

Practice Note:
Economic Consequences of Joint audits

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Economic Consequences of Joint audits

What are joint audits?

In a joint audits system, two auditors are hired by a company to provide an audit report and an opinion. Currently, France is the only European country with mandatory joint audits. The French Code de Commerce (art. 823-2) stipulates that “*people and entities required to publish consolidated accounts appoint at least two statutory auditors*”. This system was mainly adopted to favor auditor independence, but it may also lead to lower audit market concentration.

In our research paper, we review empirical academic research on the economic consequences of mandatory joint audits in France. This research may be of great interest for European regulators, especially those from the Netherlands and the UK, where the introduction of such system is discussed.

What are the consequences on market concentration?

When considering the number of clients, the French audit market seems somewhat less concentrated than other European markets. However, over the period 2002-2017, French firms tend to select more Big Four firms, probably because non-Big Four firms have strong production constraints (i.e., lack of sufficient resources to perform the audit).

The percentage of fees captured by Big Four firms in France is nonetheless quite similar to that captured by these auditors in other countries, suggesting similar market concentration. This result reflects two facts. First, Big Four firms are hired by the largest French companies that pay higher audit fees. Second, Big Four firms capture a higher percentage of audit fees when they work with a non-Big Four firm (i.e., unbalanced work).

What are the consequences on audit quality?

Audit quality is generally defined as the joint probability that an auditor will detect and report a breach in financial reports. Advocates of the mandatory joint audits system state that joint audits may be associated with more knowledge/competencies (i.e., detection of a breach) because ‘four eyes are better than two’, as well as greater independence (i.e., reporting of a breach) because it is easier for two auditors to resist managerial pressure.

Empirical results suggest that the quality of financial statements (measured by accruals metrics) is not higher in France than in other European countries. Thus, joint audits are not associated with significant economic benefits in terms of financial reporting quality.

What are the consequences on audit fees?

Audit fees may be lower if joint audits favor competition (i.e., if joint audits lead to more competition, then more pressure from clients may lead to lower fees). However, it may also be associated with higher audit fees if additional costs are incurred by the two auditors to understand the entity and its environment, to assess the risk of material misstatement at the financial statement level, to develop (with the other auditor) a common audit approach and audit plan, and to review the work carried out by the co-auditor.

Empirical results show that French companies pay more audit fees than companies from other countries, which suggests that significant coordination costs between the two auditors are passed to the clients. Thus, joint audits are associated with significant additional costs.

Are the conclusions sensitive to the pair of auditors?

In 2010, the European Commission proposed to pair a Big Four with a non-Big Four firm, which is the combination the most frequently adopted in France. It is interesting to understand whether the quality-price ratio of audit services depends on the composition of the auditors' pair.

Empirical research shows that balanced work ('50-50') between a Big Four firm and a non-Big Four firm does not lead to a better quality-price ratio of audit services. In addition, large and complex firms generally hire two Big Four firms, because auditors' production constraints matter. Thus, imposing a pair composed of a Big Four with a non-Big Four firm may not have positive economic consequences.

What are the implications for regulators?

Overall, academic research suggests that the mandatory joint audits system is not efficient: the cost is higher (i.e. firms pay significant higher audit fees) without any significant improvement in audit quality. In addition, they do not reduce the market concentration, when it is measured with the percentage of audit fees captured by Big Four firms.

Moreover, the Danish experience suggests that the abandonment of the joint audits system reduces audit fees paid by the clients, without affecting audit quality. In other words, the quality-price ratio of audit services increases after the abandonment of such system, supporting the idea that mandatory joint audits are not efficient.

However, we note that joint audits may lead to different consequences in different contexts. Regulators interested by the introduction of a joint audits system should therefore consider the interactions between joint audits and other 'rules' (e.g., existence of audit committees, efficiency of internal controls, litigation risk, etc.). Substitution effects or complementary effects between joint audits and other 'rules' may ultimately affect the quality-price ratio of audit services.

WHAT ARE THE ECONOMIC CONSEQUENCES OF MANDATORY JOINT AUDITS?

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Abstract

Since 2005, France is the only European country requiring mandatory joint audits for companies listed on the stock market. In the Green Paper issued in 2010, entitled “*Audit policy: Lessons from the crisis*”, the European Commission proposed the introduction of mandatory joint audits for European listed companies to limit audit market concentration. However, the new European regulation passed in 2014 does not include the obligation to hire two auditors who co-sign the audit report. Nevertheless, some countries (e.g., The Netherlands, the UK) still discuss the opportunity to introduce mandatory joint audits, which leads us to ask the following question: Should other countries introduce mandatory joint audits or should France abandon this specific system? To provide some answers to this question, we summarize the academic literature on joint audits in France to better understand its economic consequences. Overall, empirical research shows that, when compared to other European countries, the French market is not less concentrated (in terms of audit fees captured by Big 4 firms), but companies pay more audit fees without any significant improvement in audit quality (and financial reporting quality). Additional evidence shows that audit quality and audit fees are sensitive to the pair of auditors. However, balanced worked between a Big 4 firm and a non-Big 4 firm, which was suggested by the European Commission, does not lead to a better quality-price ratio of audit services. Taken together, the findings suggest that the joint audits system is not efficient, because the quality-price ratio of audit services in France is worse than that of other countries. Based on the Danish experience, we posit that the abandonment of mandatory joint audits in France may reduce audit fees without any reduction of audit quality.

Keywords

Joint audits - France - Market concentration - Audit quality - Audit fees.

WHAT ARE THE ECONOMIC CONSEQUENCES OF MANDATORY JOINT AUDITS?

1. INTRODUCTION

The improvement of external audit quality is the key goal of many audit market regulations, such as mandatory rotation of audit partners and/or audit firms, or the limitation or prohibition of non-audit services. In 1966, France adopted a specific mechanism to achieve this objective: mandatory joint audits for companies issuing consolidated financial statements. Joint audits were mainly adopted to favor auditor independence because two auditors may better resist managerial pressure (Fremeaux & Noël, 2009). The organization of the joint audits is defined in the French professional standards ‘Norme d’Exercice Professionnel 100’, which states that each auditor must understand the entity and its environment, assess the risk of material misstatement at the financial statement level, and develop with the other auditor a common audit approach and audit plan. The audit procedures are divided between two auditors, each of whom reviews the work carried out by the co-auditor.

In 2010, the generalization of mandatory joint audits to all European listed companies was suggested by the European Commission in the Green Paper entitled “*Audit Policy: Lessons from the Crisis*”(European Commission, 2010).¹ The main objective was to reduce audit market concentration in European Union member states, where the market shares of the Big 4 firms usually exceed 90% of the listed companies. Such concentration could reduce the range of audit services offered to listed companies and lead to high systemic risk (i.e., the offering of audit services cannot be guaranteed if a Big 4 firm ceases operations). However, after considering the

¹ The idea of favoring joint audits for European listed companies is part of a broader project of regulation prompted by the European banking crisis. The Green Paper addressed various questions concerning the role of auditors, governance and independence of audit firms, supervision of audit firms, market concentration, creation of a European market, simplification of audit for SME and international co-operation.

results of the consultation with various stakeholders, as well as the abandonment of mandatory joint audits in 2005 by Denmark, the European Parliament did not adopt mandatory joint audits in its new regulation passed in 2014.

Some European countries nevertheless still discuss the opportunity to introduce joint audits. For instance, in the report entitled “*Vulnerabilities in the structure of the audit sector*” issued in November 2018, the Dutch Authority for the Financial Markets suggested two ideas regarding joint audits (The Dutch Authority for the Financial Markets, 2018, p. 69): (1) The joint audit model could be applied only to listed, multinational PIEs rather than the entire PIE population; (2) Consideration could be given to formulating the joint audit model more as a peer review, in which an independent audit firm that has not been involved in the statutory audit first carries out an overall peer review of the audit before the auditor in question signs off. In the UK, Dr. Ilias Basioudis appeared in front of the Members of Parliament (MPs) in the UK Parliament, as expert witness, and made three different recommendations regarding joint audits (Basioudis, 2020, p. 182): (1) Joint audits could be for a limited period; (2) Consider bringing in proportionate liability for auditors; (3) The new regulator should have a strong commitment to proportionality.

The ongoing debates lead us to ask the following question: Should other countries (e.g., the Netherlands and the UK) introduce mandatory joint audits, or should France abandon such specific audit system? To answer this question, we review the academic literature analysing the main economic consequences of joint audits in France.² More precisely, we focus on audit market concentration, audit quality, and audit fees (i.e., the cost of audit services). In addition, we also focus on the sensitivity of the results to the different pairs of auditors (i.e., two Big 4 vs one Big 4 only vs two non-Big 4).

² By including the most recent academic research on joint audits, and by focusing on the French market, this paper completes previous literature reviews (Bédard, Piot & Schatt, 2012; Ratzinger-Sakel, Audousset-Coulier, Kettunen, & Lesage, 2013).

Overall, four main results emerge from empirical research. First, regarding market concentration, the Big 4 firms undertake a lower percentage of audits, but the percentage of fees paid to these auditors is nonetheless quite similar to that paid to these firms in other countries. This result reflects the idea that French companies are concerned by auditors' production constraints (i.e., auditors' resources to perform the audit) and, therefore, demand more work to Big 4 firms. Second, the quality of financial statements is not higher in France than in other European countries. Thus, joint audits are not associated with significant benefits in terms of financial reporting quality. Third, French companies pay more audit fees than companies in other countries, suggesting that coordination costs between the two auditors are passed to the clients. Thus, joint audits are associated with significant additional costs. Fourth, the quality and the price of audit services are sensitive to the composition of the pair of auditors. However, balanced work between a Big 4 and a non-Big 4, which is the pair suggested by the European Commission, does not lead to a better quality-price ratio of audit services. Overall, academic research suggests that the mandatory joint audits system adopted in France is not efficient: audits cost more without any significant improvement in financial reporting quality. These findings allow us to conclude that: (1) Other European countries should probably not introduce mandatory joint audits; (2) Based on the Danish experience, the abandonment of mandatory joint audits in France may lead to positive economic consequences (i.e., reduction of audit fees paid by companies without any change in financial reporting quality).

The rest of the paper is structured as follows. Sections 2, 3 and 4 are dedicated to the literature on audit market concentration, audit quality and audit pricing, respectively. The findings concerning the pair of auditors are discussed in section 5. Finally, section 6 summarizes the academic literature, discusses several implications for investors, auditors and regulators, and provides some avenues for future research.

2. IMPACT OF JOINT AUDITS ON MARKET CONCENTRATION

In the economic theory, market concentration has an important impact on consumers' well-being. Basically, monopolistic or oligopostic (with collusion) markets are usually seen as inefficient, because they reduce consumer surplus (i.e., the price paid is too high for a product of a given quality). For that reason, market regulators usually try to reduce market concentration. This is also the case for the audit market, for which the range of audit services offered to listed companies has possibly become insufficient over time, because the market share of the Big 4 audit firms for listed companies exceeds 90% in most of the European Union member states.³

In 2010, the European Commission states in its Green Paper that joint audits “*should be developed further to ‘dynamise’ the market to allow mid-tier non-systemic firms to become active players in the market segment of the audits of large corporations, which until now has proven elusive. To encourage the emergence of other players and the growth of small and medium-sized audit practices, the Commission could consider introducing the mandatory formation of an audit firm consortium with the inclusion of at least one non-systemic audit firm for the audits of large companies*” (European Commission, 2010, p. 15-16).

Thus, mandatory joint audits may allow a reduction of audit market concentration. However, such result may be attained only if clients demand more audit services from smaller audit firms (i.e., non-Big 4 firms). If clients hire two Big 4 firms, then mandatory joint audits may not affect market concentration. Since audit firms have different production constraints, which may lead companies to favor Big 4 firms, one may ask: should regulators really try to limit audit market concentration, by forcing firms to hire a non-Big 4 (in addition to a Big 4) firm to perform the audit?

³ We acknowledge that all regulators across the world worry (more or less) about market concentration. However, to the extent that our paper is based on the French market and on the initiative of the European Commission to generalize mandatory joint audits, our paper is probably more relevant for European countries.

2.1. Should regulators limit market concentration?

Regulators usually focus on the basic risk associated with monopolistic or oligopolistic markets, which is the reduction of consumers' surplus associated with a lower quality-price ratio of the products. However, market concentration emerges as a natural situation when production constraints matter. This is notably the case for the audit of large listed companies with many subsidiaries and foreign operations, which necessitates that auditors have more operational resources to perform their tasks. In that case, only a limited number of auditors (i.e., the Big 4 firms) are able to perform such (complex) audits. In addition, larger audit firms are able to resist managerial pressure, because they have diversified portfolios of (large) clients, which ultimately improves their independence.

Moreover, there is a key difference between concentration and competition. Francis, Michas, & Seavey (2013) provide interesting results on this issue. They adopt a cross-country perspective (42 countries) and report that the Big 4 country-level market share is positively associated with earnings quality, and that the disequilibrium in market shares among the Big 4 (i.e., intra-Big 4 concentration) is negatively associated with earnings quality. Thus, their findings suggest that mandatory joint audits may not contribute to earnings quality if they simply attenuate the global position of the Big 4, but they may improve audit quality if it reinforces the competition between them.

The European Commission (2010) highlighted that lower audit market concentration is also an way to reduce the systemic risk (i.e., the fact that "*the collapse of a 'systemic firm' or a firm that has reached 'systemic proportions' could disrupt the whole market*" (p. 4)). In that case, "*joint audit could be one way of mitigating disruption in the audit market if one of the large audit networks fails*" (p. 16). While interesting, this idea is also based on the underlying hypothesis that other auditors (i.e., non-Big 4 firms) exist and have sufficient resources to perform (complex) audits of large firms. To the best of our knowledge, no study allows us to

conclude that smaller firms, even second-tier auditors (e.g., BDO, Grant Thornton, Mazars), can mobilize more resources to perform audits of larger companies. On the contrary, the analysis of the disappearance of Arthur Andersen, about twenty years ago, shows that the risk of market disruption is low (Piot, 2007).

Overall, the analysis of market concentration is not that simple, because several costs and benefits are also associated with concentrated markets (e.g., natural monopolistic markets). Thus, the reduction of market concentration may not necessarily have positive consequences for the various stakeholders.

2.2. How should we measure market shares?

The large market share of Big 4 firms reflects the fact that clients select auditors based on their production constraints. This fact also leads to a specific question: How should we measure market concentration in the context of joint audits? Should we focus on the proportion of mandates held or on the proportion of audit fees charged by Big 4 firms?

The results obtained with these two measures of market concentration may significantly differ for two main reasons. First, the Big 4 firms may audit the largest companies, which are paying higher fees, because small audit firms lack the operational resources to audit large and complex companies (i.e., production constraints). Second, for a given audit client, the Big 4 firms may appropriate a greater proportion of the fees when the second auditor is a non-Big 4. Such joint-audit imbalance may reflect the different production constraints, as well as other advantages of hiring Big 4 firms, especially regarding the fact that they are able to cover future damages (i.e., “deep pocket hypothesis”).

Overall, even if joint audits may lead to a reduction of the proportion of mandates held by Big 4 firms (i.e., smaller auditors may also be hired by listed companies), it is likely that the percentage of audit fees charged by Big 4 firms is still very high (i.e., supporting the existence of a high market concentration) in a joint audits context, because these auditors will capture

(almost) all audit fees paid by large clients, as well as a large proportion of audit fees paid by smaller clients. Empirical research supports this idea.

2.3. Key results from empirical research

Several studies have investigated market concentration in Europe, using number of client companies to define market shares. For the period 2002-2004, Ballas and Fafaliou (2008) observe that France ranks 15th (and last) in the European Union according to its four-firm concentration ratio (CR4). However, the French market is not immune to the market concentration trend: the CR4 rose from 41% to 59% between 1997 and 2003, a period of transformation of the Big 6 to the Big 4 (Piot, 2007). The market shrunk from eight major players in 1997 (the Big 6 and two national firms) to five large auditors six years later (the Big 4 and the French firm Mazars). Kermiche and Piot (2018) state that the joint audits rule allowed the survival of the large national firm Mazars. In a recent study based on a large sample of European firms, Willekens, Dekeyser, and Simac (2019) confirm the lower market share in terms of number of clients of Big 4 firms in France in comparison to the other European countries (especially the Netherlands or the UK), for the period 2013-2017. However, in terms of fees, the market share of Big 4 firms in France is quite similar to those paid in other countries.

Broye (2007) also supports the idea that market concentration changes significantly when audit fees are examined. Based on a sample of 428 French listed companies in 2005, representing 854 audit engagements (about two thirds of the French stock market), she observes a CR4 of 86.6% based on audit fees collected by the Big 4, whereas they performed only 45.1% of audits. If one adds the French firm Mazars to the sample, the five largest firms collected 94.3% of the fees for 53.5% of the audit engagements. The Hirschman-Herfindahl index (HH5) of 0.21 is very close to the perfect balance for a five-actor oligopoly. Finally, Broye and Schatt (2012) show that this result is largely due to the fact that Big 4 firms appropriate on average

about 70% of the audit fees during the period 2005-2010, when the pair of auditors is composed of a Big 4 firm and a non-Big 4 firm.

Since previous studies are usually based on a short period of time, we also compute some statistics on a longer window, starting in 2002 and ending in 2017. Our sample includes French companies listed on the Paris Exchange (Euronext), with annual reports available on the AMF website or on company websites. All fees are hand collected from the annual reports, because no database provides data for such a large sample over 16 years. Table 1 describes our sample including 5,103 company-year observations and 10,206 mandates.

Table 1. Sample description (2002-2017)

Years	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	Total
Firms	184	237	255	242	259	262	353	364	370	366	353	365	369	375	379	370	5,103
Mandates	368	474	510	484	518	524	706	728	740	732	706	730	738	750	758	740	10,206

Figure 1a shows the evolution of the market shares by type of firms captured by the proportion of mandates, while Figure 1b focuses on the percentage of audit fees. These figures highlight that over the period, the Big 4 firms capture more than 75% of the audit fees, but hold about half of the mandates. Furthermore, the market shares of the Big 4 firms and next two largest firms (Mazars and Grant Thornton) has increased, both in terms of mandates and fees. Smaller firms market shares, in terms of audit fees, has significantly decreased from 17% to 3%. These results support the idea that listed firms prefer hiring large audit firms possessing enough resources to perform complex audits.

Figure 2a shows the evolution of mandates by pairs of auditors, while Figure 2b focuses on the evolution of the average audit fees ratio (i.e., fees of the leading auditor/fees of the second auditor). These figures suggest that about 60% of the companies are audited by a pair composed of a Big 4 firm and a non-Big 4 firm, but joint audits imbalance is greater for this type of dyad. Moreover, the proportion of companies audited by two Big 4 firms has increased (17% to 25%) over the period. Joint audits imbalance has decreased, particularly for the pair composed of a Big 4 firm and a non-Big 4 firm (7.4 in 2002 vs 2.4 in 2017).

Figure 1a. Evolution of the proportion of mandates (2002-2017)

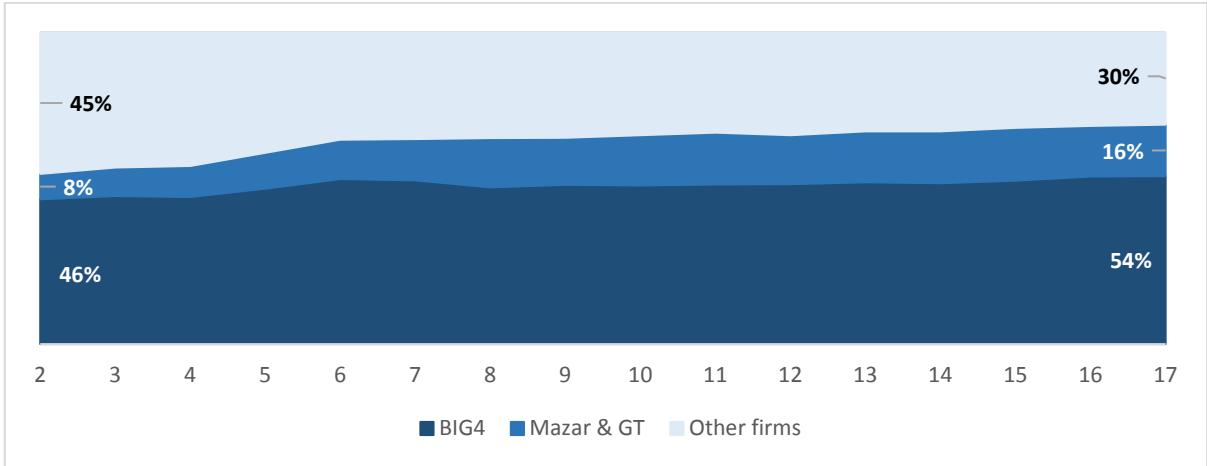


Figure 1b. Evolution of the percentage of audit fees (2002-2017)

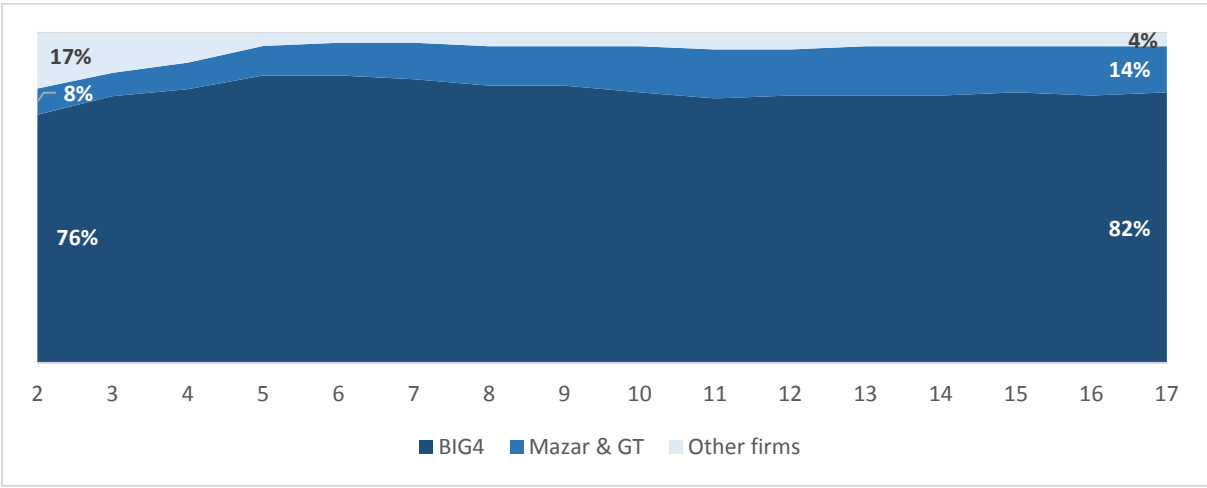


Figure 2a. Evolution by pairs of auditors in proportion of clients (2002-2017)

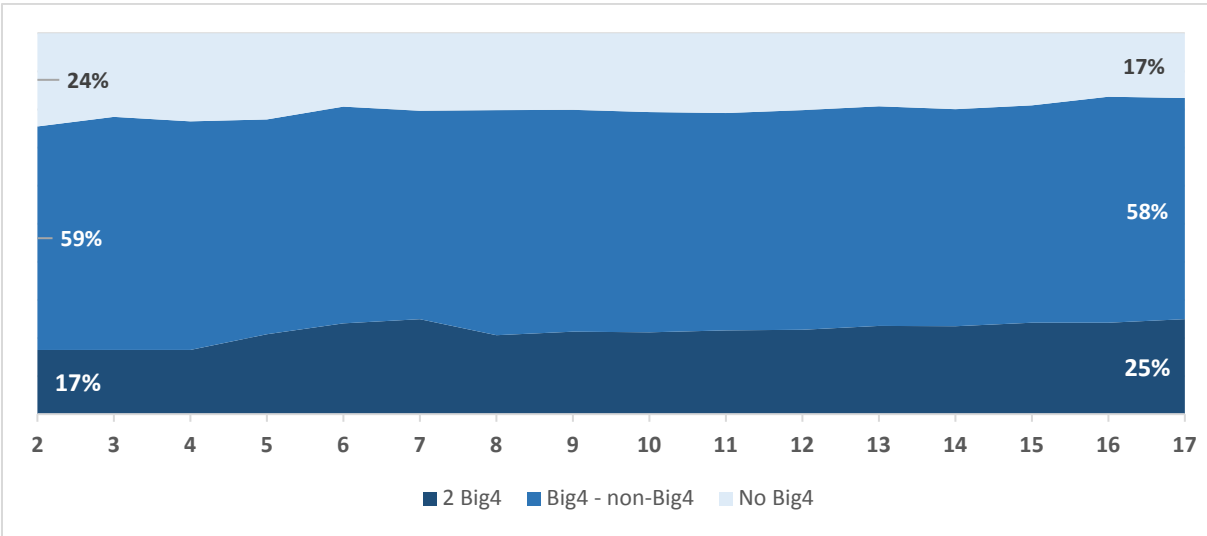
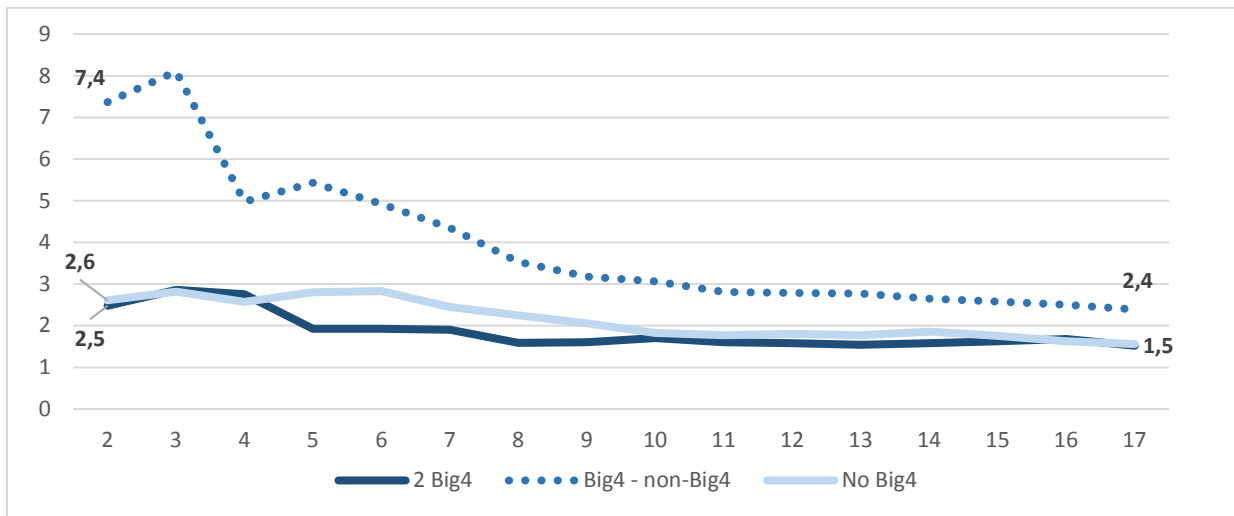


Figure 2b. Evolution of the average audit fees ratio (2002-2017)



Overall, empirical research supports the idea that the French audit market is also highly concentrated in terms of audit fees, even if mandatory joint audits allow smaller audit firms to audit more listed companies. In that context, it is interesting to understand whether mandatory joint audits lead to an efficient quality-price ratio of audit services.

3. IMPACT OF JOINT AUDITS ON AUDIT QUALITY

Audit quality is generally defined as the joint probability that an auditor will detect and report a breach in financial reports (DeAngelo, 1981). Thus, one may wonder if joint audits influence audit quality through improved competencies and independence of auditors. Advocates of the mandatory joint-audit systems state that joint audits may be associated with more knowledge/competencies (detection of a breach), because ‘four eyes are better than two’, as well as greater independence (reporting of a breach), because it is easier for two auditors to resist managerial pressure (Francis, Richard, & Vanstraelen, 2009).

However, since investors care more about financial reporting quality than audit quality, one may ask: Does higher audit quality (eventually associated with joint audits) systematically lead to higher higher financial reporting quality?

3.1. Does higher audit quality lead to higher higher financial reporting quality?

If there is no doubt that investors need some assurance regarding the financial reporting quality, one may, however, raise some doubts on the necessity to achieve higher levels of assurance, notably because achieving higher audit quality may be costlier. Thus, there is probably an optimal quality-price ratio for audit services. For a given company, this ratio may depend on several factors.

In fact, in many companies, several mechanisms may already curb opportunistic behavior of managers (i.e., earnings management) and, therefore, improve financial reporting quality. Such costly mechanisms are, for instance, boards of directors and audit committees (Bédard and Gendron, 2010; Poretti et al., 2018), or internal controls.⁴ In that case, there is no need to increase audit quality and audit cost, because it does not significantly increase the financial reporting quality. In other words, board of directors and investors may agree to pay a higher price for higher audit quality when other mechanisms of discipline are ineffective, reflecting the need for substitution in some specific cases.

3.2. How do researchers measure audit quality?

Since audit quality and financial reporting quality are linked, the measurement of audit quality is not a simple issue for researchers (DeFond & Zhang, 2014). Financial reporting quality depends on the quality of the accounting system (i.e., the way to translate transactions into accounting numbers), as well as on the incentives of people in charge of financial reporting (including the CEO, the CFO and the board of directors) to disclose accurate numbers. However, audit quality depends on the expertise, efforts, and incentives of auditors, and is therefore a part of financial reporting quality.

⁴ Since the corporate governance of listed firms has significantly changed since 1966, when France introduced mandatory joint audits, it is possible that the benefits of joint audits have therefore been largely reduced over time. In other words, auditors probably played a more important role 50 years ago in France to curb earnings management.

In practice, researchers have serious difficulties to capture audit quality, and usually implement ‘imperfect’ measures, such as abnormal accruals, or going-concern opinions, or restatements (DeFond & Zhang, 2014; Ratzinger-Sakel, Audoussert-Coulier, Kettunen, & Lesage, 2013). Even if going-concern opinions probably better capture audit quality than metrics of earnings management, which capture financial reporting quality, the former measure is rarely used because a very large proportion of opinions are ‘clean’ opinions (i.e., no going concern opinion). Thus, the actual results of empirical studies must be interpreted with caution until more relevant measures of audit quality are developed.⁵

3.3. Key results from the academic literature

Several empirical studies conducted since the beginning of the millennium tend to show that the properties of accounting figures differ between countries, but institutional factors explain these differences. Most of these studies build on the dichotomy of the legal system (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997, 1998), whereby common law systems offer better investor protection than do civil law systems, which prevail in France and Continental Europe in general. Ball, Kothari, and Robin (2000) demonstrate that conditional conservatism is markedly higher in common law countries. Using several earnings’ management metrics Leuz, Nanda, and Wysocki (2003) show that companies located in common law countries manage less their earnings. Since France is a civil law country, it follows that French companies could manage more their earnings and be less conservative than similar companies from common-law countries.

Some studies have examined the effectiveness of the audit system in various European countries including France. For instance, Maijor and Vanstraelen (2006) focus on auditor independence in three countries with highly different regulations: Germany, France and the

⁵ The new format of the audit report including Key Audit Matters (KAM) could also be helpful to capture audit quality, knowing that only a few numbers of KAMs are usually disclosed (Gutierrez et al., 2019 ; Bédard et al., 2019).

United Kingdom. They consider that France has the strictest environment in this area, and Germany the laxest. Their results confirm that, in the 1990s, the severity of the regulation of auditor independence is associated with lower earnings management. André, Broye, Pong, and Schatt (2016) compared the level of earnings management in France with that of Italy and the UK, and find no significant difference. Their results suggest that the French system of joint audits does not provide real benefits in comparison with the Italian system, which is relatively close in terms of legal protection of investors. In sum, there is no clear evidence that earnings are of higher quality in France than in other European countries.

4. IMPACT OF JOINT AUDITS ON AUDIT FEES

Since audit quality does not seem higher in France than in other countries, it is therefore important to investigate audit pricing in this mandatory joint audit context. Based on the idea that clients usually consider the quality-price ratio of a product, and that the litigation risk is higher in common law countries where investors' legal protection is usually better (Leuz et al., 2003; Choi et al., 2008), one may expect: (1) similar audit fees paid by French companies and by comparable firms from other civil law countries; (2) lower audit fees paid by French firms than those paid by firms from common law countries. In that case, the quality-price ratio would be the satisfying for the French clients, but one may then wonder what is the value added by mandatory joint audits.

4.1. Do mandatory joint audits impact audit fees?

From a theoretical point of view, two opposite arguments can be put forward to understand how joint audits could impact audit fees. On the one hand, economic theory predicts lower prices for audit services if joint audits favor competition. In other words, all things being equal, if joint audits leads to more competition, then more pressure from clients may lead to lower fees.

On the other hand, the joint audits system may be associated with higher audit fees for two reasons. First, additional costs are incurred by the two auditors to understand the entity and its environment, to assess the risk of material misstatement at the financial statement level, to develop (with the other auditor) a common audit approach and audit plan, and to review the work carried out by the co-auditor. Those additional costs, which are defined as coordination costs, should be charged to the client and, therefore, should increase the audit fees (Deng, Lu, Simunic, & Ye, 2014; André et al., 2016). Second, it is likely that the two auditors split the various tasks and do not have time to control all the work done by the co-auditor. Thus, an additional risk appears in a joint audits context, which is the risk of errors made by the other auditor. If both auditors are responsible for the errors, then a rational auditor should charge a risk premium to the client to bear this additional risk (Gonthier-Besacier & Schatt, 2007).

4.2. Key results from the academic literature

To the best of our knowledge, only one study directly compares audit fees paid by French companies with those of companies from other countries. André et al., (2016) find that French companies pay higher audit fees than Italian companies (evolving in a relatively similar institutional context) and British companies (operating in a less favorable context for auditors in terms of liability and lawsuits). The difference is higher than 30%, which is statistically and economically significant.

Their estimation differs from that provided by Mazars. *“According to data provided in the Mazars case studies, increases due to increased coordination costs range from 2.5% to 5% of total audit costs (overall audit costs increase by 10-15% with coordination costs accounting for 1/4 to 1/3 of this increase)”* (European Commission, 2011, pp. 249-250). These different results may be caused by: (1) an overestimation by André et al. (2016) of the audit fees related to joint audits per se, because these authors do not take into account some unobservable factors in their model: (2) an underestimation by Mazars of the additional costs related to joint audit, because

several company characteristics are not taken into account in their estimation, or because they have some conflict of interests (i.e., Mazars has strong incentives to maintain the joint audits system).

Overall, this scarce empirical literature highlights that mandatory joint audits is associated with higher audit fees, which is not in line with one's expectations because audit quality is not higher in France. In other words, the quality price ratio may not be optimal.

5. IMPACT OF THE PAIR OF AUDITORS ON AUDIT QUALITY AND AUDIT FEES

In 2010, the European Commission proposed to pair a Big 4 with a non-Big 4 firm, which is the most frequent combination adopted in France as shown in Figure 2a. Such situation reflects a clear segmentation of the French audit market. More precisely, it appears that the presence of two Big 4 firms, or at least one Big 4 firm, may better solve agency problems (i.e., potential conflicts of interests between insiders and outsiders) related to external financing, including the agency costs of debt (Piot, 2001).

In particular, the size of the client and ownership structure are major determinants of the presence of one or two Big 4 firms. Empirical studies suggest that the probability of having at least one Big 4 firm is higher for larger companies and/or companies with diffuse shareholding. The specific use of two Big 4 firms increases with the presence of institutional investors (Francis et al., 2009), but decreases in the presence of family shareholders (Marmousez, 2012).

Knowing that French companies have clear preferences when selecting their pair of auditors, one may wonder whether a given pair of auditors influences audit quality and audit fees? In other words, when compared to other pairs, do two Big 4 firms charge more fees (to their specific clients) and provide audit services of higher quality?

5.1. The impact of the pair of auditors on audit quality

In the 1990s, companies audited by one or two Big 4 firms did not have lower earnings quality (Maijoor & Vanstraelen, 2006; Piot & Janin, 2007). However, Francis et al. (2009) find that the number of Big 4 firms in the auditor diad matters in mitigating the upward manipulation of earnings for the year 2003. While these results are interesting, they should be interpreted with caution because they are based on French GAAP (i.e., pre-IFRS adoption).

IFRS being more complex, the impact of the pair of auditors on audit quality may differ in the IFRS context. Indeed, André et al. (2016) do not find that the presence of one or two Big 4 firms impacts earnings quality as measured by abnormal accruals in that context. However, in their study focusing on goodwill impairment, Lobo, Paugam, Zhang, and Casta (2017) document that companies audited by a Big 4 firm and a non-Big 4 firm are more likely to book an impairment and book a larger impairment than companies audited by two Big 4 firms (when low-performance indicators suggest a greater likelihood of impairment). Moreover, companies audited by two Big 4 firms reduce impairment disclosures when they book impairments, suggesting lower transparency for companies audited by such pair of auditors.

5.2. The impact of the pair of auditors on audit fees

Gonthier-Besacier and Schatt (2007) report that audit fees adjusted for company size are higher when a Big 4 is associated with a non-Big 4, than when a company uses two Big 4 auditors. Audousset-Coulier (2015) also observes a fee premium of 38.5% in the presence of one Big 4 firm, and a non-significant marginal premium when the second auditor is also a Big 4 firm. However, based on more recent data (i.e., post IFRS adoption) but different samples, André et al. (2016) and Bédard et al. (2019) show that two Big 4 charge higher fees than a pair composed of a Big 4 and a non-Big 4. Overall, it is difficult to conclude that the pair suggested by the European Commission charge lower audit fees than a pair composed of two Big 4 firms.

5.3. Does balanced work impact audit quality and audit fees?

In 2007, a new auditing standards (Compagnie Nationale des Commissaires aux Comptes, 2007, NEP 100.07) introduced the principle of a balanced distribution of audit work between the co-auditors, which is based on quantitative (e.g. audit hours) and qualitative criteria (e.g. expertise or qualification of the audit teams' members). According to the auditing oversight board (Haut Conseil des Commissaires aux Comptes (H3C), 2012), this rule only applies to the work performed to provide an opinion on the parent company, not the work performed to provide an opinion on subsidiaries. For the H3C, the number of hours or amount of fees allocated to each auditor that exceeds the 70%-30% ratio implies an unbalanced distribution of work.

Deng et al. (2014) state that unbalanced work may lead to many problems, such as free-riding, especially when the pair is composed of Big 4 firm and a non-Big 4 firm. In their recent empirical study, Haak, Muraz, and Zieseniß (2018) show nevertheless that a more balanced audit work allocation between the audit firms reduces the audit quality and increases the audit fees.

6. SUMMARY, IMPLICATIONS AND FUTURE RESEARCH

6.1. Summary

Several key results emerge from the empirical literature.⁶ First, the French audit market is less concentrated in appearance than other European audit markets, when one focuses on the number of mandates. However, the level of concentration is effectively not very different in France when one focuses on audit fees. This finding reflects two facts: (1) The largest firms usually hire two (or at least one) Big 4 firms; (2) The work and the fees are unbalanced when a pair of auditors is composed of a Big 4 firm and a non-Big 4 firm. Second, audit quality is not higher

⁶ Appendices 1 to 4 summarize the various empirical studies discussed in this paper.

in France than in other European countries, and this result is not sensitive to the pair of auditors. This result may reflect the fact that different pairs of auditors are in charge of different clients (i.e., Two Big 4 firms audit larger and complex firms, whereas smaller audit firms are in charge of small and less complex clients). Third, higher audit fees are charged by auditors in France, in comparison to other European countries, knowing that higher audit fees are charged when at least on Big 4 firms is hired.

Finally, it is worth mentioning some joint audits studies in other countries, which complement the academic literature based on French data. First, a simulation study by Guo, Koch, and Zhu (2017) suggests that the introduction of joint audits in the UK would increase audit fees and decrease consumer surplus. Second, three studies based on Danish data (Holm & Thinggaard, 2014, 2018; Lesage, Ratzinger-Sakel, & Kettunen, 2017) suggest that the abandonment of mandatory joint audits resulted in (1) higher audit market concentration (i.e., higher market shares of Big 4 firms), because only a few Danish firms voluntarily adopt joint audits; (2) similar audit quality as measured by abnormal accruals, and lower audit fees. In other words, the Danish case shows that the abandonment of joint audits improved the efficiency of the audit system by increasing the quality-price ratio of audit services. Thus, these results suggest that the introduction of mandatory joint audits in other countries may lower the quality-price ratios of audit services, whereas the abandonment of this specific audit system may improve the quality-price ratio in France.

6.2. Implications for stakeholders

The findings from the reviewed academic literature have different implications for the key stakeholders. For investors, the French experience shows that the mandatory joint audits system is not an efficient system, because it leads to a lower quality-price ratio of audit services. Moreover, the audit market is still very concentrated in terms of audit fees. Investors should therefore lobby for the abandonment of such system.

For auditors, the French experience shows that mandatory joint audits provide some financial advantages: (1) Big 4 firms can charge higher audit fees, but they have to share some fees with non-Big 4 auditors; (2) Non-Big 4 firms may have access to some (medium/small) listed firms. Thus, auditors (in particular non-Big 4 in other countries) should therefore lobby for the introduction of a joint-audit system in their country.

Finally, for regulators, it is interesting to refer to the French joint audits experience, but it is very important to keep in mind that other ‘rules’ interact with joint audits, such as the ban on non-audit services and the existence of six-year contracts. In addition, the French institutional context is specific (i.e., litigation risk, culture, etc.). Since similar rules may lead to different outcomes in different contexts, it is possible that mandatory joint audits have other economic consequences in other countries. Moreover, some practical issues must be considered by regulators when introducing of mandatory joint audits. Should they require the presence of at least one non-Big 4 to encourage the growth of small and medium-sized audit firms? Should they require a balanced distribution of work based on quantitative and qualitative criteria, between the two auditors? These issues may greatly affect audit quality and audit fees charged by auditors and, ultimately, the quality-price ratio of services. Overall, the introduction of mandatory joint audits in a country will reflect regulators’ objectives: protecting investors’ interests or favoring auditors’ interests.

6.3. Avenues for future research on mandatory joint audits

From an institutional point of view, no paper has yet investigated the interaction between audit committees or internal control (i.e., other mechanisms that curb earnings management) and joint audits. One may wonder whether the various regulations regarding the implementation of audit committees and the characteristics of the members sitting on these committees interact with external auditors in a context of mandatory joint audit. It has already been shown that the composition of audit committees’ matters in a single audit context (e.g., Bédard & Gendron,

2010; Poretti, Schatt, & Bruynseels, 2018), but no empirical study has analyzed the interactions with external auditors in a context of mandatory joint audit. In other words, one may examine whether mandatory joint audits lose some of its potential benefits in presence of efficient audit committees, because the financial reporting quality is already high (as discussed in section 3.1)?

Moreover, no paper has yet tackled the issue of auditors' responsibility on audit pricing. To date, it is not clear how French auditors consider the additional risk related to the errors made by the co-auditor into their pricing strategy. In the Marionnaud case, the French Court departed from the view that both auditors are jointly responsible for the audit opinion, by sentencing only one of the two auditors (Autorité des marchés financiers, 2007). It would be interesting to better understand the impact of such event has on the distribution of work and the audit fees charged by the two auditors.

Finally, existing studies suffer from methodological limitations. In particular, cross-country studies cannot control for all the factors that may explain differences in audit quality and audit fees. For example, the French system does not differ only by the joint audits requirement. Other services (non-audit fees) are prohibited and the auditors are hired for a legal tenure of six years. The interactions between these various rules are very difficult to assess, and it is difficult to disentangle the effects resulting from various institutional differences (i.e., legal protection of investors and audit market regulations) in cross-country studies (André et al., 2016). In addition, empirical research usually considers imperfect measures of audit quality. Improved relations with auditors could help researchers to have access to proprietary data, which may lead to more relevant measurement of audit quality.

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APPENDIX. SUMMARY OF THE EMPIRICAL STUDIES

Study	Sample	Main findings*
A. Studies on audit market concentration		
Piot (2007)	817 firms in 1997 887 firms in 2003	<ul style="list-style-type: none"> • MS_ta (1997) = 48.1% (<i>Big Six</i>), and MS_ta (2003) = 56.7% (<i>Big 4</i>) • MS_ta (1997) = 20% (<i>7 Majors</i>), and MS_ta (2003) = 17.8% (<i>5 Majors</i>) • CR6_ta (1997) = 0.53, and CR4_ta (2003) = 0.59 • H6 (1997) = 0.18, and H4 (2003) = 0.28 • Oligopoly structure: 8 main actors in 1997 vs. 5 main actors in 2003
Broye (2007)	428 firms in 2005	<ul style="list-style-type: none"> • MS_ne = 45.1% (for Big4) and 53.5% (for Big4 + Mazars) • CR4_af (2005) = 0.87 (<i>Big 4</i>), and CR5_af = 0.94 (<i>Big 4 + Mazars</i>) • H5 (2005) = 0.21
Ballas and Fafaliou (2008)	2,862 firms (from 15 EU countries) Period: 1998-2004	<ul style="list-style-type: none"> • CR4_ta (Europe) = 0.62/0.71 (before/after the 2002 Andersen collapse). • CR4_ta (France) = 0.53/0.44 (before/after the 2002 Andersen collapse). • CR4_ta increases in all of the countries over the 1998-2004 period, except for France and Denmark.
Broye and Schatt (2012)	177 firms Period: 2005-2010	<ul style="list-style-type: none"> • Big 4 firms appropriate a greater proportion of the fees when the second auditor is a non-Big 4.

*Definition of the variables: MS_ta: market shares based on the square root of the total assets of audited companies; MS_ne: market shares based on the number of audit engagements held by auditors; CRn_ta: concentration ratio for the n biggest auditors based on the square root of the total assets of audited companies; CRn_af: concentration ratio for the n biggest auditors based on audit fees; Hn_ta: Herfindahl indices for the n biggest auditors based on the square root of the total assets of audited companies; Hn_af: Herfindahl indices for the n biggest auditors based on audit fees.

Study	Sample	Main findings*
B. Studies on audit quality		
Maijor and Vanstraelen (2006)	17,394 observations for 3 countries (France: 3,904; Germany: 4,067; UK: 9,423) Period: 1992-2000	<ul style="list-style-type: none"> • A strong regulatory environment on auditor independence (France or UK) is associated with lower discretionary accruals (DA). • The presence of a Big 4 auditor has no effect overall; it only reduces DA when interacted with the UK audit system.
Piot and Janin (2007)	216 observations Period: 1999-2001	<ul style="list-style-type: none"> • The presence of one or two Big 5, and auditor tenure, has no effect on discretionary accruals.
Francis, Richard and Vanstraelen (2009)	468 firms Period: 2003	<ul style="list-style-type: none"> • The presence of two Big 4 is associated with lower income-increasing discretionary accruals (DA). • A mixed auditor pair is associated with marginally lower income-increasing DA vs. two non-Big 4 pairs. • The presence of a national auditor (vs. two “small” auditors) is associated with less income-decreasing earnings management.
André, Broye, Pong and Schatt (2016)	1455 observations from France, UK and Italy Period: 2007-2009	<ul style="list-style-type: none"> • French companies are not associated with lower absolute discretionary accruals.
Lobo et al. (2017)	551 observations from the SBF 250 Period: 2006-2009	<ul style="list-style-type: none"> • The presence of a Big 4 and a non-Big 4 is associated with a lower likelihood of recognizing an impairment loss than two Big 4. • The presence of a Big 4 and a non-Big 4 is associated with more transparent impairment disclosures than two Big 4.

Study	Sample	Main findings*
C. Studies on audit fees		
Gonthier-Besacier and Schatt (2007)	127 firms in 2002.	<ul style="list-style-type: none"> • Size-deflated audit fees are lower for two Big 4 vs. mixed colleges (one Big 4 and one non-Big 4)
Audouset-Coulier (2015)	254 observations Period: 2002-2003.	<ul style="list-style-type: none"> • There is an audit fee premium in the presence of Big 4 auditors. Audit fees are 27% (38%) higher in the presence of one (two) Big 4, but the difference between one and two Big 4 is not statistically significant.
André, Broye, Pong and Shatt (2016)	1455 observations from France, UK and Italy Period 2007-2009.	<ul style="list-style-type: none"> • Audit fees paid by French companies are about 40% higher than those paid by (matched) Italian ones and British ones. • For non-matched samples, the differences are bigger.
D. Studies on the pair of auditors		
Piot (2001)	285 firms Period: 1997	<ul style="list-style-type: none"> • The use of Big 6 auditors does not depend on ownership diffusion, but on the agency costs of debt.
Francis, Richard and Vanstraelen (2009)	468 firms Period: 2003	<ul style="list-style-type: none"> • The use of Big 4 auditors (one or two) increases with ownership diffusion. • Some types of shareholdings are positively (banks, pension funds, or international shareholders) or negatively (family shareholding) associated with the choice of two vs. one Big 4.
Marmousez (2012)	175 firms Period: 2003	<ul style="list-style-type: none"> • The use of Big 4 auditors (one or two) is negatively associated with family ownership.