
Changes in the Concentration of the Audit Services Market in the Context of Mandatory Auditor Rotation in Poland and the United Kingdom

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Abstract:

Purpose: The aim of the paper is to identify and analyse changes in the concentration of the audit services market after the introduction of the mandatory rotation of audit firms in Poland and in the UK.

Design/Methodology/Approach: The Polish sample consists of 352 companies listed on the Warsaw Stock Exchange Main Market and the UK sample covers 341 companies listed in the FTSE 350 Index on the London Stock Exchange. We calculated the market share of each audit firm based on the number of statutory audits of financial statement performed for analysed companies for 2018-2020 years. The data was hand collected from the auditor reports posted on companies' websites. The audit market concentration was measured by means of the 'Big 4', indicator, the '10KAP' indicator, the 4-firm concentration ratio CR₄, the 8-firm concentration ratio CR₈, and the Herfindahl-Hirschman index.

Findings: The research findings reveal that the UK market is much more concentrated than the Polish one. In both countries, the market share of Big 4 firms is decreasing (although in Poland at a much faster rate). The introduction of the mandatory rotation of the audit firm had little impact on the improvement of competitiveness on the audit services market, especially in the United Kingdom.

Practical Implications: The research results may be helpful for the relevant regulatory institutions in assessing the effectiveness of introducing the obligation to rotate an audit firm in the context of reducing the concentration of the audit services markets. In addition, the results may serve as a basis for future research.

Originality/Value: To the best of the authors' knowledge, the paper is the first attempt to assess the changes in the concentration of the Polish and British markets after the introduction of the mandatory rotation of audit firms. In the analysis of changes in audit firms, the direction of these changes was assessed, taking into account the division into Big 4 firms, 10 key audit players and other audit firms.

Keywords: Audit market concentration, auditor rotation, Big 4, financial auditing.

JEL Classification: M42, M48.

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1. Introduction

The market for audit services is subject to constant changes, mainly aimed at improving the efficiency of statutory auditors' work with a view to ensuring the security of business transactions. Unfortunately, recurring scandals related to falsifying company accounts undermine the confidence in auditors and inspire discussions about further reforms. The last major changes in the operation of this market in Europe were made under Directive 2014/56/EU and Regulation 537/2014.

In this context, there has always been a significant problem with the relatively high concentration of the market which inhibits its competitiveness. The dominance of the Big 4 firms significantly hinders an unbiased selection of an auditor and produces an element of systemic risk. It also directly influences the prices of services provided by statutory auditors and the quality of their work. This is because an excessively long engagement of an auditor by their client may limit the objectivity and the professional scepticism of the statutory auditor. For this reason, new EU regulations introduced a mandatory rotation of audit firms auditing the financial statements of key operators in every member state. The above regulations were adopted in June 2016 and each state had the time to transpose them into its national law. In Poland, the new law came into effect in June 2017, so the first full period in which the possible effects of the reform could be observed was the year 2018. The United Kingdom implemented the changes a little earlier. They still remain in effect, despite the country having formally left the EU.

In view of the above, the main objective of this article is to identify and analyse changes in the concentration of the audit services market after the introduction of the mandatory rotation of audit firms. Two countries were selected for a comparison: Poland and the United Kingdom. This will offer a broader research perspective and bring to light possible systemic differences found in Europe. The two countries are at different levels of economic development and have different histories of market economy operation. Poland, due to its communist past, has had a free market economic system for a relatively short time (since 1989). The legal grounds for the activities of statutory auditors were only adopted in 1991. In contrast, the UK is basically the cradle of the statutory auditor profession. The traditions of a free market economy and the associated audit function go much further back there. It was already in 1844 that the need for an independent review of company books was first postulated, while the formal obligation to have financial statements audited was introduced in 1907. The UK audit services market is now among the largest in Europe.

The detailed analysis covered statutory auditor opinions issued about annual financial statements for the years 2018-2020 executed by companies listed on the main markets of the Warsaw and the London Stock Exchanges. The data was collected manually and the final sample comprised 352 Polish companies and 341

UK ones (included in the FTSE 350 Index). Thus, 2079 observations were made in total. The following research questions were formulated:

- How many and which audit firms audit the greatest share of annual financial statements of companies listed on the Polish and British stock exchanges?
- What is the concentration level of the market for audit services provided to public companies in both countries?
- How many listed companies changed their auditor during the period analysed and what was the direction of these changes? To what extent was another Big 4 company selected or was a firm from outside this group chosen?

With regard to Poland, various analyses previously suggested a relatively low market concentration compared to other states, but exhibiting a growing trend. The United Kingdom, on the other hand, had a higher level of concentration with a slightly decreasing trend. However, all these analyses covered the period prior to the implementation of the regulatory changes presented above.

2. Background and Literature Review

The concentration of the audit services market has been the subject of legal regulation and scientific research for many years. International institutions involved in the security of commerce have been warning for a long time that the high concentration and the resultant low rotation of audit firms may have a negative impact on price competition, the statutory auditors' independence and the quality of their services (FRC, 2006; Oxera, 2007; OECD, 2009). This problem still exists and is regularly emphasised when new scandals concerning financial report falsification by companies come to light. They are then followed by reforms to the audit services market, but history shows them to have limited success. The first major changes were made right after a series of spectacular bankruptcies of companies starting with Enron in 2001.

However, the reforms of the audit services market made then turned out to be insufficient, and the very same problem reappeared during the 2008 financial crisis. Analyses still confirmed the high concentration of the statutory auditor market and linked it directly to the systemic risk of the financial sector (European Commission, 2010; Treasury Committee, 2008). Subsequent financial scandals prove that the problem still exists. Here, it is worth mentioning the recent bankruptcies of BHS (2016), Carillion (2018) or Thomas Cook (2019), which led directly to the current reform of the UK audit market and the renewed discussion about its concentration.

Market concentration concerns, in particular, services provided to the largest economic operators in each country. This is mainly about the Big 4 audit firms overwhelmingly dominating audits of financial statements of listed companies and, more broadly, of Public Interest Entities (PIE). It is worth noting that major mergers

and acquisitions occurred in the group of the largest global audit firms, which raised the concentration level even higher.

The most recent data from the European market shows that the Big 4 now constitute an oligopoly in 13 EU Member States, with a share of about 70% of the total European market of services provided to Public Interest Entities. The Big 4 held about 66% of the aggregated market of PIE statutory audits in 2018. In terms of audit firms' total turnover, they accounted for around 80% of the EU total (European Commission, 2021).

Overall, relatively low concentration rates for audit services provided to listed companies, regardless of how they are counted, are observed in France, Germany, Bulgaria and Poland. It should, however, be borne in mind that public companies in France and Bulgaria must undergo a so-called joint audit, which increases the number of audit firms providing services. The highest level of concentration can be observed in Estonia, Slovenia, the Netherlands and Malta (Audit Analytics, 2020).

An analysis of data from the United Kingdom for the last five years shows that only the Big 4 conducted audits of the 100 largest companies listed on the London Stock Exchange. The Big 4 companies were the statutory auditors of 96% of FTSE 350 companies in 2019. This is slightly lower than the 97% share they had in 2017. They also accounted for 99.3% of FTSE 350 audit revenue in 2019. This is a small decrease compared to 2017, where they accounted for 99.5% of audit revenue. However, this level of market concentration is still very high (FRC, 2020).

With regard to Poland, it is worth noting that previous analyses demonstrated a level of concentration definitely below that in other states, but with a growing trend. The 'Big 4' indicator rose from 34.05% in 2011 to 42.61% in 2016. The '10KAP' indicator, in turn, went up from 53.00% to 57.60% in the same period (Gad, 2018). This is also confirmed by the Herfindahl-Hirschman index (HHI), which grew from 1731 in 2013 to 1875 in 2017 (European Parliament, 2019). However, all the above figures describe the period before the regulatory changes.

In the light of the above problems with audit market concentration and its negative consequences, particularly for the independence of auditors and their service quality, Regulation 537/2014 introduced the mandatory rotation of firms auditing the financial statements of PIE. The maximum period of engagement is 10 years, but Member States were able to shorten it when transposing this obligation into their legislation. Several countries chose to do this. It is also possible to extend the period of engagement once (under certain conditions, by another 10 or 14 years), but only in the transitional period of reform implementation. In addition, different dates for the first mandatory rotation were set depending on how long the engagement had been in effect when regulations changed. If, as at 16 June 2014, the period of engagement of the audit firm by the audited entity was less than 11 years, the mandatory rotation rules applied after the expiry of the 10-year period of

engagement (the transitional period is 2-12 years, rotation must take place at the latest in 2026). If the engagement had lasted between 11 and 20 years, a transitional period of 9 years was introduced, i.e. the auditor must be changed at the latest in 2023. However, if the engagement had lasted for more than 20 years, a 6-year transition period is mandatory and the change must take place by 2020 at the latest (Regulation 537/2014, Art. 41).

In previous scientific research, the level of concentration of the audit services market and statutory auditor rotation was mainly studied from the perspective of various competition factors. In particular, researchers considered their impact on the price of financial statement audits and the quality of statutory auditors' work. Feldman proved that since the collapse of Arthur Andersen as a result of the Enron bankruptcy, both the concentration and the fee level on the American audit market had significantly increased (2006). Others noted higher fees depending on the specialisation of the auditor and high market concentration (Casterella *et al.*, 2014) or in the context of different market structures (Eshleman and Lawson, 2017). In some studies, however, a negative dependency was found between the concentration level and the prices of audit services (Pearson and Trompeter, 1994). This suggests that large audit firms are benefiting from economies of scale while competition simultaneously intensifies in the remaining part of the market, ultimately leading to a price reduction.

Other divergent research results concern the dependence of the service quality on market concentration. On the one hand, it confirms that as the market gets concentrated, the quality of services provided improves (Francis *et al.*, 2013; Huang *et al.*, 2016; Eshleman and Lawson, 2017). This is because the position of auditors vis-à-vis clients strengthens and they are not afraid of losing business. Ultimately, this allows the statutory auditor to focus on the quality of their work. On the other hand, some analyses point to a number of factors causing this quality to deteriorate. The client's limited choice of audit firms makes statutory auditors more confident. This, in turn, may lead to the opposite behaviour, i.e., a less strict approach to the work they do and thus a deterioration of its quality (Boone *et al.*, 2012). The absence of the mandatory rotation of auditors also has a clear, negative impact on their independence, as the permanence of the engagement and the financial ties to the client reduce the auditor's readiness to issue negative opinions (Harris *et al.*, 2012; Cameran *et al.*, 2016).

In addition, the optimal period of engagement of the audit firm by the audited entity was analysed. It is obvious that the statutory auditor's workload to audit financial statements is the greatest in the initial years of the auditor's engagement, when they must acquaint themselves with the client in depth. In these years, the verification is frequently not as effective as it is in the later period. On the other hand, if the engagement is too long, the auditor gets more friendly with the client which reduces the auditor's objectivity and vigilance (Hoyle, 1978). Mandatory rotation affects how auditors assess the sustainability of their financial relationships with clients and

allows them to really focus on service quality (Bronson *et al.*, 2016). If the engagement is too long, the perspective of the statutory auditor changes, the auditor's view is increasingly coloured by findings from previous financial statement audits and the auditor loses their critical approach combined with professional scepticism (Arel *et al.*, 2005).

3. Research Methodology

The purpose of our research is to determine whether the introduction of the auditor rotation obligation changed the concentration of the audit services market in Poland and the UK. The analysis covers the period 2018-2020, i.e. the first three years of application of the EU regulations on the mandatory audit firm rotation. The market concentration has been measured by means of the following indicators:

- the 'Big 4' indicator,
- the '10KAP' indicator,
- the 4-firm concentration ratio CR_4 ,
- the 8-firm concentration ratio CR_8 ,
- the Herfindahl-Hirschman index (HHI).

The 'Big 4' and '10KAP' indicators represent the consolidated market share of the Big Four accounting firms (Deloitte, Ernst&Young (EY), KPMG, PricewaterhouseCoopers) and 10 key audit players (10KAP), respectively. The list of the 10KAP was defined by the European Audit Control Group and in addition to the Big Four companies, it also includes Baker Tilly, BDO, Grant Thornton, Mazars, Moore Stephens, and Nexia (European Commission, 2017).

The m -firm concentration ratio CR_m is defined as the cumulative market share of the m largest firms within the market. The most commonly used m -firm concentration ratios are the CR_4 and CR_8 which measure the cumulative market shares of the four and eight largest firms in the industry, respectively (De Vany and Lee, 2003). According to the European Commission (2017) $CR_4 = 0\%$ means perfect competition; $0\% < CR_4 < 50\%$ ranges from perfect competition to oligopoly; $50\% < CR_4 < 80\%$ means oligopoly; $80\% < CR_4 < 100\%$ ranges from concentrated oligopoly to monopoly; and $CR_4 = 100\%$ means highly concentrated oligopoly or even monopoly.

The Herfindahl-Hirschman index is the best known measure of market concentration and is the sum of the squared market shares of all firms in the market (Jackowicz and Kowalewski, 2002). The HHI can range from close to zero (indicating the perfect competition with a great number of very small firms) to 10,000 (indicating the single monopolist). Another interpretation of this measure assumes that the HHI value below 1000 means a low market concentration, in the range 1000-1800 it indicates a moderate market concentration, in the range 1800-2500 - a high market

concentration, while the HHI value above 2,500 proves a very high market concentration (Kwiatkowska, 2013).

We have calculated the market share of each audit firm based on the number of statutory audits of financial statement performed for companies listed on the Main Market of the Warsaw Stock Exchange (WSE) (in case of the Polish sample) and for companies listed in the FTSE 350 Index on the London Stock Exchange (LSE) (in case of the UK sample). The data has been hand collected from the auditor reports posted on companies' websites.

The Polish sample was constructed on the basis of active companies listed on the WSE Main Market on January 8, 2020 (Kutera and Godawska, 2020), excluding companies with foreign headquarters and those that did not disclose the statutory auditor report for any year from the 2018-2020 period for various reasons (e.g., withdrawal from the stock exchange). The final sample includes 352 companies. The UK initial sample was based on the companies listed in the FTSE 350 Index as of 13 July 2021. Analogically, we excluded these companies that did not disclose the statutory auditor report for any year from the 2018-2020 period. The final sample consists of 341 companies. We took into account auditor reports available on companies' websites at the end of May 2021.

4. Research Results

In 2018-2020, approximately 50 audit firms provided their services to Polish companies listed on the WSE Main Market (Table 1), including 8 key audit players (all except Baker Tilly and Nexia), other auditors belonging to global networks of advisory and accounting firms and smaller domestic audit firms. Among them, a significant part are audit firms that provided audit services for solely one company in the sample. However, the number of the latter decreased from 24 in 2018 to 21 in 2019 and 16 in 2020. In the case of companies listed in the FTSE 350 Index, there is a much smaller number of audit firms providing their services for them: only 7-8 in 2018-2020 (Table 1). Almost all of them are companies that belong to 10KAP, including MHA MacIntyre Hudson, a member of Baker Tilly International. In each year, in the analyzed period, there is merely one audit firm of symbolic importance auditing the reports of only one company from FTSE 350 (Crowe UK in 2018-2019 and RSM UK Audit in 2020).

Table 1. *Number of audit firms providing services to companies listed on the WSE Main Market and in the LSE FTSE 350 Index*

| Stock exchange | 2018 | 2019 | 2020 |
|----------------|------|------|------|
| WSE | 53 | 54 | 49 |
| LSE | 7 | 8 | 8 |

Source: Own research.

In the Polish sample, 132 companies in total changed the auditor at least once in 2019-2020, including 68 companies changed the auditor in 2019, 61 in 2020, and 3 companies changed the auditor both in 2019 and 2020 (Table 2). Of the 60 changes from a Big 4 audit firm, 26 were changes to another Big 4 firm, and 34 were changes to a non-Big 4 firm, half of which were to a 10KAP firm (BDO, Grant Thornton).

Table 2. *Audit firm rotation in the Polish sample*

| Audit firm rotation | | 2018/ 2019 | 2019/ 2020 |
|---|--------------------------------------|---------------|---------------|
| Change from a Big 4 firm | to another Big 4 firm | 15 | 11 |
| | to KAP10 firm (except Big 4) | 5 | 12 |
| | to another firm outside KAP10 | 11 | 6 |
| Change from a KAP10 firm (except Big 4) | to a Big 4 firm | 0 | 2 |
| | to another KAP10 firm (except Big 4) | 1 | 2 |
| | to another firm outside KAP10 | 8 | 3 |
| Change from a firm outside KAP10 | to a Big 4 firm | 1 | 0 |
| | to a KAP10 firm (except Big 4) | 3 | 0 |
| | to another firm outside KAP10 | 27 | 28 |

Source: *Own research.*

In 2018 and 2019, the largest share in the market of audit services for companies from the WSE Main Market was achieved by EY (12.8% and 11.4% market share, 45 and 40 audits, respectively) (cf. Table 3). However, in the following year, EY fell to fifth position, giving way to UHY ECA Audyt (11.1% market share and 39 audits in 2020). In 2018, second place in terms of market share was taken ex-aequo by Deloitte and PricewaterhouseCoopers (8.2%), and third also ex-aequo by BDO and UHY ECA Audyt (8.0%). In the following years, the order of the podium was different: in 2019 UHY ECA Audyt was second (8.8%), and PricewaterhouseCoopers was third (8.5%) while in 2020 BDO and PricewaterhouseCoopers took ex-aequo second place (9.4%) and Grant Thornton third (9.1%).

The average number of audits per audit firm in 2018-2020 as for the analysed Polish companies was 6.64, 6.52, and 7.18, respectively. Only one audit firm achieved over 10% share in the market of audit services for companies from the WSE Main Market, EY in 2018 and 2019 and UHY ECA Audit in 2020. The number of audit firms with a market share above 5% was 7 in 2018 and 2020 and 8 in 2019. About 60% of audit firms providing services to companies from the WSE Main Market had a market share of less than 1% (they accounted for 58.5% firms in 2018, 59.3% firms in 2019 and 57.1% firms in 2020).

As a result of changes in audit firms made by the companies in the Polish sample, EY and Deloitte lost the most (their market share between 2018 and 2020 fell by 4.8 and 3.7 percentage points, respectively), while UHY ECA Audyt and Grant Thornton gained the most (their market share increased by 3.1 and 2.0 percentage

points, respectively). PricewaterhouseCoopers was the only Big 4 firm to systematically increase its market share from 8.2% in 2018 to 9.4% in 2020 (the other three Big 4 firms worsened their market position in this period).

Table 3. Market shares of audit firms providing services to companies listed on the WSE Main Market in 2018-2020

| Audit firms | No. of audited companies | | | Market share (%) | | |
|--|--------------------------|------|------|------------------|-------|------|
| | 2018 | 2019 | 2020 | 2018 | 2019 | 2020 |
| 4Audyty | 9 | 10 | 10 | 2.56 | 2.84 | 2.84 |
| Advantim | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| AMZ Sp. z o.o | 1 | 2 | 2 | 0.28 | 0.57 | 0.57 |
| ATAC Audytorzy i Partnerzy | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| BDO | 28 | 26 | 33 | 7.95 | 7.39 | 9.38 |
| BGGM AUDYT | 1 | 1 | 2 | 0.28 | 0.28 | 0.57 |
| B-think Audit | 7 | 7 | 7 | 1.99 | 1.99 | 1.99 |
| CNKP Audyt | 1 | 1 | 0 | 0.28 | 0.28 | - |
| CSWP Audyt | 6 | 6 | 6 | 1.70 | 1.70 | 1.70 |
| DB Audyt | 0 | 1 | 1 | - | 0.28 | 0.28 |
| Deloitte | 29 | 22 | 16 | 8.24 | 6.25 | 4.55 |
| Doradca Auditors | 1 | 1 | 0 | 0.28 | 0.28 | - |
| ECDDP Audyt | 1 | 2 | 2 | 0.28 | 0.57 | 0.57 |
| Ecovis System Rewident | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| Ernst&Young | 45 | 40 | 28 | 12.78 | 11.36 | 7.95 |
| Expance Audit & Finance | 1 | 1 | 0 | 0.28 | 0.28 | - |
| Firma Audytorska Interfin | 5 | 6 | 7 | 1.42 | 1.70 | 1.99 |
| ForBiznes Audyt Libsz Kęпка Zielińska – Biegli Rewidenci | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| Global Audit Partner | 1 | 2 | 2 | 0.28 | 0.57 | 0.57 |
| Grant Thornton | 25 | 29 | 32 | 7.10 | 8.24 | 9.09 |
| Grupa Audyt i Podatki | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| Grupa Gumułka – Audyt | 3 | 2 | 3 | 0.85 | 0.57 | 0.85 |
| HLB M2 AUDIT PIE | 6 | 4 | 5 | 1.70 | 1.14 | 1.42 |
| ISP Modzelewski i Wspólnicy | 3 | 2 | 0 | 0.85 | 0.57 | - |
| Kancelaria Biegłego Rewidenta J. Kacperczyk | 0 | 1 | 1 | - | 0.28 | 0.28 |
| Kancelaria Biegłych Rewidentów „Czupryniak i Wspólnicy" | 1 | 0 | 0 | 0.28 | - | - |
| Kancelaria Biegłych Rewidentów KONTO | 1 | 1 | 0 | 0.28 | 0.28 | - |
| Kancelaria Porad Finansowo-Ksiegowych dr Piotr Rojek | 6 | 6 | 7 | 1.70 | 1.70 | 1.99 |
| KPMG | 23 | 19 | 18 | 6.53 | 5.40 | 5.11 |
| KPW Audyt | 2 | 4 | 6 | 0.57 | 1.14 | 1.70 |
| Lexadvisor-Audyt | 0 | 0 | 1 | - | - | 0.28 |
| Mac Auditor | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| Marcin Grzywacz Audyt Doradztwo Szkolenia | 1 | 2 | 1 | 0.28 | 0.57 | 0.28 |
| Mazars | 8 | 8 | 6 | 2.27 | 2.27 | 1.70 |
| Misters Audytor Adviser | 14 | 13 | 11 | 3.98 | 3.69 | 3.13 |

| | | | | | | |
|---|----|----|----|------|------|-------|
| MOORE Rewit Audyt | 4 | 8 | 8 | 1.14 | 2.27 | 2.27 |
| Moore Stephens | 2 | 0 | 0 | 0.57 | - | - |
| Morison Finansista Audit | 4 | 3 | 3 | 1.14 | 0.85 | 0.85 |
| PKF Consult | 15 | 20 | 20 | 4.26 | 5.68 | 5.68 |
| Poland Audit Services | 1 | 2 | 2 | 0.28 | 0.57 | 0.57 |
| Polaudit | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| Polinvest-Audit | 2 | 3 | 3 | 0.57 | 0.85 | 0.85 |
| Polscy Biegli | 5 | 6 | 3 | 1.42 | 1.70 | 0.85 |
| Polska Grupa Audytorska | 4 | 2 | 1 | 1.14 | 0.57 | 0.28 |
| Pol-tax 3 | 0 | 1 | 1 | - | 0.28 | 0.28 |
| Primefields | 1 | 1 | 2 | 0.28 | 0.28 | 0.57 |
| Pro Audyt | 6 | 4 | 3 | 1.70 | 1.14 | 0.85 |
| Pro-Audit Kancelaria Biegłych Rewidentów | 3 | 4 | 6 | 0.85 | 1.14 | 1.70 |
| Profit Tax Audit | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| PU Book – Keeper Kancelaria Biegłych Rewidentów | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| PricewaterhouseCoopers | 29 | 30 | 33 | 8.24 | 8.52 | 9.38 |
| ReVision-Rzeszów Józef Król | 3 | 4 | 4 | 0.85 | 1.14 | 1.14 |
| Robert Meller Firma Audytorska | 1 | 1 | 1 | 0.28 | 0.28 | 0.28 |
| Roedl Audit | 1 | 1 | 2 | 0.28 | 0.28 | 0.57 |
| RSM Poland | 1 | 1 | 0 | 0.28 | 0.28 | - |
| UHY ECA Audyt | 28 | 31 | 39 | 7.95 | 8.81 | 11.08 |
| WBS Audyt | 4 | 2 | 5 | 1.14 | 0.57 | 1.42 |

Source: Own research.

A total of 56 companies from FTSE 350 changed an audit firm once, including 24 companies in 2019 and 32 companies in 2020 (Table 4). In the UK sample, the share of companies that changed the auditor is smaller compared to its Polish counterpart - 16.4% and 37.5% of the analysed companies, respectively. What is characteristic of many FTSE 350 companies is a very long cooperation with auditors, reaching in some case even several dozen years (e.g., PricewaterhouseCoopers has been the auditor of Rio Tinto for 62 years, EY - the auditor of Murray International Trust PLC for 112 years, Deloitte – the auditor of Intermediate Capital Group PLC for 33 years and Grant Thornton – the auditor of Pantheon International PLC – for 31 years). It can be assumed that if it were not for the introduction of the obligation to rotate an audit firm, the long-term cooperation with a specific audit firm in many companies would be continued. In 3 out of 4 cases, the change of an audit firm was a change from a Big 4 firm to another Big 4 firm. 11 companies audited by a Big 4 firm chose a new audit firm belonging to the 10KAP, but outside the Big Four.

The Big 4 firms had a dominant position on the market of audit services for FTSE 350 companies (Table 5). PricewaterhouseCoopers achieved the largest market share, amounting to 28.2% - 28.7% in 2018-2020. KPMG was second (22.6% - 26.7%) and Deloitte was third (21.1% - 22.0%), but in 2020 it was ex-aequo with EY (21.1%). A firm from the Big 4 audited in 2018-2020 on an average of 81.5, 80.8, and 79.3 companies, respectively. By contrast, the average number of audits per firm outside Big 4 in this period was 5, 4.5, and 6, respectively.

Table 4. Audit firm rotation in the UK sample

| Audit firm rotation | | 2018/ 2019 | 2019/ 2020 |
|---|--------------------------------------|---------------|---------------|
| Change from a Big 4 firm | to another Big 4 firm | 21 | 21 |
| | to KAP10 firm (except Big 4) | 3 | 8 |
| | to another firm outside KAP10 | 0 | 0 |
| Change from a KAP10 firm (except Big 4) | to a Big 4 firm | 0 | 1 |
| | to another KAP10 firm (except Big 4) | 0 | 0 |
| | to another firm outside KAP10 | 0 | 1 |
| Change from a firm outside KAP10 | to a Big 4 firm | 0 | 1 |
| | to a KAP10 firm (except Big 4) | 0 | 0 |
| | to another firm outside KAP10 | 0 | 0 |

Source: Own research.

Table 5. Market shares of audit firms providing services to companies listed in FTSE 350 Index in 2018-2020

| Audit firms | No. of audited companies | | | Market share (%) | | |
|------------------------|--------------------------|------|------|------------------|-------|-------|
| | 2018 | 2019 | 2020 | 2018 | 2019 | 2020 |
| BDO | 8 | 10 | 17 | 2.35 | 2.93 | 4.99 |
| Crowe UK | 1 | 1 | 0 | 0.29 | 0.29 | 0.00 |
| Deloitte | 75 | 75 | 72 | 21.99 | 21.99 | 21.11 |
| Ernst&Young | 63 | 68 | 72 | 18.48 | 19.94 | 21.11 |
| Grant Thornton | 6 | 6 | 4 | 1.76 | 1.76 | 1.17 |
| KPMG | 91 | 82 | 77 | 26.69 | 24.05 | 22.58 |
| MHA MacIntyre Hudson* | 0 | 1 | 2 | 0.00 | 0.29 | 0.59 |
| PricewaterhouseCoopers | 97 | 98 | 96 | 28.45 | 28.74 | 28.15 |
| RSM UK Audit | 0 | 0 | 1 | 0.00 | 0.00 | 0.29 |

Note: * member of Baker Tilly International.

Source: Own research.

As a result of audit firm changes made by the FTSE 350 companies, KPMG lost the most in terms of market share (decrease by 4.1 percentage points between 2018 and 2020), and BDO and EY gained the most (both recorded an increase in the same period by 2.6 percentage points).

Table 6 presents the values of the five market concentration indicators calculated for the WSE Main Market and the FTSE 350 Index. According to all the analysed indicators, the market in the UK is much more concentrated than the market in Poland. In the case of the UK the CR₄ ratios are identical to the Big 4 indicators and show that the market is a concentrated oligopoly. The high concentration of this market is also evidenced by the HHIs and the other two indicators. The systematic decline in market concentration in 2018-2020 is demonstrated by the Big 4 indicators (the CR₄ ratios) and the HHI, while in line with the other two indicators, the level of market concentration remained unchanged.

For the Polish market the HHIs indicate low market concentration and according to the CR₄ ratios the market ranges from perfect competition to oligopoly, being closer to the latter. The Big 4 and 10KAP indicators testify to the systematic reduction of the market concentration of audit services for companies from the WSE Main Market. By contrast, the other three indicators fell first in 2019 and then slightly increased in the following year.

Table 6. Market concentration indicators for the audit firms providing services to companies listed on the WSE (Main Market) and the LSE (FTSE 350 Index)

| Sample | Big 4 | CR ₄ | CR ₈ | 10KAP | HHI |
|-------------|-------|-----------------|-----------------|-------|------|
| WSE in 2018 | 35.80 | 37.22 | 63.07 | 53.69 | 595 |
| WSE in 2019 | 31.53 | 36.93 | 61.65 | 49.43 | 562 |
| WSE in 2020 | 26.99 | 38.92 | 62.22 | 47.16 | 582 |
| LSE in 2018 | 95.60 | 95.60 | 100.00 | 99.71 | 2355 |
| LSE in 2019 | 94.72 | 94.72 | 100.00 | 99.71 | 2297 |
| LSE in 2020 | 92.96 | 92.96 | 100.00 | 99.71 | 2221 |

Source: Own research.

5. Conclusions

The research carried out has shown that the UK market is much more concentrated than the Polish one. As far as the dominance of the Big 4 is concerned, it is by far more significant in the UK. In both countries, however, their market share is decreasing (although in Poland at a much faster rate).

What is characteristic for the Polish market is the existence of a large proportion of audit firms which audit the statements of only one listed company. In 2018, they constituted as many as 45% of firms auditing reports of companies listed on the main WSE market. However, a downward trend is also visible among them: in 2020 their share fell to only 33%. This trend is expected to continue in the following years. Auditors serving PIE are subject to much more frequent and restrictive inspections by supervisory authorities. Consequently, incurring this risk for only one engagement will simply cease to be profitable.

In contrast, the period of engagement of the auditor by the audited entity in the UK is very long. In some cases, rotation takes place after several decades of engagement. This is impossible in Poland, as the country has not had a market economy for that long. As regards the analysis of the effects of the rotation itself, far-reaching conclusions cannot be drawn yet because this is just the beginning of the changes being in force. However, it can be said that the regulation introduced had little effect on improving competitiveness, particularly in the UK. The rate of changes on the Polish market appears to be much greater than on the British one. Still, this cannot be directly associated with the legislative changes only. The market is simply much less mature than in the UK and is thus less stable.

The UK market is dominated by the Big 4 and one can expect that auditors will be replaced only with others from this group. In Poland, companies from outside the Big 4 may become increasingly significant and their market share may increase (as seen already in 2020). At the same time, however, the exit of small audit firms will certainly reduce the total number of auditors serving WSE-listed companies.

It is also worth noting that during the period analysed, auditors were changed more frequently in Poland (this applied to between 18% and 20% of WSE-listed entities every year). In the UK, this level was between 7% and 9%. When auditors were rotated on the Polish market, those not belonging to the Big 4 were also selected to a great extent.

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