

The measurement of audit quality in the Netherlands: A practical note

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Abstract

Several committees, institutions, and practitioners are currently working on defining appropriate, and reliable Audit Quality Indicators (AQI's). The experiences the Foundation for Auditing Research (FAR) made with collecting audit quality data may inform the search for appropriate and reliable AQI's. In this paper I discuss different types of audit (quality) measures and their availability in the Netherlands. Furthermore, I discuss the (potential) information value, limitations, and recommendations for a wide range of audit quality measures and sources.

Relevance for practice

This paper includes several recommendations and lessons learned from the data gathering efforts of the FAR to inform on the availability of audit quality data and measurement of potential AQI's in practice. This paper is also of interest to those audit practitioners managing and designing the quality control (monitoring) systems of audit firms, those involved in preparing the transparency reports, and policymakers and regulators in their considerations of AQI's.

Keywords

Audit Quality data, Audit Quality Indicators

1. Introduction

To develop appropriate and reliable Audit Quality Indicators (AQI's), an understanding of Audit Quality measures is a prerequisite. Audit Quality can be defined as: "... greater assurance that the financial statements faithfully reflect the firms underlying economics, conditioned on its financial reporting system and innate characteristics" (DeFond and Zhang 2014, p. 276). I will discuss the elements from this widely used definition of audit quality in this paper. The goal of this paper is not to provide a literature study on the topic, but rather to help practitioners, policy makers, researchers, and regulators to identify and understand the available Audit Quality measures, information sources and potentially improve these sources.

The Dutch auditing profession (ten largest audit firms) and academia founded the Foundation for Auditing Research (FAR) to conduct research on audit quality. The

FAR started to commission research projects to international research groups in 2016, is currently involved in 34 (international) research projects and has co-funded 17 PhD positions. In the context of these research projects, audit firms and researchers started to collect Dutch (audit quality) data from public and proprietary data-sources for purposes of academic research. Based on the experiences made with the FAR projects, this paper discusses both potential audit quality measures based on publicly available data in comparison to existing international research as well as proprietary (audit) data.

The structure of this paper is as follows. First, the DeFond and Zhang (2014) definition of audit quality is given, followed by a short discussion of the nature of auditing and the corresponding need for audit quality information. Based on the elements from the definition of audit

quality, I will discuss the measurement, data availability and limitations of the various audit quality measures relating to these elements. The findings of this analysis are summarized as table in Appendix A.

2. The nature of auditing and the need for audit quality information

Audit Quality can be defined as: “...*greater assurance that the financial statements faithfully reflect the firms underlying economics* [greater assurance of financial reporting quality], *conditioned on its financial reporting system and innate characteristics*” (DeFond and Zhang 2014, p. 276). This definition “*reflects audit quality’s continuous nature, encompasses the auditor’s broad responsibilities, and recognizes audit quality as a component of financial reporting quality that is bounded by the [audited] firm’s reporting system and innate characteristics*” (DeFond and Zhang 2014, p. 313). It is important to note that different views of audit quality also suggest different metrics (Knechel et al. 2013). Another view on audit quality is represented by Palmrose and Kinney (2018), who argue that audit quality is not a continuum as quality does not go beyond the technical compliance with General Accepted Accounting Principles (GAAP). I will use the DeFond and Zhang (2014) definition as this is one of the most cited and used recent audit quality definition in literature. This paper extends to the work of DeFond and Zhang (2014) by discussing the practical application and availability in the Netherlands of several of the audit quality proxies used in academic research.

Audit services can be defined as a credence good. A credence good is a good or service where (1) the seller is an expert who recommends and provides a level of service to a buyer, (2) buyers cannot assess how a service is delivered and must rely on seller’s recommendation and (3) buyers cannot assess how well the service was performed (Causholli and Knechel 2012; Darby and Kardi 1973; Dulleck and Kerschbamer 2009). The credent nature of auditing causes challenges in measuring the quality of the audit. The outside world can only observe the audited financial statements and the audit opinion together. This makes it impossible for financial statement users to exactly measure whether the auditor or other factors account for the quality of the audited financial statements.

Given the credent nature of auditing, Causholli and Knechel (2012) show that an auditor might have incentives to strategically engage in: under-auditing, over-auditing, and/or overcharging for the work performed. This incentive structure makes the need for independent oversight and information about the quality of the service more apparent. The information need of stakeholders is partly what drives recent AQI initiatives such as the Commissie Toekomst Accountancysector (CTA 2020), International Auditing and Assurance Standards Board (IAASB 2014), Public Company Accounting Oversight

Board (PCAOB 2015), the Center for Audit Quality (CAQ 2014; 2019) and the Federation of European Accountants (FEE 2016) to name a few.¹ Despite the nature of the auditing service, it is possible to measure the effort of auditors more closely and to study how this effort is directed, in an attempt to estimate what the contribution of the auditor is to the quality of the audited financial statements. I will discuss several audit quality metrics in the next sections.

3. Measuring greater assurance

Academics have defined several publicly observable proxies to analyze the level of assurance that auditors provide. These have been the subject of academic debates ever since.² Aobdia (2019), during his time as a PCAOB academic fellow, put these proxies to the test and concludes that several proxies are significantly correlated with inspection findings by both the PCAOB and the internal audit firm (network) inspections and therefore have some validity in proxying for the level of assurance. It is important to know, however, that the sample was limited to listed companies subject to PCAOB oversight (US). In the Dutch context not only listed companies are required to have their financial statements audited. Therefore, appropriate audit quality proxies for (Dutch) private companies might be different as the accounting standards, auditor independence regulation, auditors’ liability, auditors’ regulatory requirements, number and type of stakeholders, company ownership, governance and the corresponding incentive structures are different from those of listed companies (Gad et al. 2019; Vanstraelen and Schelleman 2017).

The most direct observable of the level of assurance is the lack of assurance³, proxied by events such as (1) restatements of audited financial statements, (2) lawsuits against or convictions of the responsible audit partner, (3) auditing and accounting enforcement releases (AAERs) by the regulator against the company and its auditor, (4) bankruptcies of audited organizations without a prior going concern opinion (GCO) by its auditor (‘type II GCO error’), or (5) internal (audit firm or audit firm network) and external (AFM) audit file inspection findings. These measures are considered relatively ‘hard’ outcome measures of audit quality, as they directly observe events where something relating to the audit seems to have gone wrong. As I will discuss in this section, several of these relatively hard measures of the lack of assurance are only partly available in the Dutch setting. Another issue with these events is that they are by definition relatively extreme observations and do not necessarily reflect the continuous nature of the concept of audit quality (Francis 2011). In the next section I will discuss the various ‘hard’ audit quality proxies including stakeholder feedback and their availability in The Netherlands. At the end of the section, I will discuss other more indirect indicators that are expected to influence audit quality such as audit firms’ values, ethics, and attitudes.

3.1 Restatements

When audited financial statements need to be restated, this is a relatively hard indication of a lack of audit quality of the restated audit. Article 362 sub 6 Book 2 Title 9 of the Dutch civic code requires that, if filed financial statements are seriously deficient (*“in ernstige mate tekort schieten”*) in providing the insight needed to form an informed opinion about the financial situation of the company, the board of the company should file a statement (restatement) at the trade register and inform its shareholders immediately. However, as Kamp and Van Pelt (2014) point out, this procedure is seldomly applied in Dutch practice⁴. Furthermore, for those companies who do comply with this procedure, it is hard to identify the occurrence of such as restatement. For example, a high-profile restatement such as that of the 2015 financial statements of Steinhoff International Holdings N.V. is not easily discerned from the filings in the trade register.⁵ One must (re-)purchase and check the PDFs of the filed financial statements to observe the actual restatement.

Since October 2020 Audit Analytics Europe included the restatements for European companies who have an equity-listing at a regulated market in their database. Audit Analytics hand-collected this data starting from January 2018. On November 12, 2020 Audit Analytics identified 672 European restatements of which 18 relate to financial statements audited by Dutch Public Interest Entity (PIE) auditors. Between January 2018 and November 12, 2020 Audit Analytics analyzed 251 audit opinions of Dutch PIE auditors issued in the Netherlands. The restatement rate for annual financial statements of Dutch equity listed PIEs therefore seems to be 7.2% (18 divided by 251). By comparison, in the US almost 15% of all filed (interim) financial statements by listed companies are restated, which gives researchers interesting variation to analyze (Lobo and Yiping 2013).

For non-equity listed organizations, there is no central database of filed restatements in the Netherlands. According to the 2019 Transparency report of PwC Netherlands (PwC 2019), about 0.9% of the financial statements that PwC audits are restated, of which the majority is corrected in the next years financial statements with a correction in the comparative numbers. Research suggests that companies do sometimes hide a restatement as a change in accounting policy (Langendijk 2019) in an attempt to distract the attention from restatements that are the result of weak governance and the other monitoring mechanisms (Files et al. 2009; Hee and Chan 2010; Myers et al. 2013). Restatements are therefore only structurally available for equity listed companies. Financial statement users would benefit from clearly identifiable restatements that are clearly identifiable as such in the trade register.

3.2 Lawsuits against audit firms and audit partners

It is expected that accounting scandals lead to lawsuits against the audit firm and the audit partners involved.

Lawsuits against audit firms and audit partners are only partly publicly observable in the Netherlands, as most identifying information is stripped from the published court proceedings. Court proceedings by the discipline court for auditors (*“Accountantskamer”*) are published and kept in an accountant.nl database for ten years, but they are anonymized and therefore cannot be linked to individual companies, their financial statements and auditor. Over the last ten years more than 633 auditors (NBA Register as of January 2020) were convicted by the disciplinary court for auditors. However, while we can identify who is convicted and what the sentence was, it remains almost impossible to identify which audit engagement the conviction is related to. The professional register of the NBA is hard to access and there is no central list or download option available to obtain the full register (Bosman 2020). In addition, convicted auditors that did not receive a disciplinary punishment, because they had already resigned from the profession, are not observable. Malpractice lawsuits against audit firms are not observable, as court decisions and procedures are anonymized in the Netherlands. The only way to observe the cases underlying these lawsuits is in the accounts published in the (financial) media; however, the researcher cannot be sure about the completeness of the population or the quality of the data (Palmrose 1991). When analyzing litigation data it is important to also consider the size and riskiness of the portfolio of audit clients of an auditor as this influences the risk of being sued (Schipper 1991). The client portfolios of an auditor are not directly observable in the Netherlands and therefore need to be composed by the researcher. It would help financial statement users to be able to directly observe the client portfolio of external auditors and their disciplinary record.

3.3 Accounting and Auditing Enforcement Releases

Accounting and Auditing Enforcement Releases (AAERs) are published by the US SEC since 1982 (Francis 2004). The AAERs provide for an important source of data on how the regulator interprets and enforces certain accounting and auditing regulations. In 2019, the SEC published 98 AAERs, which contain detailed descriptions such as the type of misstatement identified (such as revenue) of the individuals involved and the decision of the SEC. These documents are all machine readable. Furthermore, the University of Southern California has developed and maintained an AAER database to avoid double counting and provides this database to researchers at a small fee.⁶ In the Netherlands, the AFM, in contrast to the SEC, is not allowed to publish the comment letters and AAERs that are sent to Public Interest Entities (PIEs). Additionally, the AFM is exempted for the most part from the Government Information Public Access Act (*“Wet openbaarheid bestuur”*) and so this information remains largely unobservable in the Netherlands. The only observable item on a company-year-level is the press release of a PIE stating that it needs to restate its financials

as the outcome of the comment letter process of the AFM. These can be found in the register financial reporting on the AFM website, using the download option and selecting the “*Aanbevelingsbericht*”.⁷ At the time of writing this paper in November 2020, there are only 22 instances of such restatements since 2006 in the AFM register, of which the most recent instance was in 2014. Public AAERs would benefit financial statement issuers, as they could learn from the mistakes of others and would give important insights to stakeholders.

3.4 Going concern opinions

The auditor should reflect a material uncertainty about the going concern of the auditee in his audit opinion (Nadere Voorschriften Controle- en Overige Standaarden (NV COS) 570). A concern for financial statement users is when a company files for bankruptcy within 12 months from the last balance sheet date and the auditor failed to issue a paragraph pointing to the material uncertainty relating to going concern (type II ‘error’). The opposite situation, where the auditor recognizes a material uncertainty related to going concern and reports this in the audit opinion and the company does subsequently not file for bankruptcy (type I ‘error’) could make going concern opinions less informative, which is also an issue. The likelihood of type I and II GCO ‘errors’ can be used as audit quality measure and there is much research on this topic (Geiger et al. 2019).

There is currently no central database with going concern (or other modified) opinions of Dutch auditors. A researcher needs to go through the original filings of the auditee to be able to identify the going concern and/or modified audit opinions. Another data challenge is the fact that the information in the Dutch insolvency register is erased six months after court proceedings. Therefore, it is hard for researchers to estimate the actual going concern (type II) error rate in the Netherlands. Fortunately, the information service provider Company.info does collect, keep, and provide most of the data on going concern statements in the PDFs they store and is therefore suitable to analyze this data and to identify Type II errors. In other EU countries such as Spain (Ajona et al. 2008), Sweden (Sundgren and Svanström 2014) and Belgium (Carcello et al. 2009; Knechel and Vanstraelen 2007), research with going concern opinions is more advanced and data is better available for researchers and financial statement users. A bankruptcy of a medium sized or larger organization is a significant societal event, from which the auditing profession can learn for future GCO reporting decisions. I therefore recommend that the bankruptcy register for insolvent medium sized and large entities is not erased after only six months but remains assessable for a longer period.

3.5 Inspection outcomes

The outcomes of audit file inspections of internal and external inspectors provide a direct feedback on audit (file)

quality. If work is not documented in the audit file it is not considered to be done (adequately). The AFM, like the PCAOB, does not disclose individual audit file inspection outcomes and are exempted from the freedom of information act (other than for example the SEC⁸). However, the total number of inspections and number of inspection findings, by both firm internal and external inspections are disclosed in the transparency reports by the currently six Dutch audit firms that have a license to audit PIEs. The AFM also shares this information on an audit firm level for their inspections. Several studies show that the presence of PCAOB oversight and inspections is positively associated with audit quality (Aobdia 2018; 2020; Fung et al. 2017; Lamoreaux 2016; Stefaniak et al. 2017). Nevertheless, there are also some downsides to a (focus) on inspection outcomes. In a qualitative study using surveys and interviews Westermann et al. (2019) find that practitioners have the impression that the PCAOB inspections improve audit quality. However, they also document that practitioners see a cost of this development leading to more impression management strategies, functionally stupid work, and less focus on complex accounting issues. The practitioners stressed that these costs also affect the attractiveness of the auditing profession.

Another limitation of audit inspection outcome as an audit quality measure, is that the sampling procedure for the inspection process is not always clear and rarely random. Recent research on 3.864 US firm internal inspections finds that the internal inspection risk of the audit firm is predictable and audit teams strategically respond to inspection risk by increasing effort of the engagement with inspection risk and reducing effort on other engagements (Aobdia and Petacchi 2019). After a favorable inspection “*auditors immediately reserve their effort back to the pre-inspection level...*” (p. 5), questioning the value of current (US) firm internal inspection policies. Furthermore, not only the inspection results of oversight bodies are indicative of audit quality, also the peer-review reports, where one auditor reviews the quality control system of another auditor is helpful in predicting audit failures and identifying risk factors (Casterella et al. 2009). However, there is currently no true peer-review system in the Netherlands. The NBA selects audit firms to be inspected and appointed a quality inspector. This is different from the non-PCAOB system in the US and Germany, where the audit firm itself selects the quality inspector. The only publicly observable outcome from the inspections, is if it leads to a disciplinary conviction or press coverage (see section 2.2). Inspections outcomes are available at the audit firm-level but given the limitations and selection-biases should be interpreted with caution.

3.6 Stakeholder feedback

Academics use the Earnings Response Coefficient (ERC) to proxy for how intensely the financial market responds to the publication of the audited financial statements or the publication of accounting restatements (Aobdia et al.

2015; Dee et al. 2015; Eilifsen and Knivsfå 2013). If the financial market responds relatively strongly to the publication of the audit financial statements, this is interpreted as a sign that investors perceive the audit as reliable and therefore of high quality. The ERC can be calculated for Dutch listed companies based on information relating to market prices of individual shares, financial variables, and the press releases that are available at the investors relations website of the company and in several databases.

Similar assessments of audit quality by stakeholders such as the auditee's audit committee, auditee's (financial) management, investor interest groups and the financial analysts following the audited company are rare and usually not structurally collected by the audit firms and professional organizations for every audit, even though this could give interesting insights in the quality of the service provided (Newen and Zondervan 2019). The absence of this structured information is puzzling as auditing and financial reporting are a co-production between auditor and client (Knechel et al. 2019). Surveying individuals outside of the audit firm is challenging, because email addresses fall under the General Data Protection Regulation (GDPR) and the explicit consent of all individuals is needed before they can be invited for a survey, which requires high coordination costs and causes low response rates. Stakeholders of the auditing profession could benefit from more observable standardized feedback relating to the service provided.

3.7 Values, ethics and attitudes

An understanding of the values, ethics and attitudes within an audit firm are important, as it tells something about what is considered acceptable behavior in the audit firm (Jenkins et al. 2008). There is much attention to values, ethics and attitudes in the audit profession, or as the AFM (2020) puts it: a quality-oriented culture in auditing. Recently, the CTA (2020) and the auditor education requirements board (CEA 2019) had attention for this topic and several AQI framework publications explicitly recognize values, ethics and attitudes as an important dimension of audit quality (CAQ 2019; FEE 2016; IAASB 2014).

A specific application of values, ethics and attitudes is the acceptability of quality threatening behaviors (QTB). QTBs are any behavior by auditors which have the potential to “*threaten the outcome of the engagement and the validity of the audit opinion*” (Herrbach 2001, p. 790). These behaviors include behaviors such as: accepting weak client explanations (Coram et al. 2004; Svanberg and Öhman 2013), superficial review of documents (Otley and Pierce 1996), inadequately investigating accounting principles (McNair 1991), inappropriately relying on the client's internal control (Pierce and Sweeney 2004), under-reporting of time (Kelley and Margheim 1990), failing to follow-up on questionable items and premature sign off (Alderman and Deitrick 1982; Kaplan 1995; Svanberg and Öhman 2013). Another important factor is how skeptical auditors are in their behavior, this can be

measured (Hurt 2010) and there is a wide range of studies on this topic (Hardies and Janssen 2019). Even with the attention for audit firm culture, skepticism, values and ethics, it is important to acknowledge that auditors are still human and are subjective to unconscious biases (Bazerman et al. 2002).

Audit firms typically survey all their employees at least once a year. These surveys contain various standardized questions, and the PIE audit firms disclose some highlights of these survey outcomes in their transparency reports together with their code of conduct. Additionally, the NBA has developed a culture survey with several metrics of audit firm culture which audit firms can take. A common risk in interpreting the survey results is that the surveys rely on self-reporting data (Hessing et al. 1988). This is especially a risk given the fact that there is a clear social desirable answer regarding attitudes in auditing (Randall and Fernandes 1991). There are several approaches to minimize these effects such as the “other people approach”, using validated academic scales and applying score validations to the answers given to name a few. Finally, we do currently not know which (adverse) survey results remain unpublished and therefore unobservable. Stakeholders of the auditing profession could benefit from the disclosure of standardized survey results, in evaluating and selecting audit firms.

4. Financial reporting quality

The financial statements are the object of the audit. Therefore, variation in financial reporting quality gives an indication about the quality of the audit. The overall assumption is that when an auditor accepts the financial statements, this is an indication of the extent of aggressive accounting that he or she is willing to accept for this client. A goal of (accounting) researchers examining audit quality, is to analyze the variation in the financial reporting quality of audited companies and link this to certain audit characteristics. It is important to note that financial reporting quality and audit quality are distinct concepts, but they often cannot be disentangled to measure audit quality (Gaynor et al. 2016).

To measure financial reporting quality, a set of variables from financial statements need to be collected. In most cases this data is available through sources such as the KVK (trade register), investor relations websites, jaarverantwoordingzorg.nl, findo.nl, and database providers such as Company.info, Bureau van Dijk, Compustat, and Audit Analytics. In analyzing the variation in financial reporting quality, researchers use accrual and other earnings quality models that are not that precise, vary in consensus over how to apply them (DeFond and Zhang 2014), are susceptible to measurement error (Gerakos 2012; Roberts and Whited 2013; Swanquist and Whited 2018; Veenman 2019), are potentially sensitive for design choices (Bédard et al. 2019; DeFond et al. 2017; Nallareddy et al. 2020; Shipman et al. 2017), are possibly

subject to selection biases (Lennox et al. 2012), and therefore require large samples to perform a reliable identification, sensitivity analyses, and come to robust conclusions. Furthermore, a more fundamental problem with financial statement data is that it is difficult to attribute variance in financial statements to either the auditor or the auditee as the information is disclosed at the same point in time and the process of preparing and auditing the financial statements is largely unobservable from the outside. It is therefore hard to evaluate the effectiveness of an audit, even after the work has been performed (Bol et al. 2019; Power 2003). In this section I will discuss the availability of financial statement data for public and private companies, the collection of data from PDFs, the filing of financial statements and the enforcement thereof respectively.

4.1 Public companies

Most of the current accounting literature is focused on companies with listed equity instruments on regulated markets. These companies produce the most detailed publicly observable accounting information, have the highest degree of regulation and a high rate of compliance with these regulations as they are actively enforced by the financial markets regulator and the stock exchange. Furthermore, the accounting information is prepared under common GAAP and is therefore comparable.

Other than in the US or Belgium, the information format of financial statements is not uniform in the Netherlands. In the Netherlands, the regulations leave significant discretion to the company and its auditor¹⁰ how to present and classify financial statements. In addition to the trade register, the AFM has a database with the financial statements of listed companies¹¹. Compared to the SEC Edgar database for US listed companies, the AFM database is limited and only includes a collection of PDFs with the filing date to it. Furthermore, this data only reflects a fraction of all Dutch audits.¹² Users of the AFM register would benefit from a more standardized filing approach like the SEC Edgar database or Belgian statutory filings.

4.2 Private Companies

Private companies are not registered at the AFM, but their financial statements are available at the KVK. Other than in for example the UK, Belgium, or Germany, the Dutch KVK requires a fee of EUR 3.05 to be able to read and download a single set of financial statements from a company. This is a relatively low fee, but a significant burden for a researcher who wants to statistically analyze the variation in thousands of financial statements. A common solution to bypass this fee is a Company.info license. Company.info provides users with a platform to share the PDF's of KVK information among its users. Bureau van Dijk also offers financial reporting databases for private companies in their databases Amadeus, Orbis and Reach, however the coverage is much smaller than that of listed companies.

4.3 Collecting data from PDFs

When a financial statement user or researcher has the PDFs documents, he/she needs to go through every PDF to extract more detailed information from the financial statements. The filed PDF's are often non-machine readable, which require an application of Optical Character Recognition (OCR) technique first to make them readable for the computer. An alternative to using OCR is to apply hand-collection¹³ or outsource part of the data gathering to service providers such as Amazon Textract. Even though the name of the external auditor is disclosed in the audit opinion since 2005, there is no central overarching database of who performed which audit in The Netherlands from which financial statement users or researchers can directly observe the client portfolio of an individual auditor or audit firm. The U.S. information service provider Audit Analytics recently jumped into this gap for the equity listed European companies to hand collect this information back to 2010.

The ideal situation for an information user or researcher would be to have a database of the approximated 20.000 yearly statutory audits (NBA 2019a) and their auditors for a period of over ten years. The information of linking an audit firm to a client fiscal year is reliably available in Company.info. The more detailed information such as the responsible external auditor (audit partner), sign-off dates, nature of the audit opinion and audit fees are from my analyses (comparing the databases to actual filings) on them not reliably available in the databases that currently exist. Furthermore, there is no central list of all trade register numbers per year making up the 20.000 audits. The number of 20.000 statutory audits per years comes from the survey "AFM Monitor" and discussions with audit firms and the AFM reveal that the responses to that survey have been partly estimated by some audit firms, as they do not have a complete list of statutory audit clients either. The transparency of the auditing profession could be improved with a central public register of statutory audit engagements and mandatory standardized company filings, such as mandatory XBRL filing for large legal entities.

4.4 Filing financial statements and enforcement

A common challenge in collecting financial reporting information for non-listed entities is that the compliance with filing regulations in the Netherlands is not actively enforced.¹⁴ All medium-sized companies¹⁵ are subject to a mandatory statutory audit. Dutch policymakers made the choice to not actively enforce the filing of private companies, to lower administrative burden of companies.¹⁶ Not filing financial statements is an economic crime and sentenced with up to six months jail time for the company's board members and/or a fine of maximum EUR 20.500 for the company. This regulation is however not actively enforced and the actual fines that the courts set tend to be significantly lower.¹⁷ The amount of the maximal

fine of EUR 20.500 seems to be relatively low compared to EUR 42.000, which is the amount that an average non-PIE statutory audit costs in the Netherlands in 2018 (NBA 2019b).

Part of the consequence of the Dutch filing and reporting policies is pointed out in Vergoossen and Meershoek (2018). The average set of financial statements is filed 229 days after balance sheet date, which makes the filed information relatively old and therefore less informative. About 18% of firms do not file within the maximum legal filing period (Litjens and Suijs 2020). There is evidence that companies strategically wait with filing their financial statements, to prevent its competitors from having timely information (Bernard et al. 2018; Dedman and Lennox 2009; Graham et al. 2005; Litjens and Suijs 2020; Minnis and Shroff 2017). Moreover, the filed financial statements are regularly incomplete in such a way that audit opinions, cashflow statements, disclosures relating to board remuneration and audit fees are frequently missing where this is not always justified based on the current regulation (Bosman 2019; Langendijk 2011; Vergoossen and Meershoek 2018). The relatively poor compliance with Dutch filing regulations makes that reporting information is frequently incomplete and several relevant variables for the calculation of quality of reporting proxies are frequently absent.

The question occurs whether an auditor may accept an audit engagement when prior years financial statements where not (completely) filed at the trade register, especially given the Non-Compliance with Laws and Regulations (NOCLAR) regulation of the auditing profession (NBA 2018). On the political side, a regulatory change to a system where non-, late- or incomplete-filing companies get automatic fines from the courts when they do not (timely) file (audited) financial statements seems to have value. Germany implemented such a system in 2006 after pressure from the European Commission and it significantly improved the compliance rate with financial reporting regulation (Bernard 2016).

5. Financial reporting system and innate characteristics

This section discusses several financial reporting systems and innate characteristics from audit clients and audit engagements and the information sources associated with them. Research access to these sources of proprietary data (via FAR) is relatively new and therefore requires some context of the source. I will therefore also point out some opportunities for future research with these sources. Finally, I will discuss how audit firms could use this data and research to improve their quality management systems. In this section I will comment on the topics of client acceptance and risk assessment, internal control deficiencies, followed by audit effort, specialist involvement and consultations and identified audit misstatements.

5.1 Client acceptance and risk assessment

Before an audit firm can accept or continue an (audit) engagement, it needs to follow an acceptance procedure. The auditors involved need to evaluate the risk of the engagement, identify the client to be compliant with anti-money laundering regulation, address potential independence and reputation concerns, before an engagement is accepted. When an auditor does not accept or dismisses high-risk clients, this is considered a sign of conservatism which is usually interpreted as a sign of audit quality. There is a risk that the biggest audit firms only accept easy to manage and well behaving clients and so pass the problem on to smaller audit firms. The non-acceptance of audit clients can only be observed if they fail to find any auditor. The non-continuance of an audit engagement can be observed but it is hard to disentangle whether this is due to the client, the auditor or some (independence) regulation.

The client acceptance data is usually centrally managed by the audit firm and monitored. A high-risk score or potential independence concerns could result in the assignment of an engagement quality review partner (*“opdrachtgerichte kwaliteitsbeoordelaar”*) to the engagement. The total number of engagement quality reviews and the number of clients refused by the audit firm is usually disclosed in the transparency report of the audit firm. The auditor’s risk assessment of the engagement risk, internal control risk but also the fraud risk are interesting variables for audit firms’ management but are proprietary data, which underly auditor’s confidentiality obligations. For these risk assessment variables each audit firm uses their own format and procedures which are currently not necessarily comparable. Where the formats differ between audit firms, the data structure is relatively comparable within audit firms, making it a very interesting data source for financial statement users and potentially for future research with proprietary data. Audit firms could learn from collaborating with researchers on this topic to optimize their risk assessments and decisions.

5.2 Internal control deficiencies

If an auditor identifies internal control deficiencies and has recommendations to improve the companies’ internal control system, this is interpreted as an indication of audit quality. The management board members of companies who are subject to the Dutch Corporate Governance Code¹⁸ are required to state in their management report whether the company’s internal risk management and control system provide reasonable assurance that the financial reporting system does not contain any material inaccuracies (Art. 1.4.3 The Dutch Corporate Governance Code Monitoring Committee (MCGC) 2016). The audit committee should assess the methods used to assess the effectiveness of the design and operating effectiveness of the internal risk management and control systems (Art. 1.5.3 MCGC 2016). Other than under SOX 404, the

Dutch in-control statement of management is in practice seldomly audited by an external auditor.

In the absence of an audit of the in-control statement of management, research of the financial reporting systems and company's innate characteristics is hard with only publicly observable data. Researchers have been using corporate governance indicators (Clatworthy and Peel 2013), network analyses of management and supervisory board members (Bruynseels and Cardinaels 2014), (transcripts of) earnings calls with financial analysts (Hobson et al. 2017) and web-crawlers (Ryans 2017) to identify as much as possible.

The identified internal control deficiencies by the auditor are not publicly observable but are reported to the supervisory board (or management) in the auditor's report ("*accountantsverslag*") and are therefore also unobservable for the company's shareholders. In some cases, auditors issue a disclaimer of opinion ("*oordeelonthouding*") because the audited company does not have enough segregation of duties (internal controls) and the auditor can therefore not rely on the completeness of the underlying accounting system. This disclaimer of opinion is publicly observable but is relatively rare for larger organizations.

In obtaining reasonable assurance over whether the company's financial statements give a true and fair view, the auditor has the choice over how to obtain assurance. At a minimum, the auditor should evaluate the appropriate design of the internal controls relating to the significant risks (ISA 315.12) and the accounting system (ISA 315.18). Additionally, Dutch law requires that auditors report on the reliability and continuity of automated data processing in the non-publicly observable auditor's report. Despite these basic principles, it is up to the auditor and his/her professional judgement to decide what is the most effective and efficient audit strategy to be able to issue an audit opinion. The issuance of a management letter where the auditor reports his/her observations relating to the internal control system is not legally required but generally considered best practice. Therefore, the information relating to the quality of the financial reporting system could be incomplete, when auditors conclude that the (documentation of the) internal control system is insufficient to be relied upon and chose to primarily rely on substantive testing at an early stage in the audit. The quality of the financial reporting system is not the auditor's primary audit object in the Netherlands, this is and remains the true and fair view of the financial statements as a whole. On the other hand, if the auditor identifies a misstatement, he/she needs to reevaluate the audit strategy (ISA 450.6). Identified misstatements can be an indication of internal controls that are not appropriately designed, implemented, or operating effectively (ISA 450.A7).

Information relating to the identified control deficiencies is of great interest to financial statement users and researchers, as it provides insight in the quality of the audited company's financial reporting system. The information relating to internal control deficiencies originate

from the audit file's working papers and the non-publicly observable auditor's report issued to management / supervisors. The internal control deficiencies are currently not always documented at a central place in the working papers, which makes this information hard to collect and centrally manage / monitor. Another complexity in collecting this information, is that control deficiency descriptions are specific to the audited organization and its personnel and sometimes hard to understand for those not involved in the audit and who do not understand the complete context. This requires several steps of (manual) cleaning and anonymizing the data to give the relevant context and ensure client confidentiality, as the deficiency descriptions usually contain names of key personnel, legal entities, products and reporting segments. Given the proprietary nature of internal control deficiencies under ISA audits, I believe that there is still much to be learned from this data for audit firms and academics alike.

5.3 Audit effort

When the audit firm exercises a high level of effort by experienced professionals, this is considered an important input factor for delivering audit quality. The number of hours incurred by the audit team and the level, experience, and education of those who make these hours are a proxy for audit effort (Caramanis and Lennox 2008). The downside of using effort is that it could also be a signal of inefficiency.

Recently, the NBA introduced the policy (recommendation) to disclose the number of audit hours incurred in the audit report to the oversight body (or management) of the company. The audit report is usually the most reliable source for observing the audit hours incurred. Audit firms' internal systems and billing codes are not necessarily linked directly to one (statutory) audit hour code only. This applies especially in situations with multiple audit opinions in a group audit and some additional assurance procedures, which were all negotiated and managed as one contract. Furthermore, the presence of work and billing arrangements with the international network of the audit firm can make these hours and work-in-progress reporting systems even more complex. The disclosure of the actual audit hours incurred in the auditor's report makes it possible for auditees to observe audit effort. This is therefore a potentially important intervention to help to reduce the credence problem in auditing. To my knowledge the effect of the policy to disclose the planned and actual audit hours incurred to the client (as announced by the NBA) has yet to be studied.

5.4 Specialists involved and consultations

Another interesting variable in the auditing process is the number of specialists involved (Hux 2017), the number, outcomes and consequences of consultations at the professional practice department (Gold et al. 2012; Knechel

and Leiby 2016). When an auditor engages specialists and consults on technical issues, this is considered an important input factor for delivering audit quality. On the other hand, a high number of consultations might also be an indication of an auditor that is not willing to take ownership of important decisions in the audit.

The specialist and consultation information is usually available in the audit files and in central databases of the audit firms and can therefore be collected and analyzed relatively quickly. More details relating to the nature of the consultation contain proprietary information that needs to be manually cleaned. Furthermore, the consultation policies differ between audit firms. Where certain audit firms require specific complex or high-risk subjects to be consulted, this is a free choice of the audit partner in other firms. On an audit firm level this information is disclosed in the transparency reports, which are only prepared by the six audit firms with a license to audit PIE's. The practical question for audit firm managers might be how this information could help them to ensure that the right questions are being asked at the right time in the audit process. Furthermore, from discussions with professional practice managers and specialists I understand that the completeness and timelines of consultations are a regular concern of the audit firm. Central monitoring of specialist involvement, consultations and client complexity might help to identify engagement that tend to under- or over-utilize specialist resources and help prevent accidents from happening.

5.5 Identified audit misstatements

If an auditor finds more material misstatements, this is considered an important output factor of audit quality. The correction of material misstatements in the financial reporting process is an important, perhaps the most important, added value of the audit. The misstatements that an auditor identified during the audit are therefore of great interest to the regulator, audit firms and the research community. The misstatements, both corrected and uncorrected, are not publicly observable and form a unique insight into the black box of auditing. The corrected misstatements always need to come from the audit file that the audit team had prepared to support their audit opinion. A general issue with collecting this data is that a clear first version of financial statements is not always documented and explicitly identified in the audit files. From a behavioral and client-relationship perspective it is attractive for an auditor that the client itself concludes that a certain accounting treatment is incorrect and corrects it. Therefore, there is little incentive for the auditor to document all the identified and corrected misstatements in the process. On the other hand, structural documentation of first unaudited versions of financial statements can provide unique insights into the added value of the audit. Central (electronic) monitoring and active discussions over documented corrected misstatements might help here.

As part of that Letter of Representation (LoR) the audit client needs to confirm and sign-off that it is the opinion of its management that the uncorrected misstatements are immaterial for the financial statements as a whole (ISA 450.14). In analyzing this data, the assessment of the client makes it hard to attribute uncorrected misstatements solely to the auditor, as the client also needs to make a final assessment. Structural analyses of the differences between the first and final audited version of financial statements, could give stakeholders to the auditing profession some important insights.

6. Concluding remarks

There is room for improvement of the audit quality data sources discussed in this paper. Stakeholders of the audit profession would benefit from a cost-free complete central publicly assessable register with standardized filings like this is available in for example the UK, Germany, Belgium and for the SEC registrants. There is currently no central database with all Dutch statutory audits, the corresponding audit opinions, including going concern and restatement information, the responsible audit firms and partner. Having such a central register would make it easier for audit clients to select an audit firm and audit partner based on audit quality metrics and not (only) on the audit fee.

The profession and stakeholders could learn from publicly available AAERs in a central European or AFM database. I would also advocate that the bankruptcy register for insolvent medium sized and large entities is not erased after only six months but remains assessable for a long period. Audit firms and stakeholders could also benefit from a more structural stakeholder feedback cycle relating to assurance services. Where audit firms already survey their employees on various aspects, it might be insightful for them to learn from survey research (techniques) on various topics.

A serious concern is the timeliness and completeness of trade register filings in the Netherlands, including the non- or incomplete filing of financial statements (Langendijk 2011; Litjens and Suijs 2020; Vergoossen and Meershoek 2018) and board reports (Vergoossen and Van Beest 2019). A regulatory intervention like the German intervention in 2006 seems necessary here.

In relation to the data sources of identified internal control deficiencies and audit misstatements, I recommend that audit firms centrally monitor, analyze and act on this data as part of their quality system. In addition, central monitoring of specialist involvement, consultations and client complexity might help to identify engagement that tend to under- or over-utilize specialist or consultation resources and help prevent accidents from happening.

With this discussion I hope to provide insights for the interested reader in what audit quality data (sources) in the Netherlands are available, under which limitations and the corresponding information value.

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Notes

1. For a discussion see also Majoor (2016). The NBA issued guidance relating to the publication of audit quality indicators for the Public Interest Entity (PIE) audit firms (NBA 2016), which are currently disclosed in the transparency reports of the Dutch PIE audit firms.
2. See the special MAB issue on this topic <https://mab-online.nl/issue/1620/>. For a literature study that maps international archival audit research to the IAASB Framework for audit quality, refer to Simnett et al. (2016).
3. As Knechel et al. (2013 p. 386) point out “*While it would be ideal to define audit quality for what it “is,” the reality is that researchers, regulators, and professionals can often do no more than describe what high audit quality “is not”, ...*”.
4. For a discussion of the legal context refer to Van Geffen (2019) and the special issue of the *Tijdschrift voor Jaarrekeningrecht* on this topic and the guidance in Dutch Accounting Standard RJ 150.
5. For example, the AFM only published the detailed court decision relating to this. In the “*Deponeringen*” view at the KVK, one can only see the date of the Art 2:362 sub 6 BW filing, not the year it relates to. Discussions with senior employees at the KVK, learned that one needs to buy all financial statements and manually through the several financial statements to try to identify which year and to which financial statement line items the restatement relates to. I believe this is a sub-optimal situation for such important filings for financial statement users.
6. <https://sites.google.com/usc.edu/aaerdataset/home>
7. The author thanks Ton Meershoek for explaining the information that is publicly observable.
8. See Blackburne et al. (2020) for more details.
9. Questions such as: “*From your impression of colleagues in your direct working environment in general, to what extent do you think your colleagues...*”
10. The Dutch Ministry of Finance approved several models for the design of the financial statements (*Besluit Modellen Jaarrekeningen*) however this means that there is variation in the model that companies chose. Furthermore, companies are free to and regularly do rename or add financial statement line items in the approved models. This makes it harder for the researcher to structure the data. The same applies for financial statements prepared under IFRS (IAS 1). Recent developments such as the Primary Financial Statements Project of the IASB (2020) and the European Single Electronic Format (ESEF, ESMA 2020) will hopefully improve the current situation.
11. <https://www.afm.nl/nl-nl/professionals/registers/meldingenregisters/financiele-verslaggeving>
12. For example, the Dutch audit market of client fiscal year 2018, only 852 of the 19.870 yearly statutory audits (NBA 2019a) are related to PIEs. Moreover, only a minority of PIEs is equity listed. For a recent FAR research project, only about a third of PIEs was considered “economically independently active”. Of these economically independently active PIEs, only 57 have regular publicly observable earnings calls with financial analysts. The 852 PIE’s identified by the NBA represent a mere 13% of the total fees for assurance services. While statutory audits of non-PIEs compromise 59% of total assurance fees (NBA 2019a). The audit market furthermore consists of other assurance services (15%) and other services (13%). This makes the pool of equity listed Dutch companies relatively small for quantitative research. The upside is that database providers such as Bureau van Dijk and Compustat have a good coverage of Dutch listed companies with quite detailed financial reporting information.
13. FAR manually collected financial statement data for more than 6.000 company years for her research projects.
14. Observation made by the author from practical experience, several discussions with senior employees at the KVK and the observation that 18% of firms do not file within the maximum legal filing period (Litjens and Suijs 2020).
15. A company qualifies as medium-sized as two of three criteria are met on two subsequent years: assets > EUR 6 m, revenues > EUR 12 m and/or more than 50 average employees. The criteria used to be assets >EUR 4.4 m, revenues >8.8 m and/or more than 50 average employees for fiscal years starting before January 1, 2016.
16. The responsible “*Bureau Economische Handhaving*” of the Dutch tax authorities does not even have an own website or public (e)mail address. The author was only able to contact the “*Bureau Economische Handhaving*” by information that was provided from a different authority. There seems to be no central place where financial statement users can report missing information in the trade register.

17. For a discussion, see some blogs by law firms such as <https://thuispartners.nl/nieuws/artikelen/de-riscos-van-het-te-laat-publiceren-van-de-jaarrekening-verwaarloosbaar-of-re%C3%ABel>, <https://www.rechtnet.nl/jaarrekening-niet-deponeren-en-dan/> and <https://frankfortsluis.nl/de-gevolgen-van-niet-tijdige-deponering-en-de-mogelijkheden-om-deze-af-te-wenden/>.
18. Companies with equity instruments listed on regulated markets or unregulated markets when total assets exceed EUR 500 m.

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Appendix A

Discussed Audit Quality topics and measurements, their information value, limitations, and availability in the Netherlands.

Topic / Measure	Rationale / Information-value	Limitations	Availability in the Netherlands
3.1) Restatements	If audited financial statements need to be restated, this is a relatively hard indication of a lack of audit quality of the restated audit.	Extreme relatively seldom occurring events.	Most misstatements are corrected in the next years financial statements, with a correction of the comparable figures and a corresponding disclosure. A researcher needs to go through several PDFs of financial statements an organization to be able to identify such misstatements. The restatements in accordance with Art 2:362 sub 6 BW are very rare and are hard to identify in the KVK. Several PIE audit firms report on this topic in their transparency report. For equity listed PIEs available from January 2018 onward in Audit Analytics Europe.
3.2) Lawsuits against or convictions of the responsible audit partner	A professional disciplinary conviction of an auditor is an indication that he/she has not delivered audit quality by complying with the regulations.	Depends on the size and risk of the audit (firm/partner) portfolio, which is not directly observable. Furthermore, these are relatively extreme events. It is very hard for outsiders to link the convictions to the audits they relate to, due to the anonymization of information.	The names and sentences of convicted auditors are available in the NBA register for a period of 10 years after court proceedings. This register is hard to access and has no download option.
3.3) Accounting and Auditing Enforcement Releases (AAERs)	If the regulator issues a regulatory action against an audited company and/or its auditor, this is a sign of a lack of audit quality.	Relatively seldom and extreme event in the Netherlands. Most of the interactions between the financial market regulator and the audited organization from the comment letters process is unobservable.	Only the restatements resulting from this process are publicly observable (“Aanbevelingsbericht”). Where these are relatively rare, and the last instance was in 2014 (as of November 2020).
3.4) Going Concern Opinions (GCOs) and type II error rates	When an organization files for bankruptcy and an auditor did not issue a GCO, this is a sign of a lack of audit quality.	Relatively seldom and extreme events. The information the auditor had at the time of the issuance of a GCO might not indicate any bankruptcy risk for the next 12 months. In addition, a too conservative stance on GCOs (type I errors) might cause the CGO to lose its informational value for stakeholders.	Available in the PDFs of filed financial statements. There is no central database with the Dutch audit opinions. Furthermore, the Dutch bankruptcy register is erased six months after court proceedings. For equity listed PIE’s this information is included in Audit Analytics Europe from 2010 onwards.
3.5) Inspection Outcomes	The outcomes of audit file inspections of internal and external inspectors provide a direct feedback on audit (file) quality. If work is not documented in the audit file it is not considered to be done (properly).	The sampling of audit files subject to inspection is seldomly pure random (mainly risk-based) and therefore subject to selection bias. Furthermore, the inspection outcome usually only tells something about the quality of the audit file and not the entire audit process.	Disclosed for audit firms with a PIE license in their transparency report. Individual audit file inspection outcomes or the audit partners they relate to are not disclosed. Where the AFM now can inform the auditee of adverse audit file inspection outcomes.
3.6.a) Earnings Response Coefficient (ERC)	When investors respond to audited financial statements intensely, this is an indication of the level of confidence they have in the audit.	Relatively noisy measure that is only available for equity listed entities (limited population). Furthermore, it is hard to disentangle which part is due to the auditor and which part is due to the company / credible management.	Is available, but the metric only applies to listed companies, which is a relatively small sample in the Netherlands.
3.6.b) Stakeholder feedback / ratings	When stakeholders value the audit, this is an indication of audit quality. Furthermore, service quality is also a factor in the auditing landscape.	Important to understand the sampling and survey techniques applied. There is a potential risk of only surveying friendly clients or stakeholders (sampling bias) and receiving socially desirable answers.	Not always structurally collected by audit firms after each audit. Collecting is hard and subject to several GDPR concerns and complexities.
3.7) Values, Ethics and Attitudes	Provide information about what is considered acceptable behavior in the audit firm, how the firm is perceived to deal with important issues and how the error and learning climate is.	General risks of survey research such as providing socially desirable answers and dependency on self-reporting.	Highlights are disclosed in the transparency reports of PIE audit firms. The surveys and survey techniques differ between audit firms.

Topic / Measure	Rationale / Information-value	Limitations	Availability in the Netherlands
4) Financial reporting quality	The financial statements are the object of the audit. Therefore, variation in financial reporting quality gives an indication about the quality of the audit.	Relatively noisy (imprecise) measures, there is not always academic consensus over how to measure them, are susceptible to measurement error, potentially sensitive for design choices and possibly subject to selection biases. Furthermore, it is hard to attribute the quality of the financial statements to the auditor or other factors.	Proxies include small earnings (surprises), earnings discontinuities, (discretionary) accruals (the level of earnings management) and disclosure quality proxies. These can all be collected in the Netherlands. Practical concerns exist relating to the enforcement of / compliance with filing requirements for private companies and the role of auditors therein.
5.1) Client Acceptance and Risk Assessment	When an auditor does not accept or dismisses high-risk clients, this is considered a sign of conservatism which is usually interpreted as a sign of audit quality.	There is a risk that the biggest audit firms only accept easy to manage and well behaving clients and so pass the problem on to smaller audit firms. The non-acceptance of audit clients can only be observed if they fail to find any auditor. The non-continuance of an audit engagement can be observed but is hard to disentangle whether this is due to the client, the auditor or some (independence) regulation.	Information on an audit firm level disclosed in the transparency reports of PIE audit firms. Overarching database with all Dutch statutory audits is not available.
5.2) Internal Control Deficiencies	If an auditor identifies internal control deficiencies and has recommendations to improve the companies' internal control system, this is interpreted as an indication of audit quality.	Not all audits rely on the internal controls of a company and the internal controls are not the audit object of the auditor. There is anecdotal evidence that auditors are using internal controls less and less to obtain their audit evidence. Furthermore, the base rate of internal control deficiencies varies from organization to organization and cannot be observed, where auditors are more inclined to rely, evaluate and report over internal controls for relatively better organized organizations.	Available in the audit files, management letters and auditor reports to the clients' oversight body. But not publicly observable as it is confidential information.
5.3) Audit Effort	When the audit firm exercises a high level of effort by experienced professionals, this is considered an important input factor for delivering audit quality.	High effort might also be a sign of inefficiency.	Information on an audit firm level disclosed in the transparency reports of PIE audit firms and on an individual level disclosed to the auditees in the (non-publicly observable) auditors report.
5.4) Specialists Involved and Consultations	When an auditor engages specialists and consults technical issues, this is considered an important input factor for delivering audit quality.	A high number of consultations might also be an indication of an auditor that is not willing to take ownership of important decisions in the audit.	Information disclosed on the audit firm level in the transparency reports of PIE audit firms. Not publicly observable on an individual engagement level.
5.5) Identified Audit Misstatements	If an auditor finds more important misstatements, this is considered an important output factor of audit quality. The correction of material misstatements in the financial reporting process is an important, perhaps the most important, added value of the audit.	There is seldomly a clear first and documented version of the financial statements prepared by the client. Therefore, this measure might be incomplete. Furthermore, not all auditors comply with the internal regulations to document all misstatements in a certain field in the documentation system and include an attachment to the LoR with the uncorrected misstatements. Finally, the base rate of misstatements in the first version of financial statements is unobservable and varies between organizations and years. It is unobservable how many material misstatements the auditor did not find, other than subsequent restatements.	Documented in the audit files and as an appendix to the Letter of Representation (LoR) signed by the client. Not disclosed in the transparency reports or elsewhere.