

Erasmus University Rotterdam

Erasmus School of Economics

BACHELOR THESIS

Thesis Title: Mandatory auditor rotation. A solution or not?

Abstract:

This research paper provides empirical evidence, relevant to the debate of whether audit firm rotation should be mandatory. By utilizing a vast dataset, comprised of more than 10 thousand publicly listed companies in the US, as well as employing linear regression analyses, this research paper examines the effect of auditor changes on audit fees and audit quality. The results obtained from this research paper showcase that auditor changes lead to a significant 9.3% increase in audit fees. Such an increase in audit fees could be acceptable, if it was accompanied by an equivalent increase in audit quality, however, this paper finds evidence of no meaningful improvement in audit quality, following an auditor change. Hence, given the increase in audit fees together with the lack of quality improvement, the empirical evidence of this paper does not support the case for mandatory auditor rotation.

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The views stated in this thesis are those of the author and not necessarily those of the supervisor, second assessor, Erasmus School of Economics or Erasmus University Rotterdam.

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1. Introduction

1.1 Background and research question

In 2014, 30 different European countries adopted the EU rules regarding the mandatory rotation of audit firms. This policy was introduced with the purpose of enhancing auditor independence, mitigating potential audit tenure risks (such as the auditor developing friendly ties with the client), and mitigating collusion and fraud.

Throughout history, there have been multiple proponents in favor of mandatory auditor rotation. For example, Blouin et al. (2005) advocate in favor of mandatory audit rotation, since it limits audit tenure and hence increases auditor independence, and thereby increases audit quality and the quality of financial reporting. Moreover, mandatory auditor rotation may increase audit quality due to the fresh perspective provided by the new auditors, accompanied by an increase in objectivity and professional skepticism (Reid & Carcello, 2017).

Contrary to these beliefs, the US government still, till this day, decides to not adopt mandatory auditor rotation but instead opts for mandatory audit partner rotation. The motivation behind this decision of the US government stems from the belief that mandatory auditor rotation imposes higher audit fees for the audited entities and at the same time lowers audit quality due to learning curve effects. Multiple academic papers side with this belief. More specifically, Gerakos and Syverson (2015), advocate that imposing mandatory auditor rotation in the US would increase audit fees by approximately 750 million US dollars. Additionally, Cameran et al. (2013) provide significant evidence of lower audit quality in the first 3 years following a rotation, relative to later years of audit tenure.

This research paper aims to discover, whether mandatory auditor rotation does indeed increase audit fees and decrease audit quality, and hence it addresses the following research question:

*“What is the effect of mandatory auditor rotation on
audit fees and audit quality?”*

The aim of this research paper is to provide empirical evidence that could guide intelligent policy making and help regulators to better assess the potential costs and benefits of mandatory auditor rotation. The PCAOB requires an analysis of the economic impact of any proposed policy and

this research paper has managed to provide such an analysis for the mandatory auditor rotation regulation. The results obtained from this research paper provide empirical evidence against the case of mandatory auditor rotation, supporting that mandatory auditor rotation leads to increased costs for the entities audited, while at the same time the audit quality remains the same.

1.2 Social relevance

Studying the effect of mandatory auditor rotation on audit fees and quality is very socially relevant since it provides empirical evidence, relevant to the debate of whether the US government should also adopt mandatory auditor rotation. Mandatory auditor rotation has been considered as a solution for increasing auditor independence since the US Congress was drafting the Sarbanes-Oxley act in 2002 (Gipper et al. 2022). In addition to that, on June 2, 2011, PCAOB Chairman Doty publicly announced his belief that steps need to be taken to shift the auditors, as he was driven by his motivation to protect the investing public (Gipper et al. 2022). However, after facing numerous concerns from other board members Chairman Doty had to recognize the possible adverse effects of a forced rotation. As previously mentioned, to this day the US government has still not implemented mandatory auditor rotation. Hence, for those reasons, this research paper can be significantly relevant by providing further empirical evidence, relevant to settle this debate.

1.3 Scientific Relevance

On the other hand, the scientific relevance of this research paper stems from its contribution of empirical findings and understanding of audit practices in an already existing variety of literature. Furthermore, this research paper may provide evidence in support of already existing theories in the field or perhaps even challenge them. Lastly, the findings of this paper may increase the attention of future researchers to further investigate the effects of mandatory auditor rotation and at the same time may provide them with valuable inspiration when formulating their own hypotheses.

1.4 Structure

This research paper firstly sets the stage in the theoretical framework by giving some insights into the history of mandatory auditor rotation as well as by explaining in great detail what mandatory auditor rotation is and how it differs around the globe. Moreover, the theoretical framework continues by conducting an exhaustive literature review of prior academic papers in the field of mandatory auditor rotation. It mentions both the arguments of the proponents of mandatory auditor rotation as well as the beliefs of its opponents and concludes with formulating the hypotheses which are going to be studied. Following the theoretical framework, this research paper continues with showcasing how the necessary data for this research was obtained, along with explaining the methodology that was conducted to analyze this data and provide an answer to the hypotheses. Moving on, there is the chapter showcasing the results of this paper, accompanied by an in-depth analysis of those results, together with a comparison of them with results from previous studies. Lastly, there is a conclusion which provides a summary of the paper's key findings. The conclusion ends by proposing possible directions for future research.

2. Theoretical Framework

2.1 History of mandatory auditor rotation

As mentioned beforehand, in 2014, 30 different European countries adopted the EU rules regarding the mandatory rotation of audit firms. However, mandatory auditor rotation already existed multiple years before that. For example, mandatory auditor rotation has been adopted in Italy since the 1970s as a measure to address concerns about the independence and objectivity of auditors. Furthermore, in 1996 Brazil adopted regulations mandating financial institutions to switch audit firms every four years (Accounting Insights, 2024). The motivation behind the choice of Brazil was to fight against corruption and ensure that the auditors provide unbiased opinions, and that no collusion exists.

Moreover, the government of South Korea adopted mandatory audit firm rotation in 2006 as a result of various financial scandals, believing that mandatory auditor rotation would improve auditor independency as well as financial statement integrity (IFAC, 2016). Lastly, Turkey introduced mandatory auditor rotation regulations in 2011, in order to align their own accounting practices with the international ones and at the same time enhance the reliability of their financial statements (IFAC, 2016). Additionally, Turkey believed that the rotation of auditors would eventually increase the scrutiny of financial reporting.

2.2 What is mandatory auditor rotation?

To begin with, mandatory audit firm rotation requires that companies change their auditors after a legally set period of time (Deloitte 2015). However, the number of years as well as other regulations may differ based on the regulatory setting of each country.

More specifically, the EU regulations on mandatory auditor rotation state that the engagement period of an audit firm should be at least a year but at the same time no more than 10 years (Deloitte 2015). Moreover, the tenure is measured from the first audited accounting period, but only when the entity is considered to be a Public Interest Entity (PIE). In case of an entity being audited by the same firm for several years before going public, the engagement's duration is calculated only after the fiscal year in which the listing became effective (Deloitte 2015). Furthermore, entities may extend their rotation period from 10 to 20 years in case of tendering

and up to 24 years in case of joint auditing. In case of tendering, audit committees are required to propose a recommendation to the supervisory body of the audited entity for the appointment of the auditors. The recommendation must include at least two potential candidates to take over the auditing of the entity, together with specific reasoning of why one candidate is better than the other (Deloitte 2015). However, in the case of a joint audit, a PIE is not required to have a joint audit throughout the first 10-year period, however, they are mandated to have one for the entirety of the extension, meaning the last 14 years. Lastly, the mandatory audit firm rotation regulations in the EU mandate that key audit partners must also rotate after a maximum of 7 years (Deloitte 2015). However, PIE's have the choice to voluntarily opt for shorter partner rotation periods.

On the other hand, a different regulatory setting exists in the Asian continent. For instance, Indonesian regulations on mandatory audit firm rotation mandate that audit firm rotation must take place after a maximum of 6 years for all listed firms and state-owned enterprises (Siregar et al., 2012). Moreover, the government of India mandates all banks, insurance firms, and government institutions to rotate their external auditors every 4 years. Lastly, the Chinese government imposes mandatory audit firm rotation every 5 years for state-owned enterprises while Singapore imposes mandatory audit firm rotation every 5 years for local banks (Siregar et al., 2012).

Even though there are various differences in the audit firm rotation regulations across different jurisdictions as well as differences across the targeted entities which are affected by these regulations, the motivation is mostly the same: To strengthen auditor independence and to reduce the incidence of audit failure (Catanach & Walker, 1999).

2.3 Positive effect on auditor independence and audit quality

Mandatory auditor rotation has been frequently suggested as a means to maintain auditor independence and at the same time enhance investors' confidence in the financial statements (Cameran et al., 2016). A large number of academic papers from all over the world have been in favor of that idea. More specifically, after reviewing 128 empirical studies (from 2000 until 2022) on mandatory auditor rotation, Florio (2024), discovers that there is growing empirical evidence on mandatory auditor rotation.

2.3.1 Audit quality

Casterella & Johnston, (2013) argue that a periodic change of auditors could improve audit quality by uncovering failures which the previous auditor missed due to relying on outdated, routine audit procedures or by being overly confident in their past work. Moreover, an auditor from a whole new firm has greater freedom and flexibility to object to the judgements made by the previous auditor rather than just a different partner from the same predecessor firm (Shockley, 1981). Because of that, the departing auditor will work even harder during his last engagement year, as he expects that year's work to get heavily scrutinized by the incoming auditor (Lennox & Wu, 2018). This finding is in line with the paper of Cameran et al. (2013) which states that the outgoing auditors do not shirk on audit effort/quality, something that is heavily supported by the opponents of mandatory auditor rotation.

2.3.2 Auditor Independence

Furthermore, multiple mandatory auditor rotation proponents support that a longer audit tenure erodes many possible risks. For example, Florio (2024) supports that since auditing procedures require a significant amount of interaction between the auditors and the clients, auditors may develop friendly ties with their client's management team. This may lead to the auditors placing excessive trust in the management team's work, something that may increase the chances of audit failures. Similarly, a longer audit tenure may potentially lead to the auditor becoming economically dependent on the client, something that could lead to the auditor becoming afraid of going against the client's wishes and resorting to improper accounting policies (Florio, 2024). The biggest example of such behavior is the collapse of the former Big 5 audit firm, Arthur Andersen. A big factor (if not the biggest) which led to the collapse of Arthur Andersen was the economic dependence of Arthur Andersen on Enron.

Moreover, Ottaway (2014), provides evidence that an "overly familiar" relationship between the auditor and the client undermines the independence of the auditor and at the same time heavily hinders audit quality. In lengthy audit tenures, auditors may not conduct objective audit procedures, but instead perform an audit plainly based on their past experience and make unjustifiable assumptions. Such an audit procedure would have less chances in detecting misstatements in the client's financial statements (Ottaway, 2014). Additionally, extensive research has indicated that material misstatements are more likely to get identified and reported

in cases where mandatory auditor rotation is being enforced, compared to cases in which the auditor-client relationship is not constrained (Ottaway, 2014).

2.3.3 Investors' view

Lastly, certain studies suggest that mandatory auditor rotation may have a positive effect on investors' confidence and even on market performance. Mayse (2018) argues that longer audit tenures have a negative effect on the lenders' prospects regarding the companies' ability to meet their long-term obligations. Similarly, Kim et al. (2019), while investigating the Korean market, discovered a negative association between mandatory auditor rotation and the cost of equity capital. These results indicate that the investors of the Korean market view mandatory auditor rotation favorably and believe that it increases audit quality, and hence decreases the cost of equity capital (Kim et al. 2019).

2.4 Adverse effects

On the other side of the spectrum, there have been multiple opponents of mandatory auditor rotation, mostly due to the belief that mandatory auditor rotation decreases audit quality and increases audit fees. Cameran et al. (2013) provide significant evidence that the quality of audited earnings is lower in the first 3 years following a mandatory rotation, along with evidence supporting that the quality of audited earnings increases with a longer tenure. Combining that with further evidence of rotations being costly, they believe that the evidence from the Italian experience is not in favor of mandatory auditor rotation.

2.4.1 Switching costs & Audit fees

Multiple other studies have similar feelings, regarding the existence of high switching costs. More specifically, opponents of mandatory auditor rotation believe that the costs of switching auditors are far greater than the potential benefits (Copeland, 2002). Switching costs include all the start-up costs incurred by a client during a new audit engagement (Blouin et al. 2005). These costs include all the expenses associated with educating the auditor about the company's operations, systems, financial reporting practices, and accounting issues, as well as the costs associated with selecting a new auditor. The PCAOB mentions switching costs as one of the major reasons they voted against the mandatory auditor rotation regulation (Cameran et al. 2013).

Furthermore, these high switching costs could lead to higher audit fees following a rotation. More specifically, Cameran et al. (2013) state that mandatory auditor rotation may impose larger audit fees to the client, in case of audit start-up costs being large and these costs being passed on to the client. Moreover, Deliu & Olariu (2023) believe that mandatory auditor rotation may lead to increased cost and disruption. As the incoming audit firm needs time to become familiar with the client's business, accounting systems, and financial reporting processes, it may cause higher audit fees and a higher burden on the client's resources (Deliu & Olariu, 2023).

2.4.2 Learning curve effects

On the other hand, multiple opponents of mandatory auditor rotation believe that a longer audit tenure increases audit quality due to learning curve effects and hence that mandatory auditor rotation actually hinders audit quality.

Opponents of mandatory auditor rotation believe that audit failures are more likely to arise in the early years following a rotation while at the same time it is unclear whether increased independence will lead to higher quality of financial reporting (Reid & Carcello, 2017). Moreover, Myers et al. (2003) find a positive relationship between audit tenure and the quality of earnings, providing evidence against the notion that mandatory auditor rotation improves the quality of financial reporting.

Furthermore, in the South Korean context, Choi et al. (2017) examined audit quality by comparing two different samples, one consisting of firms which underwent mandatory auditor rotation and another consisting of firms which experienced voluntary rotations. Their findings indicate that audit quality is lower in the mandatory auditor rotation sample, and hence provide evidence that longer audit tenure does indeed increase audit quality. Similarly, Siregar et al. (2012) investigate the effect of mandatory auditor rotation and specifically of audit tenure on audit quality before and after the implementation of the mandatory auditor rotation regulation in Indonesia. Their findings indicate that mandatory auditor rotation does not improve audit quality and that shorter audit tenure does not enhance audit quality. At the same time, they advocate for the implementation of new regulations with the purpose of increasing audit quality, such as increasing the maximum number of years an audit firm is allowed to audit their client.

2.5 Hypotheses

Taking all the above into account, it is obvious that not only does a big chasm exist between the proponents and opponents of mandatory auditor rotation but at the same time that it grows larger and larger throughout the years. There have been multiple academic papers siding with mandatory auditor rotation regulations, due to its effect on auditor independence and quality while others criticize it, believing that it only leads to unnecessary costs and in fact hinders audit quality.

Hence, this research paper aims to take advantage of the knowledge gained from prior contributions in this academic field and conduct its own empirical research on the effect of auditor changes on audit fees and quality. In order to achieve this, this research paper formulates the following hypotheses.

H1: Do auditor changes cause incoming auditors to receive higher audit fees?

H2: Do auditor changes cause incoming auditors to have lower audit quality?

3. Data

3.1 Sample

This research paper constructed a sample, comprised of more than 150 thousand observations for more than 10 thousand publicly listed companies in the US from 2010 until 2024. The data used in this research paper was collected from two sources. Firstly, the Wharton Research Data Services (WRDS) database was used with the purpose of gathering audit-related data. Secondly, the Refinitiv Eikon database was used to capture data for various financial metrics.

3.2 Audit fees

The Audit Analytics subdivision of the WRDS database was used with the purpose of extracting data on the audit firm each company had employed for each year as well as their corresponding audit fees. Then the dummy variable “Auditor change” was created taking the value of 1 when a company switched their auditors. Furthermore, data for all of the control variables used in the regression of audit fees was collected from consolidated financial statements retrieved from the Refinitiv Eikon database. This included data on the market value, return on assets, leverage, and inventory for each firm.

3.3 Financial Restatements

To begin with, this paper follows the same motivation as the one used in the paper of Gipper et al. (2020), believing that audit firms are more likely to announce material departures from GAAP (regarding past financial statements) in the early years following a partner change. This belief is also in line with the findings of Laurion et al. (2017) which suggest the existence of fresh look benefits following a mandatory auditor rotation.

Hence, the Audit Analytics subdivision of the WRDS database was once again used with the purpose of obtaining data on the financial restatements of each company for the years mentioned above. Furthermore, data for all of the control variables used in the financial restatements regression, was once again collected from the consolidated financial statements retrieved from the Refinitiv Eikon database.

4. Methodology

4.1 Research Design

To begin with, in order to provide a solution to the hypotheses mentioned beforehand, this paper conducts a linear regression analysis aiming to capture the effect of auditor changes on audit fees and audit quality. This way, this research paper aims to provide empirical evidence, relevant to the ongoing debate about whether the US should also adopt mandatory auditor rotation regulations. Moreover, all regressions are estimated with year fixed effects to control for systematic temporal variation.

This research paper focuses exclusively on US companies and investigates the effect of voluntary audit changes on audit fees and quality. Consequently, the results from this investigation may provide a possible indication of the outcomes in a mandatory auditor rotation setting. By using a sample consisting of only US companies, this research paper avoids sample bias. More specifically, papers investigating a sample of EU companies face serious challenges generalizing their findings due to the considerable differences in working culture and environments between the EU and the U.S. Therefore, this research paper does not face such limitations, ensuring that its findings are more robust and applicable within the US context.

4.2 Audit fees

The following regression aims to examine whether there are significant changes in audit fees when an auditor change takes place. For that purpose, this paper adopts the research design found in Cameran et al. (2013) and uses the following OLS regression:

$$LN_AF_{i,t} = \beta_0 + \beta_1 VOLROT_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEVERAGE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 INV_{i,t} + \epsilon_{i,t}$$

This OLS regression captures the impact auditor changes have on audit fees while at the same time controls for the firm's financial performance, since it can heavily affect audit fees. For example, a larger firm size, as well as a high Return on Assets, are both indicators of great financial performance and profitability, meaning that a company can simply afford to pay more expensive (and hence higher quality) auditors. Additionally, a firm with greater leverage might in

general be perceived as more risky, leading to auditors charging higher fees, irrespective of whether there is a change in auditors. By controlling for financial factors, this paper manages to enhance the accuracy and reliability of this regression, minimizing omitted variable bias. At the same time, it prevents the regression from capturing either an overstated or understated effect of auditor changes on audit fees.

4.3 Financial Restatements

Similarly, to examine whether there are significant changes in audit quality when an auditor change takes place, this research paper uses the following OLS regression:

$$FINRES_{i,t} = \beta_0 + \beta_1 VOLROT_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEVERAGE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 INV_{i,t} + \varepsilon_{i,t}$$

Again, this research paper adopts the research design of Cameran et al. (2013), however, instead of using audit engagement hours to proxy audit quality, this paper uses financial restatements. As mentioned beforehand, using financial restatements as a proxy of audit quality has been performed in the past by Gipper et al. (2020) and produced significant results. This OLS regression captures the impact auditor changes have on audit quality, while at the same time controls for the firm's financial performance, since it can possibly affect financial restatements. In contrast to the audit fees' relationship, financial performance and financial restatements have an inverse relationship. More specifically, companies which perform poorly financially will most likely not be able to hire the best quality auditors, leading to more misstatements due to lack of expertise that will later be uncovered. Moreover, companies under lots of financial stress might be under more pressure to commit fraud and misstate their financials. Hence once again, by controlling for the financial performance of the company, this research paper aims to increase the reliability of the regression and minimize omitted variable bias.

5. Results

5.1 General description

This section serves the purpose of reporting the empirical findings of this paper. Table 1 provides the descriptive statistics for all the variables involved in the regressions. Table 2 describes all variables included in the regressions. Moreover, table 3 depicts the results acquired when performing the regression of audit fees, while table 4 depicts the results obtained after performing the regression of financial restatements. Both table 2 and table 3 contain one column, showcasing the results from the regressions estimated without year fixed effects and another column (on the right side of the first one) showcasing the results with year fixed effects.

Similarly to Cameran et al. (2013) all models are estimated with year fixed effects to control for systematic temporal variation. Lastly, all reported p-values are based on heteroskedasticity-robust standard errors that are clustered by each unique company.

Table 1: Descriptive statistics

Variables	N	Mean	Std. dev.	Min	Max
LN_AF	71485	12.971	1.727	10.293	15.457
FINRES	71485	0.071	0.256	0	1
SIZE	71485	5.586	2.65	1.131	9.521
ROA	71485	-17.146	41.589	-121.48	12.58
LEV	71485	22.974	25.359	0	74.56
INV	71485	83154.8	170404	0	527000
VOLROT	71485	0.327	0.469	0	1

Table 2: Variable Description

Variables	Descriptions
LN_AF	Natural logarithm of Audit fees
FINRES	Indicator variable equal to one if there is a reported restatement; 0 otherwise.
SIZE	Natural logarithm of Market Value
ROA	Return on Assets
LEV	Total Debt on Total Assets
INV	Total amount of inventories
VOLROT	Indicator variable equal to one if there is a voluntary firm rotation; 0 otherwise.

5.2 Audit fees

To begin with, regression 1 turns out to be significant at $p\text{-value} < 0.01$ and has a high explanatory power with an R-squared equal to 0.5745. This is very important, since having a statistically significant model as well as a high R-squared value suggests a high validity and reliability of the results derived from the model. Lastly, more than 71 thousand observations were included in this regression.

Furthermore, looking at the results, it is clear that the vast majority of the independent variables are also significant at $p\text{-value} < 0.01$. For instance, variable “VOLROT” has a significant and positive effect on audit fees, with a magnitude of 0.093. This means that in case of an auditor change taking place, the audit fees increased by 9.3%. Moreover, as expected, all of the control variables have a positive effect on audit fees. “Size” has a significant and positive effect on audit fees with a magnitude of 0.113, meaning that every percent increase in market value increases audit fees by 11.3%. “LEV” and “INV” also have a positive and significant effect, however, their results will not be further analyzed since the magnitude turns out to be very small. Lastly,

“ROA” has a positive effect on audit fees, however, it is not significant even at the 10 percent level.

Table 3: Regression LN_AF

Variables	LN_AF	LN_AF(with year FE)
VOLROT	0.1978*** (0.0108)	0.0926*** (0.0118)
SIZE	0.169*** (0.0044)	0.1134*** (0.0047)
ROA	0.0012*** (0.0001)	0.0002 (0.0001)
LEV	0.0023*** (0.0002)	0.0018*** (0.0002)
INV	1.44e-06*** (6.35e-08)	7.78e-07*** (6.50e-08)
constant	11.737*** (0.0273)	12.049*** (0.0264)

Note: Table 2 includes data on the OLS regression to estimate the effect of auditor changes on audit fees. It regresses the natural logarithm of audit fees on auditor changes, controlling for the size of a firm, its return on assets, leverage, and inventories. All coefficients are rounded to 4 decimal places. The standard error for the coefficients is seen in the brackets below. * Significant at a 10 percent level ($p < 0.1$), ** Significant at a 5 percent level ($p < 0.05$), *** Significant at a 1 percent level ($p < 0.01$). The total number of observations in this regression is 71485, the R-squared is 0.5745, and the regression is estimated both with and without year fixed effects.

5.3 Financial Restatements

Regression 2 is significant at the 1 percent significance level, however, has a low explanatory power with an R-squared equal to 0.08. This low R-squared value suggests that the model actually lacks some explanatory power. Moreover, similarly to regression 1 more than 71 thousand observations were included in this regression.

Looking into the results of this model, it can be seen that most of the variables are actually significant. However, the variable of most interest, “VOLROT”, is insignificant and has negative

effect on financial restatements with a magnitude of 0.0015. This means that in case of an auditor rotation taking place, the likelihood of a financial restatement getting reported decreases by 0.15%. However, since the coefficient of “VOLROT” is statistically insignificant, it is important to understand that there is no causal relationship between “VOLROT” and financial restatements and no causal conclusions can be drawn. On the other hand, the variable “SIZE” has a significant and positive effect on financial restatements with a magnitude of 0.061. This means that for every 1 percent increase in market value, the chance of a financial restatement getting reported increases by 6.1%. “LEV” and “INV” also have a positive and significant effect, however, their magnitude appears to be very small. Lastly, “ROA” has negative effect, but it is not significant, even at the 10 percent level.

Table 4: Regression FINRES

Variables	FINRES	FINRES(with year FE)
VOLROT	0.0016 (0.0025)	-0.0015 (0.0041)
SIZE	0.0032*** (0.0006)	0.061*** (0.0013)
ROA	-0.0001*** (0.00003)	-0.0001 (0.00004)
LEV	0.0006*** (0.0001)	0.0005*** (0.0001)
INV	1.33e-08 (9.84e-09)	1.12e-07*** (2.67e-08)
constant	0.0364*** (0.0034)	0.0161*** (0.008)

Note: Table 3 includes data on the OLS regression to estimate the effect of auditor changes on financial restatements. It regresses the indicator variable of financial restatements on auditor changes, controlling for the size of a firm, its return on assets, leverage, and inventories. All coefficients are rounded to 4 decimal places. The standard error for the coefficients is seen in the brackets below. * Significant at a 10 percent level ($p < 0.1$), ** Significant at a 5 percent level ($p < 0.05$), *** Significant at a 1 percent level ($p < 0.01$). The total number of observations in this regression is 71485, the R-squared is 0.08, and the regression is estimated both with and without year fixed effects.

6. Discussion

6.1 Findings

This section of this research paper is dedicated to further analyzing the results obtained from the regressions as well as deriving their “true” meaning and comparing them to the findings from previous literatures in this academic field. To do so, it is best to look back at the main research question, stated at the beginning of this academic paper:

*“What is the effect of mandatory auditor rotation on
audit fees and audit quality?”*

Looking at table 2, it is clear that auditor changes do indeed increase audit fees. This result can also be found in multiple past research papers such as the one of Cameran et al. (2013), Gerakos & Syverson (2015), Gipper et al. (2020), and many more. This phenomenon can be attributed to multiple reasons. For example, one possible explanation could be the unavoidable switching costs that entities incur when an auditor change takes place (Blouin et al. 2005), (Copeland, 2002). Another possible explanation could be the fact that opportunistic pricing exists from the auditors’ side in the final years before a rotation takes place (Cameran et al. 2013). However, this research paper does not perform a comparison between the audit fees at the early years of an audit and the audit fees at the later years of an audit (before the rotation takes place). Hence it cannot conclude on the specific factor which increases the audit fees.

Even though this paper provides significant evidence that auditor changes increase audit fees, this is not enough of an argument by itself to prove that mandatory auditor rotation is not a useful policy. As long as there is an equivalent positive effect of auditor changes on audit quality to outweigh it, higher costs could be acceptable. However, this research paper provides evidence that auditor changes have actually no effect on audit quality. More specifically, the possibility of financial restatements getting reported appears to be on average the same irrespective of an auditor change taking place or not. Similar findings can be found in the paper of Siregar et al. (2012), which provided evidence against the mandatory auditor rotation policy on both a partner and firm level. Moreover, Fathi & Rashed (2021) found no significant effect of auditor rotation on audit quality while investigating the Egyptian market. They believe that even though

mandatory auditor rotation has a positive effect on auditor independence and professional skepticism, this effect is getting offset by a negative effect on client-specific knowledge.

Taking all the above into consideration, this research paper provides evidence against the policy of mandatory auditor rotation. Since mandatory auditor rotation leads to higher audit fees, but at the same time does not enhance audit quality, it would not be beneficial for companies to adopt such a policy. There might be certain ways in which the mandatory auditor rotation could provide its desirable outcomes. For example, Siregar et al. (2012) suggest that regulators should revise the regulations around mandatory auditor rotation, such as the maximum number of engagement years of an audit firm, in order to increase audit quality. Likewise, Fathi & Rashed (2021) suggest that industry specialization can offset the negative effect of mandatory auditor rotation on client-specific knowledge. However, it still remains a fact that audit failures are always likely to arise in the years following a rotation, while at the same time it is still unclear whether increased independence does indeed lead to higher audit quality (Reid & Carcello, 2017).

6.2 Limitations

On the other hand, in order to truly interpret the findings of this academic paper, it is crucial to take into account the possible limitations that took place in this research. To begin with, since the dataset contains only US companies, it investigates the effect of voluntary audit changes on audit fees and quality. Hence, this study cannot capture the causal effect of mandatory audit rotation on audit fees and quality. This means that the results obtained from this research suffer from reduced external validity and hence cannot be extrapolated with certainty to a mandatory auditor rotation setting. Cameran et al. (2016) explain that it is very important to test the effects of mandatory auditor rotation in a real setting, as the incentives of the auditor may be affected by potential future reappointments. More specifically, in a voluntary setting there is no limit for future reappointments whereas in a mandatory setting there is one, causing auditor incentives to change as the maximum limit approaches. However, it is also important to understand that this limitation does not automatically reject the significance of this academic paper. This study can still produce significant results about the effect of auditor changes on audit fees and quality. These results can

then give a possible indication of the situation that may arise in the US, if the US government decides to adopt a mandatory auditor rotation regulation.

Another limitation which exists in this research paper is the fact that financial restatements are used as a way to proxy audit quality. As mentioned beforehand, this research paper follows a similar motivation as the one found in many academic papers such as the ones of Gipper et al. (2020) as well as Laurion et al. (2017), believing that financial restatements are an accurate way to proxy audit quality. However, audit quality is an abstract term, and no perfect proxy exists. There have been multiple other academic papers, using different proxies to capture audit quality. For example, Cameran et al. (2013) proxied audit quality by using audit engagement hours, believing that longer engagement hours equal to more scrutinized work, and hence better quality. Moreover, Choi et al. (2017) proxied audit quality by the level of abnormal accruals. All these proxies have both their advantages and disadvantages, however, none of them can fully explain audit quality, simply due to its complex nature and lack of observable outcomes.

7. Conclusion

Whether audit firm rotation should be mandatory is an issue that has been debated for almost five decades. This research paper provides an empirical analysis that can help provide an answer to this debate. The results obtained from this analysis showcase that mandatory auditor rotation imposes larger audit fees to the audited entities while at the same time that the audit quality remains the same. This increase in audit fees could be attributed to the existence of the inevitable switching costs which come along with the policy of mandatory auditor rotation or to the possibility of opportunistic pricing in the final years before a rotation takes place. Moreover, a possible reasoning that stops the audit quality from increasing is the benefit of learning curve effects that comes only with multiple years of experience with the same client. Alternative measures such as increasing the maximum number of engagement years could be taken in order to increase audit quality. However, due to the uncertainty of the effectiveness of these measures, this research paper suggests against the policy of mandatory auditor rotation.

On the other hand, it is very important to take into consideration the potential limitations that might have influenced the results of this research. More specifically, the validity of this paper's results is diminished, due to the study not being conducted in a mandatory auditor rotation setting as well as by the fact that financial restatements are not able to completely proxy audit quality.

Hence, this research paper advocates for the need of further empirical research on the costs and benefits of the mandatory auditor rotation regulation. Moreover, further research could explore the potential regulatory enhancements that could take place for mandatory auditor rotation to achieve its desired outcomes. An interesting possibility could be a cross-country research design. Cross-country research might be able to provide an answer on why mandatory auditor rotation succeeds in certain environments while fails in other ones, by including local governance or national culture into the research design. This way, it might be possible to discover how to help this policy achieve its intended results once and for all.

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