THE MARKET FOR AUDIT AND ASSURANCE SERVICES BEFORE AND AFTER THE 537/2014 EU REGULATION: EVIDENCE FROM SPAIN.

Javier Garcia-Lacalle*

Department of Accounting and Finances, School of Economics and Business

Universidad de Zaragoza, Zaragoza, Spain

*contact author

Ilias G Basioudis

Accounting Department, Aston Business School

University of Aston, Birmingham, United Kingdom

Área temática: Auditoría

Palabras clave: Audit market, concentration, audit fees, non-audit fees

The market for audit and assurance services before and after the 537/2014 EU regulation: Evidence from Spain.

This paper analyses the patterns of the audit market, and audit market concentration, for the listed companies in Spain from 2011 to 2018, when numerous listed companies have changed their audit firm. The audit context after the approval of the 537/2014 EU regulation has challenged the traditional market share domination by one Big4 firm in the Spanish listed market. Big4 firms still retain almost all the market share, although there seems to be some competition between them. The non-audit fees of the main audit firms have been significantly reduced.

The market for audit and assurance services before and after the 537/2014 EU regulation: Evidence from Spain.

1. Introduction.

In 2010, the Global financial crisis (GFC) and numerous financial scandals triggered a set of reforms in the EU audit and assurance sector, resulting in the approval of the 537/2014 Regulation. This regulation, effective from June 2016, aims to address two perceived weaknesses in the audit market, namely the excessive familiarity and economic bonding between the audit firm and the client company as well as the dominance of the Big4 audit firms (Horton et al, 2018). Regarding the objective of reducing the dominance of the Big4 firms is to increase the choice of the auditor and, reduce systemic risk. Each EU country has the possibility of adapting the regulation to their specific national regulatory contexts within the overall EU framework. Main aspects of the reform include mandatory audit firm rotation every ten years, extensions allowed conditions met, ban of non-audit services as well as the limitation of fees for those allowed (70% of the audit fees based on a 3year average) and a cap on total fees of the auditors.

International studies on the audit market show a high level of concentration (e.g. Ballas and Fafaliou, 2008; Willekens et al, 2019). The Green paper “Audit Policy: Lessons from the Crisis” (EU, 2010) warned about the high concentration of the market for audits of the EU listed companies and about the difficulty for mid-tier audit firms of entering in this market. This document pointed out that such a high concentration level damages competition. Oligopolistic and monopolistic market structures may damage competition and result in increments in the price of the services as well as hampering audit effort and consequently jeopardising audit quality (Basoudis and Kend, 2019). The new regulation is most likely to affect the audit market, although the extent of the effect must still be assessed. The recent study, EU Statutory Audit reform' (Willekens et al, 2019), provides interesting insights into the issue at the EU level, but specific country-focus analyses may also help to have better insights of the Reform.

Spain, the fourth economy of the EU-27, was one of the EU countries with a higher audit market concentration for listed companies before the GFC (see Ballas and Fafaliou, 2008). The financial crisis, with numerous scandals in Spain, with the Big4 firms involved in, at least, one financial scandal during this decade[1], has increased the ligation risk of the audit firms, both in terms of reputation and in terms of legal actions. One scandal, the Gowex case, brought international attention, both because the way the scandal arose, when Gotham City Research disclosed a report[2] which, after 'basic research', concluded that Gowex's shares had a zero value, pointing out a clear audit failure. The financial crisis also resulted in a significant increment of competition between audit firms, due to the reduction of firms that were required to conduct statutory audits, which consequently reduced the audit market (Climent-Serrano et al, 2018).

In terms of regulation, prior to the reform, Horton et al (2018) allocated Spain to the group of EU countries with a more favourable context for audit firms, with no audit firm rotation, limited prohibition of non-audit services and no cap on fees. Moreover, Spain was considered a low litigation risk country (García-Blandón and Argilés-Bosch, 2013a), being high litigation risk countries those where reputation constitutes a major asset for the audit firm, so greater levels of auditor independence can be expected. However, the new EU regulation has made the EU the economic area with one of the toughest regulations intended to guarantee auditor independence (García-Blandón et al,

[1] https://cincodias.elpais.com/cincodias/2018/08/31/companias/1535739734_916322.html
[2] https://www.ft.com/content/4e8e5de0-0108-11e4-b94d-00144feab7de

2017), and Spain is among those countries that have opted for the most restrictive options allowed by the EU regulation (see Willekens et al, 2019).

This study aims to analyse the audit market in Spain before and after the approval and implementation of the 537/2014 EU regulation and examines its influence on the audit market for the Spanish listed companies. The study provides answers to the following specific research questions for a turmoil period of structural change, from 2011 to 2018.

1. How have audit and non-audit services (NAS) fees evolved following the GFC and the subsequent UE 537/2014 regulation (i.e., 2011–2018)?

2. Which has been the level of audit market concentration during the period?

3. What specific market shares have the Big4 firms held during this period?

This study uses data for the Spanish companies listed on the *Mercado continuo* during the period 2011–2018. This period covers the end of the GFC as well as the years of the approval and implementation of the new EU audit regulation. To establish audit concentration levels throughout the period, we use two main concentration metrics, the concentration ratio (CR) and the Herfindahl index (HI), frequently used in the literature. The number of clients and the audit and non-audit fees are used as indicators of audit firm concentration and activity. The key contributions of this research study are: (1) it presents a descriptive analysis of the structure of the Spanish listed companies audit market, including financial companies, for a crucial period of structural change; (2) it builds evidence on the short- and medium-term effect of the new EU regulation on concentration, and; (3) it frames the changes in the audit market of listed companies in the overall audit market in Spain.

The paper is structured as follows. Section 2 explains the main issues regarding audit market concentration. Section 3 presents the audit market in Spain. Section 4 describes the research design and the sample. Findings are presented and discussed in Section 5. In the last section, conclusions are drawn.

2. Audit market concentration

Markets can be classified into two broad types, each one with three subcategories (Beattie et al, 2003). The first, high market power and generally ineffective competition category, that comprises: monopoly (one firm has 100%), dominant firm (one firm has between 40% and 99%) and tight oligopoly (four firms have over 60%). The second, a market that exhibits effective competition, comprising: loose oligopoly (four firms have less than 40%), monopolistic competition (many competitors each with a slight degree of market power) and pure competition (many competitors without market power). Following this classification, according to Ballas and Fafaloiu (2008) in a study for the EU-15 countries, the audit market is a tight oligopoly for most countries, Luxemburg (90,2%) and Spain (89,7%) with the highest concentration figures, with only France and Germany considered as a loose oligopoly. Overall, the Big4 firms controlled more than 70% of the market after the Andersen dismissal. Other studies also show the global domination of the audit market by the Big4 audit firms, in particular for listed companies, and their power has even increased during the decades before the GFC (e.g. Beatti et al, 2003; Ballas and Fafaliou, 2008; Abidin et al, 2010; EU, 2010).

2.1 Effects of concentration on competition in the audit market

As stated, the Green paper “Audit Policy: Lessons from the Crisis” (EU, 2010) warned about the high concentration of the audit market in the listed companies of the

EU, and the difficulty for mid-tier audit firms to enter the market. This document pointed out several of the potential problems caused by such a high concentration level. On the one hand, it considered that failures of one of the Big4 could result in a significant harm in the functioning of the financial markets. On the other hand, it posited that high concentration levels damage competition. To mitigate this potential danger, the Green paper proposed several corrective measures, such as joint audits, mandatory rotation of auditors and re-tendering and addressing the "Big Four is Best" bias.

The effect that concentration has on the competition, therefore on price and quality, in the audit market is not straightforward (Beatti et al, 2003; Bigus and Zimmerman, 2008; Abidin et al, 2010). The less competitive the audit market is, the higher fees and/or the lower the quality of the audit is, but bigger audit firms can generate economies of scale or economies of scope or benefits of specialization (Bigus and Zimmerman, 2008). Higher seller concentration can harm clients, but can also benefit them through, for example, economies of scale and scope (Abidin et al, 2010).

In the last years of the XX century, there was no significant increase in audit fees after the 1989 mega-mergers in the UK and US (see Beatti et al., 2003). These authors argued that larger concentration had a neutral effect on competition, either because there was an overcapacity in the market or because mergers resulted in increased efficiencies passed on to end users in the form of lower prices. Moreover, Ballas and Fafallou (2008) argue that, ‘ironically’, the 1989 mergers, which produced the ‘Big 6’, were, in fact, a market response to intense competition, and there were concerns that audit firms were competing too aggressively even after those mergers. The concentration produced in Australia from the 1960s to the 2000s was attributed to the changes in the demand for audit services and the need for investments in endogenous sunk costs by auditors (Ferguson et al, 2003). The results of Evans and Schwartz (2014), who study the audit market in the US in the context of the Anderson scandal and the passage of the Sarbanes-Oxley Act in 2002, suggest that the greater market concentration after the Anderson demise had a very small impact on the fees paid by large clients, so the concerns about higher fees due to market power were unwarranted.

In terms of audit quality, in a study conducted in the audit market of 42 countries, Francis et al (2013) find that both Big4 audits and non–Big4 audits are of higher quality in those countries where the Big4 conduct a higher percentage of total audits, suggesting that Big4 dominance, by itself, does not harm audit quality. This may be reflective of an underlying market demand for high-quality audits in these countries in which lower-quality auditors are driven out of the market. Nonetheless, they also find that unequal market domination within the Big4 firms is harmful to audit quality. Eshleman and Lawson (2017) also find a positive effect of concentration on audit quality.

Other studies provide arguments against high audit market concentration, mainly from an economic perspective. The merger of Price Waterhouse with Coopers & Lybrand and the demise of Arthur Andersen resulted in a less competitive US audit market at the industry and city levels and, it became more difficult to compete for non-Big4 firms (Caban-Garcia and Cammack, 2011). In addition, the fee discounting on the initial audit engagements in the US is significantly larger for clients who switch auditors when small audit firms compete, than when only large audit firms compete (Ghosh and Lustgarten, 2006). The change from Big5 to Big4 in the US resulted in these firms having more equal market shares and the largest clients in each industry were more likely to share the same auditor, suggesting constrained auditor choices for larger companies (Dunn et al, 2011). Eshleman and Lawson (2017), who find, as stated, a positive effect of concentration on audit quality, also associate audit market concentration with significantly higher audit fees and with fewer initial engagement fee discounts. For listed companies in the UK, price competition is significant at the initial tender stage but audit fees have increased as a result of rising concentration levels (McMeeking, 2007). For the Australian context, the premiums paid during the Big4 and Big 5 periods significantly increased in comparison to the Big 6 period, although the increments differ depending on the client (Carson et al, 2012). In particular, while the largest global clients paid some of the highest premiums, their increase in premiums in the Big4 period was lower than those experienced by other clients. This result is consistent with the fact that global companies have significant relative bargaining power in auditor-client negotiations. The market does not react more negatively when clients move from a Big4 to a Second Tier auditing firm than when clients move from a Big4 to another Big4 firm (Cullinan et al, 2012), but the preference of the large companies for a Big4 audit firm is a significant entry barrier for the non-Big4 firms to auditing large companies (McMeeking, 2007). The preference of the FTSE 350 companies to the Big4 was the argument given by Grant Thornton to withdraw from future tendering for the provision of audit services to these companies (Grant Thornton, 2018).

3. The Spanish context

The academic literature about the audit market for Spanish listed companies has shown an overwhelming Big4 dominance. Carmona and Momparler (2011) report 83% of listed companies having a Big4 auditor for the last decade of the XX century, whereas García-Blandón and Argilés-Bosch (2013b) and García-Blandón and Argilés-Bosch (2018) report even higher proportions, of more than 90% for the beginning of the XXI century. Despite this level of concentration, the Spanish audit market is a competitive one (Climent-Serrano et al, 2018).). Leading firms do not use their market power and competition between firms is based on reputation differences which results in higher fees (Rodriguez-Castro et al, 2017).

Two studies, both conducted before the financial crisis and the new audit regulation, analysed the concentration level of the audit market in the listed companies in Spain. The first study (Carrera et al, 2005), for the 1990–2000 period, analysed the concentration in the market, but only in terms of the number of clients because the reporting of audit fees was not compulsory in Spain until 2002. The study was conducted in a Big 6-Big 5 context, due to Price Waterhouse and Coopers and Lybrand merger in 1998. The results of Carrera et al (2005) showed a significant increase in the proportion of clients audited by the biggest firms, from 70% in 1990 to 78% in 2000. In terms of concentration, their study shows an CR4 index of 0,75 in 2000 and an HI index of 0,19.

The second, and more recent study, is the one conducted by Caso-Pardo et al (2011), for the 1995-2008 period. This study focused on the companies listed in the Spanish Mercado continuo (*continuous market)*. For the number of clients, the CR4 index showed a very high and increased concentration level during the period, from 83% to 93%. The HI for the audit fees of the main audit firm also showed a high concentration level, despite a reduction from 0,625 in 2002 to 0,365 in 2008.

Horton et al (2018) allocate Spain in the group of countries with a more favourable context for the audit firms in the period prior to the 2014 EU regulation, with no audit firm rotation, no limited prohibition of non-audit services and no cap on fees. The favourable context for the audit firms in Spain was also ‘blessed’ with the existence of low litigation risk in the country (García-Blandón and Argilés-Bosch, 2013a). The low litigation risk context in Spain did not result in significantly lower levels of audit quality associated with either the provision of non-audit services or long audit tenures (García-Blandón et al, 2017). These favourable conditions in the Spanish audit market dramatically changed during the second half of the 2010 decade for two main reasons, namely, the enactment of the 537/2014 EU regulation and the audit scandals that occurred in Spain, and both aspects were related to the GFC. According to the new EU regulation[3], each EU country had the option of adapting the regulation to their specific national regulatory context within the overall EU framework. In terms of mandatory audit firm rotation, Spain opted for shorter additional periods than those allowed by the EU regulation, with just 4 additional years over the initial ten years if the company is also audited by another audit firm. The provision of certain audit-firm-provided services, namely, the preparation of tax forms, the identification of public subsidies and tax incentives, and the provision of tax advice, are allowed in Spain, as some other countries have done, such as Austria, Germany Denmark and Ireland (see Aschauer and Quick, 2018). In Spain, the financial crisis increased competition between audit firms, due to the reduction of firms that are required to conduct statutory audits which resulted in a reduction of audit fees (Climent-Serrano et al, 2018).

4. Sample and research design

This study examines the audit market in Spain focusing on the listed companies. In particular, we analyse the companies reported by *Bolsas y Mercados Españoles* (BME) listing for, at least two consecutive years, in the Mercado continuo. BME is the operator of the stock market in Spain. Companies suspended from quotation at the end of each year are not included in our study. The audit market for listed companies is only a part of the total audit market in Spain. However, these companies are usually among the biggest in the country and also receive a significant attention from the media.

[3] The EY document, EU audit legislation, FAQs – 7 April 2015, makes a subtle exposition of the reform. Accessible at. https://www.ey.com/Publication/vwLUAssets/ey-eu-audit-legislation-faq/$File/ey-eu-audit-legislation-faq.pdf

We have manually collected, from the consolidated[4] annual reports of these companies, the firm that audits the financial statements as well as the audit and non-audit fees paid to the main auditor and to other auditors for each year. The annual reports have been downloaded from the webpage of the *Comisión Nacional del Mercado de Valores* (CNMV). The CNMV is the Spanish regulator of the financial market. The companies that did not have their financial statements available have not been included in the analysis. Consistent with previous studies (e.g. Ballas and Fafaliou 2008), joint audits have been allocated equally to the audit firms concerned. This results in a total of 919 company/year observations, of which 10 correspond to 5 joints audits[5], 2 in 2017 and 3 in 2018.

We conduct a descriptive analysis, on a yearly basis, of the number of companies audited and of the total fees (TF), as well as its main two components, namely audit fees (AF) and non-audit fees (NAF) paid by the listed companies to the main auditor. AF corresponds to fees received for audit services and audit-related, further assurance, services, whereas NAF corresponds to those received for the provision of non-related audit services, such as tax consulting. As stated, figures are those reported in the consolidated financial statements and refer to fees paid by the whole group to its main audit firm. Part of the fees are most likely due to the audit and assurance services provided by the foreign branches of the audit firms. Nonetheless, it is expected that a significant part of them correspond to the Spanish branches.

We have calculated two concentration ratios for each year using the measures usually found in the literature (see e.g, Beatti et al, 2003; Abidin et 2010, Basioudis and

[4] For the listed companies that only prepare individual accounts, these have been used.
[5] In 2018, two audit firms, KPMG and Grant Thornton, audited the individual annual accounts of *Grifols*. However, its consolidated accounts are only signed by KPMG, and in the note that discloses the audit and non-audit fees, only the firm KPMG is mentioned. Thus, it has been treated as a single audit firm and not as a joint audit.

Kend, 2019), namely concentration ratios (CRs) and the Herfindahl Index (HI). A HI index lower than 0,100 in an industry indicates a relatively competitive market, whereas an index of 0,180 or more signals a highly concentrated industry (Caban-Garcia and Cammack, 2011). The number of clients as well as audit and non-audits fees are adopted as metrics for the market concentration analysis. We conduct this concentration analysis for the non-financial and financial sectors as well as an overall analysis for these two sectors in a similar way to the study conducted by Willenkens et al, (2019). This approach is especially adequate for the Spanish context because, despite the small number of financial companies in the Spanish listed market, they represent a very significant amount of the auditors' fees. We complement this concentration analyses with a descriptive analysis of the evolution of audit and non-audit fees for Big4 firms and the rest of firms, which allow us to better observe trends and changes in the market.

5. Findings

Table 1 presents an overall view of this market in Spain during the period analysed and its evolution. During the years 2011, 2012 and 2013, there is a reduction in the number of companies listed at the end of each year, with a change in this trend from in 2014. The variation in the number of listed companies reflects the Spanish economy situation of the period. The 2011–2014 period was a period of economic crisis with GDP falls during 2011, 2012 and 2013 and a moderate growth in 2014. The 2015–2018 period is characterised by economic growth, with GDP growths of more than 3% during 2015, 2016 and 2017 and of 2,6% in 2018. The increase of the number of listed companies for 2017 and 2018 includes the first joint audits conducted within this market. The total fees paid to main auditors have increased 24% during the period. This increase is mainly due to the 'audit' work, 37% increase, because non-audit fees of main auditors have had a significant drop of 42% in the period. The audit work conducted by other than the main auditors represents less than 10% of the audit fees paid by the listed companies. Moreover, there is a reduction of the audit fees paid to other auditors during the period. This indicates that the audit and assurance work is more and more conducted by the main auditors. In contrast, non-audit fees paid to main auditors have suffered a significant reduction during the period, whereas non-audit fees paid to other auditors have increased. This trend seems to reinforce the idea of greater 'auditor independence' after the reform.

Two trends can be observed in the evolution of the fees paid to main auditors in Table 1. From 2011 to 2015, there is an increment of both audit fees and non-audit fees, except for 2013. For the 2016-2018 period, there is not a clear evolution pattern for audit fees. In 2016 and 2018, audit fees decrease, both in absolute and mean figures, whereas in 2017 these two figures increase. However, non-audit fees have a very clear reduction tendency throughout all these 3 years. The increase in the audit fees and the significant decrease of the non-audit fees during the last three years has resulted in a reduction of the NAF/AF proportion of almost 50% for the whole period. The NAF/AF reduction is consistent with the framework of the new EU regulation, increasing auditors' independence. This proportion was consistently well below the 70% benchmark marked by the regulation, and there has been a reduction in this proportion from 2016. This results in greater perceived independence of auditors from their clients.

Table 2 shows the concentration measures (CR1, CR4 and HI) for the non-financial and financial sectors of the Spanish listed market. For the non-financial sector, figures show a tight oligopoly market structure. Big4 firms control more than 90% of the market in terms of both number of clients and fees for the whole period. The number of audit firms in the sector reaches a maximum of 12 in 2018, but that does not have an impact on the combined market share for fees of the Big4, which is always around 99%

or higher. For audit fees, figures show that there is a dominant firm (more than 40% of the market) for most of the years before 2017, the year in which the new regulation became fully implemented. The changes of the leader of the market in terms of audit fees, EY for 2011 and 2016, and Deloitte for the period in between those years suggest some level of competition. In 2017, Deloitte is the leader of the market but with a CR1 figure lower than 40%. In 2018, KPMG becomes the leader of the market, with a market share of 28%, significantly lower than the 40% benchmark. So, since 2017, the oligopoly structure with a dominant firm does no longer exist. The market for non-audit fees suggest a lesser level of competition, with Deloitte being the dominant firm for all the years until 2017, reaching a maximum of 2/3 of the market in 2014. In 2018, KPMG becomes the leader of the market but, again, under the 40% share benchmark. The HI concentration index is higher than 0,180 for the number of clients, audit and non-audit fees, indicating a very highly concentrated market. The HI concentration index increases until 2015 and reduces after that year, suggesting a higher level of competition due to the new audit law. Table 3 shows the specific figures for individual firms. Overall, audit fees have increased during the period. In 2018, the last year studied, all firms have a market share between 20% and 28%, so the firms have a quite similar market share. KPMG is, by a scarce margin, the leader in the sector. For non-audit fees, the market is more uneven, with KPMG controlling 37% of the market and PwC less than 10%. It seems that, the new regulation, either due to the compulsory rotation of the audit firm or because of encouraging the change of the audit firm, has had the desired positive effect on reducing the concentration of the audit market and, thus, the systemic risk, especially in the case the biggest audit firm 'fails and falls'.

For the financial sector, Table 2 shows an even higher concentration than for the non-financial sector. Non-Big4 firms do not provide services in this sector. Regarding fees, there is, for all the years, a dominant firm, Deloitte from 2011 to 2015 and PwC from 2016 onwards. In 2015, Deloitte controlled most of the market, around 90%, but that dramatically changed in 2016, losing its dominant position in favour of PwC, which increased its market share in 2017 and 2018. HI shows very high values for fees, more than 0,5 for most years. For the number of clients HI figures are lower. This is because most fees are concentrated in the two biggest banks (Santander and BBVA). Table 4 shows that KPMG, with no activity in the sector, and PwC, with less than 5%, at the beginning of the period analysed, lead the market at the end of the period. The main shift is observed in 2016, Deloitte ‘lost’ Santander to PwC. In 2017, Deloitte ‘lost’ BBVA to KPMG. In just these two years, Deloitte moved from 87% market share to just 1%. A similar trend is observed for non-audit fees, but the lower fees paid for these services as well as the overall reduction of NAF for main auditors throughout the period, make the economic impact less important.

Table 5 presents the concentration indexes for both, the non-financial and the financial sector. Fees figures show that, from 2011 to 2015 before the new regulation came into effect, a very highly concentrated market that gradually increased to reach a peak in 2015. From that year on, the concentration is lower, but figures still signal a high level of market concentration. Deloitte was the leader of the market for most of the period, but definitively lost this position in 2018 to PwC, which became the dominant firm in 2018 capturing almost 50% of all audit fees, mainly because of its overwhelming dominance in the financial sector, as previously explained. Overall, our analyses have shown a highly concentrated audit market in the Spanish listed companies, either with a dominant firm or not, and a combined market share of 99% for audit and non-audit fees by the Big4 before and after the EU reform.

5. Summary and conclusions

This paper is focused on the audit and assurance market for the listed companies in Spain. Our analyses show the most recent evidence of the impact of the global financial crisis and the new EU regulation on the audit market in Spain. Our figures about the audit market for listed companies in Spain show a significant increase of the fees paid to the audit firms. For main auditors, the audit work component has grown more than 25%, which has compensated the significant reduction of their non-audit fees. On the contrary, the fees obtained by audit firms for the provision of non-audit fees when they are not the main auditor have significantly increased, compensating, by far, the reduction of the fees for audit and assurance work lost. Non-audit fees paid to other auditors than the main auditor has more than double in the period. The proportion of non-audit/audit fees (NAF/AF) for main auditors has remained relatively low since 2011, and always well below the 70% benchmark of the new EU regulation. Nonetheless, in 2018, the last year studied, this proportion is the lowest due to the increase of the audit fees and the reduction of the non-audit fees. Thus, audit firms' perceived independence has been reinforced, especially from 2016, the first year of enforcement of the new regulation.

Our concentration analyses on the audit market for listed companies show a very concentrated market, especially in terms of fees, both audit and non-audit fees. The Big4 firms control more than 99% of the market. However, in line with the initial insights provided by Willekens et al (2019), there is a reduction of the HI. This index is still higher than the 0,18 considered as an oligopolistic market, but the reduction indicates that the market is more homogenously distributed among Big4 firms. Deloitte's domination at the beginning of the period has changed to a PwC domination, although to a lesser extent, at the end of the period. The year 2016, the 'transition' year as named by Willekens et al (2019), marks a turning point in the market share of the Big4 firms. Before that year, Deloitte was, by far, the leader firm, followed by EY. From that year on, these two firms lose their privileged position in favour of PwC and KPMG. This change show how easily things can evolve in the audit market. However, at the moment, the intention of the reform to reduce the market of Big4 firms has not been successful, because most of the audit firm changes are between Big4 firms, with the rest of the firms playing a residual role in the audit market for the listed companies.

REFERENCES

Abidin, S. Beattie, V. and Goodacre, A.(2010) Audit market structure, fees and choice in a period of structural change: Evidence from the UK – 1998–2003. *The British Accounting Review,* 42, 187–206.

Accounting Office. Available at: http://www.gao.gov/new.items/d08163.pdf. (accessed 17.08.2019).

Ballas, A.A.and Fafaliou, I. (2008) Market Shares and Concentration in the EU Auditing Industry: the Effects of Andersen's Demise. *International Advances in Economic Research,* 14, 485–497.

Basoudis, I. and Kend, M. (2019) The Market for Audit and Assurance Services in the period after the Global Financial Crisis in 2009 - 2015: Evidence from the UK. *Working paper,* Aston University.

Beattie, V., Goodacre, A., Fearnley, S. (2003) And then there were four: A study of UK audit market concentration – causes, consequences and the scope for market adjustment. Journal of Financial regulation and Compliance 11(3), 250-265.

Bigus, J. and Zimmerman, R-C. (2008) Non-Audit Fees, Market Leaders and Concentration in the German Audit Market: A Descriptive Analysis. *International Journal of Auditing*, 12, 159-179.

Caban-Garcia, M.T. and Cammack, S.E. (2011). Industry and City-Level Audit Market Concentration. *International Journal of Auditing*, 15, 21-42

Cameran, M., Francis, J.R., Marra, A. and Pettinicchio, A. (2015) Are There Adverse Consequences of Mandatory Auditor Rotation? Evidence from the Italian Experience. *Auditing: A Journal of Practice & Theory*, 34(1), 1-24.

Carmona, P. and Momparler, A. (2011) Nonaudit services provided by incumbent auditors and earnings management: Evidence of auditor independence from an EU country. *Revista Española de Financiación y Contabilidad*, Vol. XL, 152, 587-612

Carmona, P. and Momparler, A., and Lassala, C. (2015) The relationship between non-audit fess and audit quality: dealing with the endogeneity issue. *RJournal of Service Theory and Practice,* 25(6), 777-795.

Carrera, M.N., Gutiérrez, I. and Carmona, S. (2005) Concentración en el Mercado de Auditoría en España: Análisis Empírico del Período 1990–2000. *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad,* 34(125), 423-457.

Carson, E., Simnett, R., Soo, B.S. and Wright, A.M. (2012) Changes in Audit Market Competition and the Big N Premium. *Auditing: A Journal of Practice & Theory*, 31(3), 47-73

Caso-Pardo, C. Martínez-Arias, A. and Río-Fernández, M.J. (2011) Los riesgos de concentración en el mercado de auditoría. *Partida Doble,* 236(Octubre), 11-21.

Climent-Serrano, S. Bustos-Contell, E. Labatut-Serer, G. Rey-Martí, A. (2018) Low-cost trends in audit fees and their impact on service quality. *Journal of Business Research*, 89, 345–350

Climent-Serrano, S., Bustos-Contell, E., Labatut-Serer, G. and Rey-Martí, A. (2018) Low-cost trends in audit fees and their impact on service quality. *Journal of Business Research,* 89, 345-350

Comunale, C.L. and Sexton, (2005) Mandatory auditor rotation and retention: impact on market share. *Managerial Auditing Journal*, 20(3), 235-248,

Cullinan, C.P., Du, H. and Zheng, X. (2012) Barriers to entry to the big firm audit market: Evidence from market reaction to switches to second Tier audit firms in the post-sox period. *Research in Accounting Regulation,* 24, 6–14

Dunn, K., Kohlbeck, M. and Mayhew, B.W. (2011) The Impact of the Big 4 Consolidation on Audit Market Share Equality. Auditing: *A Journal of Practice &Theory*, 30(1), 49-73.

Eshleman, J.D. and Lawson, B.P. (2017) Audit Market Structure and Audit Pricing. *Accounting Horizons*, 31(1), 57-81.

EU (2010) *GREEN PAPER, Audit Policy: Lessons from the Crisis.* European Commission. COM(2010) 561 final. Brussels

Evans, L. and Schwartz, J. (2014) The effect of concentration and regulation on audit fees: An application of panel data techniques. *Journal of Empirical Finance*, 27,130–144

Ferguson, A., J. R. Francis, and D. J. Stokes. 2003. The effects of firm-wide and office-level industry expertise on audit pricing. *The Accounting Review,* 78, 429-448.

Francis, J.R., Michas, P.N, Seavey, S.E. (2013) Does Audit Market Concentration Harm the Quality of Audited Earnings? Evidence from Audit Markets in 42 Countries. *Contemporary Accounting Research,* 30(1), 325–355

García-Blandon, J. and Argilés-Bosch J.M. (2013a) Audit tenure and audit Qualifications in a low litigation risk setting: An analysis of the Spanish market. *Estudios de Economía*, 40(29 133-156.

García-Blandon, J. and Argilés-Bosch J.M. (2013b) Audit firm tenure and qualified opinions: New evidence from Spain. *Revista de Contabilidad – Spanish Accounting Review*, 16 (2), 118–125

García-Blandon, J., Argilés-Bosch J.M., (2018) Audit partner industry specialization and audit quality: Evidence from Spain. *International Journal of Auditing,* 22:98‐108

García-Blandon, J., Argilés-Bosch J.M., Castillo-Merino, D. and Martinez-Blasco, M. (2017) An Assessment of the Provisions of Regulation (EU) No 537/2014 on Non-audit Services and Audit Firm Tenure: Evidence from Spain. *International Journal of Accounting*, 52, 251-261.

Ghosh, A. and Lustgarten, S. (2006). Pricing of Initial Audit Engagements by Large and Small Audit Firms. *Contemporary Accounting Research*, 23(2), 333–68

Grant Thornton (2018). Executive Summary of Grant Thornton's Response to CMA's Audit Market Consultation. Grant Thornton. Accessed: https://www.grantthornton.co.uk/news-centre/grant-thornton-publishes-its-response-to-cma-review-of-audit-market/

Hay, D., Knechel, W.R. and Wong, N. (2006) Audit Fees: A Meta-Analysis of the Effect of Supply and Demand Attributes. *Contemporary Accounting Research*, 23(1), 141-191

Horton, J., Tsipouridou, M. and Wood, A. (2018) European Market Reaction to Audit Reforms. *European Accounting Review*, 27(5), 991-1023,

McMeeking, K.P. (2007). Competition in the UK accounting services market. *Managerial Auditing Journal*, 22(2), 197-217

Oxera (2006) *Competition and choice in the UK audit market*. Prepared for Department of Trade and Industry and Financial Reporting Council. Oxera Consulting Ltd. Oxford

Rodriguez-Castro, P.I., Ruiz-Badillo, E., and Biedma-López, E. (2017). Market power and audit market collusion: the Spanish case. *Academia Revista Latinoamericana de Administración.* 30(3), 344-361.

Willekens, M., Dekeyser, S., and Simac, I. (2019*) EU Statutory Audit Reform: Impact on Costs, Concentration and Competition.* Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, 2019.

TABLES

TABLE 1. Descriptives. The audit market for the Spanish listed companies.

	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017 (1)**	**2018 (2)**	**2011-2018**
									Change %
Sample Size	115	113	106	108	113	117	123 (1)	124 (2)	
Audit firms	6	8	7	8	7	8	9	12	
TF (€000) Main auditor	291.267	307.810	295.966	330.334	379.588	351.762	376.401	361.634	24,16%
TF change (%)		5,68%	-3,85%	11,61%	14,91%	-7,33%	7,00%	-3,92%	
AF (€000) Main auditor	244.112	253.977	247.380	275.656	319.395	306.890	340.039	334.135	36,88%
AF change (%)		4,04%	-2,60%	11,43%	15,87%	-3,92%	10,80%	-1,74%	
NAF (E000) Main auditor	47.156	53.834	48.586	54.677	60.193	44.872	36.362	27.499	-41,68%
NAF change (%)		14,16%	-9,75%	12,54%	10,09%	-25,45%	-18,96%	-24,37%	
NAF/AF (%)	32,26%	28,64%	25,38%	32,93%	34,51%	27,60%	21,14%	16,93%	-47,52%
AF Other auditors (€000)	20.796	24.821	17.891	15.949	27.399	35.463	20.834	14.616	-29,72%
NAF Other auditors (€000)	112.306	135.118	158.272	218.288	261.525	238.861	186.917	260.702	132,14%

(1):2 joint audits; (2): 3 joint audits. TF: Total fees; AF: Audit fees; NAF: Non-audit fees

TABLE 2. Concentration measures for non-financial and financial listed companies

			2011	2012	2013	2014	2015	2016	2017	2018
NON FINANCIAL		Companies	99	99	93	95	99	103	109	110
		Audit firms	6	8	7	8	7	8	9	12
	CR1	NC	37% (D)	40% (D)	38% (D)	39% (D)	36% (D)	34% (D)	28% (D)	26% (D)
		AF	39% (EY)	43% (D)	42% (D)	44% (D)	41% (D)	44% (EY)	34% (D)	28% (KPMG)
		NAF	48% (D)	63% (D)	58% (D)	66% (D)	64% (D)	60% (D)	41% (D)	37% (KPMG)
	CR4	NC	93,94%	91,92%	93,55%	94,74%	96,97%	96,12%	95,41%	91,82%
		AF	98,92%	98,66%	99,15%	99,76%	99,91%	99,86%	99,83%	99,75%
		NAF	98,96%	99,24%	99,73%	100,00%	99,79%	99,99%	99,99%	99,84%
	HI	NC	0,262	0,265	0,256	0,260	0,260	0,249	0,232	0,214
		AF	0,294	0,344	0,339	0,348	0,349	0,354	0,263	0,253
		NAF	0,342	0,440	0,402	0,470	0,451	0,410	0,283	0,290
FINANCIAL		Companies	16	14	13	13	14	14	14	14
		Audit firms	4	4	4	4	4	4	4	4
	CR1	NC	56% (D)	64% (D)	46% (D)	46% (D)	50% (D)	36% (D, PwC)	36% (PwC)	50% (PwC)
		AF	87% (D)	86% (D)	84% (D)	86% (D)	89% (D)	62% (PwC)	67% (PwC)	74% (PwC)
		NAF	77% (D)	86% (D)	82% (D)	83% (D)	93% (D)	50% (PwC)	45% (PwC)	77% (PwC)
	CR4	NC	100%	100%	100%	100%	100%	100%	100%	100%
		AF	100%	100%	100%	100%	100%	100%	100%	100%
		NAF	100%	100%	100%	100%	100%	100%	100%	100%
	HI	NC	0,414	0,480	0,361	0,361	0,347	0,306	0,296	0,357
		AF	0,759	0,755	0,725	0,757	0,804	0,485	0,520	0,601
		NAF	0,624	0,751	0,690	0,709	0,865	0,436	0,372	0,618

NC: number of clients; AF: audit fees: NAF: non-audit fees.

In parentheses the firm leader. (D) Deloitte; (EY) Ernst & Young; (KPMG) KPMG; (PwC) PricewaterhouseCoopers

TABLE 3. Non-financial sector. Fees (in €000) and proportion of the market for individual firms

AUDIT FEES									
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Var 2011/18**
Deloitte	45.609	**61.145**	**59.481**	**65.250**	**67.868**	64.707	**60.502**	49.371	8%
EY	**54.371**	54.530	52.240	54.520	65.568	**74.315**	32.695	36.224	-33%
KPMG	16.789	10.008	10.680	12.581	13.781	14.662	49.357	**50.227**	199%
PwC	22.469	15.546	16.458	15.287	16.526	15.583	37.706	40.763	81%
Rest	1.524	1.920	1.192	348	154	234	309	447	-71%
TOTAL	140.762	143.149	140.051	147.986	163.897	169.501	180.568	177.032	26%
Deloitte	32%	43%	42%	44%	41%	38%	34%	28%	
EY	39%	38%	37%	37%	40%	44%	18%	20%	
KPMG	12%	7%	8%	9%	8%	9%	27%	28%	
PwC	16%	11%	12%	10%	10%	9%	21%	23%	
NON-AUDIT FEES									
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Var 2011/18**
Deloitte	**15.075**	**19.231**	**16.634**	**18.302**	**18.444**	**19.543**	**9.827**	4.960	-67%
EY	4.660	4.449	5.339	3.201	3.117	4.495	4.362	5.341	15%
KPMG	2.205	2.280	2.804	2.767	2.739	4.101	4.827	**6.910**	213%
PwC	9.301	4.527	3.657	3.628	4.605	4.663	5.172	1.651	-82%
Rest	328	235	77	1	60	3	3	30	-91%
TOTAL	31.569	30.722	28.511	27.899	28.965	32.805	24.191	18.892	-40%
Deloitte	48%	63%	58%	66%	64%	60%	41%	26%	
EY	15%	14%	19%	11%	11%	14%	18%	28%	
KPMG	7%	7%	10%	10%	9%	13%	20%	37%	
PwC	29%	15%	13%	13%	16%	14%	21%	9%	

In bold, the audit firm with the highest figure per year

TABLE 4. Financial sector. Fees (in €000) and proportion of the market for individual firms

AUDIT FEES									
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Var 2011/18**
Deloitte	**89.460**	**95.679**	**90.537**	**110.382**	**139.034**	42.089	14.996	1.444	-98%
EY	9.021	8.990	10.886	10.916	2.317	2.184	2.085	2.240	-75%
KPMG	0	0	0	0	7.200	7.600	37.463	37.682	n.a.
PwC	4.868	6.159	5.905	6.372	6.947	**85.516**	**104.927**	**115.737**	2,278%
TOTAL	103.349	110.828	107.328	127.670	155.498	137.389	155.973	154.237	49%
Deloitte	87%	86%	84%	86%	89%	31%	10%	1%	
EY	9%	8%	10%	9%	1%	2%	1%	1%	
KPMG	0%	0%	0%	0%	5%	6%	24%	24%	
PwC	5%	6%	6%	5%	4%	62%	67%	74%	
NON-AUDIT FEES									
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Var 2011/18**
Deloitte	**12.055**	**19.813**	**16.461**	**22.302**	**28.990**	5.165	4.762	738	-94%
EY	1.511	442	1.297	1.455	330	441	1.208	892	-41%
KPMG	0	0	0	0	80	430	670	320	n.a.
PwC	2.021	2.856	2.317	3.021	1.828	**6.031**	**5.531**	**6.657**	229%
TOTAL	15.587	23.111	20075	26.778	31.228	12.067	11.935	8.305	-47%
Deloitte	77%	86%	82%	83%	93%	43%	39%	9%	
EY	10%	2%	6%	5%	1%	4%	10%	10%	
KPMG	0%	0%	0%	0%	0%	4%	6%	4%	
PwC	13%	12%	12%	11%	6%	50%	45%	77%	

In bold, the audit firm with the highest figure per year

TABLE 5. Concentration measures All sectors

			2011	2012	2013	2014	2015	2016	2017	2018
ALL COMPANIES		Companies	115	113	106	108	113	117	123	124
		Audit firms	6	8	7	8	7	8	9	12
	CR1	NC	40% (D)	43% (D)	39% (D)	40% (D)	38% (D)	34% (D)	29% (D)	27% (PwC)
		AF	55% (D)	62% (D)	61% (D)	63% (D)	65% (D)	35% (D)	41% (PwC)	47% (PwC)
		NAF	58% (D)	73% (D)	68% (D)	74% (D)	79% (D)	55% (D)	40% (D)	30% (PwC)
	CR4	NC	95,00%	92,92%	94,34%	95,37%	97,35%	96,58%	96,50%	92,74%
		AF	99,38%	99,24%	99,52%	99,87%	99,95%	99,92%	99,91%	99,87%
		NAF	99,30%	99,56%	99,84%	100,00%	99,90%	99,99%	99,99%	99,89%
	HI	NC	0,274	0,282	0,265	0,267	0,268	0,253	0,238	0,219
		AF	0,391	0,453	0,443	0,471	0,475	0,297	0,298	0,325
		NAF	0,408	0,555	0,501	0,576	0,638	0,382	0,294	0,255

NC: number of clients; AF: audit fees; NAF:non-audit fees.

In parentheses the firm leader: (D): Deloitte; (PwC): PricewaterhouseCoopers