.099	0.122	0.025	0.021	0.005
$C_{it} * \Delta NI_{it-1} * D\Delta NI_{it-1}$			0.467	0.044	-0.392	0.029	-0.026	0.004
$LnTA_{it-1}$	-0.007	0.651	-0.003	0.841	-0.006	0.675	-0.018	0.256
$DLoss_{it-1}$	-0.109	0.000	-0.132	0.000	-0.044	0.033	-0.074	0.008
ROA_{it-1}	0.031	0.013	0.015	0.348	-0.164	0.000	-0.001	0.973
$ALAV_{it-1}$	0.003	0.748	0.009	0.334	-0.022	0.003	0.004	0.645
OCF_{it-1}	0.272	0.058	0.327	0.039	0.274	0.053	0.283	0.061
R^2	0.291		0.369		0.593		0.420	
Adjusted R^2	0.277		0.353		0.584		0.406	
F-statistic	20.088	0.000	24.294	0.000	65.194	0.000	30.020	0.000
White Test	23.849	0.000	12.926	0.000	8.181	0.000	7.426	0.000
Serial Correlation LM	83.722	0.000	63.931	0.000	17.869	0.000	1597.80	0.000
Jarque-Bera	1.4E+7	0.000	8E+06	0.000	5E+07	0.000	1.5E+8	0.000
Observations	1,998		1,872		1,872		1,866	

Adapted model(equation 2) $\Delta NI_{it} = \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 \Delta NI_{it-1} * D\Delta NI_{it-1} + \alpha_4 C_{it} + \alpha_5 C_{it} * D\Delta NI_{it-1} + \alpha_6 C_{it} * \Delta NI_{it-1} + \alpha_7 C_{it} * \Delta NI_{it-1} * D\Delta NI_{it-1} + \varepsilon_{it}$
Where: NI_{iT} = net profit of company *i* from year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it} = change in net income of firm *i* in year *t-1* to year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it-1} = change in net income of firm *i* in year *t-2* to year *t-1* weighted by total assets at the beginning of the year *t-1*; $D\Delta NI_{it-1}$ = dummy variable to indicate whether a negative change in net income of firm *i* year *t-1* to year *t*, taking value 1 if $\Delta NI_{it} < 0$, and 0 in other cases; C_{it} = audit quality characteristic of firm *i* in year *t*; $LnTA_{it}$ = logarithm of total assets of the audited company; $DLoss_{it}$ = dummy variable to indicate whether the net profit of firm *i* in year *t* was negative, assuming value 1 if $NI_{iT} < 0$, and 0 in other cases; ROA_{it} = return on assets of the audited company *i* in year *t*; Lev_{it} = leverage of firm *i* in year *t*; (OCF_{it}) = operating cash flow of firm *i* in year *t* weighted by total assets at the beginning of year *t*.

In the column Tenure in Table 6, the coefficient α7 is positive and statistically significant for the model. Moreover, the coefficient α2 became statistically significant, indicating timely recognition of gains. These results are confirmed by the sum of the coefficients α2, α3, α6 and α7, equal to -0.5103, greater than the coefficients α2 and α3 (-0.6545). Such evidence suggests that longer provision of audit services negatively affects the quality of audit services, reducing the level of conservatism of accounting numbers.

Based on these results, we decided to check additionally if in the year prior to the change of audit firm there was an increase in the level of conservatism in the statements reported by Brazilian companies. To this end, we created a dummy variable to indicate the year in which the change occurred, assuming a value of 1, and 0 for the other years. The parameters in this analysis are also shown in Table 6 in the rotation column.

The statistics presented indicate that the coefficients α2, α3, α6 and α7 are statistically significant, adding to -0.0712. The coefficient α7 (-0.3924) and it plus the coefficient α6 (-0.3924 +0.1228 = -0.2616) are negative, which indicates that in the year of changing the auditing firm, Brazilian companies report more conservative results.

With regard to the delay in issuing the auditor's report, the literature indicates that the longer this takes, the lower will be the quality of accounting information. Thus, as in the previous analyses, the inclusion of a proxy to indicate the time between the end of the year and issue date of the auditor's report changed the coefficients of performance measurement and accounting numbers (α2 and α3). In this analysis, the coefficients are statistically significant, and the predictive signs were reversed compared to the

original model. In turn, the parameters of the coefficients α6 and α7 assume positive and negative signs, respectively, and both are statistically significant. But the sum of the coefficients is negligibly low (-0.0048).

One of the most discussed topics in academic and professional circles refers to impaired independence when the audit firm provides other services to the client. According to the parameters described in Table 7, the coefficients α2 and α3 did not vary significantly and remained as expected for the original model. However, the coefficients α6 and α7 are not significantly different from zero, which indicates that the provision of non-audit services does not significantly affect the level of conservatism of financial statements of listed companies in Brazil.

Table 7

Relationship between Conservatism and Tenure, Rotation, Audit Delay, Audit Firm Size and Type of Client

	Original		Non-Auditing Services (NAS)		Client Importance (IMPCLI)		Specialization of the Auditing Firm (AUDEXP)	
	coefficient	***p-value***	**coefficient**	***p-value***	**coefficient**	***p-value***	**coefficient**	***p-value***
Intercept	-0.018	-0.031	0.882	-0.031	0.882	0.882	-0.007	0.973
$D\Delta NI_{it-1}$	0.064	0.067	0.023	0.067	0.023	0.023	0.072	0.019
ΔNI_{it-1}	0.542	0.544	0.127	0.544	0.127	0.127	0.543	0.128
$\Delta NI_{it-1} * D\Delta NI_{it-1}$	-0.971	-0.967	0.043	-0.967	0.043	0.043	-0.966	0.043
C_{it}		0.062	0.015	0.062	0.015	0.015	0.056	0.121
$C_{it}*D\Delta NI_{it-1}$		-0.084	0.019	-0.084	0.019	0.019	-0.067	0.077
$C_{it}*\Delta NI_{it-1}$		-0.666	0.078	-0.666	0.078	0.078	-0.702	0.130
$C_{it}*\Delta NI_{it-1} * D\Delta NI_{it-1}$		-0.021	0.963	-0.021	0.963	0.963	0.850	0.171
$LnTA_{it-1}$	-0.007	-0.008	0.634	-0.008	0.634	0.634	-0.009	0.626
$DLoss_{it-1}$	-0.109	-0.111	0.000	-0.111	0.000	0.000	-0.111	0.000
ROA_{it-1}	0.031	0.030	0.016	0.030	0.016	0.016	0.030	0.015
$ALAV_{it-1}$	0.003	0.003	0.740	0.003	0.740	0.740	0.003	0.743
OCF_{it-1}	0.272	0.281	0.058	0.281	0.058	0.058	0.283	0.056
R^2	0.291	0.294		0.294			0.293	
Adjusted R^2	0.277	0.277		0.277			0.277	
F-statistic	20.088	20.224	0.000	20.224	0.000	0.000	17.954	0.000
White Test	23.849	7.426	0.000	7.426	0.000	0.000		
Serial Correlation LM	83.722	81.114	0.000	81.114	0.000	0.000		
Jarque-Bera	1.4E+7	1.1E+7	0.000	1.1E+7	0.000	0.000	1E+07	0.000
Observations	1,998	1,871		1,871			1,947	

Adapted model (equation 2) $\Delta NI_{it} = \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 \Delta NI_{it-1*} D\Delta NI_{it-1} + \alpha_4 C_{it} + \alpha_5 C_{it*} D\Delta NI_{it-1} + \alpha_6 C_{it*} \Delta NI_{it-1} + \alpha_7 C_{it*} \Delta NI_{it-1*} D\Delta NI_{it-1} + \varepsilon_{it}$
Where: NI_{IT} = net profit of company *i* from year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it} = change in net income of firm *i* in year *t-1* to year *t* weighted by total assets at the beginning of year *t*; ΔNI_{it-1} = change in net income of firm *i* in year *t-2* to year *t-1* weighted by total assets at the beginning of the year *t-1*; $D\Delta NI_{it-1}$ = dummy variable to indicate whether a negative change in net income of firm *i* year *t-1* to year *t*, taking value 1 if $\Delta NI_{it} < 0$, and 0 in other cases; C_{it} = audit quality characteristic of firm *i* in year *t*; $LnTA_{it}$ = logarithm of total assets of the audited company; $DLoss_{it}$ = dummy variable to indicate whether the net profit of firm *i* in year *t* was negative, assuming value 1 if $NI_{IT} < 0$, and 0 in other cases; ROA_{it} = return on assets of the audited company *i* in year *t*; Lev_{it} = leverage of firm *i* in year *t*; (OCF_{it}) = operating cash flow of firm *i* in year *t* weighted by total assets at the beginning of year *t*.

Still referring to concerns about the independence of the audit firm, we analyzed if the importance of the client affects the conservatism of accounting numbers reported by public companies in the Brazilian capital market. According to Table 7, the coefficient α2 is positive and not significantly different from zero, while α3 is negative and significant, as predicted for the original model. But the coefficients α6 and α7, which analyze the importance of the client, are not significant, implying that this feature does not affect the level of conservatism of financial statements of listed companies in Brazil.

Regarding the competence of the audit, we analyzed whether the expertise of the audit firm affects the quality of accounting information, specifically accounting conservatism. The evidence shown in Table 7 indicates that the coefficients α2 and α3 are respectively positive and negative, and only the latter is significant, confirming the expectation from the model specification. On the other hand, the coefficients α6 and α7, which seek to capture the expertise or not the audit firm, are not significant. Thus, these results suggest that greater specialization in the client's activity does not influence the conservatism of the accounting numbers reported by Brazilian companies.

With respect to the assumptions of regression analysis, linearity was satisfied as was exogeneity, because the regressors of the specifications of the models do not have a strong correlation with the residuals of the regression (Greene, 2003). The presentation of the correlation analysis was removed from the text because of space limitation. As regards homoscedasticity, we used the White estimator for robust standard errors. Furthermore, the statistics presented in Tables 5-7 indicate that the residuals are not normally distributed there is sample autocorrelation, but these can be relaxed in the inferences about the model parameters, since according to Wooldridge (2002) and Greene (2003), its coefficients are consistent and asymptotically unbiased, but fail to be the best unbiased linear estimators. Finally, the degree of multicollinearity, by the variance inflation factor, is not considered problematic in the model employed.

The coefficient of determination (adjusted R^2) ranged from 0.27 to 0.58, depending upon the specific audit quality characteristic examined. Therefore, with regard to the predictive power of the estimated equations, it can be considered that they have adequate adjustment of the conservative behavior of financial results. Therefore, the results are relevant to explain the cause and effect of past events, but should not be used to estimate or predict future phenomena. Due to limited size of the article, more detailed presentation of this information cannot be shown in this text.

5. Final Considerations

We examined whether these characteristics (or attributes) of audit quality affect the quality of financial reporting, specifically accounting conservatism. Initially we found that accounting numbers reported by Brazilian companies have conservative behavior.

One of the research hypotheses is about the size of the audit firm and the level of conservatism. Based on the evidence presented, we can confirm that the level of accounting conservatism is greater in the numbers reported by companies audited by major independent auditing firms (Big) than smaller ones. Thus, the largest independent accounting firms, now called Big Four, have higher audit quality, which positively affects the level of conservatism. The evidence presented in this paper indicates that the existence of an audit committee did not influence the conservatism of accounting numbers. Thus, this corporate governance mechanism does not contribute to the quality of the audit and, consequently, the management of firms.

One of the points widely discussed among academics and practitioners is about the time of the audit engagement. The results presented here indicate that accounting conservatism is strongly affected by the number of consecutive years during which the client company is audited by the same audit firm. Additionally, we found that the level of conservatism is greater in the year a change occurs. Given this scenario, it appears that longer auditor tenure negatively affects the quality of audit services, likely because it interferes with the auditor's relationship with the client.

With regard to the relationship between the time taken to issuance the audit and accounting conservatism, the evidence presented in this work confirms that the longer the time between the date of the financial statements and the date of the auditor's report is inversely related to accounting conservatism. Thus, the delay in the issuance of the audit report may indicate lower quality in the accounting results, in this study less conservatism in accounting numbers.

On the influence of non-audit services provided, the results demonstrate that the level of accounting conservatism is not adversely affected by the provision of additional services. However, there is also no evidence that the provision of other services by the auditor increases the knowledge about the business of the audited company.

Another hypothesis is that the importance of the customer affects the relationship between the auditor and the audited company and therefore negatively affects the quality of financial reporting and auditing. However, the evidence found does not confirm this theory. Finally, regarding the last hypothesis, this paper presents evidence that does not confirm that the greater specialization of the auditor in the client's economic sector influences the audit quality.

Based on the current literature, we applied other accounting variables used in empirical research on auditing. The results presented indicate that some of them, such as the size of the audited company, accounting losses and operating cash flow, may be relevant for the proper estimation of the parameters of interest. Briefly, therefore, the results indicate that accounting conservatism is directly affected by the size of the audit firm, while the tenure of the engagement and the delay in the issuance of the audit report have an inverse relationship with the quality of accounting information.

Overall, the results of this study contribute to understanding the efficiency of some corporate governance instruments, in particular when applied to companies operating in emerging markets such as Brazil.

According to the results presented, the creation of an audit committee did not contribute to improving the quality of information reported, in particular conservatism. Thus, one might question whether this governance mechanism really enhances the independence of the auditor hired.

Another discussible point is about the pros and cons of the rotation of the audit firm (or auditor). The results presented here suggest that conservatism is significantly affected by this rotation and decreases along the length of the relationship between the client and the audit firm. Thus, the results indicate that the rotation of the audit firm is an efficient mechanism for improving the quality of reported numbers, despite the possible loss of knowledge of the client's activities.

Despite being among the main points raised when financial scandals at the beginning of this century, in the sample of this study the provision of non-audit services and the importance of the client did not affect the quality of accounting numbers.

It should be noted that this study has some limitations, such as the use of proxies to measure each of the audit quality characteristics, which may or may not adequately measure the attribute analyzed. In addition, this study evaluated only the relationship between the audit characteristics and accounting conservatism. However, there are other attributes described in the literature that well represent the quality of accounting numbers reported by companies.

Finally, we can suggest as future research a larger sample of firms with other types of corporate legal structures, such as private companies or limited liability companies. Other attributes of audit quality can also be investigated, or even the quality of accounting information such as earnings management, value relevance, etc. Other forms of statistical estimates would also be relevant to determine more adequately the parameters of the models in research that deals with the auditing. Also, use of other methods of data collection, such as questionnaires and interviews with analysts, auditors and professionals involved with the audit work could be used to verify that these professionals contribute to better quality of information.

We hope this study will contribute to a better understanding of the various factors that affect audit quality, and the relationship of these with the presence of accounting conservatism in the financial statements. In addition, we hope this work will encourage the development of new studies on the characteristics of the financial information and quality of auditing in Brazil.

6. References

Almeida, J. E. F. de, & Almeida, J. C. G. de. (2009). Auditoria e earnings management: estudo empírico nas empresas abertas auditadas pelas *big four* e demais firmas de auditoria. *Revista Contabilidade & Finanças*, *20*(50), p.62-74.

Azevedo, F. B., & Costa, F. M. (2012) Efeito da troca da firma de auditoria no gerenciamento de resultados das companhias abertas brasileiras. *RAM Revista de Administração do Mackenzie*, *13*(5), 65-100.

Ball, R., Kothari, S. P., & Robin, A. (2000).The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics, 29*(1), 1-51.

Ball, R., & Shivakumar, L. (2005). Earnings quality UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83-128.

Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting Research, 46*(3), 467-498.

Balsam, S.; Krishnan, J.; & Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A Journal of Practice and Theory, 22*(2), 71-97.

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, *24*(1), p.3-37.

Behn, B., Choi, J. H., & Kang, T. (2008). Audit quality and properties of analyst earnings forecasts. *The Accounting Review*, *83*(2), 327-349.

Beuren, I. M. (Org.). (2006). *Como elaborar trabalhos monográficos em contabilidade*: teoria e prática (3a ed.) São Paulo: Atlas.

Braunbeck, G. (2010). O. *Determinantes da qualidade das auditorias independentes no Brasil*. Tese de doutorado, Universidade de São Paulo, São Paulo, SP, Brasil.

Burgstahler, D. C., Hail, L., & Leuz, C. (2006). The importance of reporting incentives: earnings management in European private and public firms. *The Accounting Review*, *81*(5), 983-1016.

Chaney, P., Jeter, D., & Shivakumar, L. (2004). Self-selection of auditors and audit pricing in private firms. *The Accounting Review*, *79*(1), 51-72.

Chin, W., Douthett, E. B., Jr., & Lisic, L. L. (2012). Client importance and audit partner independence. *Journal of Accounting and Public Policy*, *31*(3), p.320-336.

Chung, H., & Kallpur, S. (2003). Client importance, nonaudit services and abnormal accruals. *The Accounting Review*, *78*(4), 931-955.

Cupertino, C., & Martinez, A. L. (2008). Qualidade da auditoria e earnings management risk assessment através do nível de accruals discricionários. *Contabilidade Vista & Revista, 19*(3), 69-93.

DeAngelo, L. E. (1981). Auditor size and auditor quality. *Journal of Accounting and Economics*, *3*(3), p.183-199.

DeAngelo, L. E. (1982). Mandated successful efforts and auditor choice. *Journal of Accounting and Economics, 4*(3), p.171-203.

Dechow, P. M., & Schrand, C. M. (2004). *Earnings quality.* Virginia: CFA Institute.

Dechow, P. M., Ge, W., & Schrand, C. M. (2010). Understanding earnings quality: a review of proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2-3), 344-401.

DeFond, M. L.,& Subramanyam, K. R. (1998). Auditor changes and discretionary accruals. *Journal of Accounting and Economics*, *25*(1), 35-67.

Fargher, N., Taylor, M. H., & Simon, D. T. (2001). The demand for auditor reputation across international markets for audit services. *International Journal of Accounting*, 36(4), 407-421.

Fortin, S. & Pittman, J.A. (2007). The role of auditor choice in debt pricing in private firms. *Contemporary Accounting Research*, *24*(3), 859-896.

Francis, J. R., & Ken, B. (2006). Disclosure of fees paid to auditors and the market valuation of earnings surprises. *Review of Accounting Studies*, *11*(4), 495-523.

Francis, J. R., & Wang, D. (2008). The joint effect of investor protection and Big 4 audits on earnings quality around the world. *Contemporary Accounting Research*, *25*(1), 157-191.

Gaver, J. J., & Paterson, J. S. (2001). The association between external monitoring and earnings management in the property-casualty insurance industry. *Journal of Accounting Research, 39*(2), 269-282.

Ghosh, A, & Moon, D. (2005). Auditor tenure impair audit quality. *The Accounting Review*, *80*(2), 585-612.

Greene, W. H. (2003). *Econometric analysis* (5th ed.) New Jersey: Prentice Hall.

Holthausen, R. W., & Watts, R. L. (2001). The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics*, *31*(1-3), 3-75.

International Accounting Standards Board. (2013). *Discussion Paper DP/2013/1 A review of the conceptual framework for financial reporting.* Londres: IFRS Foundation.

Iudícibus, S. de. (2004). *Teoria da contabilidade*. (7a ed.). São Paulo: Atlas.

Jenkins, D. S., & Velury, U. (2008). Does auditor tenure impact the reporting of conservative earnings. *Journal of Accounting and Public Policy*, *27*(2), 115–132.

Koch, C. W., Weber, M., & Wüstemann, J. (2012). Can auditors be independent? experimental evidence on the effects of client type. *European Accounting Review*, *21*(4), 797-823.

Krishnan, G. V., & Yang, J. S. (2009). Recent trends in audit report and earnings announcement lag. *Accounting Horizons, 23*(3), 265-288.

Lennox, C. S.; Francis, J. R., & Wang, Z. (2012). Selection models in accounting research. *The Accounting Review, 87*(2), 589-616.

Li, D. (2010). Does auditor tenure affect accounting conservatism? further evidence. *Journal of Accounting and Public Policy*, *29*(3), 226-241.

Lobo, G. J., & Zhou, J. (2005). To swear early or not swear early? an empirical investigation of factors affecting CEO's decisions. *Journal of Accounting and Public Policy*, *24*(2), 153-160.

Lopes, A. B., & Martins, E. (2005). *Teoria da contabilidade:* uma nova abordagem. São Paulo: Atlas.

Myers, J., Myers, L., & Omer, T. (2003). Exploring the term of the auditor–client relationship and the quality of earnings: A case for mandatory auditor rotation. *The Accounting Review*, *78*(3), 779–799.

Ng, P. P. H., & Tai, B. Y. K. (1994). An empirical examination of the determinants of audit delay in Hong Kong. *British Accounting Review*, *26*(1), 43-59.

Nikolaev, V. V. (2010). Debt covenants and accounting conservatism. *Journal of Accounting Research*, *48*(1), 137-175.

O'Keefe, T. B., King, R. D., & Gaver, K. M. (1994). Audit fees, industry specialization, and compliance with GAAS reporting standards. *Auditing:* A Journal of Practice and Theory, *13*(1), 41-55.

Paulo, E., Antunes, M. T. P., & Formigoni, H. (2008). Conservadorismo contábil nas companhias abertas e fechadas brasileiras. *RAE Revista de Administração de Empresas, 48*(3), 46-60.

Penman, S. H. & Zhang, X. J. (2002). Accounting conservatism and the quality of earnings, and stock returns. *The Accounting Review, 77*(2), 237–264.

Ruddock, C., Taylor, S. J., & Taylor, S. L. (2006). Nonaudit services and earnings conservatism: is auditor independence impaired? *Contemporary Accounting Research*, *23*(3), 701-746.

Sun, J. A., & Liu, G. (2011). Industry specialist auditors, outsider directors, and financial analysts. *Journal of Accounting and Public Policy*, Baltimore, *30*(4), 367-382.

Sunder, S. (1997). *Theory of accounting and control*. Cincinnati: South-Western Publishing.

Watts, R. L. (2003a). Conservatism in accounting part I: explanations and implications. *Accounting Horizons, 17*(3), 207-221.

Watts, R. L. (2003b). Conservatism in accounting part II: evidence and research opportunities. *Accounting Horizons, 17*(3), 207-221.

Weber, J., & Willenborg, M. (2003). Do expert informational intermediaries add value? Evidence from auditors in microcap initial public offerings. *Journal of Accounting Research*, *41*(4), 681-720.

Wooldridge, J. M. (2002). *Introductory econometrics*: a modern approach. (2nd ed.). Ohio: South-Western College Pub.