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"The influence of ancestral background on the U.S. audit partner."

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Abstract: As per January 2017 the PCOAB requires accounting firms to disclose the name of the audit partner, giving the opportunity to research auditor behavior on an individual basis. This study investigates how the ancestral background of audit partners influences both audit quality and audit fees. As the disclosure requirement is only recent, previous research on this topic has not been performed before and adds to the ongoing literature stream on the impact of ancestry. By using MyHeritage.com a country of origin can be established for each individual, based on the passenger lists of foreigners arriving through the port of New York between 1820 and 1957. Hofstede's Uncertainty Avoidance Index is used as a measure of an individual's attitude towards risk and uncertainty across countries. The results show that ancestry has limited to no influence on the audit outcome. Cultural background can be excluded as a factor that causes differences between audit partners and their behavior, based on the sample used in this research.

Keywords: Ancestry; Audit Partner Characteristics; Audit Quality; Audit Fees

Contents

1. Introduction

The new disclosure requirement of the U.S. Public Accounting Oversight Board, hereafter referred to as PCAOB, allows to investigate audit partners on an individual basis rather than on a firm- or office-level. The introduction of the so called Rule 3211 provides new and additional research opportunities, due to the recent availability of individual partner identities. Effective since January 2017, accounting firms are required to disclose the name of the engagement partner which creates the possibility to research specific auditor behavior. This thesis focusses on the ancestral background of audit partners and examines how this influences both audit quality and audit fees. The main incentive for this research derives from Guiso et al. (2006) who find that even after several generations, ancestry still affects the culture of immigrants. Also, previous research shows that an individual's attitude towards risk and uncertainty is partly shaped by cultural heritage (Becker et al., 2014). As the U.S. population mostly descends from immigrants, this gives cause to research the ancestral background of audit partners. Given the results of previous studies, the following research question is formulated and attempted to be answered in this thesis:

RQ: *Is the behavior of individual audit engagement partners in the U.S. influenced by their ancestral background?*

The compulsory PCAOB disclosure provides the opportunity to examine the behavior of individual audit partners and especially allows to investigate differences in audit quality between them. As the disclosure requirement is fairly new, existing research on individual engagement partners is minimal. This thesis contributes to the existing literature by providing additional evidence to the ongoing literature stream on the effect of cultural heritage on financial market players. By including ancestral background as a partner-specific characteristic, this research allows for a direct examination of how audit quality and audit fees can differ between individual partners.

Ancestral background is measured by examining the last name of the audit engagement partner, which is made available by the PCAOB. This is considered to be common practice in other research fields (Mateos, 2014) and is also known to be used by the U.S. government to classify populations (Pan et al., 2017). Following the approach of Giannetti and Zhao (2017), the website *MyHeritage.com* is used to establish a country of origin for each last name. The historical character of this database provides the unique opportunity to trace back names to their country (or countries) of origin. By examining ethnicity based on the last name approach,

the audit partner's preferences can be investigated across multiple generations. Previous papers have explored the effect of different backgrounds on firm performance by (amongst others) including industry experience, tenure and age, but find mixed results (Anderson et al., 2011; Bernile et al., 2017). Therefore, looking at ethnicity can provide a new perspective and adds additional evidence to the debate.

After considering the heritage associated with a certain last name, Hofstede's Uncertainty Avoidance Index (hereafter UAI) is employed to apprehend the audit partner's attitude towards risk and uncertainty. The UAI indicates to what level members of a national culture "feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknowns, surprising, and different from usual." (Hofstede, 2003). Countries with a low UAI score are defined by a low uncertainty avoidance behavior and are characterized by a more relaxed attitude, where practice is preferred over principles. Countries that exhibit high UAI scores are intolerant towards unorthodox behavior and ideas (Hofstede & McCrae, 2004).

Partners originating from countries with high UAI scores will increase audit effort to limit their exposure towards uncertainty and reduce the chance of not detecting an error. Following the reasoning of DeAngelo (1981), performing more audit effort increases audit quality, which is why this thesis investigates if a partner with a high UAI exhibits a higher audit quality. The Modified Jones Model is employed to obtain an estimation of the level of discretionary accruals, as a proxy for audit quality. Furthermore, as a result of the increase in performed audit effort, accounting firms can charge higher fees as compensation. Therefore, it is of interest to examine whether partners originating from countries with a high UAI charge higher audit fees. In order to measure fees, the natural logarithm of the disclosed audit related fees is used. Carefully chosen control variables are added to the regression, in order to limit the risk of omitted variable bias.

After performing linear regressions, I find no significant results that implicate that partners with a high UAI exhibit a higher audit quality, or charge higher audit fees. With regards to audit quality, the coefficients take on very small values and are not constant in sign throughout the various models. As for audit fees, the results are neither significant nor constant in sign, but take on higher values than for audit quality. It can therefore be concluded that cultural heritage has a minimal influence on the behavior of the audit partner. A possible explanation for this is that partners are limited in their freedom with regards to the audit

approach, due to well-established firm policies and oversight boards. Furthermore, it cannot be ruled out that the sample suffers from a self-selection issue, where risk averse partners take on less risky clients. This would mean that rather than influencing the audit outcome, ancestral background impacts the client selection.

Besides expanding previous research on ancestral influence, this thesis provides additional evidence to the debate on differences in audit outcome between individual partners. Similar research has not been performed before, as information on individual audit engagement partners is only made available since the recent PCAOB disclosure requirement, which is effective since January 2017. The results of this study suggest that ancestry has a limited effect on the behavior of the audit partner and as such does not explain the occurrence of differences in audit quality and audit fees between partners.

This study is limited in the way it only includes one disclosure year. It is a suggestion to investigate how the results hold over time, by taking multiple year into account. Furthermore, as a self-selection issue cannot be excluded, propensity score matching could be used to address this problem. As it is not possible to add a variable indicating which generation of immigrant the corresponding partner is, this remains a limitation throughout the research. Given that only male audit partners are included, it is questionable how the results relate to female partners. Overall, as the initial sample includes all listed engagements audited by male partners, there should be no problem with the external validity of the study for the entire male audit partner population.

The remainder of this thesis is structured as follows: Section 2 discusses the main literature that is relevant for this study. Section 3 states the motivation for the formulation of the hypotheses based on the examined literature. Section 4 provides a description of the research design and section 5 outlines the process of the sample selection and the databases that have been used. The results of this research can be found in Section 6. Section 7 presents the conclusion, as well as the implications and limitations of the found results.

2. Literature Review

This research relates to several streams of literature: (i) previous evidence on the influence of culture heritage on individuals; (ii) previous research on multiple influential audit characteristics; and (iii) different methods in the establishing of ancestral background. These three sections are extensively analyzed and discussed, and are used to develop the main hypotheses of this study. The hypotheses of this thesis revolve around the implications of ancestral background on the outcome of the audit. Literature on the potential influence of ancestral background on the audit engagement partner is discussed in the next chapter: Hypothesis Development.

2.1 Previous Research on the Effect of Ancestral Background

Ancestry affects the culture of immigrants even after several generations (Guiso et al., 2006), merely because culture is a large factor in intergenerational transmission. Furthermore, individuals with different ethnic identities are found to be significantly influenced in their values, preferences and attitudes due to genetic differences (Dohmen et al., 2011). Similarly, Becker et al. (2014) show that an individual's attitude towards risk and uncertainty is partly shaped by cultural heritage. Likewise, ethnicity predicts cultural attitudes, varying across geographical locations (Desmet et al., 2017). These studies give probably reason to assume that an individual's behavior is influenced by his or her ancestral background.

Earlier economic studies have looked at the effects of different backgrounds on financial stakeholders and (amongst others) find that national cultural values influence managerial decisions (Hope et al., 2008). Merkley et al. (2017) find that cultural heritage influences the quality of information available to other market participants in a competitive setting, by looking at sell-side equity analysts. They suggest that cultural background has distinct effects on analysts' behavior. Furthermore, genes are known to affect financial decisions (Cesarini et al., 2010). Looking at CEOs and corporate risk culture, Pan et al. (2017) show that firms with a more uncertainty-averse culture invest less in R&D and make less acquisitions than firms with a lower uncertainty-averse culture. These results are found by looking at the cultural background of the firm's top executives and suggest more risk-averse preferences in the presence of a high uncertainty-averse corporate culture. Giannetti and Zhao (2017) examine the benefits of board members coming from different ancestral backgrounds, but find no evidence that suggests that diverse boards take on more risk.

Looking at individual partners, and therefore separate engagements, provides new research opportunities and insights. Given that audit partners are stakeholders in the financial market and exhibit similar characteristics and incentives, previous economic studies on cultural heritage are used to develop the basis for the hypotheses of this research. However, as this research looks at audit outcome and there are many other variables that influence both audit quality and audit fees (besides cultural background), the next section will outline relevant previous research on auditing.

2.2 Previous Research on Auditing

Due to the (until recent) secrecy of the engagement partner's identity, research on the influences of cultural heritage has not yet been performed in an audit setting. Multiple studies have investigated the effect of audit office size on both audit quality and audit pricing (e.g. Choi et al., 2010; Francis & Yu, 2009). Also, previous research has looked at the influence of firm size and other Big4 specifics (e.g. Geiger & Rama, 2006; Francis, 2004). These are all factors that influence audit quality and that help to explain differences between firms. Therefore a more extensive investigation of these characteristics is relevant for this research and should be taken into consideration when developing the hypotheses.

A rather large literature stream has looked at the impact of audit office size. Francis and Yu (2009) find that Big4 audits are of higher quality, when the audit is performed by a local office of larger size. In addition to a higher audit quality, Choi et al. (2010) also find a positive relation between office size and audit fees, even after controlling for office-level industry expertise. In extension of this line of research, Francis et al. (2013) look at the affiliation between larger offices and the likelihood of issuing a restatement to the audit report. A large amount of restatements would indicate a lower audit quality. They uncover an association between large local Big4 offices and the issuing of fewer client restatements, indicating a higher audit quality. This finding remains again significant after controlling for industry expertise. Hence, it is clear that the local audit office size has a significant, positive effect on audit quality and audit fees.

Second, this research is executable due to the decision of the PCAOB to make the disclosure of the name of the audit partner mandatory. The PCAOB has argued that the filing of a so called Form AP, which discloses the name of the partner, increases audit quality (PCAOB, 2015). More specifically, the public identification of the audit partner increases pressure in terms of accountability and results in auditors putting more emphasis on a complex

and careful analysis of information, due to reputational concerns (DeZoort et al., 2006). The psychological consequences of the partner name being public information, is presumed to motivate partners to perform more work, which seemingly avoids audit failure (Carcello & Santore, 2014). Following this line of reasoning, partner name disclosure likely increases audit quality. Burke et al. (2017) study the effect of the disclosure requirement and find an increase in audit quality for Big4 firms. This provides additional evidence of significant differences in audit quality (and its determinants) between Big4 and non-Big4 firms.

Related to the purpose of this research, Bik and Hooghiemstra (2018) have investigated how cultural differences influence the auditor's compliance with firm-wide control procedures. Overall they find that cross-national differences in auditor's compliance with global audit firm policies are related to cross-national cultural distinction. This suggests that there is no uniform application of global audit methodologies, but rather that the audit approach depends on the culture of the local office. Bik and Hooghiemstra (2017) also look at how auditor-in-charge involvement is affected by national culture. They suggest that the auditor-in-charge relation is characterized as having a key influence on audit quality. Their results indicate that the extent of auditor-in-charge involvement is negatively correlated with uncertainty avoidance. This implies that culture is a relevant factor in the determination of audit quality and stretches the usefulness of this research.

Given the significant relevance of variables like audit office size, they are added as control variables to the regression to minimize the risk of omitted variable bias. Chapter 4, Research Design continues on this matter.

2.3 Establishing Ancestral Background

The focus of this study revolves around the categorization of individuals based on their cultural heritage. Previous research has often established ancestral background by examining the last name of the corresponding person. Not only is this considered to be common practice in other research fields (Mateos, 2014), it has also been used extensively in different economic and financial studies (e.g. Gu et al., 2018; Merkley et al., 2017). Furthermore, the U.S. government is known to be using this method to classify populations, which proves its credibility in a more official environment (Pan et al., 2017).

There are several ways to establish an individual's ancestral country of origin, based on a person's last name. Merkley et al. (2017) use analyst's surnames to categorize ancestry and use three different datasets to assign a specific country of origin. They use the Oxford

Dictionary of American Family Names as their primary source, as it contains more than 70,000 of the most common last names in the United States. Liu (2016) uses the U.S. Census records to map last names into countries, also based on the last name approach. Kerr (2008; 2010) has developed a methodology to estimate the probability that an individual originates from one of nine ethnic categories, based on both first and last name. This approach is being incorporated in the later research of Gompers et al. (2016) and Berglund and Eshleman (2017).

A website that is often used in previous research to categorize a person's heritage is *Ancestry.com*. This website specifies the country of origin of foreign passengers arriving through the port of New York between 1820 and 1957, based on their surname. Therefore this source is only applicable for research focusing on the United States specifically. Giannetti and Zhao (2017) base the ancestry of individual board members on the information found on this website. Nguyen et al. (2017) employ the same method for firm leaders. Furthermore, Pan et al. (2017) build a frequency distribution of occurrence for corporate leaders and founders, based on the output of *Ancestry.com*. A literature overview of these papers can be found in Appendix A.

3. Hypothesis Development

The recent disclosure requirement of the PCAOB, allows to study the behavior of individual audit engagement partners. Since January 2017, accounting firms are required to disclose the identity of the engagement partner, as well as any other public accounting firms that have been involved in the audit, by filing a so called Form AP. This provides the opportunity to study the performance of individual auditors, and in particular the partner's ancestral background.

In order to establish the audit partner's ancestral country of origin, a person's last name is used to infer the cultural heritage based on immigration records of passengers arriving in the port of New York between 1820 and 1957. This is similar to methods used in previous related research (Pan et al., 2017; Giannetti & Zhao, 2017). After the country of origin has been established, the partner's attitude towards risk and uncertainty is measured by using Hofstede's Uncertainty Avoidance Index. This is one of the six dimensions that is described in Hofstede's model of national cultures and specifically applies to how values in the workplace are influenced by culture (Hofstede, 1980; Hofstede & Bond, 1984). The UAI deals with a society's tolerance for uncertainty and ambiguity, and indicates to what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations

(Hofstede, 2003). The main issue here is whether a society desires to try and control the future or whether to await the situation and just let it happen. Countries exhibiting a weak UAI are characterized by a more relaxed attitude towards uncertainty where practice counts more than principles, whereas countries maintaining a strong UAI have rigid codes of belief and behavior (Hofstede & McCrae, 2004). By examining the partner's cultural heritage and assigning the corresponding UAI score, the audit partner's preferences towards uncertainty can be estimated.

The unquantifiable character of uncertainty makes it difficult to measure the exact impact on audit outcome. Therefore, the relation between uncertainty and risk is first examined. The concepts of risk and uncertainty have overlapping grounds, but cannot be said to be exactly the same in any context. However, in an auditing environment, risk is often associated with the uncertainty of an outcome. Given the scope of this research, risk is referred to as audit risk, which is defined as the risk that the auditor issues the wrong opinion on the financial statements (Houston et al., 1999). Audit Risk (AR) can be split into three different components: Inherent Risk (IR), Control Risk (CR) and Detection Risk (DR) (AICPA, 1997). Inherent Risk is the risk that there is an error in the audit population in scope, without considering internal controls. Control Risk is the risk that an error is not prevented or detected by internal controls. Detection Risk is the risk that an error is not detected by the selected audit evidence. The total Audit Risk is the product of these three individual components (AR=IR*CR*DR). However, the only component that can be directly influenced by the auditor is Detection Risk (Hogan & Wilkins, 2008). Uncertainty, or ambiguity, is related to risk but is unquantifiable (Fukukawa & Mock, 2011). It expresses a situation where something is not known or not known for certain.

Even though risk and uncertainty are different concepts, their coinciding nature makes them less distinct in an audit environment. This is mainly because auditors tend to relate to an uncertain outcome as being more risky (Friedlob & Schleifer, 1999). The goal of performing an audit is to gather enough evidence to reduce the uncertainty to a level where the auditor is comfortable enough to provide reasonable assurance on the financial statements (Eilifsen et al., 2001). Risk is the result of a lack in information, whereas certainty grows from information (Friedlob & Schleifer, 1999). Hence, an uncertain audit exhibits high risk for the auditor, which can be reduced by obtaining more audit evidence and reaching a higher level of certainty. Therefore, in the vocabulary of an auditor: uncertainty equals risk. In terms of the Uncertainty Avoidance Index it is therefore assumed that partners with a high UAI score exhibit intolerant behavior towards both risk and uncertainty.

Now that it has been established that the UAI score indicates preferences in terms of behavior towards risk, the consequences for the audit approach and audit outcome are examined. As is common practice in the audit profession, a risk-based audit approach is conducted, where the auditor realizes reasonable assurance by obtaining sufficient appropriate audit evidence, to reduce the risk of expressing an inappropriate opinion (Eilifsen et al., 2001). Given that audit partners with a high UAI are more risk averse, it reasonably follows that they perform more work in order to decrease the uncertainty of the audit. By increasing audit effort, the probability that the auditor detects a material error in the financial statements is raised.

3.1. First Hypothesis: Audit Quality

Following the definition of DeAngelo (1981), audit quality is defined as the joint probability that an existing material error is both detected and reported by the auditor. However, performing more audit effort only increases the change of detecting an error, whereas the reporting of this error is mainly related to auditor independence. Therefore, increasing audit effort only (partially) increases audit quality, when looking at it in terms of detecting an error. Nevertheless, mechanisms that are already in place, like partner rotation and the oversight of regulatory boards like the SEC and the PCAOB, ensure the quality of financial reports and thereby reduce the risk that detected errors are not reported (Bedard et al., 2008; Knechel & Vanstraelen, 2007). Hence, it can be assumed that an increase in audit effort leads to an increase in audit quality, as it can be reasonably assumed that a detected error is in fact also reported.

Given that countries with a high UAI score are intolerant towards uncertain situations and are more comfortable using principles that limit their exposure towards uncertainty, it is assumed that more audit effort is performed to reduce the chance of issuing the wrong audit opinion. As described by DeAngelo (1981), more audit effort can generally be said to increase audit quality, which is also the result of a limited chance of a detected error not being reported. This reduces the chance of wrongly granting an audit opinion and decreases the possibility of having to issuing a restatement. Therefore, an increase in audit effort leads to a higher audit quality and hence the following hypothesis is formulated:

H1: *U.S. audit engagement partners originating from a country with a high UAI exhibit a higher audit quality.*

3.2. Second Hypothesis: Audit Fees

As a result of performing additional audit effort, it is expected that auditing firms charge higher audit fees. Also, accounting firms may charge increased fees as a result of the presence of high inherent risk (Venkataraman et al., 2008). This would imply that the auditor requires a higher compensation merely because the firm takes on more risk. However, Bell et al. (2001) find that high inherent risk increases the number of audit hours, but not per se the fee per hour. Therefore, also in the case of high inherent risk, the increase in audit fees can be attributed to an increase in audit effort and not the initial fee, as the number of audit hours raises. Again, given that inherent risk is computed but not influenced by the auditor, the only way to influence the overall audit risk is by decreasing the detection risk. Given that countries that exhibit a high UAI are averse to the uncertainty created by either type of risk, this thesis defines the effect of an increase in audit fees as the result of an increase in audit effort.

As described earlier, it is assumed that accounting firms charge higher fees as a result of additional performed audit effort, due to the presence of high audit risk. Therefore, firms that exhibit high UAI, perform additional work to reduce the detection risk of the audit (which leads to a lower audit risk) and as a result charge higher audit fees. This is summarized in the following hypothesis:

H2: *U.S. audit engagement partners originating from a country with a high UAI charge higher audit fees.*

4. Research Design

4.1. Risk Attitudes of Audit Partners

The focus of this study revolves around the categorization of audit partners based on their cultural heritage. By taking previous research as an example, ancestral background is established by examining the last name of the audit engagement partner. Not only is this considered to be common practice in other research fields (Mateos, 2014), it has also been used in other economic and financial studies (e.g. Gu et al., 2018; Merkley et al., 2017) and is used by the U.S. government for official purposes (Pan et al., 2017). By examining ethnicity based on the last name approach, the audit partner's preferences can be investigated across multiple generations.

By using the audit partner's last name, a country of origin can be established by consulting the information that can be found on *MyHeritage.com*. This website contains similar information as *Ancestry.com*, but is easier accessible and allows to refine observations based

on place of birth. Both *MyHeritage.com* and *Ancestry.com* possess a collection of passenger lists, containing the names of foreigners arriving through the port of New York between 1820 and 1957. The historical character of these databases provides the unique opportunity to trace names back to their original county of origin. Using this method follows the approach of Giannetti and Zhao (2017) and Pan et al. (2017), who use *Ancestry.com* to examine the ancestral origin of individual board members. As last names can generally speaking not be assigned to one country of origin alone, a so called frequency distribution is established. In the rare case the last name originates from one country only, a so called dominant origin is appointed (Pan et al., 2017). However, if the last name derives from several non-dominant countries, the top three most frequently occuring countries of origin are assigned based on probability, as is also established by Giannetti and Zhao (2017).

Individual engagement partners are classified by their country of origin, as attitudes towards risk and uncertainty are found to differ across countries and national cultures (Pan et al., 2017). This is mainly the result of research by Hofstede (1980), whose six dimensional model revolves around the fact that cultural dimensions represent independent preferences, which distinguishes countries (and not individuals) from each other. Furthermore, Rieger et al. (2014) find that the degree of risk aversions shows significant cross-country differences. By segregating partners by country, their individual preferences towards risk and uncertainty based on ancestry can be determined.

After the country of origin has been established by using the partner's last name, the country's corresponding Hofstede's uncertainty avoidance index (hereafter UAI) is employed, to assign the audit partner's attitude towards risk and uncertainty. The country-level UAI score can be obtained from *Hofstede-insights.com*. In case a last name originates from multiple countries, the frequency distribution based on the top three most occurring countries is used to calculate the equivalent UAI score for this particular last name. Countries with a low UAI score are characterized by having a low uncertainty avoidance behavior and are defined by a more relaxed attitude towards practice over principles. Countries that exhibit high UAI scores are intolerant towards unorthodox behavior and ideas (Hofstede & McCrae, 2004).

4.2. Audit Quality

A well-known measure of audit quality is through the degree of earnings management, which can be analyzed by calculating the discretionary accruals (Becker et al., 1998). High-quality auditors are more likely to detect questionable accounting practices (that either

overstate or understate certain line items) and object to their use or qualify the audit report. Therefore, it follows that firms engaged in high levels of earnings management activities exhibit lower audit quality, and vice versa. An increase in discretionary accruals would imply a decrease in audit quality.

The degree of earnings management (and therefore audit quality) is measured by using the Modified Jones Model, as found by Dechow et al. (1995). To calculate total accruals and estimate the coefficients, the following regression is performed:

$$\left(\frac{TA_{it}}{A_{it-1}}\right) = a_1 * \left(\frac{1}{A_{it-1}}\right) + a_2 * \left(\frac{\Delta Rev_{it} - \Delta Rec_{it}}{A_{it-1}}\right) + a_3 * \left(\frac{PPE_{it}}{A_{it-1}}\right) + \varepsilon_{it} \qquad (1)$$

By running this regression for each 2-digit industry, the coefficients can be estimated and are used to approximate the discretionary accruals. In the end, discretionary accruals equal total accruals minus non-discretionary accruals, where discretionary accruals represent the managed part of accruals which cannot be explained by economic factors.

Compared to the regular Jones Model, this model accounts for revenue manipulation in the test period. The Jones Model includes the change in revenue as part of the estimate of non-discretionary accruals (Jones, 1991) and hence manipulated revenues in the test period are included in the estimation of non-discretionary accruals. Earnings management is in this case therefore not detected when calculating discretionary accruals. The Modified Jones Model accounts for this problem, by only including cash sales. This implies that all sales on credit are assumed to be the product of manipulation in the event period.

Due to the fact that audit quality is influenced by many other factors, control variables are added to the regression to limit the chance of omitted variable bias. Previous research has shown that there is a positive relation between audit quality and audit firm size (DeAngelo, 1981; Geiger & Rama, 2006). Given this association, a dummy variable equaling 1 for Big4 firms and 0 otherwise is created *(Big4)*. The multivariate regression is then run for Big4 and non-Big4 firms separately, with the purpose of highlighting any differences. Besides investigating differences in audit quality between Big4 and non-Big4 firms, this also limits the risk that substantial differences in size impacts the results. Furthermore, to control for the size of the local audit office, total office audit fees are cumulated (*Size*). Larger offices might be more capable to perform a complex audit task, due to the larger availability of resources. To control for the experience the audit firm has on a particular client, the number of years of which the company has had the same current audit firm is added to the regression *(Auditor Tenure)*.

Company size is controlled for by using the natural logarithm of assets (*LnAssets*). I control for company performance by using a dummy variable indicating whether the company reported a loss in the disclosure year (*Loss*), cash flow from operations divided by the lag value of total assets (*Cash-Flow*), the market to book ratio (*Market-To-Book*), the ratio of debt to equity *(Leverage)* and the ratio of current assets to current liabilities *(Current Ratio)*. Furthermore, to account for the complexity of the audit, the number of business segments in which the company operates is added *(Business Segments)*. To account for audit risk, a dummy variable equaling 1 if a going concern opinion has been issued and 0 otherwise, and a dummy variable equaling 1 if the auditor identified material weakness(es) and 0 otherwise, are included in the regression. The control variables are chosen based on the approach of Burke et al. (2017).

The final regression consists of the following:

$$AQ_{i,t} = \beta_0 + \beta_1 * UAI + \sum j \beta_2 * Controls_{i,j,t} + \varepsilon_i \quad (2)$$

Where $AQ_{i,t}$ is the variable for audit quality for engagement(partner) i in year t, *UAI* is the uncertainty avoidance index assigned to the country of origin of the relevant partner, and $Controls_{i,j,t}$ are j control variables of engagement/partner i in year t.

4.3. Audit Fees

Audit fees are generally required to be disclosed in the financial statements and are used for the purpose of this research. This study only takes audit fees into consideration and leaves out non-assurance fees. Due to the existence of evidence confirming the presence of a Big4 premium (Ashbaugh et al., 2003), again a dummy variable is created, equaling 1 for Big4 firms and 0 otherwise *(Big4)* to investigate differences in firm size and limits the risk of significant differences in audit fees between Big4 and non-Big4 firms. Regressions are run for the full sample and for the Big4 and non-Big4 sample separately. All control variables as mentioned in the previous section are included for this hypothesis as well, for similar reasons as described before. Furthermore, as most companies have a fiscal year ending on December 31st, this has caused the first few calendar months to be known as busy season, in the audit profession. As resources are scarcer during these months, as dummy variable is added equaling 1 if the audit report is issued between January and March and 0 otherwise (*Busy*), to account for a potential premium to be charged to busy season clients (Chan et al., 1993). As the influence of busyness can have a bigger effect on smaller offices due to an already limited amount of resources, an interaction term is included (*Busy_Size*).

The final regression looks as follows:

$$AF_{i,t} = \beta_0 + \beta_1 * UAI + \sum j\beta_2 * Controls_{i,j,t} + \varepsilon_i \quad (3)$$

Where $AF_{i,t}$ is the variable for audit fees for engagement(partner) i in year t, *UAI* is the uncertainty avoidance index assigned to the country of origin of the relevant partner and $Controls_{i,j,t}$ are j control variables of engagement/partner i in year t. An overview of variable definitions can be found in Appendix B.

5. Sample Selection

The starting point of this thesis is the database as provided by the PCAOB. This dataset consists of all Form APs, as filed by registered firms. Given that the disclosure requirement has been in place since January 2017 this thesis looks at audit engagements for which the issued audit report is related to the year 2017. This allows for one entire year of disclosures and corresponding audit partners to be used. Furthermore, as this study looks at the ancestral background of U.S. partners, audit reports that are issued outside of the United States are excluded from the dataset. Lastly, filings that have missing CIK codes and/or blank and incomplete partner names are excluded.

Following the approach of Giannetti and Zhao (2017), the concept of *Ancestry.com* is used to establish a country of origin for each last name. *Ancestry.com* specifies the country of origin of foreign passengers arriving through the port of New York, between 1820 and 1957. The historical character of this database provides the unique opportunity to trace back names to their original county of origin. Given the encountered difficulties in obtaining a dataset from *Ancestry.com*, the website *MyHeritage.com* is used to verify the country of origin. This website contains a similar collection and allows a search to be refined by birth place. If a name originates from one country only, a so called dominant origin is assigned (Pan et al. 2017). In the case of a dominant origin, the country and corresponding UAI score are appointed to the equivalent partner. However, if the last name derives from several non-dominant countries, the top three most frequently occurring countries of origin are assigned weights based on probability, similar to the approach of Giannetti and Zhao (2017). This so called frequency distribution is based on the probability of occurrence, which is calculated as a percentage of total observations.

There are a few downsides to the use of ethnicity as a measurement of the audit partner's behavior. In the United States, a person's last name is generally inherited from father to child, which is why the cultural heritage from the mother's side is not necessarily taken into account. However, the risk that the mother has a different ethnical background is minimal, as the United States is known to have relatively high intra-ethnic marriage rates (Pan et al., 2017). Furthermore, it is possible that female partners use their husband's name in a business environment. This would imply that the husband's ancestral origin is assigned rather than the female's own heritage. As I cannot rule out that female partners do not use their maiden name, I exclude them from the sample to avoid misclassification. This research therefore only takes male audit partners into consideration. In the case of a gender neutral or questionable first name, LinkedIn is consulted in order to be reasonably sure of the partner's gender.

After considering the heritage associated with a certain last name, Hofstede's uncertainty avoidance index (or UAI) is employed to apprehend the audit partner's attitude towards risk and uncertainty. The UAI indicates to what extend members of a national culture "feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknowns, surprising, and different from usual." (Hofstede, 2003). The country-level UAI score can be obtained from *Hofstede-insights.com*, ranging on a scale from 0 to 100. A distribution of these scores across countries can be found in Appendix C. In case a last name originates from multiple countries, the probability of the top three countries is used to calculate the corresponding UAI score for this particular last name. Names originating from countries for which no UAI score is available (e.g. Cuba) are excluded from the dataset. This leaves a final dataset of 7,868 individual audit engagements in 2017.

Data that is required to calculate the discretionary accruals can be collected from the Compustat annual database, requiring at least two observations in each two-digit SIC grouping. Merging the databases on CIK code for the year 2017 and dropping missing observations leaves a dataset of 3,310 uniquely identifiable audit engagements. Audit fees and several control variables are available through the Audit Analytics database. Merging the databases, dropping missing observations and winsoring the outliers of continuous variables leaves a final dataset of 1,860 and is used to run the regressions. The sample selection process is also described in Table 1.

Table 1: Sample Selection Process

Description	No. of observations
Panel A: PCAOB Auditor Search database	
Initial dataset	13,292
• Drop Female partners	-3,700
• Drop missing observations on last name and country of origin	-1,263
• Drop missing observations after generating UAI score	-301
• Eliminate engagements for which no CIK is available	-160
Final dataset	**7,868**
Panel B: Merge with Compustat database	
Compustat sample before merging (2015, 2016, 2017)	33,885
• Merging with PCAOB on CIK for 2017	-30,228
• Drop if total assets is missing or smaller than zero	-345
• Drop if less than 2 firms are available in an industry-year group	-2
Final dataset	**3,310**
Panel C: Merge with Audit Analytics database	
Initial dataset	7,009
• Merging with PCAOB and Compustat database on CIK for 2017	-4,170
• Drop if book value is smaller than zero	-209
• Drop if total accruals (absolute) is larger than 1	-30
• Drop observations with missing values for control variables	-740
Final dataset	**1,860**

Notes: Continuous variables that are included in the main regressions are winsorized at their 1 and 99 percent tails, after dropping missing observations. All regressions are performed using the final dataset in Panel C.

In Table 2, an overview is created to address any potential self-selection issue. The full sample of 1,860 observations contains 952 unique partners, after removing duplicate name values. These uniquely identifiable partners are used in the Table to show how the number of clients and the average size of those clients is distributed over the deciles of the UAI score. As auditors are somewhat free in their decision on which engagements they take on, it is possible that partners with a high UAI take on less risky clients. This would imply that the sample used is not randomly selected, which impacts the interpretation of the results. A larger client requires more audit effort to be performed, and is associated with an increase in inherent risk (Hogan & Wilkins, 2008). Table 2 shows that no real trend can be observed in the number of clients partners take on, as the value of the first decile is nearly equal to the tenth. However, the

average size of clients is lower amongst the higher deciles, with the ninth decile as an exception to the rule. This strikes the idea that risk averse partners take on smaller clients, to lower their exposure to audit risk. The last column confirms this idea, as the interaction term shows lower values in the last deciles, than in the first few. Hence it cannot be excluded that the sample suffers from a self-selection bias, where risk averse partners take on less risky clients, without compromising in number of clients.

Table 2: Self Selection Issue

Uniquely identifiable partners (n=952)			
UAI	**# of clients**	**Avg size of clients**	**# of clients * Avg size of clients**
1	1.75	9,210.18	16,117.82
2	1.95	11,160.82	21,763.60
3	2.08	8,822.69	18,351.20
4	2.37	11,266.11	26,700.68
5	1.92	10,017.48	19,233.56
6	1.83	5,382.21	9,849.44
7	2.03	6,664.61	13,529.16
8	1.97	4,604.57	9,071.00
9	1.81	9,941.79	17,994.64
10	1.78	4,782.04	8,512.03

Notes: The number of clients is calculated as the number of audit engagements that each partner has in the full sample of 1,860. The average size is represented by the value of total assets. The third column shows the product of the first two columns.

6. Empirical Results

6.1 Descriptive Statistics

Table 3 provides summary statistics of the full sample, consisting of 1,860 observations. Detailed variable definitions can be found in Appendix B. All continuous variables that are included in the regression are winsorized at the top and bottom one percent to mitigate the risk of extreme values influencing the results. The coefficients that are needed in the estimation of the Modified Jones Model are winsorized before discretionary accruals are regressed.

Hypothetically the UAI score ranges between 0 and 100. Table 2 shows that for the full sample, the *UAI* value ranges between 13 and 100, with a mean of 50.68. The Table also shows that by looking at the descriptive statistics overall, the variable *Non-Discretionary Accruals*

takes on extremer values than *Discretionary Accruals*, in absolute terms. This implies that the larger part of accruals is influenced by economic factors, rather than by human hand. The accrual variables are reported in absolute value as accruals reverse over time (Dechow et al., 1995) Also, given that *Discretionary Accruals* are a measure of earnings management and it cannot be hypothesized in which direction managers might want to influence earnings, absolute values give a fairer representation (Cohen et al., 2008).

Overall, the control variables show no significant or outstanding outlying values. The *Big4* variable indicates that more than half of the firms in the sample are audited by a Big4 company, as the mean is 0.61 with a median of 1. The statistics of *Loss* indicate that little over a quarter of the firms reported a loss in financial year 2017. The *Busy* variable displays that over a quarter of the audit reports is issued between January and March.

6.2. Correlation Analysis

Table 4 shows the Pearson correlation matrix for the most important variables. As expected, there is a strong and significant correlation between *Total Accruals* and *(Non-) Discretionary Accruals* (0.57/0.66). This secures the idea that both *Non-Discretionary* and *Discretionary Accruals* will increase alongside *Total Accruals*. *LnAssets* and *Fees* have a correlation of 0.84 which is to be expected as larger companies (in terms of assets) pay higher audit fees, due to the extra audit effort that has to be performed. Also, the correlation between *Size* and *Fees* (0.73) is to be predicted, as an increase in audit fees would cause total accumulated fees of the local audit office fees to increase with it. The correlation between *Cash-Flow* and *Total* and *(Non)-Discretionary Accruals* is negative and significant (-0.30 & -0.34/-0.26), this makes sense as having a larger cash-flow would indicate lower accruals (while keeping income constant). Furthermore, *Loss* and *Cash-Flow* (-0.52) move in similar negative directions. A similar association holds for *Going Concern* and *Cash-Flow* (-0.47). In general, from a few outliers apart, Table 4 does not indicate the presence of multicollinearity, as there are no highly linear relations among two or more explanatory variables. The correlation value between *UAI* and the dependent variables (*Discretionary Accruals & Fees*) is quite low, which is also confirmed by the low sign coefficients in the next section.

Table 3: Descriptive Statistics

Full sample (n=1,860)	**Min**	**p25**	**Mean**	**Median**	**p75**	**Max**	**Standard Deviation**
Total Observations	1	251.5	15,772.87	1,809.5	12,614.5	384,236	40,429.36
Observations Country1	1	25.5	2,017.13	196	1,614	37,088	5,050.59
Observations Country2	0	5	1,110.87	60	718	25,837	3,221.14
Observations Country3	0	0	541.73	24	303.5	15,289	1,631.69
UAI	13	35	50.68	40.2	65.20	100	17.96
Total Accruals (Absolute)	0.0006	0.0215	0.0763	0.0515	0.0950	0.5284	0.0863
Non-Discretionary Accruals (Absolute)	0.0033	0.0315	0.0631	0.0560	0.0854	0.2725	0.0477
Discretionary Accruals (Absolute)	0.0000	0.0077	0.0447	0.0261	0.0576	0.2989	0.0567
Fees	10.71	13.10	14.04	14.18	14.98	17.36	1.44
Big4	0	0	0.61	1	1	1	0.49
LnAssets	1.82	5.69	7.07	7.24	8.59	12.20	2.24
Loss	0	0	0.28	0	1	1	0.45
Cash-Flow	-1.17	0.01	0.03	0.07	0.12	0.43	0.23
Market-To-Book	0	1.48	4.73	2.61	4.61	59.23	8.03
Auditor Tenure	0	3	15.70	9	18	92	19.71
Leverage	-1.58	0.00	0.44	0.62	0.82	2.12	0.57
Current Ratio	0.51	1.78	2.34	1.88	1.96	7.07	1.80
Business Segments	1	3	6.13	3	9	27	3.97
Going Concern	0	0	0.02	0	0	1	0.15
Material Weakness	0	0	0.11	0	0	1	0.31
Size	11.51	14.63	16.19	16.32	17.68	20.95	2.15
Busy	0	0	0.43	0	1	1	0.50
Busy_Size	0	0	7.04	0	15.87	20.47	8.18

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Accounts Receivables	0	0.0444	0.1705	0.1121	0.2006	0.8487	0.1978
Inventory	0	0.0114	0.0815	0.0289	0.1576	0.2280	0.0784

Notes: *Total Observations, Observations Country1, Observations Country2* and *Observations Country3* are ultimately used to calculate the UAI score. The minimum value of *Observations Country2* and *Observations Country3* is 0, as for these observations a dominant country of origin is present and *UAI* is calculated accordingly. Hence these observations are not deleted. *Total and (Non)-Discretionary Accruals* are included with their absolute value. *Fees* are represented by the natural logarithm of audit related fees. *Big4* is a dummy variable equaling 1 if the company is audited by a Big4 firm and 0 otherwise. *LnAssets* indicates the natural logarithm of the company's assets in 2017. *Loss* is a dummy variable equaling 1 if the company reported a loss in 2017 and 0 otherwise. *Cash-Flow* is presented as the company's net cash flow from operating activities in 2017, lagged by the value of total assets. *Market-To-Book* equals the market-to-book ratio, after deleting observations with a negative book value. *Auditor Tenure* is the number of years the company has been audited by the current audit firm. *Leverage* is calculated as the ratio of long-term debt to total shareholder's equity. *Current Ratio* is the amount of current assets to current liabilities. *Business Segments* equals the number of different segments in which the company operates. *Going Concern* is a dummy variable equaling 1 if the auditor issued a going concern opinion and 0 otherwise. *Material Weakness* is a dummy variable equaling 1 if the auditor identifies material weakness(es) is Section 302/404, and 0 otherwise. *Size* equals the natural logarithm of total local office fees. *Busy* is a dummy variable equaling 1 if the audit report is issued between January and March and 0 otherwise, where *Busy_Size* is the interaction term between *Size* and *Busy*. *Inventory* indicates the value of inventory at year end, lagged by total assets. *Accounts Receivables* equals the ending balance of the year 2017, lagged by the value of total assets.

Table 4: Pearson Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	*UAI*	1.00																		
2	*Total Accruals*	-0.01	1.00																	
3	*N-Discretionary Accruals*	0.00	0.57*	1.00																
4	*Discretionary Accruals*	0.05*	0.66*	0.31*	1.00															
5	*Fees*	-0.00	-0.16*	-0.13*	-0.20*	1.00														
6	*Big4*	-0.01	0.02	0.02	-0.05*	0.50*	1.00													
7	*LnAssets*	-0.04	-0.31*	-0.31*	-0.34*	0.84*	0.38*	1.00												
8	*Loss*	0.05*	0.44*	0.36*	0.31*	-0.25*	-0.04	-0.43*	1.00											
9	*Cash-Flow*	-0.03	-0.30*	-0.34*	-0.26*	0.30*	0.10*	0.41*	-0.52*	1.00										
10	*Market-To-Book*	-0.01	0.23*	0.18*	0.15*	0.04	0.04	-0.08*	0.09*	-0.16*	1.00									
11	*Auditor Tenure*	-0.05*	-0.12*	-0.10*	-0.16*	0.46*	0.19*	0.46*	-0.21*	0.19*	0.07*	1.00								
12	*Leverage*	0.02	-0.03	-0.01	-0.04	0.05*	-0.08*	0.03	-0.00	0.06*	0.04	0.23*	1.00							
13	*Current Ratio*	-0.01	0.09*	0.00	0.06*	-0.03	0.07*	-0.06*	0.07*	-0.06*	0.03	-0.22*	-0.36*	1.00						
14	*Business Segments*	0.00	-0.01	-0.02	-0.02	0.08*	-0.02	0.06*	-0.04	0.08*	0.01	0.20*	0.27*	0.00	1.00					
15	*Going Concern*	0.00	0.25*	0.27*	0.16*	-0.21*	-0.12*	-0.28*	0.25*	-0.47*	0.15*	-0.09*	-0.00	-0.03	-0.09*	1.00				
16	*Material Weakness*	0.01	0.11*	0.16*	0.10*	-0.13*	-0.06*	-0.21*	0.14*	-0.16*	0.10*	-0.15*	-0.07*	-0.03	-0.05*	0.14*	1.00			
17	*Size*	0.01	-0.05*	-0.05*	-0.09*	0.73*	0.54*	0.62*	-0.12*	0.23*	0.01	0.31*	-0.05*	0.05*	0.04	-0.19*	-0.12*	1.00		
18	*Busy*	-0.06*	0.04	-0.00	-0.01	0.02	0.22*	0.03	0.04	0.03	0.01	-0.06*	0.05*	-0.00	0.05	-0.05*	-0.07*	0.05*	1.00	
19	*Busy_Size*	-0.07*	0.03	0.00	-0.02	0.08*	0.28*	0.08*	0.03	0.05*	0.00	-0.03	0.04	0.00	0.05*	-0.06*	-0.08*	0.14*	0.99*	1.00

Notes: * denotes significance at 5% level. For total/(non)-discretionary accruals, the absolute value is used.

6.3. Regression Analysis

Table 5 outlays the results of the regressions performed with Audit Quality (proxied by the absolute value of *Discretionary Accruals*) as main dependent variable. The most important independent variable in this table is *UAI*, as it provides useful evidence for the accepting or rejecting of the first hypothesis. However, the coefficient is not significant for all samples, nor is the sign constant throughout the models. Furthermore, the coefficient is very small and approximates a zero value in all models, proving not to have a large impact on the value of *Discretionary Accruals*, whether either positive or negative. Given the insignificance of the results, this prevents any definite conclusions from being drawn. However, given the low value of the coefficients it is safe to say that that the value of *UAI* has no large impact on audit quality. This is not in line with the first hypothesis, which was based on the idea that audit quality improves as a result of an increase in audit effort to limit the exposure towards risk and uncertainty (DeAngelo, 1981; Eilifsen et al., 2001). A large, positive coefficient is to be expected in that case. Contrary, a negative sign implies that an intolerant attitude regarding risk results in a lower instead of higher audit quality. Nevertheless, neither can be concluded from the results in Table 5, as the coefficients are very small and insignificant.

Adding industry fixed effects to the regression does not alter the sign of the control variable coefficients for the full sample, except for *Material Weakness*. Overall, I find significant negative coefficients for the variable *LnAssets*, meaning that a larger client (in terms of total assets) exhibits a lower audit quality, keeping other variables constant. Both *Loss*, *Market-To-Book* and *Size* have a significant positive effect on audit quality (except for the Non-Big4 sample). Also, I find negative coefficients for *Cash-Flow* and *Leverage*, which are only significant for the Non-Big4 sample. Naturally, the R-squared of the univariate model is quite low and increases when more variables are added in the multivariate regressions.

Table 6 shows the results of the regression performed with the natural logarithm of (Audit) *Fees* as main dependent variable. *UAI* is the most important independent variable as it relates to the hypothesis, but is insignificant throughout the various models. However, compared to the regression of Table 5, the coefficients have higher values but again do not remain constant in sign, making it difficult to draw conclusions on whether the results support or contradict the second hypothesis. Based on the multivariate results, the coefficient of *UAI* would indicate a decrease in *Fees* of 0.12 percent for Big4 firms and a decrease of 0.01 percent for the full sample, when industry fixed effects are included. Non-Big4 firms on the other hand show an increase of 0.10 percent. The second hypothesis would have predicted an increase in

fees in the presence of intolerant behavior towards risk, as a result of additional performed audit effort to reduce the detection risk of the audit (Venkataraman et al., 2008). As such, a significant and positive coefficient were to be expected. Given the insignificance of the results, it is not possible to conclude that cultural heritage influences the behavior of the audit partner, through the audit fees charged.

Furthermore, important in determining the height of *Fees* seems to be the number of assets *(LnAssets)*, causing an 52 percent increase in audit fees for the full sample (with industry fixed effects) if the natural logarithm of total assets increases with 1 percent accordingly. *Loss* is also significant and positive throughout the models, indicating a 15 to 21 percent increase in *Fees*. Also *Market-To-Book* and *Size* have significant and positive coefficients for all samples. The coefficient *Busy* is significantly positive for the full samples, indicating that an audit report being issued during busy season is significantly more expensive and increases the fees with 61 percent for the full sample with industry fixed effects. The interaction term *Busy_Size* is negative and significant for the full samples, implying that an audit report that is issued during busy season decreases the audit fees with approximately 4 percent when the total local firm office fees increase with 1 percent. The higher R-squared for the multivariate models suggests a better fit than the Audit Quality models.

6.4. Robustness Check

White's test is used to detect any linear from of heteroskedasticity. This test assumes the presence of homoscedasticity as the null hypothesis, versus the alternative hypothesis being that there is a case of unrestricted heteroskedasticity (Wooldridge, 2013). Hence, a large chi-square indicates the existence of heteroskedasticity. Running the test gives a value of 0.17 and thus the null hypothesis is rejected at a 5 percent significance level. As the presence of heteroskedasticity cannot be ruled out, robust standard errors are used for running the regressions.

Table 5: Multivariate Analysis Hypothesis 1 - Audit Quality

$$Audit\ Quality_{i,t}(Discretionary\ Accruals) = \beta_0 + \beta_1 * UAI + \sum j\ \beta_2 * Controls_{i,j,t} + \varepsilon_i$$

	Univariate	**Multivariate**			
Sample	Full	Full	Full	Big4	Non-Big4
Observations	n=1,860	n=1,860	n=1,860	n=1,139	n=721
UAI	**0.0002****	**0.0001**	**0.0000**	**-0.0000**	**0.0002***
	(2.36)	**(1.49)**	**(0.59)**	**(-0.61)**	**(1.70)**
LnAssets		-0.0083***	-0.0063***	-0.0068***	-0.0050**
		(-9.12)	(-6.11)	(-5.91)	(-2.27)
Loss		0.0178***	0.0131***	0.0247***	-0.0041
		(4.44)	(3.23)	(4.59)	(-0.58)
Cash-Flow		-0.0135	-0.0076	0.0162	-0.0385**
		(-1.15)	(-0.58)	(0.79)	(-2.00)
Market-To-Book		0.0007***	0.0005*	0.0005*	0.0001
		(2.93)	(1.95)	(1.81)	(0.26)
Auditor Tenure		-0.0000	0.0000	-0.0000	0.0002
		(-0.24)	(0.06)	(-0.47)	(1.25)
Leverage		-0.0020	-0.0035	-0.0020	-0.0102**
		(-0.86)	(-1.49)	(-0.72)	(-2.18)
Current Ratio		0.0003	0.0000	0.0002	-0.0023
		(0.40)	(0.01)	(0.21)	(-1.27)
Business Segments		0.0001	0.0000	0.0003	-0.0004
		(0.26)	(0.11)	(0.86)	(-0.69)
Going Concern		0.0065	0.0044	-0.0206	0.0116
		(0.41)	(0.29)	(-1.09)	(0.62)
Material Weakness		0.0011	-0.0025	-0.0045	0.0055
		(0.24)	(-0.54)	(-0.83)	(0.57)
Size		0.0038***	0.0021*	0.0033**	-0.0000
		(4.28)	(1.96)	(2.39)	(-0.01)
_Constant	0.0360***	0.0290**	0.0291*	0.0085	0.0654**
	(9.59)	(2.46)	(1.73)	(0.36)	(2.57)

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Industry Fixed Effects	No	No	Yes	Yes	Yes
R-Squared	0.0030	0.1771	0.2743	0.3017	0.3305

Notes: This table presents the results of the linear regression of using the absolute value of *Audit Quality (DA)* as dependent variable, and *UAI* as main independent variable. Column 1 reports the results of the univariate regression, by only including the main dependent and independent variable. Columns 2 and 3 report the results of the multivariate regression of the full, merged sample, both with and without including industry fixed effects. Industry fixed effects are defined by 2-digit SIC codes and are included to control for systematic differences in risk and performance across sector types. Columns 4 and 5 show the results for the multivariate regression for Big4 and non-Big4 firms separately, including industry fixed effects. The t-statistic is reported in parenthesis. ***,**,* denote significance at 1%, 5% and 10% levels, respectively.

Table 6: Multivariate Analysis Hypothesis 2 - Audit Fees

$$Audit\ Fees_{i,t} = \beta_0 + \beta_1 * UAI + \sum j\ \beta_2 * Controls_{i,j,t} + \varepsilon_i$$

	Univariate	**Multivariate**			
Sample	Full	Full	Full	Big4	Non-Big4
Observations	n=1,860	n=1,860	n=1,860	n=1,139	n=721
UAI	**-0.0003**	**0.0009**	**-0.0001**	**-0.0012**	**0.0010**
	(-0.17)	**(1.02)**	**(-0.16)**	**(-1.36)**	**(0.99)**
LnAssets		0.4391***	0.5208***	0.5057***	0.4683***
		(41.32)	(51.97)	(39.59)	(21.53)
Loss		0.2084***	0.1791***	0.1988***	0.1469**
		(5.14)	(5.13)	(4.67)	(2.24)
Cash-Flow		0.0558	-0.1370*	-0.0855	-0.1211
		(0.78)	(-1.76)	(-0.61)	(-1.17)
Market-To-Book		0.0121***	0.0068***	0.0077***	0.0077***
		(6.76)	(4.23)	(4.17)	(2.91)
Auditor Tenure		0.0033***	0.0008	0.0010	0.0003
		(3.39)	(1.02)	(0.98)	(0.20)
Leverage		0.0860***	0.0449*	-0.0030	0.1455***
		(2.77)	(1.65)	(-0.09)	(3.30)
Current Ratio		0.0157	0.0072	-0.0082	0.0218
		(1.62)	(0.88)	(-0.79)	(1.60)
Business Segments		0.0052	-0.0010	0.0000	0.0028
		(1.42)	(-0.32)	(0.01)	(0.56)
Going Concern		-0.0163	0.0237	0.0668	0.0891
		(-0.18)	(0.28)	(0.37)	(0.80)
Material Weakness		0.1624***	0.1120**	0.0956	0.1291*
		(3.24)	(2.47)	(1.62)	(1.70)
Busy		0.7239***	0.6123***	0.3919	0.7209
		(2.93)	(2.82)	(1.06)	(1.32)
Size		0.2028***	0.1461***	0.0576***	0.2297***
		(15.56)	(12.09)	(3.37)	(9.30)

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Busy_Size		-0.0468***	-0.0373***	-0.0260	-0.0511
		(-3.05)	(-2.79)	(-1.20)	(-1.31)
Accounts Receivables		-0.8209***	0.4363***	0.6127***	0.2970*
		(-9.05)	(2.73)	(2.81)	(1.75)
Inventory		0.4234**	-0.0396	-0.2331	0.1312
		(2.14)	(-0.25)	(-1.08)	(0.52)
_Constant	14.06***	7.44***	6.49***	8.26***	5.86***
	(138.90)	(41.51)	(24.17)	(23.21)	(21.73)
Industry Fixed Effects	No	No	Yes	Yes	Yes
R-Squared	0.0000	0.8041	0.8801	0.8155	0.9010

Notes: This table presents the results of the linear regression by using the natural logarithm of *Audit Fees* as dependent variable, and *UAI* as main independent variable. Column 1 reports the results of the univariate regression, by only including the main dependent and independent variable. Columns 2 and 3 reports the results for the multivariate regression of the full, merged sample, both with and without including industry fixed effects. Industry fixed effects are defined by 2-digit SIC codes and are included to control for systematic differences in risk and performance across sector types. Columns 4 and 5 show the results for the multivariate regression by distinguishing between Big4 and non-Big4 firms. The t-statistic is reported in parenthesis. ***,**,* denote significance at 1%, 5% and 10% levels, respectively.

7. Conclusion

The purpose of this research is to investigate the influence of ancestral background on the behavior of the audit partner, in particular the consequences for audit quality and audit fees. The results show that cultural heritage has limited effects on both. As for audit quality, the sign of the coefficients is not constant throughout the models and takes on very small values. Therefore, the first hypothesis; U.S. audit engagement partners originating from a country with a high UAI exhibit a higher audit quality, is rejected. Also the results with regards to audit fees are inconclusive as the results are insignificant throughout the various models. Therefore, the second hypothesis; U.S. audit engagement partners originating from a country with a high UAI charge higher audit fees, is also rejected. As a result, it can therefore be concluded that the influence of ancestral background on the behavior of individual audit partners is minimal. A possible explanation for this result is that the partner's influence on the audit approach is limited, due to the existence of strict firm policies and a well-established audit methodology. However, this strikes with the results of Bik and Hooghiemstra (2018), who find that the audit approach depends on the culture of the local office. Furthermore, it is possible that the sample suffers from a self-selection issue, where partners with a high UAI take on less risky clients. In that case the client selection would be influenced, instead of the audit outcome.

Previous research shows that even after several generations, immigrants are still affected by the culture of their ancestors (Guiso et al., 2006). Also, earlier studies implicate that an individual's attitude towards risk and uncertainty is influenced by cultural heritage (Becker et al., 2014). As such, this research adds new evidence to the ongoing literature stream, by examining the influence on heritage on the behavior of audit partners. Similar research has not been performed, as it is only possible to study individual partner behavior since the recent PCAOB disclosure requirement. Besides being an expansion of previous research on ancestral influence, this thesis also provides additional evidence on how audit quality can differ between individual partners. The results of this study suggest that ancestry has a limited to no effect on the behavior of the audit partner. Therefore, although previous research shows immigrants are affected by the culture of their ancestors, this does not hold for the audit profession. As research on the individual audit partners is only executable since the new disclosure requirement of the PCAOB, there are no previous results on audit partners that would suggest otherwise. However, this research does provide additional evidence on the differences in partner behavior, if only to exclude that ancestral background is a factor in this matter.

A limitation of this study is that it only takes one disclosure year into account, which causes the sample size to be rather small. Given that the disclosure requirement is only effective since January 2017, more data is not available at the current moment. However, it would be a suggestion to repeat the study for multiple years, to see if the results hold over time. Furthermore, as it cannot be ruled out that the sample suffers from a self-selection bias where risk averse partners audit smaller, less risky clients, this could imply that the results are not representative. A suggestion would be to use propensity score matching, to match similar clients to partners with a low and high UAI and examine the difference. Given the time sensitivity of this research, propensity score matching has not yet been included. Furthermore, as an example, it is not possible to distinguish between first and fourth generation immigrants. It is likely that a person whose parents immigrated to the United States are more impacted by their ancestry than someone whose great-great-great grandparents crossed the Atlantic. As it is not possible to control for the generation of immigrants for each individual partner, this remains a limitation of the study. Given that this research only includes male audit partners, it is not possible to say how the results hold for the entire population. This is problematic for the external validity of the study. Other than that, as all listed firms are included in the initial sample, the results should be representative for the entire male population.

In summary, the results of this study show that cultural background has minimal influence on the outcome of an audit. It can therefore be said that ancestry does not cause any differences in the behavior of audit partners and can be excluded as a factor.

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Appendix

A. Literature Overview

Table 7: Overview of papers on establishing ancestry

No.	*Paper*	*Database*	*Players*	*Note*
1	Merkley et al. (2017)	Oxford Dictionary of American Family Names	Financial Analyst's	Primary source, containing 70,000 of the most common surnames in United States.
2	Liu (2016)	U.S. Census	Managers	Complete set of records containing respondents' names after the 72-year confidentiality rule has passed (only available from within the U.S.).
3	Gu et al. (2018)	U.S. Census (Liu, 2016)	Managers	See Liu (2016).
4	Nguyen et al. (2017)	U.S. Census (through Ancestry.com)	CEOs	See Liu (2016).
5	Pan et al. (2017)	Ancestry.com	CEOs	Specifies country of origin of foreign passengers arriving through the port of New York between 1820 and 1957, based on their surname and accounting for the weighted average of occurrence.
6	Giannetti & Zhao (2017)	Ancestry.com	Board Members	See Pan et al. (2017), but assign equal probability to top three countries of occurrence.

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7	Gompers et al. (2016)	Kerr (2008; 2010)	Venture Capitalists	Developed methodology by Kerr (2008; 2010) to estimate the probability that an individual originates from one of nine ethnic categories, based on both first and last name.
8	Berglund & Eshleman (2017)	Kerr (2008; 2010)	Audit Partner & Client Manager	See Gompers et al. (2016).

B. Variable Definitions

Table 8: Variable Definitions

Variables	Description	Database
Dependent variable:		
UAI	One of the six dimensions of national culture as defined by Hofstede. The Uncertainty Avoidance Index, ranges on a scale from 0 till 100 and is available for most countries.	Hofstede-Insights
Total Observations	Number of individual immigrants entering the U.S. with corresponding last name.	MyHeritage.com
Observations Country_n	Number of observations in either of the top three countries of occurrence.	MyHeritage.com
Independent variables:		
Audit Quality		
Total Assets (A)	The total assets of the audited firm.	Compustat
Change in Revenue (ΔRev)	The change in revenue of the audited firm.	Compustat
Change in Receivables (ΔRec)	The change in accounts receivable of the audited firm.	Compustat
Property, Plant & Equipment (PPE)	The gross amount of property, plant & equipment of the audited firm.	Compustat
Total Accruals (TA)	The company's number of total accruals calculated with the Modified-Jones Model: $(\frac{TA_{it}}{A_{it-1}}) = \alpha_1 * (\frac{1}{A_{it-1}}) + \alpha_2 * (\frac{(\Delta Rev - \Delta Rec)_{it}}{A_{it-1}}) + \alpha_3 * (\frac{PPE_{it}}{A_{it-1}}) + \varepsilon_{it}$	Calculated
Non-Discretionary Accruals (NDA)	The number of non-discretionary accruals: $NDA = TA - DA$.	Calculated
Discretionary Accruals (DA)	The number of discretionary accruals, as estimated with the Modified-Jones Model.	Calculated

(The table continues on the next page.)

Continued.

Audit Fees		
Fees	The natural logarithm of audit related fees for fiscal year 2017 per individual CIK code.	Audit Analytics
***Control variables**:*		
LnAssets	The natural logarithm of assets to control for company size.	Compustat
Auditor Tenure	The number of years the audit has been performed by the current auditor.	Audit Analytics
Loss	Dummy variable equaling 1 if the company reported a loss and 0 otherwise.	Compustat
Cash-Flow	Cash flow from operations divided by the lag value of total assets.	Compustat
Leverage	The ratio of long-term debt to total shareholder's equity	Compustat
Market-To-Book	The market-to-book ratio of the audited firm.	Compustat
Busy	Dummy variable equaling 1 if the audit report is issued between January and March, and 0 otherwise.	PCAOB
Size	The natural logarithm of total local office audit fees.	Audit Analytics
Busy_Size	Interaction term between the natural logarithm of total local office fees and issuing of the audit report between January and March.	Compustat/PCAOB
Current Ratio	The ratio of current assets to current liabilities.	Compustat
Inventory	The value of inventory at year end, lagged by total assets.	Compustat
Accounts Receivables	The value of accounts receivables at year end, lagged by total assets.	Compustat
Business Segments	The number of business segments as identified by the company.	Compustat
Going Concern	Dummy variable equaling 1 if a going concern opinion is issued and 0 otherwise.	Audit Analytics
Material Weakness	Dummy variable equaling 1 if the auditor identified a material weakness in Section 302/404.	Audit Analytics

C. UAI Scores

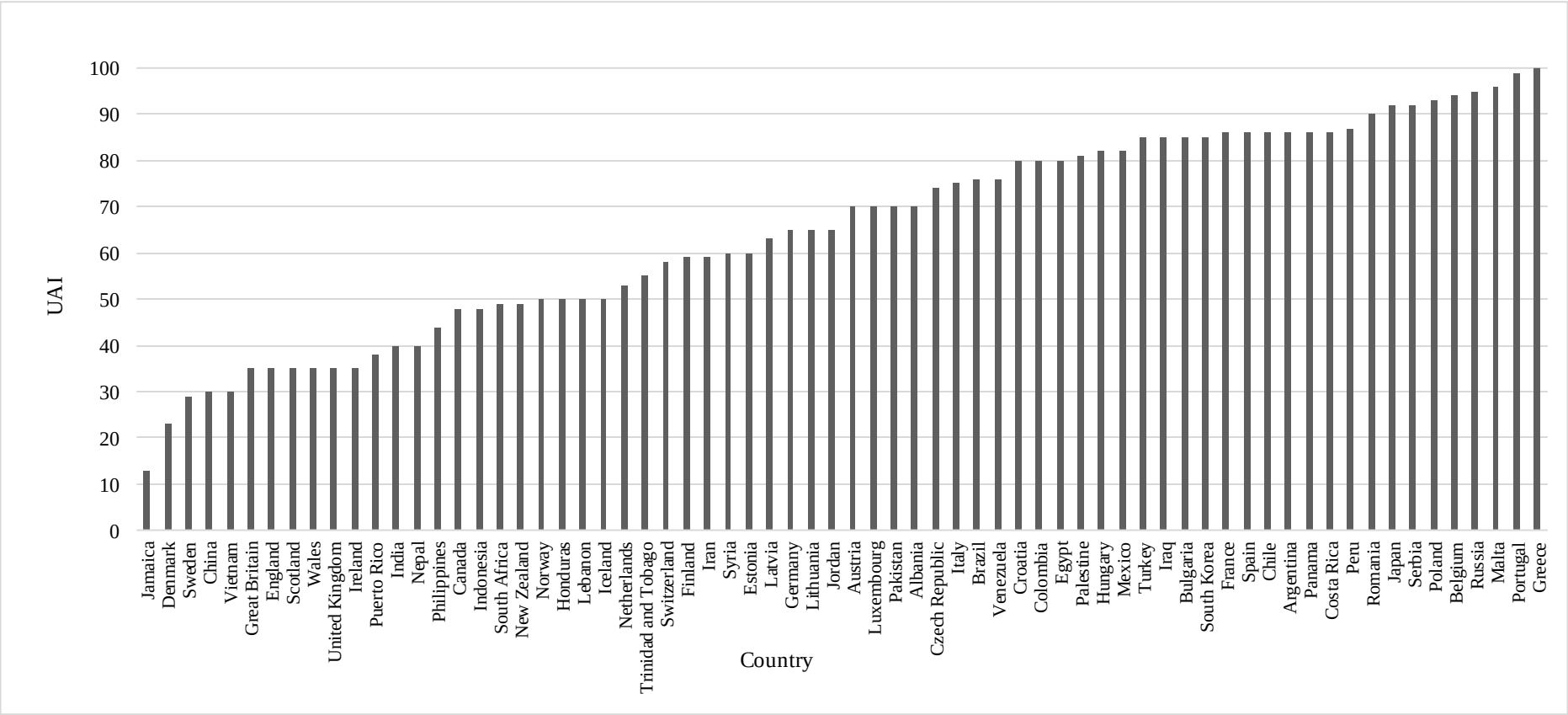

Figure 1: Overview of the Uncertainty Avoidance Index (UAI) scores per country.