



SYLWIA MORAWSKA*, PIOTR STASZKIEWICZ**

Inherent Agency Conflict Built Into The Auditor Remuneration Model¹

Abstract

This paper provides a model for audit market interventions. The study asks whether interventions in the audit market result in excessive premiums at the cost of quality and independence. The model was tested based on a historical data sample of 1,927 companies' fiscal year financial statements, observed for the period 2010–2013. The testing strategy combined statistical analysis of the market concentration and regression of abnormal results. The findings do not support, for the Polish market, the conclusion that the audit market is used as a leverage for consulting services. This paper discusses possibilities of systematic risk for policymakers as a result of the negative interaction between regulated and non-regulated markets.

Keywords: *agent, audit, conflict, non-audit, quality, model, earnings management*

* Ph.D., Warsaw School of Economics, Department of Administrative and Financial Corporate Law, e-mail: smoraw@sgh.waw.pl

** Ph.D., Warsaw School of Economics, Department of Corporate Finance and Investments, e-mail: pstasz@sgh.waw.pl, (Corresponding author)

¹ This study is partly the result of research project "Ocena poziomu rzeczywistej ochrony praw wierzycieli w Polsce w latach 2004–2012 – koszty transakcyjne dochodzenia praw z umów" Research Project NCN no. UMO-2013/09/B/HS4/03605.

1. Introduction

This study asks whether interventions in the audit market result in excessive premiums at the cost of quality and independence.

Most previous academic studies in this area have concluded that audit fees and non-audit services (NAS) are inconsistent with real-life practices, because they largely limit their observation to isolated specific issues on the markets. In this paper, we offer a more general outlook on market forces and the interventions therein.

The paper follows the pioneering work of Simunic (1980; 1984) on the audit market and provides a description of market interventions. The model was subsequently tested on the Polish market on the basis of 1,927 companies' yearly financial statements for the period 2010–2013. Both descriptive and abnormal fee econometric modeling were applied to the Polish market. The evidence does not support the conclusion that interventions in the transitional market led to an excessive concentration of the audit market or to a tendency towards opinion shopping.

These results add to the growing body of literature that has documented the association between audit and non-audit services, as well as to our systematic understanding of the determinants of audit fees. The results can be used as a guideline in the assessment of auditor quality and client motivation, and may help the appropriate regulatory body to control improper audit fee regulations in the audit service industry.

2. Prior studies

Agency theory

Agency theory developed in response to the area of conflicts between agents and principals resulting from: 1) information asymmetry; 2) agent risk aversion; 3) setting up the imperium; 4) agent utility maximization at the cost of the principal; and 5) breakdowns of confidence between agent and principal (Gruszecki 2008, p. 90). The main goal of the principal is to maximize the value of the company while agents tend to maximize their remuneration and boost career development. To ensure the synergy of principals' and agents' goals, principals have to bear the agency costs (Fama 1980; Urbanek 1999; Goldin 2013). A principal enters into an economic contract with an agent (Jeżak 2012) in order to run the business entity. If there is large discrepancy between the agent's and the principal's goals, or if high agency costs exist, the agent conflict is in place (Shleifer & Vishny 1997, p. 745). In depth reviews of this theory have

been presented by other researchers (Jensen & Meckling 1976; Zahra & Pearce 1989; Eisenhardt 1989; Hatch 2002). We apply the agency theory as the framework for our audit fee discussion.

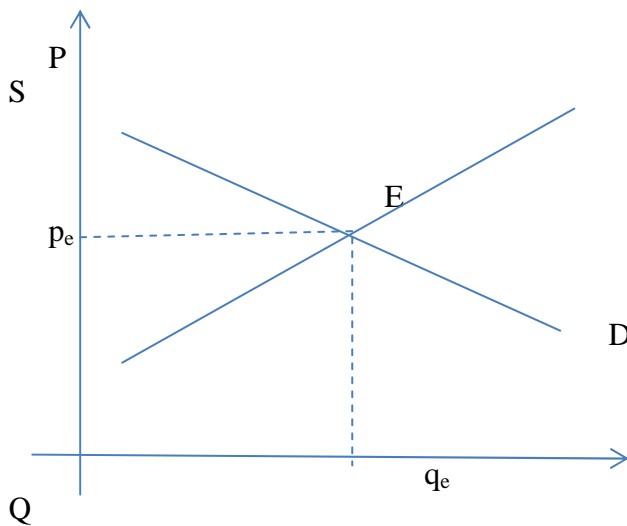
Auditor fees

In the 1930s, the Securities Act and Securities and Exchange Act banned auditors from serving on a client's board of directors, due to potential conflicts of interest and lack of independence, both in fact and in appearance. The academic forum has mirrored this concern in numerous papers (for example: Hylton 1964; Schulte 1965; Carey & Doherty 1966; Schulte 1966). As Francis (2006, p. 749) pointed out, the Commission on Auditors' Responsibilities noted that fully independent audits have become impossible since 1978, due to the fee dependence inherent in audit contracting. De Angelo (1981) observed that the auditor-client dependency is associated with the fee derived from a client, and this fee is associated with the complexity of the auditor's operations. De Angelo's observation was extended by Simunic (1984) to include non-audit fees (for Non-Audit Services (NAS)). Since an auditor can provide services other than auditing to his 'audit client', the discussion was enlarged to the non-audit fee aspect. Francis (2006) noted that consulting services were an integral part of non-audit services in the 1970s. Subsequent discussion was split into two dimensions: First when an auditor provides services to his current audit client (a risky position); and secondly when the service is provided to a non-audit client (a less risky position). The non-audit service can be arranged by the client to be conditioned on the outcome of the audit report (Ashbaugh LaFond & Mayhew 2003). In such cases, a manager might seek to influence the content of the audit report by awarding non-audit services to an existing auditor in exchange for a favorable audit report (Kornish & Levine 2004, p. 173). Frankel et al. (2002) linked poor earnings management (as a proxy for audit quality) with the provision of NAS, although other authors did not necessarily confirm this link (DeFond Raghunandan & Subramanyam 2002; Ashbaugh et al. 2003; Reynolds Deis & Francis 2004). A simple solution would be to ban an auditor from providing non-audit services to existing audit clients. However, such a ban would result in a reduction of the potential for knowledge-sharing between the auditing and non-audit services, and therefore lead to a reduction of economy of scale benefits to both the auditor and its clients – a model provided by Antle and Demski (1991) and empirically supported by Knechel et al. (2012). Additional revenues from the non-audit services enhance the ability of auditors to attract skilled staff, thus the quality of the audits themselves increase. Nevertheless, this may jeopardize the fairness of competition within the consulting market (for non-auditor market participants), as the inside information derived from the undertaking of audit services allows for a more precise pricing of consulting

services, thus explaining the auditors tendency towards consulting (Michalak & Waniak-Michalak 2009). For a historical review of this area the reader is referred to Watts and Zimmerman (1983) and other researchers (Francis 2006; Habib 2012; Hay Knechel & Wong 2006; Jong-Hang Choi 2008; Pott Mock & Watrin 2009; Schneider Arnold Church Bryan Ely 2006). This paper takes a general look at the audit market, aiming to provide a neo-liberal perspective of the potential development of the audit market.

3. Model

Suppose the audit market is unregulated in an equilibrium-perfect market; in such case the relation between demand and supply can be shown as follows:



with P (Price), Q (Quantity), D (Demand), S (Supply). The market at equilibrium point E is at the intersection of the quantity of the engagements q_e with the price at p_e .

The cost to the economy (C) of providing the assurance on data is thus equivalent as follows:

$$C = q_e p_e.$$

The value of C is outweighed by the possible loss to the economy arising from information containing misstatements, thus the potential loss (L) for the economy is (discrete model):

$$L = \sum_{t=1}^{\infty} \sum_{k=1}^k \frac{L_{kt}}{(1+r)^t}$$

where L_{kt} is the loss to the economy due to the misleading information of company k at moment t , while r represents the rate of return on government bonds (risk-free rate to the specific economy). In consequence, L represents the classical present value of the future losses (if less any benefits derived, then net present value) to the economy. L_{kt} is a variable of unknown distribution and value. Future cash flow attributable to L_{kt} can be approximated based on the company's historical lifetime tables (company mortality tables), with application of well-known actuarial techniques. $L_{kt}(\bullet)$. However it creates a multidimensional space, and we might reasonably assume that $L_{kt}(\bullet)$ is inversely related to the scope of the audit (existence or nonexistence of an external audit) – the number of companies undergoing audit in the economy (Assumption 1) and the level of audit quality and a vector, \mathbf{V} , of other variables.

The numbers of entities undergoing voluntary audit services is evidently less than the number of the corporations and business entities in the economy, thus:

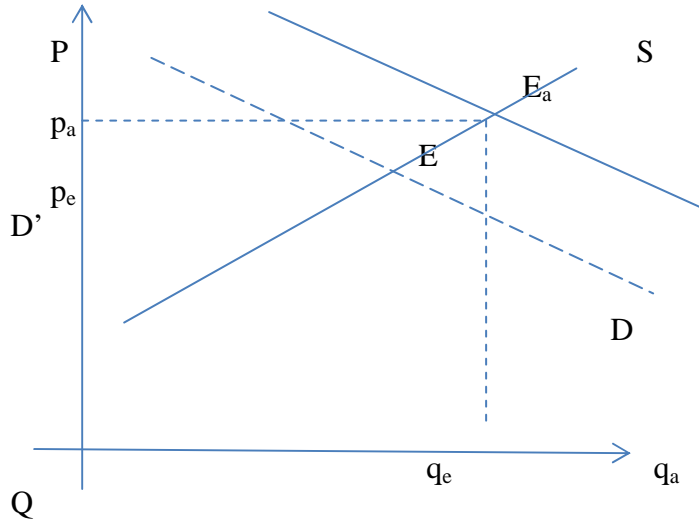
$$q_e < q_{all},$$

where q_{all} represents all the business entities in the given economy. Consequently, in the economy we observe both audited and non-audited financial statements. Now let's suppose the sovereign, with the aim of enhancing the credibility of reporting to a larger set of companies in the economy, is making an intervention to the market.

Intervention A. The imposition of audit requirements for a given set of entities in the economy. As a consequence, *ceteris paribus*, the quantity changes from q_e to q_{min} , within the equation

$$q_e < q_{min} < q_{all}$$

(unless the requirement is imposed on all the entities in the economy). As a result, there is a shift in demand.



To satisfy the new required demand for quantity q_a , the equilibrium price changes from p_e to p_a . Thus the product of the price and quantity increase, the additional cost to the economy, is (ΔC):

$$\Delta C = \Delta p * \Delta q.$$

At the same time, due to Assumption 1, there will be a mutual benefit to the economy, in that:

$$\Delta L = L(q_e) - L(q_a).$$

As a consequence, the increase in prices due to enlargement of the scope of obligatory audit is offset by the expected future benefit due to the enhanced quality of information, thus the border for Intervention A is the satisfaction of the following inequality:

$$\Delta C \leq \Delta L.$$

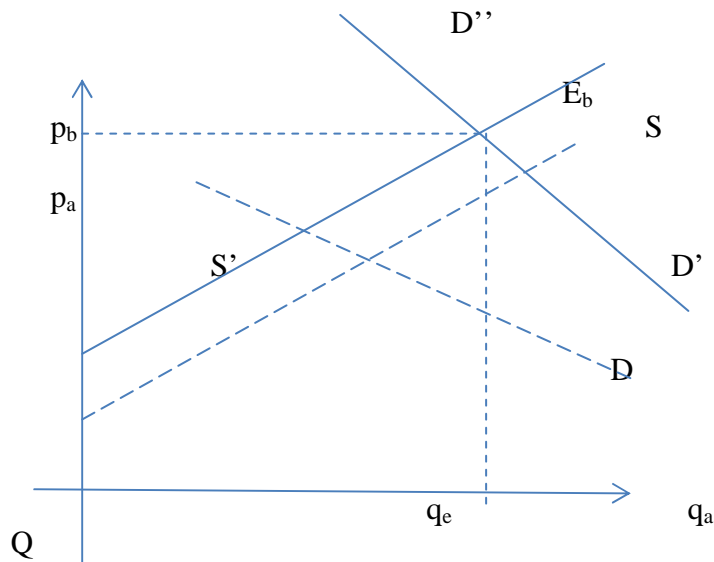
The market response to Intervention A can be complicated if the assumption of perfect competition and access to resources is abolished. In such a case, the market for an increase in audit capacity is limited, due to, for example, the training of staff and wage stickiness. In such a case, in order to satisfy the additional demand auditors provide the lower quality (less-detailed) audit services² so to save time on agreements and satisfy the incremental increase in demand. The

² The audit partner tends to increase the materiality level.

natural gatekeeper of this process is the failure-based responsibility of the auditor and audit companies for misconduct. However, imposing unlimited liability on the auditors for future possible losses on audited entities produces an adverse reaction. The biggest entities in the market have a substantial risk of high future potential damages, thus prices rise and auditors' willingness to provide services falls, in extreme cases to such a level that the entity may be unable to find an auditor in the market that is ready to offer an audit service, thus falling into a trap of not satisfying the requirement for Intervention A.

In order to maintain the quality of the services, the sovereign must provide regulations to measure the quality and uniformity of the services provided (e.g., by setting up the level of professional standards, and legal requirements for engagement). The policymaker do not have adequate skills and resources to monitor the complexity and performance of audit services, rather likely due to the low level of the quality assurance delegated to the self-regulatory professional body, while the policymakers and supervisors control the macroeconomic consequences of the regulation. Nevertheless, the need for quality requirements, a monitoring system, and a system of administrative sanctions gives rise to, as understood for the purpose of this model, **Intervention B**.

Intervention B results in an increase in costs to the supply side of the market, and as a result, because of the inelasticity of the quantity, the adjustment is compensated for by an increase in prices.



The new equilibrium point $E_b(q_a, p_b)$ represents the quantity demanded by Intervention A and the new price resulting from the restrictions imposed on quality. Thus the general cost of maintaining market quality in equilibrium is achieved if:

$$\text{Standardized costs of the audit quality times } q_a = (p_b - p_a)q_a.$$

Because of the shift in the supply function, the barrier to entry to the market increases (initial capital, quality, registration, peer review, professional qualification costs), thus the market shifts from being one of perfect competition towards a state oligopoly, where the premium of $(p_b - p_a)q_a$ must compensate for the additional burden to safeguard the quality system.

The increase in price from p_e to p_b is a controversial political decision. The controversy is based both on the uncertainty of the L function and the auditors' willingness to provide reasonably-priced services to the big companies in the market. This sets the scene for Intervention C.

Intervention C. The policymaker or market might allow the auditors to limit their responsibility for companies' further losses by imposing a cap on the amount of damage liabilities (e.g., by providing services with limited liabilities, setting up such a provision in auditing and accounting legislation, and/or limiting the number of parties empowered to recover losses from the auditors). The consequence of Intervention C is that the auditor seeks to find a balance between the quality obligation and the costs of auditing. On the one hand, the expected amount of future cash to be paid out arising from audit misconduct is limited, thus if the fee exceeds the imposed cap, the service might turn to its insurance without any value added to the auditee. On the other hand, a failure to perform an audit with due care will be subject to quality monitoring and potential penalties. The impact of Intervention C may thus be on the supply side of services, in such a way that might lower the price as a consequence of p_c satisfying the following equation:

$$q_a(p_b - p_c) = L_{\text{audUnlim}} - L_{\text{audLim}} - E(\text{costs of non-compliance}),$$

where $E(\text{costs of non-compliance})$ denotes the expected costs of the market's non-compliance with the standards imposed by the policymaker. Because of this, the nature of the service is complicated and out of the direct control of the policymaker, as the system is run by a professional. Thus, the rules governing compliance and its control are delegated to the self-regulated body, thereby creating an inherent conflict of interest between the severity of the quality

maintenance program and the body members' influence in reducing the burden.³ A solution would be to ban active auditors from occupying a place in the controlling section of the self-regulatory body, which would lead to an expected drop in the price between p_e and p_b . The implementation of a cap on auditor liability results in moral hazard, especially for large companies, where the audit price might exceed the possible loss due to misconduct. Because the expected loss can be transferred to the insurance agent, and the maximum loss cannot exceed the predetermined amount of the cap, the service for those companies large enough becomes oriented to insurance rather than assurance, causing a negative distortion in the market participants' favor.

As a result of a combination of Interventions B and C, there is a shift in Supply from S to S' , resulting in an increase in entry barriers, $S(0) < S'(0)$, creating entrance barriers for possible competitors. This limitation on competitors' entry tends to lead to existing competitors deriving abnormal profits from their existing clients, thereby creating a tendency to concentrate their auditing portfolio. In response to this observation, the policy makers tend to impose requirements for limits on concentration over and above the auditors' portfolio. This is Intervention D.

Intervention D results, on the one hand, in a lowering of prices, which has different implications for small-portfolio highly-concentrated clients and the auditors tending to attract a more diversified portfolio of clients through a lowering of prices. On the other hand, a highly diversified portfolio of existing clients might accept the high prices of the big clients. The result is a decline in the audit fees on the low-tier market and an elimination of competitors from the high-tier market (big company markets). As a result, the consequence of imposing portfolio concentration requirements does not necessarily have any specific net effect on demand and supply, but instead results in an adverse tendency towards a de-concentration of the small and medium market, along with limited competition on the high-price tier of the market, manifested in a difference in the actual hourly prices derived from small and large engagements.

The current model, however, does not take into consideration the effect of the mutual provision of audit and non-audit services, while non-audit services constitute the non-regulated segment of the market. If the audit entity provides services to both the regulated and unregulated market, then its current clients have a competitive advantage over the rest of the non-regulated market competitors due to the following facts:

³ Thus, there is a global tendency for the self-regulated body to be run by appointed professionals not active within the audit market, as opposed to a model where active market auditors charter professional organizations under a zero-remuneration scheme, which enhances the conflict of interest.

- Prior knowledge of the clients' business originating from the provision of audit services;
- Ability to utilize the effect of scale through the allocation of fixed costs to both audit and non-audit engagements;
- Potential power of the auditor conditional on the output of the audit service (modified or non-modified audit report).

The non-audit market (non-regulated market) might have one of two statuses in comparison to the audit market:

Scenario A: The expected return on their services is lower than on the audit market;

Scenario B: The expected return on their services is higher than on the audit market.

Scenario A is more likely due to the motivation for setting up a regulated market, however due to the imposition of the quality burdens, monitoring, and control system, situation B could result.⁴ In the case of situation B, there is a greater likelihood of the auditor compromising on its technical and ethical standards if they take a share of the profits derived from the non-audit services. This, in turn, provides the grounds for **Intervention E** – a ban on the provision of non-audit services to existing clients.

Intervention E leads to a short-term increase in audit fees on the markets.

The above is tested, on Polish market, based on following set of hypothesis:

H₀₁: The concentration is significantly different for high-tier clients

H₀₂: The non-audit services derived from existing clients constitute more than 20% of the total revenues.

If H₀₂ holds true, this indicates that the profitability of the non-audit services outperforms that of audit-related services, thus the auditor would be exposed to the temptation to safeguard the lucrative consulting services at the cost of its independence and audit quality. As a result, aggressive and atypical earnings management would be less likely to result in modification of the audit report. Thus, with H₀₂ being conditional on highly leveraged engagements with a high level of non-audit revenues, the following hypothesis should be true:

H₀₃: The relationship between abnormal audit fees and total fees is not associated with opinion modification if more than 20% of revenue is derived from non-audit services.

⁴ Especially for the new markets, where the initial return is substantial, e.g., IT consulting during the 1960s and 70s.

4. Testing methodology

For concentration estimation, the Herfindahl is used. It is defined as the sum of the squares (Herfindahl notation) (Hirschman 1964). Thus:

$$HI = \sum_{i=0}^n s_i^2 \quad (1.0)$$

where s_i is the market share of firm i in the market, and N is the number of firms.

To obtain the abnormal audit fee, the fraction of the audit fee to total fee derived from the client was regressed with two basic price-making characteristics: the dynamic of the company and the company size. In order to capture this characteristic, the following analytical formula was applied:

$$\left(\frac{Af}{Tf}\right)_i = \beta_0 + \beta_1 IncTrend_i + \beta_2 LN(assets)_i + \varepsilon_i \quad (1.1)$$

where:

Af – audit fee charged by the auditor for the statutory audit

Tf – total fee charged by the auditor

IncTrend – represents the operating income trend in %.

LN(assets) – represents a natural logarithm of total assets

ε – denotes the error term

while $i = 0 \dots n$, represents the index of the specific company financial statements.

The residual from equation 1.1 represents the abnormal relation of the audit fee to the total audit fee.

Consequently, the residuals of equation 1.1 were filtered with abnormal results, with residuals with values of mean plus twice the standard deviation being considered as abnormal. These selected residuals were subsequently regressed on the population of companies with a more than 20% ratio of non-fee revenues to audit revenues. The following analytical form of the model was applied:

$$ABS\left(\varepsilon_i \left(\frac{NAf}{Af} > 0.2\right)\right) = \quad (1.2)$$

$$\alpha_0 + \alpha_0 Mod_i + \alpha_1 LN(Rev)_i + \alpha_2 BIGN_i + \alpha_3 TierOne_i + \mu_i$$

where:

$\varepsilon_i \left(\frac{NAf}{Af} > 0.2\right)$ – represents the i residual from equation 1.1. subject to the non-audit to audit fee exceeding 20%;

Mod – is a binary variable of value 1 for modified audit opinions, and 0 for other cases.

BIGN – is a binary variable of value 1 for international audit networks: Deloitte Touche Tohmatsu, Ernst & Young, Grant Thornton, KPMG, Mazars, BDO, and PricewaterhouseCoopers, 0 for other cases.

TierOne – is a binary variable of value 1 for companies with at least 50 employees and 0 for other cases.

μ – error term.

subscript $i = 1, 2, \dots, k$, where k represents the number of abnormal residuals from equation 1.1.

In contrast to the priory abnormal accruals specification such as the cross-sectional modified Jones model (Dechow Hutton Kim & Sloan, 2012; Dechow Sloan & Sweeney 1995; Jones, 1991) or Chung and Kallapur (Chung & Kallapur 2003), this model is based on the abnormal rationing of the non-audit fee to the total audit fee, as the accrual management in period 2010–2013 carried memories of the subprime and PIG country credit crisis. For regression analysis the OLS methods were applied. Specific calculations were performed with the application of R, Statistica and SPSS application (IBM 2015; StatSoft 2015; Team 2013).

5. Dataset

The dataset consists of the annual financial statements of Polish-registered companies for the years 2010–2013, sampled from the EMIS database, and these constitute the population. The initial dataset comprised 844 companies with 3263 financial year statements. Due to the information gap with regard to publication and data access, not all records were assigned with appropriate audit opinions, thus the initial dataset was subsequently reduced to a feasible set.

| | |
|--|--------------------|
| Total financial statements available in the sampled database for the period 2010–2013 (sampled April 2014) | 3263 |
| Records with non-assigned audit reports (missing data) | <u>(1336)</u> |
| Final sample | <u>1927</u> |

Within the sample, records with data missing were skipped and not imputed in the model assessment.

6. Results

The descriptive statistics of the variables are provided in the table below:

Table 1. Descriptive statistics

| | N | Max | Min | Mean | δ |
|----------------------------|------|---------|---------|---------|-----------|
| LogAssets | 1927 | -2.81 | 11.97 | 3.9377 | 2.50227 |
| LogRevenue | 1892 | -4.61 | 10.35 | 3.5536 | 2.61977 |
| Af/Tf | 1459 | .00 | 10.00 | .8373 | .33608 |
| Operating Income Trend (%) | 1927 | -1410.4 | 58413.0 | 591.729 | 3193.6558 |
| Tier One | 1927 | 0 | 1 | .55 | .498 |
| Big N | 1927 | .00 | 1.00 | .2558 | .43644 |
| Modified opinion | 1927 | .00 | 1.00 | .0882 | .28369 |

Source: own calculations.

The dataset was inconsistent with the number of observations per variable, due to source data constraints, thus, specific estimations were limited on a case by case basis.

Concentration

A concentration analysis is presented in the table below.

Table 2. Auditor concentration analysis for the Polish market

| | N | HHI |
|-------------------|------|-------------|
| High-tier clients | 859 | 0.045282369 |
| All market | 1927 | 0.02257615 |

Source: own calculations.

Although there are differences in the concentration index between both the high tier and entire market, the absolute concentration value indicates a low concentration in both segments. It should be noted however that if, for any given audit network, there is more than one audit entity, these are counted separately. The results indicate compliance with Morand and Joëlle Le Vourc'h's (2011 Table 136) prior report, wherein the authors indicated the share of the Big Four to the share of the top 20 mid-tier firms at the level of 0.5, in contrast to Italy at -5.9 or Sweden at -4.0. The results obtained do not support the hypothesis that the concentration is significantly different for high-tier clients.

Share

The share of the average audit fee to total fees is 0.8373, with a standard error of 0.00879, which indicates that approximately 17.6% of the total fee of auditors is derived from non-audit services, which allows for the rejection of the H_{02} hypothesis that the non-audit services derived from existing clients constitute more than 20% of total revenues.

Abnormal fee

Estimation of the abnormal audit fee to total fee.

Table 3. Estimation of coefficients^a

| | Coefficient | | St. coefficient | | p-value |
|----------------------------|-------------|-----------|-----------------|--------|---------|
| | B | Std. Err. | Beta | t | |
| Intercept | .982 | .017 | | 57.074 | .000 |
| Operating Income Trend (%) | -5.669E-6 | .000 | -.053 | -1.864 | .063 |
| LogAssets | -.035 | .004 | -.254 | -8.967 | .000 |

a. Dependent variable: Af/Tf

Source: own calculations.

Absolute unstandardized residuals were filtered, and cases with values of the twice the standard deviation were considered abnormal. Abnormal observations were subsequently regressed according to 1.2. The relationship between abnormal cases and opinion type were insignificant, thus the variables were dropped from the equation.

Table 4. Cross table abnormal fee versus modified opinion

| | | Modified opinion | | | |
|----------|------|-------------------------|--------|--------|--------|
| | | .00 | 1.00 | Total | |
| Abnormal | .00 | Number | 1306 | 135 | 1441 |
| | | % with mod. opinion | 74.3% | 79.4% | 74.8% |
| | 1.00 | Number | 451 | 35 | 486 |
| | | % with modified opinion | 25.7% | 20.6% | 25.2% |
| Total | | Number | 1757 | 170 | 1927 |
| | | % with modified opinion | 100.0% | 100.0% | 100.0% |

Source: own calculations.

The chi-square test suggests an insignificant relationship between the abnormal fee rate and opinion modification. Details of this are shown in Table 5.

Table 5. Chi-square test

| | Value | df | Asymptotic significance (both side) | Precise significance (both side) | Precise significance (one side) |
|--------------------------------|--------------------|----|---|--|---------------------------------------|
| Chi-square Pearson | 2.121 ^a | 1 | .145 | | |
| Linear correction ^b | 1.861 | 1 | .173 | | |
| Likelihood reaction | 2.209 | 1 | .137 | | |
| Fisher precise test | | | | .165 | .084 |
| Linear relation test | 2.120 | 1 | .145 | | |
| N | 1927 | | | | |

a. 0.0% cells with less than 5 theoretical observations. Minimal expected count 42.87.

b. Calculated for table 2x2

Source: own calculation.

The regression results of the remaining variables are shown below:

Table 6. Model – summary^c

| R | | | | | |
|-------------------------------|-------------------------------------|----------|---------------|---------|--|
| Abnormal = 1.00 (Selected) | Abnormal ~ = 1.00 (Not selected) | R-square | Adj. R-square | SEE | |
| .515 ^a | .276 | .265 | .107 | 1.91826 | |

a. Predictors: (Intercept), Tier One, Big N, LogRevenue

b. Based on observation where Abnormal = 1.00.

c. Dependent variable: absolute value of residuals

Source: own calculations.

Table 7. Coefficients^{a,b}

| | Non-standardized coefficient | | Standardized coefficient | | p-value |
|-------------|------------------------------|-------|--------------------------|-------|---------|
| | B | SE | Beta | t | |
| (Intercept) | -1.130 | 1.275 | | -.886 | .391 |
| Big N | -.453 | 1.383 | -.112 | -.327 | .748 |
| LogRevenue | .483 | .286 | .584 | 1.689 | .113 |
| Tier One | 1.117 | 1.110 | .235 | 1.007 | .331 |

a. Dependent variable: Absolute value of residuals

b. Only for observation, where Abnormal = 1.00

Source: own calculations.

As a result, all control variables were insignificant to explain the abnormal audit fee relationship, thus no evidence was found to reject the H_{03} hypothesis.

Discussion of results

Rejection of the hypothesis H_{01} (concentration) and rejection of H_{03} (no quality issue) goes against the model developed and ties in with the reported results shown by Morand and Joëlle Le Vourc'h (2011). On the other hand, the methods applied are sensitive to the final testing count, and as a result the number of 35 modified opinions linked with abnormal rate results is not necessarily strong enough to support persuasive conclusions. The total testing sample of 1,927 yearly observations is representative of the Polish market, thus the processes indicated in the model are not yet finalized on the Polish market. The design of the testing experiment should probably be modified, which opens up a future discussion on an alternative study experiment design.

The most visible result of the testing sample is that the H_{02} – non-audit services derived from existing clients constitute less than 20% (ca 17%) of the total revenues. This result does not support the observation on the application of the regulated market as a leverage for consulting services, which in turn indicates a disturbance in free market competition in the consulting market due to information asymmetry. This observation is not in line with the conclusions regarding the US market of Francis (Francis 2006). However the existing fraction is relatively close to the thumb limit. This finding does not support the overall policy-setter tendency to limit the degree of leverage between audit and non-audit services. As a result, overregulation of the audit markets tends to impede the quality of audit services at the cost of competition asymmetry in the non-regulated consulting segment to the market.

The above finding is limited to the size and time span of the dataset and to indirect verification of the experiment design. In general, historical data are regarded as unreliable because they are limited to historical market processes, which are not necessarily replicable in future periods. Secondly, the findings are based on a four-year data set and a small (especially for H_{03}) sample. Because of this, the results should be interpreted with caution.

7. Conclusions

This study examined whether intervention in the audit market results in excessive premiums at the cost of quality and independence. This issue is linked to the current worldwide trend among policymakers to safeguard auditor independence.

The paper presents scenarios of consequences for different degrees of disturbance to the free market in the setting of audit services. The model was

verified with historical data from the Polish auditing market. The findings do not support the conclusion that the audit market is used as leverage for consulting services. Incoherence in the audit market is generated as a result of disturbances to free market competition within the consulting market due to information asymmetry on the side of the auditors.

This paper does not support the policy-setters' tendency to limit non-audit services to a fraction of the overall audit fee.

References

- Antle R., Demski J.S. (1991), *Contracting Frictions, Regulation, and the Structure of CPA Firms*, 'Journal of Accounting Research', 29(3).
- Ashbaugh H., LaFond R., Mayhew B.W. (2003), *Do nonaudit services compromise auditor independence? Further evidence*, 'Accounting Review', 78(3).
- Carey J.L., Doherty W.O. (1966), *The concept of independence – review and restatement*, 'Journal of Accountancy' (Pre-1986), 121(1).
- Chung H., Kallapur S. (2003), *Client Importance, Nonaudit Services, and Abnormal Accruals*. Accounting Review, 78(4).
- DeAngelo L.E. (1981), *Auditor independence, "low balling", and disclosure regulation*, 'Journal of Accounting and Economics'.
- Dechow P.M., Hutton, A. P., Kim J.H., Sloan R.G. (2012), *Detecting Earnings Management: A New Approach*, 'Journal of Accounting Research', 50(2).
- Dechow P.M., Sloan R. G., Sweeney A. P. (1995), *Detecting Earnings Management* 'The Accounting Review', 70(2).
- DeFond M.L., Raghunandan K., Subramanyam K. R. (2002), *Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions*, 'Journal of Accounting Research', 40(4).
- Eisenhardt K.M. (1989), *Agency Theory: An Assessment and Review*. Academy of Management Review, 14(1).
- Fama E. F. (1980), *Agency Problems and the Theory of the Firm*, 'Journal of Political Economy', 88(2).
- Francis J.R. (2006), *Are Auditors Compromised by Nonaudit Services? Assessing the Evidence*, 'Contemporary Accounting Research', 23(3).
- Frankel R., Johnson M., Nelson K. (2002), *The Relation between Auditors Services and for Nonaudit Earnings Management*, 'The Accounting Review', 77(2002).
- Goldin I. (2013), *Divided Nations: Why global governance is failing, and what we can do about it*. OUP Oxford.

- Gruszecki T. (2008), *Instytucjonalne aspekty w teorii przedsiębiorstwa*. [in:] Mączyńska (Ed.), *Bankructwa Przedsiębiorstw. Wybrane Aspekty Instytucjonalne. Przedsiębiorstwo Współczesne*, Kolegium Nauk O Przedsiębiorstwie, SGH.
- Habib A. (2012), *Non-Audit Service Fees and Financial Reporting Quality: A Meta-Analysis*. 'Abacus', 48(2).
- Hatch M.J. (2002), *Teoria organizacji*, Warszawa: Wydawnictwo Naukowe PWN.
- Hay D.C., Knechel W.R., Wong, N. (2006), *Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes*, 'Contemporary Accounting Research', 23(1).
- Hirschman A.O. (1964), *American Economic Association The Paternity of an Index The Paternity of an Index*, 'American Economic Review', 54(5).
- Hylton D.P. (1964), *Are Consulting and Auditing Compatible? – A Contrary View*, 'Accounting Review'.
- IBM. (2015), SPSS. IBM.
- Jensen M.C., Meckling W. H. (1976), *Theory of the firm: Managerial behavior, agency costs and ownership structure*, 'Journal of Financial Economics', 3(4).
- Jeżak J. (2012), *Ład wewnątrz korporacyjny w świetle różnych teorii a wyzwania współczesności*. Zeszyty Naukowe Uniwersytetu Szczecińskiego. Finanse. Rynki Finansowe. Ubezpieczenia, (51).
- Jones J. J. (1991), *Earnings Management During Import Relief Investigations*. 'Journal of Accounting Research', 29(2).
- Jong-Hang Choi (2008), *A Critical Review and Suggestions on Future Studies on the Research about the Relationship between Non-Audit Service Provisions and Auditor Independence*, 'Journal of Business Research', 23(1).
- Knechel W.R., Sharma D.S., Sharma V.D. (2012), *Non-Audit Services and Knowledge Spillovers: Evidence from New Zealand*, 'Journal of Business Finance and Accounting', 39(1–2).
- Kornish L.J., Levine C.B. (2004), *Discipline with common agency: The case of audit and nonaudit services* 'Accounting Review', 79(1).
- Michalak J., Waniak-Michalak, H. (2009), *Changes of strategic groups in audit services market in Poland.*, 'Social Sciences', 66(4).
- Morand P., Joëlle Le Vourc'h. (2011), *Study on the effects of the implementation of the acquis on statutory audits of annual and consolidated accounts including the consequences on the audit market*, Paris.
- Pott C., Mock, T.J., Watrin C. (2009), *Review of empirical research on rotation and non-audit services: Auditor independence in fact vs. appearance*, 'Journal Fur Betriebswirtschaft', 58(4).
- Reynolds J.K., Deis D.R., Francis J.R. (2004), *Professional Service Fees and Auditor Objectivity*. Auditing: A Journal of Practice Theory, 23(1).
- Schneider A., Church B., Ely K. (2006), *Non-Audit Services and Auditor Independence : A Review of the Literature*, 'Journal of Accounting Literature', 25.

- Schulte A.A. (1965), *Compatibility of management consulting and auditing*, 'Accounting Review'.
- Schulte A.A. J. (1966), *Management services: A challenge to audit independence?* 'Accounting Review'.
- Shleifer A., Vishny R.W. (1997), *A Survey of Corporate Governance*, 'The Journal of Finance', 52(2).
- Simunic D. (1980), *The Pricing of Audit Services: Theory and Evidence*, 'Journal of Accounting Research', 18(1).
- Simunic D.A. (1984), *Auditing, Consulting and Auditor Independence*, 'Journal of Accounting Research', 22(2).
- StatSoft. (2015), Statistica.
- Team R.C. (2013), *A language and environment for statistical computing.*, Vienna: Foundation for Statistical Computing.
- Urbanek P. (1999), *Nadzór właścicielski a systemy motywowania zarządów spółek* [in:] S. Rudolf (ed.), *Nadzór właścicielski w spółkach prawa handlowego*, Warszawa: Wydawnictwo Naukowe PWN.
- Watts R.L., Zimmerman, J. L. (1983), *Agency problems, auditing, and the theory of the firm: Some evidence*, 'Journal of Law and Economics', 26(3), 613–633.
- Zahra S., Pearce J. (1989), *Boards of Directors and Corporate Financial Performance: A Review and Integrative Model*, 'Journal of Management', 15(2).

Streszczenie

NIEODŁĄCZNY KONFLIKT AGENTA WBUDOWANY W MODEL WYNAGRODZENIA BIEGŁEGO REWIDENTA

Artykuł przedstawia model interwencji na rynku rewizji finansowej. Obszarem badania jest analiza czy interwencja na rynku rewizji finansowej powoduje zwiększenie premii rewidenta kosztem jakości i niezależności badania. Model został przetestowany na danych historycznych obejmujących 1927 rocznych sprawozdań finansowych za lata 2010–2013. Strategia weryfikacji obejmowała zastosowanie wskaźników koncentracji oraz regresję nietypowego składnika losowego. Zebrane wyniki wskazują, iż rynek rewizji finansowej nie jest stosowany, w Polsce, jako dźwignia do rynku usług konsultacyjnych. Restrykcje nałożone na rynek rewizji nie wpływają na konkurencję na rynku usług konsultacyjnych. Badanie nie wskazuje obecnie w Polsce na ryzyko systemowe negatywnego sprzężenia pomiędzy regulowanymi i nieregulowanymi rynkami.

Słowa kluczowe: agent, audytor, konflikt, poza-rewizyjne składniki wynagrodzenia, jakość badania, model, zarządzanie wynikiem