

The consequences of BIG 4 appointment on audit fees in a joint audit setting

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Abstract

The aim of this paper is to use the recent disclosure of audit fees by French listed firms to investigate the influence of the specificities of the French joint-auditing environment on audit fees. We use a model derived from Simunic's (1980) seminal work and examine the influence of the selection of one or two Big 4 among the joint-auditors, audit tenure, provision of non-audit services, ownership structure and corporate governance on audit fees on a sample of French listed firms in 2002 and 2003.

In line with previous research, we find that, in France, size and complexity of the audited firm, as well as cross-listing, diffuse ownership, the existence of an audit committee, and the joint provision of non-audit services positively determine audit fees.

Our main results show that having a second BIG4 auditor doesn't require the payment of a second BIG4 premium, as the selection of two BIG4 auditors correspond to the specific needs of international and large companies. Using a 2-SLS methodology, we demonstrate that our model doesn't suffer from endogeneity bias linked with joint-auditors' selection. Other results show that newly appointed auditors charge lower audit fees relative to the size of the company.

Keywords

Audit pricing, BIG 4 premium, joint audit, corporate governance, low balling, endogeneity.

1. Introduction

The trend in recent regulations aimed at restoring investors' confidence in the truthfulness of accounting figures has brought about corporate governance rules regarding the behaviour of managers and external auditors. Compulsory audit fee disclosure, and the limitation of conflict of interest situations via restrictions on non-audit services supplied by the statutory auditors, are two examples of such regulations.

French regulators have introduced rules that underline the specificity of the audit environment in France, where audit has long been a highly controlled and regulated activity. The general problematic of our research is the specificity of the French audit model, in which auditor appointments have a duration of six years, two joint auditors are required to certify consolidated financial statements, a process exists for control of audit quality, non-audit activities by statutory auditors are restricted and auditor independence is regulated. Are these specific conditions influencing the amount of audit fees paid by French listed firms?

Audit fee disclosures from year-end 2002 open up a new field of investigation, since audit and non-audit fees are now publicly available for a large number of French listed firms, as well as the distribution of fees (statutory audit/other fees) between the two joint auditors. This information indicates the nature of the relationship between companies and their auditors, and is supposed to be helpful for investors in assessing auditor independence.

Empirical research about audit fees is not recent. Since Simunic's seminal work of 1980, a body of empirical evidence has been built upⁱ and contributed to the creation of audit pricing models. These models have shown that the market remains a competitive market, although major international audit firms (BIG) hold significant market shares and are more highly concentrated than ever. In this context of competition, audit pricing models show that audit fees are determined by economic determinants of the audited firms, such as firm size, risk and complexity. In addition, ownership structure and corporate governance characteristics have

been tested in the literature, with the major findings that diffuse (public) ownership increases audit demand (Palmrose, 1986a; Chan *et al.*, 1993) and that independent audit committee members are associated with higher audit fees, as they tend to demand broader-scope audits (Abbott *et al.*, 2003).

Other research also emphasises the choice of auditors. The choice of BIG4 auditors is associated with a demand for high quality audit, and therefore also with higher audit fees. This BIG4 premium effect is of great empirical interest in the case of France, where firms may choose to appoint zero, one or two BIG4 auditors, and thus decide to pay one, or even two BIG4 premiums, depending on their choice of joint auditors.

In this mature field of research, our purpose is, firstly, to contribute to an extension of the knowledge of the French audit environment following Gonthier-Besacier and Schatt's (2006) initial work, using newly disclosed data to determine whether the economic determinants of audit pricing models are valid in the French setting, and secondly, to test the specificities of the French joint-auditing context. Our hypotheses are tested using a multivariate regression, on a sample of non-financial listed French firms at year-end 2002 and 2003.

As previously documented in the literature, our results demonstrate that French firms' audit fees are positively determined by firm size and various measures of complexity such as asset structure, diversification and internationalisation. These results are reinforced by taking into account the cross-listing in London or New York for some French groups, which is associated with more extensive disclosures and a greater volume of audit work and the belonging to the CAC40 index which is associated with a stronger institutional scrutiny. Diffuse ownership and audit committee are also shown to significantly increase the demand for audit work, in order to mitigate agency costs, and this leads to higher audit fees.

Regarding the specific characteristics of auditor-client relationships in France, we find that the selection of one BIG4 auditor among joint auditors leads to the payment of a BIG4

premium. A more interesting result is that the appointment of a second BIG4 auditor doesn't require the payment of a second BIG4 premium, as the selection of two BIG4 auditors correspond to the specific needs of international and largest companies. Further research on the nature of the determinants of the choice of auditors leads to the test of the potential endogeneity consequences of this choice on our audit fee model. Using a two-stage methodology (Heckman, 1979) we demonstrate that our results remain stable after controlling for endogeneity. We also test the impact of the total duration of the auditor-client relationship and find no significant impact of audit tenure on the amount of audit fees, whereas a more fine tune study of the impact of the mandate year (positioning each of the two auditors in year 1, 2 ..., or 6 of the six-year engagement) show a tendency to bill higher audit fees during year 2 of the six-year engagement. Additionally, using a size adjusted model of fees (audit fees / total assets), we find evidence of lower audit fees during the first year of appointment of a new auditor. Finally, as in previous research, we empirically confirm that in France the provision of non-audit services increases the amount of statutory audit fees.

The remainder of our paper is structured as follows: section 2 describes the French audit environment and our main research questions and hypotheses related to the specificities of the joint audit context. Section 3 presents previous literature on audit fee determinants. The methodology is explained in section 4. Empirical results are shown in section 5, and discussed in section 6, before concluding remarks.

2. Audit regulation in France

2.1. Audit fee disclosure

Regulations concerning disclosure of audit fees were only recently introduced in France (2002 and 2003), and have resulted in "split-level" information: the level of disclosure depends on

whether companies are listed or not, and the requirements differ according to the market concerned.

In chronological order, the first regulation issued (COB regulation n° 2002-06) imposed an obligation on listed companies meeting certain requirements to disclose audit and non-audit fees paid. A second regulation of more general scope (Article L.820-3 introduced by the Financial Security Law of August 1, 2003) required all companies to keep information regarding fees paid to the statutory auditors available for consultation by shareholders, but not to disclose them publicly. There was thus no general obligation for fee disclosure applicable to all companiesⁱⁱ.

Under COB regulation n° 2002-06 (COB, 2002), it became compulsory to report the amount of audit fees paid in the “Reference Documents” (which is a standardized format of annual report, subject to the AMF agreement) or prospectuses filed with the French Financial Market Authority [AMFⁱⁱⁱ] from January 1, 2003 (i.e. relating to 2002 financial year). A model table (COB, 2003a and 2003b) illustrates the format for presentation of this information.

This obligation does not apply to all listed companies, but only those publishing a Reference Document or a prospectus, i.e. listed companies undertaking a financial operation^{iv} during the year and therefore obliged to issue a prospectus for the operation, companies listed on the Nouveau Marché (NM – New market), which are required by the regulation to issue a Reference Document every year and companies choosing to voluntarily issue a Reference Document.

Description of the information on audit and non-audit fees to be disclosed in a Reference Document or prospectus:

COB regulation 2002-06 requires the disclosure of a table stating the amount of fees paid to each statutory auditor and other professionals belonging to the same audit network. Fees are

reported separately for the different engagements: statutory audit fees, other audit related fees, and consulting fees.

2.2. Specificities of French audit regulations

The specificities of French auditing environment are mostly regulatory. Auditors in France work in a highly codified environment:

- regulated professional qualifications and expertise (restricted access to the profession, training, exams, probationary period)
- highly-detailed French accounting regulations
- the joint audit requirement: two statutory auditors must be appointed for consolidated financial statements (this requirement was introduced by Law 66-537 of July 24, 1966)^v
- auditor appointments are for a six-year term (renewable)
- auditors' work is peer-reviewed.

French auditing research is a relatively recent phenomenon. As Bedart *et al.* (2001) point out, the stream only really emerged in France in the 1990s and is still under-represented. French auditing research is rooted in current economic affairs and the “audit crisis” that followed several accounting scandals implicating major international audit firms. The research issues of audit quality and auditor independence are thus as relevant in France as elsewhere, but Bedart, *et al.* (2001) state that France is a specific environment, a “case for tailored research” (our translation). Some determinants of audit fees still have been tested by Gonthier-Besacier and Schatt (2006) on a French sample of listed firms in 2002. Their results demonstrate a positive influence of firm size, complexity and non-audit fees on audit fees. They also find, on their sample of 109 firms in 2002, that having two BIG 4 among joint-auditors leads to lower audit fees. The latter result raises the question of the motivation of the companies to hire two BIG 4 auditors and needs to be further documented. Furthermore, this research paper call for future

research on the role of corporate governance characteristics on audit demand and on the influence of the specificity of the French audit setting regarding the long-term audit mandate duration (renewable six year-term). Our research aims at extending Gonthier-Besacier and Schatt's (2006) analysis by a revaluation of the BIG 4 premium effect in the French joint-audit setting for year 2002 and 2003, including ownership structure and corporate governance determinants on the model and by testing additional control variables in order to improve the robustness of the findings.

2.3. Expected consequences of the French specificities for audit fees

Selection of joint auditors

The appointment of two statutory auditors for companies publishing consolidated financial statements is a particularity of the French system. The regulation requiring joint auditors resulted from a clear intent to guarantee auditor independence, but also provides a means of protecting French audit firms against the all-powerful penetration of international audit firm networks (Benecib, 2004) (the requirement was upheld in 1984 in the face of considerable criticism of its high cost and demands for its abolition). French consolidated groups are free to appoint zero, one or two international-firm (BIG 4) auditors. Previous literature has documented a premium in fees when BIG 4 firms are used, and we wish to test whether in the French context the fact of having one or two BIG 4 auditors as joint auditor leads to an increase in the overall total audit fees paid by the company.

Choice of auditor: "BIG 4" or "not BIG 4"

Three conflicting effects are described by Palmrose (1986a) in explaining the relationship between the choice of BIG 4 auditors and audit fees.

The first effect can be called the "BIG 4 effect", and is based on DeAngelo's (1981b) statement that international (BIG 4) audit firms offer higher quality services, because they

benefit from better infrastructures and larger, more extensively-trained teams. This “BIG 4” effect can be analysed as a reputation and image effect, which motivates BIG 4 audit firms to provide high quality services in order to build up their brand name (Anderson and Zeghal, 1994). The reputation effect also incites companies to choose BIG 4 audit firms, in order to benefit from this brand name effect, which reinforces the credibility of accounting figures (Piot, 2003). In all events, the BIG 4 effect involves payment of a premium and leads to an increase in audit fees. The BIG 4 premium concept is criticised by Chaney *et al.* (2004) who demonstrate, from a sample of unlisted firms, that there is no BIG 4 premium *per se*, and that BIG4 auditors are self-selected, i.e. their clients choose them precisely because they are appropriate to the company’s specific needs.

The second effect, linked to auditor size, is a consequence of the large market share held by BIG 4 audit firms, particularly in the large firms segment, which can become an oligopolistic situation precluding any real price competition. The concentration of the audit market is undeniable: it is visible in the fall in the number of “BIG” international audit firms from 8 to 4 during the last 25 years. An oligopolistic market situation probably increases audit fees, whereas competition leads to a fee decrease (Maher *et al.*, 1992). Despite the higher market concentration since Simunic’s 1980 research, competition is still very keen between the remaining four big audit firms, and between them and other “non-big” competitors.

The third effect is economies of scale, occurring when large audit firms can distribute fixed costs across a large number of clients and develop specialised, industry-specific structures that can reduce costs. These cost savings are theoretically passed on to the client, resulting in fee decreases.

These three effects are concurrent and sometimes contradictory, which leads to difficulties in the interpretation of empirical findings, but as previous literature has generally demonstrated

a positive link between the choice of BIG 4 auditors and audit fees, our first hypothesis is thus stated as follows:

H1: Audit fees increase according to the number of auditors belonging to an international network (BIG 4).

Audit tenure and the duration of auditor appointments

In France, statutory auditors are appointed by shareholders for a term of 6 years^{vi} (renewable). This is very different from the American situation, where auditors' appointments are renewed annually. This long term of office, common to some other European countries (such as Belgium, Spain and Italy for example), guarantees a certain stability, and removes the auditor-client relationship from a situation where negotiation of the business relationship can influence auditor independence every year (Vanstraelen, 2000). The duration of audit tenure encompasses two dimensions in this context: the total length of the relationship between a company and its auditors, and the positioning within the 6-year duration of the current appointment.

The total duration of audit tenure has an influence on investors' perception of audit quality. In the recent debate about mandatory auditor rotation in the United States, regulators (US Gov, 2003) have questioned the link between audit tenure, auditor independence and audit quality. A long audit tenure can have (positive or negative) consequences for audit quality and audit fees, affecting auditor independence (collusion) or improving audit work conditions (Ghosh and Moon, 2005). As there is no consensus in the literature about the sign of the impact of audit tenure on audit fees, we have no hypothesis on the sign of the relationship, which remains an open empirical question.

H2a: Audit fees are related to the duration of the auditor-client relationship (audit tenure)

Past research has also shown that in an “Anglo-saxon” environment where auditors’ appointments are renewed annually, low-balling occurs (De Angelo, 1981a), i.e. audit fees are billed below cost in the first year of a relationship with a new client. The auditor is willing to accept deliberately understated fees in order to build client loyalty and guarantee future income. In France, the auditor’s appointment is fixed by law at 6 years, which should theoretically avoid such practices. But in fact, the renewal of the auditor’s appointment takes the form of a call for tenders, and we therefore hypothesise that audit fees will be understated in the first and last years due to fee negotiations associated with renewal of the auditor’s appointment.

H2b: audit fees are lower during the first and last (6th) year during the term of the auditor’s appointment

In addition, in case of the appointment of a new auditor, we expect the initial fees to be lower than “normal” as a result of the negotiation and low-balling effect.

H2c: audit fees are lower when at least one auditor is in its first year engagement

Joint provision of other services

Since the joint provision of non-audit services has been regulated for a long time in France, via the setting of incompatibilities in order to preserve auditors’ independence, there was still a possibility for French firms to buy some non-audit services from their incumbent auditors.

The development in consulting services offered by audit firms’ networks since the 1980s has raised the question of the relationship between audit fees and consulting (i.e. non-statutory audit) fees. An initial analysis by Simunic (1984) suggests that non-audit engagements provide audit firms with more in-depth knowledge of their client, and thus contribute to reducing audit costs. Another, less rosy view is that clients are offered low-cost audit services in order to retain or develop non-audit engagements, which generate higher fees (more than

offsetting the reductions granted on audit work). Both these analyses tend to suggest that there is a negative relationship between the levels of consulting fees and audit fees.

Empirically speaking however, much research has found the opposite, with results demonstrating a positive relationship between audit and non-audit fees (Simunic, 1984; Palmrose, 1986b; Firth, 1997). One of the arguments put forward to explain these “embarrassing” results (Firth 2002) is that in some specific situations (e.g. acquisitions and restructuring), companies find themselves not only requiring non-audit consulting services, but also in greater need of audit services. Given the uncertainty regarding the association between audit and non-audit fees, we do not make any hypothesis regarding the sign of the expected relationship between the two type of fees.

H3: audit fees are related to fees for other non-audit services

3. Literature review on audit fee determinants

The literature on audit pricing is not particularly recent; the seminal work by Dan Simunic was published in 1980. At that time, big international audit firms (BIG8) were accused of monopolising the audit market in the US, but Simunic (1980) showed that there was fierce competition between audit firms, with consequences for audit prices. In order to compare the audit prices of BIG8 auditors, he built a pricing model to determine audit fees. Audit fees depend on both the quantity of work purchased and the price per unit billed by the audit firm. Following Simunic, several researchers have tested the same explanatory variables (firm size, complexity and risk) in different countries, with generally similar findings. Of course, as underlined by Taylor and Simon (1999) in their international study of audit fee determinants in 20 countries, the litigation, disclosure and regulatory environments have a macro-economic effect on the mean level of audit fees in each country.

Our literature review is organised as follows: we first focus on the economic determinants of audit fees (3.1.) including size, complexity and risk, and then review literature adding corporate governance insights to the question of audit fees (3.2.). Additional control variables are presented in 3.3.

3.1. Audit pricing: economic determinants of audit fees

Following Simunic (1980) and as underlined by Hay *et al.* (2006), the most commonly used determinants tested in the literature are firm size, complexity and risk.

Firm Size

Big companies are assumed to perform a higher number of transactions and therefore to need a higher quantity of audit work. Firm size is thus presumed to have a positive influence on the quantity of audit work and the amount of audit fees. Prior research has provided empirical evidence in several countries (Simunic, 1980 and Palmrose, 1986a in the US; Chan *et al.*, 1993 and Pong and Whittington, 1994 in the UK; Firth, 1985 in New Zealand and Low *et al.*, 1990 in Singapore) and finds a positive association between firm size and audit fees. In France, the amount of statutory audit fees is regulated. Until 1985, the *August 12th, 1969 Decree* set auditors' fees as a proportion of the total assets of the audited company. This rigid legislation was amended in 1985 by the *July 3rd, 1985 Decree*, which imposed a negotiated per-hour fee for audits, based on a forecast budget of time worked corresponding to a predefined audit programme. The fee scale inherited from the *1969 Decree* is thus no longer fixed in monetary units, but based on a theoretical total for hours of work set forth by the law in a table using an accounting measure of company size, computed as follows: Total Assets + Operating Revenues + Financial Revenues. There is thus a direct link between audit fees and firm size. Nevertheless, for our sample, these audit fee scales do not apply, as the decree

states that the biggest firms (exceeding 122 million Euros using the above measure), companies listed on regulated markets and/or companies publishing consolidated accounts are excluded from its scope. Consequently, the companies in our sample are not bound by this scale, and pay audit fees on a negotiated basis taking into consideration the per-hour fee rate, the audit programme and the budgeted hours of work needed. The scale set by French law only applies for audits of the individual company accounts of the sample firms' French subsidiaries.

Firm complexity

More complex organisations need more extensive audit work, or more experienced audit teams, and this results in higher audit fees.

Previous research has used several measures of firm complexity:

- diversification (number of industries in which the company operates): because this requires differentiated audit verifications (Chan *et al.*, 1993)
- number of subsidiaries: leading to more intercompany transactions and an increase in audit work (Abbott *et al.*, 2003)
- internationalisation: which involves harmonisation of local accounting and fiscal practices and the coordination of local auditors. It is usually proxied through the percentage of foreign subsidiaries (Abbott *et al.*, 2003).
- Asset structure: because this has an influence on the quantity of work to be done. Some assets are more “audit consuming” because they need more scrutiny. The literature identifies inventories and accounts receivable as such assets which lead to increased audit fees (Karim et Moizer, 1996; Craswell *et al.*, 2002).

We add cross-listing in the UK or US markets to these complexity measures, because it is very meaningful in the French context (Piot and Janin, 2007). Cross-listing is meant to give

access to new capital on foreign capital markets. It needs specific financial disclosures and specifically tailored audit work, and is thus presumed to have a positive impact on audit fees.

Risk

The assessment of risk is an integral part of audit work, since it is the first step in determining the audit scope and programme. In order to determine a company's risk level, external auditors first test the efficiency of the internal audit system: they can then evaluate the capacity of internal audit procedures and controls to moderate audit risk. Some empirical research (Anderson and Zeghal, 1994; Simunic, 1980; Thornton and Moore, 1993) tests the impact of internal audit on external audit fees. Unfortunately, it is impossible to conduct such tests on our sample due to a lack of information on internal audit procedures at the time of the study. The risk involved in audit certification increases in particular situations where the audited firm may be tempted to manipulate earnings, such as:

- firms facing losses during the current period or previous years;
- and firms with high leverage, which are more dependent on external financing (shareholders, bankers).

We expect these indicators (losses and leverage) to be positively correlated with audit fees, as Bedard and Johnstone (2004) have demonstrated that the assessment of earning manipulation risks translate into higher fees^{vii} billed by auditors.

3.2. Ownership structure and corporate governance: the impact of agency costs on audit fees

The impacts of ownership structure and corporate governance have also been integrated into audit pricing models, as they translate agency costs' influence on audit fees.

Ownership structure

Following Berle and Means's analysis (1932) of diffuse ownership in modern corporations, Jensen and Meckling (1976) have characterized the agency relationship between non controlling shareholders and managers. Building on the fact that the separation of ownership and control leads to situations where managers don't own the residual claims of the companies, and are not entitled to act following the shareholders' interest, Jensen and Meckling (1976) demonstrate that companies have to bear monitoring and bonding costs in order to control managers' decisions. The authors show that accounting disclosure and external audit are control mechanisms able to reduce information asymmetry between shareholders and managers. Following Palmrose (1986a), we expect audit demand (and consequently audit fees) to increase with diffuse ownership.

Corporate governance: audit committee

The influence of corporate governance mechanisms and more specifically of audit committee characteristics on the level of audit fees has been tested by Abbott *et al.* (2003) with the major finding that independent audit committee members are associated with higher audit fees, as they tend to demand broader-scope audits.

Our question regarding the relationship between audit fees and corporate governance mechanisms is the following: are external audit and corporate governance systems complementary or substitutable mechanisms of control? On the one hand, it could be considered that the existence of an audit committee is linked with a higher demand for audit quality, and therefore with higher audit fees. On the other hand, the opposite effect could also be considered a possibility: that when there is an audit committee, external auditors might estimate audit risk to be less important given that corporate governance structures are strong, and thus reduce their audit risk premium, leading to lower audit fees. Hay *et al.* (2006)

underline that research to date examining the relationship between corporate governance and audit fees is limited and that further empirical evidence is needed to understand the nature of the relationship between external audit and governance mechanisms.

3.3. Control variables

The literature on audit fees determinants has identified several other variables linked with audit fees. Some of these variables, which are relevant in our setting, are added to the model in order to reinforce the specification quality of the model.

Audit Duration

Following Chan *et al.* (1993), we include audit duration (measuring the number of days between the year-end and the date at which the auditors sign their opinion on the consolidated accounts) in our model of audit fee determinants to control for audit effort.

Year-end peak

December 31st closings are known to be busy periods for audit companies and this ‘Year-end peaks’ can have an influence on the amount of audit fees as they do not allow an optimal allocation of auditor resources and can lead to an increase of audit costs.

Some other control variable have been specifically added in relation with the selection of our French sample of firms listed on the SBF250 index in 2002 and 2003.

Belonging to the CAC40 index

The CAC40 index consists in the 40 largest and more actively traded listed companies in France. We make the hypothesis that belonging to this index leads to a more intensive disclosure policy from the companies, and can then increase audit demand (and audit fees). Nevertheless, from the auditors’ point of view, CAC40 companies are attractive and their market share of this segment is crucial for building their reputation. On that respect, we

suppose that the tough competition between BIG 4 companies to gain (or protect) market shares on the CAC40 segment can lead to a pressure on fee negotiations, and decrease audit fees.

Voluntary disclosure

In our sample, some companies are required to disclose audit fees (companies listed on the new market, or companies issuing new shares or bonds during the year), whereas some companies choose to voluntarily disclose this information. We introduce a dummy variable in our model in order to control for the voluntary disclosure effect.

Year 2003

In year 2003 in France, the Financial Security Law (LSF, 2003) has reinforced the control on auditors' independence via the requirement of a real equilibrium between joint-auditors in audit tasks allocation and the reinforcement of non-audit services restrictions. Furthermore, this is the second year of disclosure of audit fees, and if we suppose that the disclosure in itself has a regulating impact on the amounts of audit fees, by restricting 'non-optimal' behaviours and by giving companies benchmarks in order to reinforce their bargaining power in fee negotiations with their auditors.

4. Research design

4.1. Sample and data

To test our hypotheses, we use data published by French listed companies included in the SBF 250 index for 2002 and 2003, the first years for which certain French listed companies disclosed information on audit fees.

Of the 250 companies in the index, some report information on audit fees either because it is an obligation or voluntarily, while others disclose no information on audit fees at all. As is

customary in this type of study, we exclude banks and financial companies from our analysis because their audit fee determinants and accounting and financial features are too different from industrial and commercial companies (Simunic, 1980). We also exclude foreign companies listed in France (because they don't have joint-auditors), and companies with three auditors for comparability purpose. We finally exclude companies with relevant data missing (corporate governance information, etc). The determination of the final sample, composed of 121 observations in 2002 and 134 in 2003, is presented in table 1.

<<<< *Insert table 1, about here* >>>>

Model

We use a statistical method to test our research hypotheses, consisting of a linear regression between the variable to be explained (audit fees) and the other variables reflecting our hypotheses. The model tested is as follows:

$$\begin{aligned}
 \text{AUDIT FEES} = & \\
 & \alpha + \beta_1 \text{ONEBIG4} + \beta_2 \text{TWOBIG4} + \beta_3 \text{TENURE} + \beta_4 \text{MANDYEAR1...6} + \beta_5 \text{NEWAUD} \\
 & + \beta_6 \text{NONAUDITFEES} + \beta_7 \text{SIZE} + \beta_8 \text{DIVERSIFICATION} + \beta_9 \text{INTERNATIONAL} \\
 & + \beta_{10} \text{RECEIVABLES} + \beta_{11} \text{INVENTORIES} + \beta_{12} \text{CROSSLIS} + \beta_{13} \text{LOSS} + \beta_{14} \text{LEVERAGE} \\
 & + \beta_{15} \text{MAJORITY} + \beta_{16} \text{AUDITCOM} + \beta_{17} \text{AUDITDUR} + \beta_{18} \text{YEPEAK} + \beta_{19} \text{CAC40} \\
 & + \beta_{20} \text{VOLDISCL} + \beta_{21} \text{YEAR03} + \varepsilon
 \end{aligned}$$

Dependant variable:

AUDITFEES: log(legal audit fees),

Test variables:

ONEBIG4: dummy = 1 if the company has only one auditor BIG4, TWOBIG4: dummy = 1 if the company has two BIG4 auditors, TENURE: average duration of auditor1 + auditor2 / auditee relationship, MANDYEAR1...6: dummies = 1 if Mandate Year is respectively 1, 2,...,6 for auditor 1 and/or auditor 2, NEWAUD: dummy = 1 if at least one of the auditors is appointed for the first year, NONAUDITFEES: log(non-audit fees),

Economic determinants:

SIZE: log(total assets), DIVERSIFICATION: number of industries disclosed in key figures, INTERNATIONAL: $\sqrt{\text{number of foreign subsidiaries}}$, RECEIVABLES: receivables/total assets, INVENTORIES: inventories/total assets, CROSSLIS: dummy = 1 if the company is listed in the US (NYSE, NASDAQ) or UK, LOSS: dummy = 1 if the company has a negative net income before extraordinary items, LEVERAGE: debts/total assets,

Ownership structure and corporate governance:

MAJORITY: dummy = 1 if a shareholder holds the majority of the voting rights, AUDITCOM: dummy = 1 if there is an audit committee,

Other control variables:

AUDITDUR: number of days between closing date and audit opinion, YEPEAK: dummy = 1 if the closing date of the company is as at december 31st, CAC40: dummy = 1 if the company belongs to the CAC40 index, VOLDISCL: dummy = 1 if the company voluntarily discloses a Reference Document including audit fees, YEAR03: dummy = 1 if the year is 2003.

Variables

To test our model, we constructed a data base from various information sources. Data on audit fees, ownership structure, corporate governance, internationalisation, diversification, cross listing, audit tenure, audit duration and voluntary disclosure of audit fees were collected manually for year 2002 and 2003 from the companies' reference documents or annual reports, available from the AMF website or the companies' own websites. Other accounting and financial data are taken from Standard & Poor's Global Vantage database.

Details of the definition and calculation method for each variables are provided in table 2.

<<<< *Insert table 2, about here* >>>>

5. Empirical results

5.1. Descriptive statistics

Table 3 contains sample summary statistics. The average (median) audit fees paid by our sample firms is 3191.3 (815.9) thousand Euros in 2002 and 3024.4 (998) thousand Euros in 2003. Our sample is composed of the largest French listed firms with an average (median) total assets of 8743 (1234.9) million Euros in 2002 and 9341 (1373.9) million Euros in 2003. Both audit fees (as well as non-audit fees) and size measures exhibit high skewness and following the literature (Hay *et al.* 2006), we transform these variables taking the logarithm of the raw data in order to improve the linear relationship between our size and audit fee measures^{viii}. The choice of BIG 4 auditors is as follows in year 2002 (2003): 12.89% (9.86%) of our sample firms choose to have no BIG 4 auditor, 61.07% (63.38%) have appointed one

BIG 4 with one non-BIG, and 25.95% (26.76%) have made the choice of two BIG 4 auditors. Regarding audit tenure, the average tenure is around 9 years. 9.85% of the companies have changed one of their auditors in 2002, 14.79% have changed one auditor and 2.82% have changed two auditors in 2003^{ix}. Other main characteristics of our sample are an internationalisation rate (measured through the percentage of foreign subsidiaries) of around 58% and a crosslisting rate of 21.36% in 2002 and 17.61% in 2003. Regarding corporate governance: the number of firms having an audit committee increases significantly from 60.31% in 2002 to 71.63% in 2003 (Mann-Whitney ranksum z-test: $p > |z| = 0.0489$).

<<<< *Insert table 3, about here* >>>> (*Descriptives*)

5.2. Correlation analysis

<<<< *Insert table 4, about here* >>>> (*correlation matrix*)

The correlations between the independent variables tested in the model are presented in table 4 for year 2002 and 2003. These correlations show that certain variables are interrelated: in particular, size (measured as the log of total assets) shows significant correlation with a large number of other variables. But these correlations are not excessively intense, with coefficients generally under 50% except for the correlations between size and number of foreign subsidiaries, and size and non-audit fees. We therefore computed the VIFs (which indicate the proportion of each independent variable's variance that is explained by all other independent variables) for our regression model. The VIFs reveal no severe multicollinearity problems for our model's variables. The strength of the link between size and non-audit fees (69.82% in 2002, and 75.54% in 2003) is high but the VIFs nevertheless remain close to an average value of 2. For robustness checks, we also present an alternative model of audit fees scaled by total assets at the end of the paper to control for the size effect on the significance of our variables.

5.3. Audit fee determinants regression model

Results are reported in table 5.

<<<< *Insert table 5, about here* >>>> (OLS regressions)

The general significance of the model is high with a R^2 around 0.9 depending on the models, which are very high (due to the major influence of the size effect, which is addressed later in the paper) but similar to other comparable ‘classical’ audit fees determinants models found in the literature: $R^2 = 0.89$ in Palmrose (1986a), $R^2 = 0.87$ in Chan *et al.* (1993).

Impact of the auditor-client relationship characteristics on audit fees in a joint audit setting

Regarding the auditor-client relationship, model 1 reveals a two-level premium for employing BIG 4 firms in the French context: having a BIG4 auditor as one joint auditor increases audit fees, and having two BIG4 also increases audit fees. But the difference between the premium paid for having two BIG 4 isn’t significantly different of the premium paid for only one BIG 4 (the t-test on the difference of coefficient exhibits non significant results: $F = 1.11$, $p > F = 0,2931$). In model 3, we compute an alternative measure of the BIG 4 effect by introducing two dummy variables, recoded by reference with the choice of one BIG 4 auditor. Our results are the following by reference with the ‘benchmark choice’ (one BIG 4 + one non-big auditor): the choice of zero BIG 4 leads to lower audit fees and the choice of two BIG 4 doesn’t lead to an increase of fees (the coef. is not significant). Additional non disclosed tests on the determinants of the choice of a second BIG 4 show that this choice is conditioned to specific needs of larger groups, with a high percentage of foreign subsidiaries. In that case, the choice of a second BIG 4 is economically justified, because only BIG 4 auditors have the

necessary international coverage (via their network) and resources to provide a high level of audit quality.

As far as audit tenure is concerned we find no evidence of a relationship between the average duration of the auditor-auditee relationship and audit fees. However, even if we find no direct evidence of underpricing (low balling) in the first year of the audit engagement, we find that the audit fees are significantly higher during the second year of the mandate. We make the hypothesis that this can be the consequence of understated audit fees billed during the first year (even if not detected by our model).

Finally, our sample results also show that the supply of services other than audit services leads to an increase in audit fees demonstrating a structural association between the provision of audit and non-audit services as argued by Firth (2002).

Economic determinants of audit fees: size, complexity and risk

Consistent with previous research, our results show that the amount of audit fees paid by French listed companies is positively associated with size (measured by total assets), and various measures of the complexity of the audited company (customer receivables as a proportion of total assets, number of sectors in which the company does business, and number of foreign consolidated subsidiaries). Inventories as a proportion of total assets does not appear to be a relevant indicator of auditee complexity likely to affect the level of audit fees.

These results are further reinforced by controlling for the cross-listing of some French groups (i.e. both in France and in London or New York), which reinforces demand in terms of financial information and thus increases audit fees. Our results show a positive link between risk (as measured by leverage) and the amount of fees, but no link is found with our second measure of risk (loss). We interpret this non-significant result as a reflection of the fact that auditor-perceived risk can also be indirectly covered by other variables included in the model.

Impact of ownership structure and corporate governance on audit fees

Regarding ownership structure, the results for our variable measuring ownership concentration (existence of a majority shareholder) show (but only in model 1) that when ownership is concentrated, agency costs are low and that the demand for control via external auditors is lower leading to a lower demand for audit.

Our model also seeks to test the influence of internal corporate governance mechanisms on external audit: are these control mechanisms complementary, or substitutable? Our empirical results show that the existence of an audit committee contributes to an increase in audit demand, a reinforcement of the control that is reflected in higher fees. External audit and internal corporate governance systems are thus complementary.

5.4. Robustness tests

To verify the robustness of our results, we performed tests using alternative measures for our variables and using additional control variables. We also developed alternative model specifications in order to address the size effect and the potential endogeneity of auditors' choice. The results are discussed below (for simplification purpose however, only the relevant tables corresponding to the robustness checks are disclosed *in extenso*, as some minor tests doesn't modify our principal findings).

Size effect

Following the literature, we also tested another size indicator: log(sales). The results are not significantly different. On the whole, they are the same, except in respect of the number of foreign subsidiaries, which becomes non-significant due to excessive collinearity with sales.

To examine the effect of the other variables independently of the size effect, since we noted that our size indicator (log of total assets) is correlated with many of our independent variables, we also tested an alternative model in keeping with Simunic's (1980) initial model, which is a model of audit fee determinants, scaled for size. Tests on the dependent variable: Audit fees / total assets give results qualitatively similar to those in our model 1, 2 and 3, and to the model presented in Simunic's article for the major part of the variables (see table 6). However, the results for diversification and leverage are not significant and some variables become significant, whereas they were not in the non-scaled model.

<<<< *Insert table 6, about here* >>>> (*scaled audit fees regression*)

The major differences between the results of the scaled and the non scaled model are the following:

. We find that having a second BIG 4 doesn't have an influence on audit fees relative to size (reinforcing our previous results on the absence of a second BIG 4 premium)

. We also find that scaled audit fees decrease when a new auditor is appointed for the first year. This demonstrates an underpricing (low-balling) effect during the first year of engagement, which was not detected by our non-scaled model.

. Ownership structure and corporate governance variables are non significant in the scaled model, which is not surprising as we know that diffuse ownership and high standards of governance (audit committee) are generally directly associated with firm size.

. Audit duration has a significant positive impact on scaled audit fees and voluntary disclosure is linked with lower audit fees relative to size.

Endogeneity of the choice of joint-auditors on audit fees

In our OLS model of audit fees determinants, we integrate the influence of the choice of auditors on audit fees, using binary variables. This has been proved to cause endogeneity concerns in audit fees determinants by several authors including Copley *et al.* (1995), Ireland and Lennox (2002) and Chaney *et al.* (2004). The choice of auditors isn't made at random: companies self select auditors among BIG 4 or non BIG 4 auditors, according to their specific needs and to characteristics such as size, ownership structure or internationalisation. This case of endogeneity has been tested and measured using the econometrical procedure developed by Heckman (1979). The results are presented in table 7.

In the first stage (table 7, panel A) we find that the determinants of the choice of zero, one or two BIG 4 auditors among the joint auditors are firm size, internationalization measured by the percentage of foreign subsidiaries and corporate governance's efficiency measured by the presence of an audit committee. Loss is also found to be a significant determinant of the number of BIG 4 auditors selected by our sample firms, which can be interpreted as a tendency for riskier firms to hire BIG 4 auditors in order to benefit from their brand name reputation. The coefficients found from this first stage multinomial probit regression are then used to compute the inverse Mills ratios: IMR1 and IMR2 corresponding to the choice of one BIG 4 (IMR1) or two BIG 4 (IMR2) auditors. In the second stage, the determinants of audit fees are estimated using a model similar to our initial OLS model 1 (see table 5), but including inverse Mills ratios as additional explanatory variables in order to control for endogeneity. The non-significance of these variables demonstrates that our audit fees model doesn't suffer from endogeneity bias, and that our results are robust. This control for endogeneity doesn't modify the general significance of other variables except leverage, which become insignificant. The control of the influence of leverage as a determinant of the choice

of the number of BIG 4 auditors (in stage 1) leads to the non significance of this variable in determining the level of audit fees (stage 2).

<<<< *Insert table 7, about here* >>>> (2-SLS regressions)

Division of work between the two joint auditors

The French auditors' code of professional ethics states that “the practicalities of joint auditing are essentially based on balanced distribution (...) of the audit programme between the joint auditors, and mutual review of working papers” (all translations in this section are our own).

The stated aims of the joint audit system are “to reinforce statutory auditor independence and improve the service rendered to the audited entity. These aims can only be achieved if the joint auditors respect a division of work and fees that enables each joint auditor to play his role fully and fully assume responsibility”. Finally, for the disclosure of audit fees, the COB required separate reporting of the fees paid to each auditor and members of their respective networks, stating (COB, 2003a:5) that “any imbalance between the auditing fees paid to joint auditing firms that may appear from this table can be explained in notes”. Following Gonthier-Besacier and Schatt (2006), we test the hypothesis that an imbalance in division of auditing activities between the two auditors (as reflected in the greater proportion of fees going to one “dominant” auditor) is likely to have a negative effect on optimum execution of audit work, and may lead to increased audit fees. Contrary to our hypothesis, and as in previous research, we detect no evidence of that phenomenon on our sample.

Number of BIG 4

The two variables 1BIG4 and 2BIG4 were also tested in the form of a single variable (NB_BIG4) = an ordinal variable that takes the values 0, 1 or 2 depending on the number of BIG4 auditors included in the statutory auditors. This variable is significant, and shows a

positive association with the amount of audit fees, although we prefer to report the results for two separate variables that can distinguish between the 1BIG4 and 2BIG4 effects, which do not necessarily result from the same auditor selection strategy.

6. Limitation and future research

One limitation of this paper is that it examines audit fee determinants over only two years, even though the years concerned (2002, 2003) were particularly interesting ones, being the two first financial years for disclosures on audit fees in France. Research into audit fees in the French context, as well as in the international context, would be enhanced by a longitudinal study looking at developments in disclosed audit fees in France since 2002 in the light of recent international and local changes in regulatory constraints and investigating the consequences of the disclosure requirement on subsequent period audit fees, as in Francis and Wang (2005).

A second limitation of the paper is that it doesn't address the question of joint-audit effectiveness. Our research design doesn't allow us to assess if joint-audit is more expensive than a single-auditor model or to test if joint-audit leads to better audit quality, because we have no comparison sample of companies having only one auditor.

This research calls for future research on the consequences of the disclosure of audit fees on both audit level and auditor independence, and asks the question of the effectiveness of joint-auditing.

7. Conclusion

To carry out this study of the audit fee determinants for French listed companies for the 2002 and 2003 financial years, we relied on audit fees as reported for the first and second year by a

sample of listed companies. Using a statistical method, we tested a model for determination of audit fees, constructed based on past literature, and including corporate governance characteristics and the specificities of the French joint-auditing system.

The results corroborate previous research on audit fee determinants. Audit fees increase with the size and complexity of the auditee. In France, they are also linked to whether the company is listed on a foreign market (London or New York). While concentrated ownership reduces agency costs and audit fees, the creation of an audit committee increases audit demand and therefore the amount of fees paid, showing that external auditors are complementary to internal corporate governance systems. The choice of the joint auditors is also an important factor: we show that having one or two BIG 4 auditors generates an increase in fees, with no evidence that the choice of two BIG 4 auditor is more expensive than the choice of one BIG 4. An in depth study of the consequences of the choice of a second BIG 4 on audit fees demonstrates that having two BIG 4 auditors isn't more expensive than having only one BIG 4 and a local auditor, all other things being equal. Our results show that the selection of two BIG 4 auditors corresponds to specific needs of large and international firms. We control for potential endogeneity consequences of the choice of joint-auditors on the level of audit fees and detect no major endogeneity consequences on our empirical results. Contrary to our hypothesis, the average duration of audit tenure does not appear to have a significant influence on the amount of audit fees. The impact of the mandate year (positioning each of the two auditors in year 1, 2 ..., or 6 of the six-year engagement) however show a tendency to bill higher audit fees during year 2 of the six-year engagement. Furthermore, when we test the scaled audit fees model (audit fees/ total assets) for robustness checks purposes, we find that new auditors (in their first year engagement) bill lower fees relative to size, demonstrating a low balling effect on the first year of the mandate. Finally, our results also show that *ceteris paribus*, the fees for non-audit engagements are positively associated with audit fees.

We therefore conclude that even with the specific pattern of joint-auditing, the French audit market is not significantly different from the “Anglo-Saxon” audit market as far as “economic” audit fee determinants are concerned. The spread of audit methodology from the Big 4 international audit firms is no doubt a major factor in this situation. Furthermore, we show that corporate governance has a positive influence on audit demand, contributing to an improvement in audit quality in France. Finally, we show that international audit firms, although they face competition in France from a small number of major French audit firms, are the market leaders (for our sample of listed companies) and charge higher fees.

Notes

<<<< Insert endnotes here >>>>

References

- Abbott L. J., Parker S., Peters G. F., Raghunandan K. (2003), "The Association between Audit Committee Characteristics and Audit Fees", *Auditing : a Journal of Practice and Theory*, Vol. 22, n° 2, September 2003, pp. 17-32.
- AMF (2004), "Recommandations pour l'élaboration des documents de référence relatifs à l'exercice 2003" (recommandations for the elaboration of reference documents as at December 2003).
- Anderson T., Zeghal D. (1994), "The Pricing of Audit Services : Further Evidence from the Canadian Market ", *Accounting and Business Research*, Vol. 24, n° 95, 1994, pp. 195-207.
- Bedard J., Gonthier-Besacier N., Richard C. (2001), "Quelques voies de Recherche Française en Audit" (some future research opportunities in audit research in France), in *Faire de la Recherche en Comptabilité Financière (Financial Accounting Research)*, Dir. Dumontier P. and Teller R., Ed.Vuibert, coll. FNEGE, chapter 5, pp. 55-82.
- Bedart J. C., Johnstone K. M. (2004), "Earnings Manipulation Risk, Corporate Governance Risk, and Auditors' Planning and Pricing Decisions", *The Accounting Review*, Vol. 79, n° 2, April 2004, pp. 277-304.
- Bell T. B., Landsman W. R., Shakelford D. A. (2001), "Auditors' Perceived Business Risk and Audit Fees : Analysis and Evidence", *Journal of Accounting Research*, Vol. 39, n° 1, June 2001, pp. 35-43.
- Benecib F. (2004), "De l'efficacité du co-commissariat aux comptes" (joint-auditing effectiveness), PhD Dissertation - Université Paris IX Dauphine.
- Berle A., Means G. (1932), "The modern corporation and private property", 2nd Ed. 1956, MacMillan.
- Chan P., Ezzamel M., Gwilliam D. (1993), "Determinants of Audit Fees for quoted UK Companies", *Journal of Business Finance and Accounting*, Vol. 20, n° 6, November 1993, pp. 765-786.
- Chaney P. K., Jeter D. C., Shivakumar L. (2004), "Self-Selection of Auditors and Audit Pricing in Private Firms", *The Accounting Review*, Vol. 79, n° 1, January 2004, pp.51-72.
- COB (2002), Règlement (rule) n° 2002-06
- COB (2003a), Commentaire du règlement (comments on rule) n° 2002-06, *Bulletin Mensuel COB* - n° 376, February 2003.
- COB (2003b), Instruction modifiée de décembre 2001 (modified instruction of December 2001), *Bulletin mensuel COB*- n° 381, July/August 2003.
- Copley P., Gaver J., Gaver K. (1995), "Simultaneous estimation of the supply and demand of differentiated audits: Evidence from municipal audit market", *Journal of Accounting Research*, n°33 (Spring), pp. 137-155
- Craswell A., Stokes D. J., Laughton J. (2002), "Auditor Independence and Fee Dependence", *Journal of Accounting and Economics*, Vol. 33, 2002, pp. 253-275.

- DeAngelo L. E. (1981a), "Auditor Independence, 'Low Balling', and Disclosure Regulation", *Journal of Accounting and Economics*, Vol. 3, 1981, pp. 113-127.
- DeAngelo L. E. (1981b), "Auditor Size and Audit Quality", *Journal of Accounting and Economics*, Vol. 3, 1981, pp. 183-199.
- Firth M. (1985), "An Analysis of Audit Fees and Their Determinants in New Zealand", *Auditing : A Journal of Practice and Theory*, Vol. 4, n° 2, Spring 1985, pp. 23-37.
- Firth M. (1997), "The Provision of Non-Audit Services and the Pricing of Audit Fees", *Journal of Business Finance and Accounting*, Vol. 24, n° 3&4, April 1997, pp. 511-525.
- Firth M. (2002), "Auditor-Provided Consultancy Services and their Association with Audit Fees and Audit Opinion", *Journal of Business Finance and Accounting*, Vol. 29, n° 5&6, June/July 2002, pp. 661-693.
- Francis J. R., Wang D. (2005), "Impact of the SEC's public fee disclosure requirement on subsequent period fees and implications for market efficiency", *Auditing: a Journal of Practice and Theory*, Vol. 24, pp. 145-160.
- Hay D. C., Knechel W. R., Wong N. (2006), "Audit fees: a meta analysis of the effects of supply and demand attributes", *Contemporary Accounting Research*, Vol. 23, n°1, pp.141-191.
- Heckman J. J. (1979), "Sample selection bias as a specification error", *Econometrica*, vol. 47, n°1, pp. 153-161.
- Ireland J. C., Lennox C. (2002), "The large audit firm fee premium: a case of selectivity bias?", *Journal of Accounting, Auditing and Finance*, n°17 (Winter), pp. 73-91
- Jensen M. C., Meckling W. H. (1976), "Theory of the Firm : Managerial Behaviour, Agency Costs and Ownership Structure", *Journal of Financial Economics*, Vol. 3, n° 4, pp. 305-360.
- Karim W., Moizer P. (1996), "Determinants of Audit Fees in Bangladesh", *The International Journal of Accounting*, Vol. 31, n° 4, pp. 497-509.
- Low L.-C., Tan P. H.-N., Koh H.-C (1990), "The Determination of Audit Fees : an Analysis in the Singapore Context", *Journal of Business Finance and Accounting*, Vol. 17, n° 2, Spring 1990, pp. 285-295.
- LSF (2003), Loi de Sécurité Financière n° 2003-706 du 1^{er} août 2003 (Financial security law), Article 109, art. L.820-3 du Code de Commerce.
- Ghosh A., Moon D. (2005), "Auditor tenure and perceptions of audit quality", *The Accounting Review*, Vol. 80, N°2, April 2005, pp. 585-612.
- Gonthier-Besacier N., Schatt A. (2006), "Determinants of audit fees for French quoted firms", Fargo Research Center WP n° 1060301, Université de Bourgogne, (<http://econpapers.repec.org/paper/dijwpfargo/>), March 2006, 37 p.
- Maher M. W., Tiessen P., Colson R., Broman A. J. (1992), "Competition and Audit Fees", *The Accounting Review*, Vol. 67, n° 1, January 1992, pp. 199-211.
- Palmrose Z.-V. (1986a), "Audit Fees and Auditor Size : Further Evidence", *Journal of Accounting Research*, Vol. 24, n° 1, Spring 1986, pp. 97-110.
- Palmrose Z.-V. (1986b), "The Effects of Nonaudit Services on the Pricing of Audit Services: Further Evidence", *Journal of Accounting Research*, Vol. 24, n° 2, Autumn 1986, pp. 405-411.
- Piot C. (2003), "Coûts d'agence et changements de commissaires aux comptes : une approche empirique" (agency costs and auditor change: an empirical approach), *Comptabilité – Contrôle – Audit*, T. 9, vol.2, November, pp. 5-30.
- Piot C., Janin R. (2007), "External auditors, audit committees and earnings management in France", forthcoming in *The European Accounting Review*.

- Pong C. M., Whittington G. (1994), “The Determinants of Audit Fees: Some Empirical Models”, *Journal of Business Finance and Accounting*, Vol. 21, n° 8, December 1994, pp. 1071-1095.
- Sarbanes-Oxley Act (2002), approved by the American Congress on July, 30th 2002.
- Simunic D. A. (1980), “The Pricing of Audit Services : Theory and Evidence”, *Journal of Accounting Research*, Vol. 18, n° 1, Spring 1980, pp. 161-190.
- Simunic D. A. (1984), “Auditing, Consulting, and Auditor Independence”, *Journal of Accounting Research*, Vol. 22, n° 2, Autumn 1984, pp. 679-702.
- Taylor M. H., Simon D. T. (1999), “Determinants of Audit Fees: The Importance of Litigation, Disclosure, and Regulatory Burdens in Audit Engagements in 20 Countries”, *The International Journal of Accounting*, Vol. 34, n° 3, 1999, pp. 375-388.
- Thinggaard F., Kiertzner L. (2005), “The effects of two auditors and non-audit services on audit fees: evidence from a small capital market”, *Working paper n° R-2005-02*, Financial Reporting Research Group, Aarhus School of Business, Denmark.
- Thornton D. B., Moore G. (1993), “Auditor Choice and Audit Fee Determinants”, *Journal of Business Finance and Accounting*, Vol. 20, n° 3, April 1993, pp. 333-349.
- US Gov (2003), US Government Accounting Office (GAO) 2003 – Senate report on the consequences of auditors rotation, <http://www.gao.gov/new.items/d04216.pdf>
- Vanstraelen A. (2000), “Impact of renewable long-term audit mandates on audit quality”, *The European Accounting Review*, Vol. 9, n°3, pp. 419-442.

Table 1: Sample selection

	2002	2003	Pooled
Companies listed on the SBF 250 index	250	250	500
- non-disclosure of audit fees	- 71	- 65	-136
Companies disclosing audit fees	179	185	362
- banks and financial companies (SIC = 40)	- 25	- 27	-52
- foreign companies (with only one auditor)	- 6	- 7	-13
- companies with three auditors	- 14	- 9	-23
Test sample	134	142	276
- missing data (corporate governance) or insufficient detail in the information disclosed	-13	-8	-21
Final sample	121	134	255

Table 2: description of the variables

Nature	Code	Definition		Source	Pred. sign
<i>Dependent Variable</i>	AUDIT FEES	Statutory (legal) audit fees	Log (legal audit fees)	Annual reports	
<i>Test variables</i>	ONEBIG4	The company has one (and only one) BIG4 auditor	Dummy variable: 0 / 1	Annual reports	+
	TWOBIG4	The company has two BIG4 auditors	Dummy variable: 0 / 1	Annual reports	+
	TENURE	Mean duration of the auditor-client relationship	Log(Average (duration auditor 1, duration auditor 2))	Annual reports	?
	MANDYEAR1	Mandate Year = 1 for auditor 1 and/or auditor 2	Dummy variable: 0 / 1	Annual reports	-
	MANDYEAR2	Mandate Year = 2 for auditor 1 and/or auditor 2	Dummy variable: 0 / 1	Annual reports	+
	MANDYEAR3	Mandate Year = 3 for auditor 1 and/or auditor 2	Dummy variable: 0 / 1	Annual reports	+
	MANDYEAR4	Mandate Year = 4 for auditor 1 and/or auditor 2	Dummy variable: 0 / 1	Annual reports	+
	MANDYEAR5	Mandate Year = 5 for auditor 1 and/or auditor 2	Dummy variable: 0 / 1	Annual reports	+
	MANDYEAR6	Mandate Year = 6 for auditor 1 and/or auditor 2	Dummy variable: 0 / 1	Annual reports	-
	NEWAUD	New auditor = 1 if auditor 1 or 2 is appointed for the first year	Dummy variable: 0 / 1	Annual reports	-
	NONAUDITFEES	Non-audit fees = other audit fees + consulting fees	Log (non-audit fees)	Annual reports	?
<i>Economic determinants</i>	SIZE	Size of audited company	Log (Total assets)	Database	+
	DIVERSIFICATION	Number of industry in which the firm operates	Number of industries disclosed in key figures	Annual reports	+
	INTERNATIONAL	Number of foreign subsidiaries	SQRT (foreign integrated companies)	Annual reports	+
	RECEIVABLES	Receivables as portion of total assets	Receivables / Total assets	Database	+
	INVENTORIES	Inventories as portion of total assets	Inventories / Total assets	Database	+
	CROSSLISTING	UK or US listing (LSE, NYSE, Nasdaq)	Dummy variable: 0 / 1	Annual reports	+
	LOSS	Loss = 1 if the company has a negative net income before extraordinary items	Dummy variable: 0 / 1	Database	+
	LEVERAGE	Leverage	Debts / total assets	Database	+
<i>Ownership and corporate governance</i>	MAJORITY	A majority shareholder owns more than 50% of the voting rights	Dummy variable: 0 / 1	Annual reports	-
	AUDITCOM	Audit committee	Dummy variable: 0 / 1	Annual reports	?
<i>Other control Variables</i>	AUDITDUR	Audit duration	number of days between closing date and audit opinion	Annual reports	?
	YEPEAK	Year-end peak of activity = 1 if company's year-end is in December	Dummy variable: 0 / 1	Annual reports	?
	CAC40	belonging to the CAC40 index	Dummy variable: 0 / 1	Euronext website	?
	VOLDISCL	Voluntary disclosure of a reference document including audit fees	Dummy variable: 0 / 1	AMF website	?
	YEAR03	Year 2003	Dummy variable: 0 / 1	Database	?

Table 3: Sample descriptive statistics

Continuous Variables	2002						2003						
	N	Mean	S. D.	Min	p50	Max	N	Mean	S. D.	Min	p50	Max	
<i>Audit fees</i>													
Legal audit fees (KEUR)	129	3191.3	5679.0	35.5	815.9	39900	141	3024.4	4630.7	33.1	998	24600	
Other audit fees (KEUR)	129	928.9	2596.1	0	70	22400	141	805.8	1869.8	0	72	13050	
Consulting fees (KEUR)	128	682.2	1417.5	0	74.3	10300	141	517.9	828.2	0	93	4674	
Log (Audit fees)	129	6.93	1.54	3.57	6.70	10.59	141	7.02	1.48	3.50	6.91	10.11	
Log (Non-Audit fees ¹)	128	5.17	2.70	0	5.34	10.09	141	4.90	2.92	0	5.44	9.73	
<i>Other variables</i>													
Total assets (MEUR)	129	8743.0	18028.3	25.0	1234.9	106587	142	9341.0	19769.6	11.3	1373.9	125892	
Size = Log (total assets)	129	7.30	2.04	3.22	7.12	11.58	142	7.19	2.26	1.82	7.20	11.74	
Receivables / total assets	129	0.1980	0.1236	0.0105	0.1822	0.5332	142	0.2637	0.1359	0.0517	0.2426	0.6912	
Inventories / total assets	128	0.0897	0.0939	0	0.0603	0.4693	141	0.0908	0.0973	0	0.0614	0.5365	
Nb internat. subsidiaries	129	64.7	114.1	0	30	981	140	66.1	117.9	0	32.5	1081	
% internat. subsidiaries	128	0.5782	0.2718	0	0.6619	0.9655	140	0.5867	0.2583	0	0.6705	0.9543	
Diversification	129	3.25	1.52	1	3	8	140	2.76	1.64	1	3	11	
Leverage	127	0.1714	0.1325	0	0.1625	0.5327	142	0.1782	0.1451	0	0.1658	0.9694	
Mean tenure	127	8.66	5.73	1.5	7	37	136	8.99	5.25	1	8	26.5	
Audit duration	127	91.8	32.7	29	90	164	138	102.6	44.6	13	96.5	452	
Blockholders ²	131	0.5318	0.2627	0	0.6220	0.9110	142	0.5216	0.2687	0	0.5840	0.9500	
Board independence	131	0.2977	0.2711	0	0.3000	1	140	0.3407	0.2503	0	0.3604	0.9412	
<i>Categorical variables</i>													
	N	Proportion (%)						N	Proportion (%)				
		0	1	2					0	1	2		
Nb BIG 4	131	12.89	61.07	25.95			142	9.86	63.38	26.76			
Deloitte	129	76.74	23.26				142	70.42	29.58				
Ernst & Young	129	53.49	44.19	2.33			142	54.93	45.07				
PWC	129	80.62	19.38				142	78.87	21.13				
KPMG	129	79.84	20.16				142	77.46	22.54				
Major	129	75.19	21.71	3.10			142	80.99	19.01				
Mandate year = 1	129	72.87	27.13				142	74.65	25.53				
Mandate year = 2	129	77.52	21.71	0.78			142	78.87	21.13				
Mandate year = 3	129	76.74	23.26				142	78.87	21.13				
Mandate year = 4	129	72.09	27.13	0.78			142	79.58	20.42				
Mandate year = 5	129	65.89	34.11				142	71.83	28.17				
Mandate year = 6	129	81.40	18.60				142	65.49	34.51				
New Auditor	132	90.15	9.85				142	82.39	14.79	2.82			
		0	1					0	1				
Crosslisting	131	78.63	21.37				142	82.39	17.61				
Loss	134	72.39	27.61				142	73.94	26.06				
Majority shareholder	131	51.15	48.85				142	51.41	48.59				
Audit Committee	131	39.69	60.31				141	28.37	71.63				
Year-end peak	129	15.50	84.50				142	19.72	80.28				
CAC40	134	78.36	21.64				142	79.58	20.42				
Voluntary disclosure	134	50.00	50.00				142	47.89	52.11				

¹. Non-Audit fees = other audit fees + consulting fees

². Blockholders = % shares owned by blockholders (owning more than 5% of the voting rights)

Table 4: Pearson correlation matrix

Panel A: Year 2002																			
* Sig 0.05 two-tailed	AUDIT FEES	NBBIG	TENURE	NEWAUD	NONAUDITFEES	SIZE	DIVERSIFICATION	INTERNATIONAL	RECEIVABLES	INVENTORIES	CROSSLISTING	LOSS	LEVERAGE	MAJORITY	AUDITCOM	AUDITDUR	YEPEAK	CAC40	VOLDISCL
AUDIT FEES	1.00																		
NBBIG	0.37*	1.00																	
TENURE	0.15	0.04	1.00																
NEWAUD	-0.01	-0.07	-0.46*	1.00															
NONAUDITFEES	0.78*	0.40*	0.09	-0.06	1.00														
SIZE	0.92*	0.33*	0.21*	-0.00	0.70*	1.00													
DIVERSIFICATION	0.37*	0.05	0.11	-0.05	0.28*	0.35*	1.00												
INTERNATIONAL	0.70*	0.27*	0.11	0.04	0.55*	0.66*	0.23*	1.00											
RECEIVABLES	-0.18*	-0.25*	-0.07	-0.10	-0.10	-0.28*	0.07	-0.12	1.00										
INVENTORIES	0.11	0.11	0.07	-0.06	0.08	0.16	0.10	0.01	-0.24*	1.00									
CROSSLISTING	0.55*	0.19*	0.07	-0.05	0.45*	0.47*	0.17	0.25*	-0.14	-0.04	1.00								
LOSS	0.02	0.17*	-0.04	0.09	0.09	-0.06	0.03	-0.08	-0.08	-0.08	0.05	1.00							
LEVERAGE	0.14	0.02	0.15	0.02	0.01	0.23*	0.03	0.16	-0.41*	-0.07	0.04	0.06	1.00						
MAJORITY	-0.32*	-0.11	0.11	-0.02	-0.33*	-0.17*	-0.09	-0.15	-0.01	0.09	-0.32*	-0.07	-0.01	1.00					
AUDITCOM	0.58*	0.40*	0.04	-0.05	0.50*	0.58*	0.05	0.38	-0.33*	0.09	0.38	-0.15	0.09	-0.21*	1.00				
AUDITDUR	-0.41*	-0.22*	-0.03	0.03	-0.43*	-0.44*	-0.26*	-0.21*	0.14	-0.20*	-0.26*	0.08	0.16	0.13	-0.38*	1.00			
YEPEAK	0.23*	0.01	-0.05	0.07	0.18*	0.22*	0.10	0.21*	0.07	-0.15	0.12	0.03	-0.24*	-0.09	0.17	-0.18*	1.00		
CAC40	0.70*	0.25*	0.12	0.01	0.57*	0.73*	0.34*	0.49*	-0.20*	-0.03	0.44	-0.08	0.10	-0.26*	0.40*	-0.33*	0.22*	1.00	
VOLDISCL	0.01	0.06	0.06	-0.03	-0.08	0.07	0.07	0.06	-0.05	0.24*	-0.09	-0.22*	0.09	0.34*	0.08	-0.00	-0.08	-0.05	1.00

**Table 4 (continued),
Panel B: Year 2003**

	AUDIT FEES	NBBIG	TENURE	NEWAUD	NONAUDITFEES	SIZE	DIVERSIFICATION	INTERNATIONAL	RECEIVABLES	INVENTORIES	CROSSLISTING	LOSS	LEVERAGE	MAJORITY	AUDITCOM	AUDITDUR	YEPEAK	CAC40	VOLDISCL	
* Sig 0.05 two-tailed																				
AUDIT FEES	1.00																			
NBBIG	0.39*	1.00																		
TENURE	0.09	-0.06	1.00																	
NEWAUD	0.11	0.18*	-0.36*	1.00																
NONAUDITFEES	0.82*	0.39*	0.01	0.13	1.00															
SIZE	0.87*	0.36*	0.13	0.08	0.76*	1.00														
DIVERSIFICATION	0.42*	-0.00	0.01	0.13	0.34*	0.40*	1.00													
INTERNATIONAL	0.74*	0.24*	0.07	0.01	0.61*	0.66*	0.32*	1.00												
RECEIVABLES	-0.21*	-0.28*	-0.08	-0.04	-0.18*	-0.27*	-0.07	-0.24*	1.00											
INVENTORIES	0.06	0.07	0.07	0.02	0.13	0.12	0.11	-0.00	-0.19*	1.00										
CROSSLISTING	0.47*	0.15	0.01	0.11	0.41*	0.38*	0.19*	0.28*	-0.16	-0.08	1.00									
LOSS	-0.15	0.02	-0.09	0.05	-0.10	-0.22*	-0.05	-0.08	-0.05	-0.12	0.15	1.00								
LEVERAGE	0.20*	0.01	0.17*	0.01	0.12	0.16	0.09	0.21*	-0.30*	-0.05	0.03	0.11	1.00							
MAJORITY	-0.30*	-0.06	0.07	-0.00	-0.28*	-0.24*	-0.16	-0.15	0.03	0.03	-0.34*	-0.26*	-0.10	1.00						
AUDITCOM	0.56*	0.40*	0.04	0.07	0.53*	0.46*	0.16	0.34*	-0.23*	0.12	0.29*	-0.06	0.14	-0.30*	1.00					
AUDITDUR	-0.39*	-0.19*	-0.06	-0.12	-0.30*	-0.35*	-0.14	-0.24*	0.13	0.02	-0.20*	0.07	0.11	0.04	-0.18*	1.00				
YEPEAK	0.19*	0.02	0.01	-0.01	0.12	0.14	0.06	0.15	0.07	-0.11	0.04	-0.03	-0.11	-0.05	0.08	-0.19*	1.00			
CAC40	0.68*	0.24*	0.13	0.00	0.57*	0.68*	0.33*	0.53*	-0.19*	-0.04	0.41*	-0.14	0.11	-0.25*	0.32*	-0.32*	0.21*	1.00		
VOLDISCL	0.05	-0.06	0.11	-0.12	0.04	0.14	-0.00	0.11	0.08	0.23*	-0.11	-0.30	-0.05	0.20*	-0.00	0.06	-0.01	-0.07	1.00	

Table5: OLS Regression estimates on pooled data

<i>Log (Audit fee) determinants</i>							
Pooled data (Year 2002 & 2003)	Predicted sign	Model 1		Model 2		Model 3	
		Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Intercept	+	2.4787	7.84***	2.7775	7.63***	2.7144	9.61***
ONEBIG4	+	0.2413	1.88*	0.2931	2.16**		
TWOBIG4	+	0.3270	2.31**	0.3587	2.42**		
<i>0BIG4vs1BIG4</i>	+					-0.2768	-2.14**
<i>2BIG4vs1BIG4</i>	?					0.0815	1.00
TENURE	?	-0.0006	-0.01			0.0002	0.00
MANDYEAR1	-			0.0294	0.30		
MANDYEAR2	+			0.1569	1.94*		
MANDYEAR4	+			-0.0088	-0.12		
MANDYEAR5	+			-0.0518	-0.64		
MANDYEAR6	-			0.0291	0.35		
NEWAUD	-	0.0322	0.40	0.0271	0.26	0.0264	0.34
NONAUDITFEES	?	0.0984	4.49***	0.0866	3.86***	0.0968	4.43***
SIZE	+	0.3322	6.88***	0.3198	6.55***	0.3355	6.93***
DIVERSIFICATION	+	0.0570	2.61***	0.0442	1.96*	0.0580	2.67***
INTERNATIONAL	+	0.0571	4.33***	0.0603	4.44***	0.0570	4.31***
RECEIVABLES	+	0.8480	2.79***	0.9486	3.23***	0.8428	2.78***
INVENTORIES	+	0.2462	0.70	0.2534	0.75	0.2280	0.65
CROSSLISTING	+	0.4456	6.24***	0.4740	6.61***	0.4469	6.26***
LOSS	+	-0.0027	-0.04	0.0117	0.15	-0.0005	-0.01
LEVERAGE	+	0.5658	2.03**	0.5946	2.11**	0.5578	2.01**
MAJORITY	-	-0.1175	-1.69*	-0.0871	-1.27	-0.1114	-1.62
AUDITCOM	?	0.2855	3.01***	0.2937	3.15***	0.2769	2.92***
AUDITDUR	?	0.0010	0.82	-0.0015	-0.92	0.0009	0.79
YEPEAK	?	0.1562	1.78*	0.1414	1.58	0.1592	1.83*
CAC40	?	0.1897	1.81*	0.2194	2.07**	0.1861	1.78*
VOLDISCL	?	-0.0025	-0.03	-0.0329	-0.45	-0.0021	-0.03
YEAR03	?	0.0588	0.88	0.0367	0.51	0.0584	0.88
N		255		259		255	
F		168.59		119.57		172.38	
Prob > F		0.0000		0.0000		0.0000	
R ²		0.9008		0.8973		0.9014	
<p>* Significant at .10 (two-tailed test) ** Significant at .05 (two-tailed test) *** Significant at .01 (two-tailed test)</p> <p>AUDITFEES: log(legal audit fees), ONEBIG4 : dummy = 1 if the company has only one auditor BIG4, TWOBIG4: dummy = 1if the company has two BIG4 auditors, TENURE: average duration of auditor1 + auditor2 / auditee relationship, MANDYEAR1...6: dummies = 1 if Mandate Year is respectively 1, 2,...,6 for auditor 1 and/or auditor 2, NEWAUD: dummy = 1 if at least one of the auditors is appointed for the first year, NONAUDITFEES : log(non-audit fees), SIZE: log(total assets), DIVERSIFICATION: number of industries disclosed in key figures, INTERNATIONAL: $\sqrt{\text{number of foreign subsidiaries}}$, RECEIVABLES: receivables/total assets, INVENTORIES: inventories/total assets, CROSSLIS: dummy = 1 if the company is listed in the US (NYSE, NASDAQ) or UK, LOSS: dummy = 1 if the company has a negative net income before extraordinary items, LEVERAGE: debts/total assets, MAJORITY: dummy = 1 if a shareholder holds the majority of the voting rights, AUDITCOM: dummy = 1 if there is an audit committee, AUDITDUR: number of days between closing date and audit opinion, YEPEAK: dummy = 1 if the closing date of the company is as at december 31st, CAC40: dummy = 1 if the company belongs to the CAC40 index, VOLDISCL: dummy = 1 if the company voluntarily discloses a reference document including audit fees, YEAR03: dummy = 1 if the year is 2003.</p>							

Table 6: scaled audit fees determinant (robustness checks: size effect)

Audit fee/total assets determinants			
Pooled data (Year 2002 & 2003)	Predicted sign	Model 4	
		Coef.	t-stat
Intercept	?	0.0029	6.21***
ONEBIG4	+	0.0003	1.78*
TWOBIG4	+	0.0002	1.50
TENURE	?	-0.0001	-1.43
NEWAUD	-	-0.0002	-1.93*
NONAUDITFEES/TOTAL ASSETS	?	0.0003	1.71*
SIZE	+	-0.0003	-6.44***
DIVERSIFICATION	+	0.0000	0.17
INTERNATIONAL	+	0.0000	2.60***
RECEIVABLES	+	0.0008	1.72*
INVENTORIES	+	-0.0006	-1.29
CROSSLISTING	+	0.0004	3.00***
LOSS	+	0.0001	1.03
LEVERAGE	+	-0.0008	-1.37
MAJORITY	-	-0.0001	-1.03
AUDITCOM	?	0.0002	1.47
AUDITDUR	?	0.0000	2.37**
YEPEAK	?	-0.0001	-0.87
CAC40	?	0.0003	2.97***
VOLDISCL	?	-0.0002	-2.58**
YEAR03	?	-0.0000	-0.64
N		255	
F		14.05	
Prob > F		0.0000	
R ²		0.595	

* Significant at .10 (two-tailed test)

** Significant at .05 (two-tailed test)

*** Significant at .01 (two-tailed test)

SCALED AUDIT FEES: audit fees / total assets, ONEBIG4 : dummy = 1 if the company has only one auditor
 BIG4, TWOBIG4: dummy = 1 if the company has two BIG4 auditors, TENURE: average duration of auditor1
 + auditor2 / auditee relationship, NEWAUD: dummy = 1 if at least one of the auditors is appointed for the
 first year, NONAUDITFEES : log(non-audit fees), SIZE: log(total assets), DIVERSIFICATION: number of
 industries disclosed in key figures, INTERNATIONAL: $\sqrt{\text{number of foreign subsidiaries}}$, RECEIVABLES:
 receivables/total assets, INVENTORIES: inventories/total assets, CROSSLIS: dummy = 1 if the company is
 listed in the US (NYSE, NASDAQ) or UK, LOSS: dummy = 1 if the company has a negative net income
 before extraordinary items, LEVERAGE: debts/total assets, MAJORITY: dummy = 1 if a shareholder holds
 the majority of the voting rights, AUDITCOM: dummy = 1 if there is an audit committee, AUDITDUR:
 number of days between closing date and audit opinion, YEPEAK: dummy = 1 if the closing date of the
 company is as at december 31st, CAC40: dummy = 1 if the company belongs to the CAC40 index,
 VOLDISCL: dummy = 1 if the company voluntarily discloses a reference document including audit fees,
 YEAR03: dummy = 1 if the year is 2003.

Table 7: 2-SLS model (robustness checks: endogeneity test of the choice of auditors)

Table 7, PANEL A (stage 1)

<i>Stage 1: Nb BIG 4 auditor choice (oprobit regression)</i>			
Pooled data (Year 2002 & 2003)	Predicted sign	Model 5a	
		Coef.	z-stat
SIZE	+	0.1525	3.44***
CROSSLIS	+	-0.2976	-1.29
%INTERNATIONAL	+	1.0824	3.39***
MAJORITY	?	0.1972	1.29
LEVERAGE	?	-0.6551	-1.32
LOSS	?	0.5412	3.04***
AUDITCOM	?	0.8619	4.44***
YEAR03	?	0.0669	0.45
N		255	
Chi ²		79.43	
Prob > Chi ²		0.0000	
Pseudo R ²		0.1647	

* Significant at .10 (two-tailed test)
 ** Significant at .05 (two-tailed test)
 *** Significant at .01 (two-tailed test)

NB BIG4: multinomial (ordinal) variables = 0, 1, 2 BIG 4 among joint auditors, SIZE: log(total assets), CROSSLIS: dummy = 1 if the company is listed in the US (NYSE, NASDAQ) or UK, % INTERNATIONAL: number of foreign subsidiaries/ total number of integrated subsidiaries, MAJORITY: dummy = 1 if a shareholder holds the majority of the voting rights, LEVERAGE: debts/total assets, LOSS: dummy = 1 if the company has a negative net income before extraordinary items, AUDITCOM: dummy = 1 if there is an audit committee, YEAR03: dummy = 1 if the year is 2003.

Table 7, PANEL B (stage 2)

Stage 2: audit fees determinants including inverse mills ratios IMR1 and IMR2

Pooled data (Year 2002 & 2003)	Predicted sign	Model 5b	
		Coef.	t-stat
Intercept	+	2.2175	3.63***
ONEBIG4	+	0.2631	2.05**
TWOBIG4	+	0.3463	2.46**
IMR1		0.0414	0.41
IMR2		-0.0311	-0.57
TENURE	?	-0.0073	-0.12
NEWAUD	-	0.0243	0.30
NONAUDITFEES	?	0.0992	4.46***
SIZE	+	0.3381	7.07***
DIVERSIFICATION	+	0.0559	2.58**
INTERNATIONAL	+	0.0677	3.53***
RECEIVABLES	+	0.8616	2.84***
INVENTORIES	+	0.2581	0.73
CROSSLISTING	+	0.4496	6.09***
LOSS	+	0.0616	0.41
LEVERAGE	+	0.4638	1.55
MAJORITY	-	-0.0955	-1.17
AUDITCOM	?	0.3881	1.82*
AUDITDUR	?	0.0010	0.79
YEPEAK	?	0.1515	1.71*
CAC40	?	0.1891	1.82*
VOLDISCL	?	-0.0039	-0.05
YEAR03	?	0.0582	0.82
N		254	
F		153.45	
Prob > F		0.0000	
R ²		0.9012	

* Significant at .10 (two-tailed test)

** Significant at .05 (two-tailed test)

*** Significant at .01 (two-tailed test)

AUDITFEES: log(legal audit fees), ONEBIG4 : dummy = 1 if the company has only one auditor BIG 4, TWOBIG4: dummy = 1 if the company has two BIG 4 auditors, IMR1: inverse Mills ratio 1 (choice of one BIG 4 auditor), IMR2: inverse Mills ratio 2 (choice of two BIG 4 auditors), TENURE: average duration of auditor1 + auditor2 / auditee relationship, MANDYEAR1...6: dummies = 1 if Mandate Year is respectively 1, 2,...,6 for auditor 1 and/or auditor 2, NEWAUD: dummy = 1 if at least one of the auditors is appointed for the first year, NONAUDITFEES : log(non-audit fees), SIZE: log(total assets), DIVERSIFICATION: number of industries disclosed in key figures, INTERNATIONAL: $\sqrt{\text{number of foreign subsidiaries}}$, RECEIVABLES: receivables/total assets, INVENTORIES: inventories/total assets, CROSSLIS: dummy = 1 if the company is listed in the US (NYSE, NASDAQ) or UK, LOSS: dummy = 1 if the company has a negative net income before extraordinary items, LEVERAGE: debts/total assets, MAJORITY: dummy = 1 if a shareholder holds the majority of the voting rights, AUDITCOM: dummy = 1 if there is an audit committee, AUDITDUR: number of days between closing date and audit opinion, YEPEAK: dummy = 1 if the closing date of the company is as at december 31st, CAC40: dummy = 1 if the company belongs to the CAC40 index, VOLDISCL: dummy = 1 if the company voluntarily discloses a reference document including audit fees, YEAR03: dummy = 1 if the year is 2003.

Notes

ⁱ See Hay *et al.* (2006), for an extensive review of audit fees determinants, using a meta-analysis to identify major empirical regularities from 147 models, over a period of 27 years of publications in top-ranking academic journals.

ii Surprisingly, the Financial Security Law, which came into existence after the COB regulation, was less demanding, simply requiring information to be kept available for shareholders instead of extending the disclosure obligation to all companies. But after the Law's enactment, the market regulator AMF's recommendation that reference documents should be established for 2003 (AMF, 2004) considered that the provisions of the COB regulation were "coherent with the new legislative requirements and thus remain applicable for reference documents for 2003".

iii Autorité des Marchés Financiers (previously the COB), the French market regulator

iv The financial operations concerned are issues by French or foreign issuers of financial instruments for trading on a regulated market. These financial instruments comprise: shares and other securities conferring direct or indirect access to capital or voting rights, shares in collective investment funds, negotiable debt instruments, and all equivalent instruments issued under foreign laws.

^v The French joint-audit requirement is almost unique, as we only know one other example of that kind of regulation which is the case of Denmark. In Denmark, listed companies were required to be audited by two auditors until 2005 when this regulation has been abolished. Thinggaard and Kiertzner (2005) have studied the impact of two auditors on audit fees in the Danish context. They demonstrate no BIG 4 premium effect in Denmark, and focus their study on the balance of fees between the two auditors. They show that only for largest companies, when both auditors have significant stakes of the audit fees, competition is enhanced and leads to a global decrease of the fees. They interpret this finding as the result of the competition between the two auditors in order to remain the preferred single auditor in the context of the abolishment of the two auditor requirement by January 1st, 2005.

vi Under the French Financial Security Law, from 2003, statutory auditors (individuals or signing partners of a firm) are no longer authorised to audit companies that are publicly traded for more than 6 years (auditor rotation).

vii Bell, Landsman and Shackelford (2000) show that a high risk perception leads to higher work time allocated to an audit, but has no impact on the per-hour fees.

^{viii} As mentioned by Hay *et al.* (2006), another methodology to handle with the size effect found in the literature is to deflate audit fees by total assets. But except in Simunic's models (1980, 1984), this methodology seems to have lost favour among researchers. We nevertheless compute a size deflated model for robustness checks purpose in section 5.4. of the paper.

^{ix} The major part of these changes of auditors can be linked with the consequences of the collapse of Arthur Andersen (AA), leading to a reallocation of the auditor market among the four remaining "BIG". In France ex-AA teams have been integrated by Ernst and Young.