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Audit Exemptions and Compliance with Tax and Accounting Regulations

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ABSTRACT

We examine small firms' compliance with tax and accounting regulations before and after a change in the threshold for mandatory auditing. Prior to 2011, all Norwegian firms were required to be audited. In 2011, a law change allowed small Norwegian firms to choose not to be audited. After this change, the Norwegian Directorate of Taxes conducted on- and off-site inspections of a representative sample of 2,117 Norwegian firms, with a focus on compliance with specific requirements in tax and accounting regulation. We use the results from these inspections to construct a compliance quality score (CQS). We find that the firms that chose to opt out of auditing have lower CQS than do firms that chose to continue to be audited; that the CQS of firms that chose not to be audited declined after opting out; and that some of the opt-out firms fully mitigated the decline in CQS by engaging external accountants or auditors to prepare their annual financial statements. The results should be of interest to regulators considering increasing the thresholds for mandatory auditing, as our results show that (i) firms that choose not to be audited can experience a decline in CQS after opting out, and (ii) CQS can be maintained at the same level as before if opt-out firms engage external consultants that assist in preparing the annual accounts.

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1. Introduction

To what extent do accountants and auditors contribute to firms' compliance with tax and accounting regulations that are important for the preparation of annual financial statements and for tax filings? This is an interesting question in many countries because regulators obtain two effects by requiring firms to disclose audited financial statements. First, users of financial statements obtain third-party assurance about the quality of these reports. This is the traditional argument why financial statements need to be audited. Secondly, tax authorities indirectly obtain third-party assurance of the quality of *parts* of the firms' tax filings. The tax authorities' benefits of audits of financial statements are higher in countries with high alignment between tax and accounting, but they also benefit from the audits in low book-tax alignment countries because the auditor at least must audit the firms' tax expense and deferred taxes.

The first effect is by itself sufficient to make the question of mandatory auditing for small and medium-sized enterprises (SMEs) an important regulatory issue (e.g., EC 2010). This is because the net benefit of mandatory auditing for SMEs is uncertain, and SMEs account for a large share of economic activity in many countries (e.g., Klein 2014, Vanstraelen and Schelleman 2017). The second effect makes the question even more important. Prior research, however, has not investigated how mandatory auditing affects firms' compliance with requirements related to tax and accounting filings (see DeFond and Zhang 2014; Langli and Svanström 2014; and Vanstraelen and Schelleman 2017 for recent reviews). This is likely caused by a lack of relevant data – measures of firms' compliance with regulation related to how for example the bookkeeping function is organized, the quality of the documentation of transactions and events, and the audit trail require firm-level data that is not collected on a regular basis by firms, auditors, or governmental agencies. However, a quasi-experiment in Norway, where a change in the regulation gave small firms with a statutory auditor the option to vote down their auditor, and an initiative by the Norwegian Ministry

of Finance, allows us to analyze how audit exemptions relate to firms' compliance with accounting and tax regulation.

Our analyses have two central features. The first is the use of a unique dataset based on inspections conducted by the Norwegian Directorate of Taxes (NDT). Prior to 2011, all Norwegian limited-liability firms were required to have an external audit of their annual financial statements. Since 2011, however, small firms have been able to choose not to have an external audit – to “opt out” of being audited. To examine the impact of this change, the NDT conducted thorough off- and on-site inspections of 2,117 firms that were eligible to opt out; some of these firms chose to opt out (“opt-out firms”), while others did not (“audited firms”). These inspections were conducted in 2012 and 2013 and covered the years immediately before and after the opt-out law took effect – 2009, 2010, 2011, and, in some cases, 2012.¹ The inspections focused to a large extent on firms' compliance with relevant accounting and tax regulation, e.g. whether the documentation is sufficient and the audit trail intact, as defined by the accounting regulation. We use the results from these inspections to construct the “compliance quality score” (CQS) for each inspected firm. The score is constructed annually for both audited firms and opt-out firms. Importantly, the inspections also specify whether the firm performs the bookkeeping function in-house or uses an external accountant, and whether in-house personnel, the external accountant, or the auditor prepares the firm's financial statements.² We are therefore able to analyze the effect on the CQS of opting out

¹ We explain the inspections in detail in Sections 5.1 and 5.2 and in Appendix 2.

² Norwegian legislation has no requirements regarding accounting expertise for personnel that perform accounting functions (defined as bookkeeping and the preparation of annual financial statements) for the firm they work for. If firms outsource the accounting function, those performing the functions must be licensed accountants. Some auditors are licensed accountants in addition to being authorized as auditors. The registry of licensed accountants and authorized auditors is maintained by Finanstilsynet (in English: The Financial Supervisory Authority of Norway). An auditor that serves as statutory auditor for a firm A is prohibited by the Auditing Act from performing the bookkeeping function for firm A, but the auditor is allowed to assist in preparing A's financial statements (which is labeled “technical assistance with the preparation of financial statements”). Auditors that also are a licensed accountant may perform the bookkeeping function, prepare the annual financial statements, or perform both functions for firms where they are not elected as statutory auditors. Firms may employ a licensed accountant to perform the accounting function, or outsource it to licensed accountants. Our data does not identify if firms that perform the accounting function in-house have their

while controlling for differences in the degree of firms' use of external consultants, that is, external accountants and/or authorized auditors.

The second feature is the quasi-difference-in-difference research design we use. Our analyses have a cross-sectional component, where we compare the CQS of audited firms and opt-out firms. In addition, to allow for a more direct assessment of how the opt-out law affected CQS, we include a time-series component, where we compare CQS before and after the opt-out law took effect. To the extent that allowing audit exemptions has a negative impact on CQS, the CQS of opt-out firms should decline after the opt-out law takes effect.

We have three primary findings. First, the CQS of opt-out firms is significantly lower than the CQS of audited firms. Notably, this difference existed even when both opt-out firms and audited firms were audited (i.e., before the opt-out law took effect). Our measure of CQS ranges from 0 (minimum) to 1 (maximum), with an average of 0.871. When both opt-out firms and audited firms were audited, the CQS of opt-out firms is 0.006 (i.e., 0.6 percentage points) lower than is the CQS of audited firms, all else equal. Hence, even before opt-out firms chose not to be audited, these firms had worse compliance than did audited firms, even though the difference is small.

Second, among opt-out firms, CQS deteriorates significantly after these firms opt out of auditing. After opting out, our measure of CQS declines by 1.8 percentage points relative to when these firms were audited. This indicates that no longer being audited had a negative impact on firms' CQS.

Third, among opt-out firms, the decline in CQS is concentrated among those firms that, in addition to opting out, chose no longer to use an external consultant to prepare their annual financial

own employees that are licensed accountants. Licensed accountants that perform accounting functions on behalf of others are called external accountants in this article. We describe the division of labour between licensed accountants and auditors in further detail in section 3.2.

statements. In the years when opt-out firms were audited, these firms used an external consultant to prepare their financial statements in 93 percent of the firm-years. After these firms no longer were audited, this figure declined to 87 percent. We posit that consultants preparing financial statements provide an alternative source of regulatory expertise, so that opt-out firms that continue to use such consultants after opting out experience a smaller decline in CQS than opt-out firms that do not engage an external consultant to prepare their annual financial statements. Consistent with this argument, we find that the decline in CQS is smaller among the opt-out firms that continue to use an external consultant. In fact, we find that continuing to use an external consultant after opting out *fully offsets* the decline in CQS that otherwise would result from opting out. This result suggests that even if firms choose no longer to be audited, firms have access to alternative sources of expertise that can help ensure their compliance with accounting and tax regulation.

The questionnaire used in the inspections can be divided into questions that require in-depth knowledge of certain accounting and tax regulation (“accounting questions”) and questions that do not require such knowledge (“other questions,” for instance questions regarding the content of invoices and the use of cash register). We examine whether the impact of opting out differs between these two types of questions. For the score constructed using accounting questions, we obtain the same results as those described above. We find no impact on the score constructed using other questions. These results suggest that the impact of opting out on compliance is strongest in those areas that require greater in-depth knowledge of relevant accounting and tax regulation, the areas where auditors’ expertise relative to firms’ expertise is plausibly largest.

The main contribution of this study is to analyze the value/benefit of auditing of private firms using a measure of value/benefit that encompasses dimensions that go beyond the traditional measures of value/benefit that are derived from audits of financial statements. Specifically, we identify some consequences of audit exemptions for smaller firms that have not been investigated

previously – compliance with important provisions in the tax and accounting regulation. Compliance with tax and accounting regulation is of particular importance for governments because recorded transactions are the basis of the calculation of direct and indirect taxes. By testing how compliance is affected when firms stop being audited when we control for who does the bookkeeping and who prepares the financial statements, we contribute to both the auditing literature (e.g., Langli and Svanström 2014, Vanstraelen and Schelleman 2017) and the literature that analyzes the value of using external accountants (e.g., Gooderham, Tobiassen, Døving, and Nordhaug, 2004; Barbera and Hasso, 2013).

In relation to prior studies, our analyses are most similar to Clatworthy and Peel (2013), who find that among small private firms in the United Kingdom, where such firms may choose not to be audited, restatements occur more often for audited firms than for opt-out firms. Our analyses complement Clatworthy and Peel (2013) in three ways. First, Clatworthy and Peel (2013) focus on accounting quality measured by restatements while we focus firms' compliance with accounting and tax regulation. Second, we compare opt-out firms' CQS before and after they opted out while Clatworthy and Peel (2013) conduct a cross-sectional comparison between audited firms and opt-out firms. This difference is important because it allows us to analyze more directly the consequences of a law change that introduces an audit exemption for small firms. Third, we explicitly control for important characteristics of those performing the bookkeeping and those preparing financial statements.

In addition, our analyses contribute to the body of literature that focuses on the correlation between audit quality and accounting quality. One common finding in prior studies (e.g., Becker, DeFond, Jiambalvo, and Subramanyam 1998; DeFond, Erkens, and Zhang 2016; Francis and Krishnan 1999; Francis, Maydew, and Sparks 1999; Van Tendeloo and Vanstraelen 2008; see also DeFond and Zhang (2014) for a review) is that higher audit quality, as implied by the use of a Big

N audit firm, is correlated with higher accounting quality, although Lawrence, Minutti-Meza, and Zhang (2011) contest this finding. Along similar lines, Clatworthy and Peel (2013) find that firms that choose not to be audited have lower accounting quality than do firms that choose to be audited. While we do not focus explicitly on the impact of opting out on accounting quality (because CQS reflects compliance with tax and accounting regulation rather than accounting quality), our results do identify a mechanism by which auditors could help improve accounting quality for small firms – specifically, by helping ensure that such firms comply with relevant accounting regulation.

All member countries within the EU/EEA-area (European Union/European Economic Agreement-area) require private firms to disclose audited financial statements if they exceed nationally set size criteria related to revenue, assets, and employees (article 3(2) in EU's Accounting Directive 2013/34/EU). The thresholds vary between countries (FEE 2016a), and many countries are considering increasing the thresholds. Our results should be of particular interest to politicians in countries that are considering increasing the thresholds, for three reasons. First, when auditing is mandatory, it is difficult to ensure a uniform level of compliance quality. Secondly, audit exemptions can have a negative impact on the CQS for opt-out firms, that is, such firms comply to a lesser extent with relevant accounting and tax regulations after opting out. Thirdly, CQS can be maintained at the same high level as when auditing is mandatory if opt-out firms engage external consultants that prepare the annual accounts, which is less costly than a regular audit of the financial statements.

The rest of this paper is as follows: in Section 2, we discuss related literature. In Section 3, we discuss institutional details about accounting and auditing regulation in Norway and the role of the external auditor and external accountant. In Section 4, 5, and 6, we discuss the hypotheses, the research design, and the results, respectively. In Section 7, we make concluding remarks.

2. Related literature

This paper relates to prior studies that focus on audit exemptions – on allowing firms below a given size threshold to choose not to be audited (Vanstraelen and Schelleman 2017; Langli and Svanström 2014). Broadly speaking, studies that focus on audit exemptions examine two types of issues. One is the factors that affect whether firms choose to be audited. Minnis (2011), for example, finds that among private companies in the United States, larger companies and firms with negative equity are more likely to choose to be audited, while Dedman, Kausar, and Lennox (2014) find that among firms in the United Kingdom, firms that are larger, less profitable, and have more shareholders are more likely to be audited. Also, firms with a higher volume of sales and that provide their annual report to a bank or another provider of financing are more likely to be audited, among firms in both the United Kingdom (Collis, Jarvis, and Skerratt 2004) and Finland (Niemi et al. 2012).

The second type of issue, and the issue this study focuses on, relates to the consequences of audit exemptions. Lennox and Pittman (2011) and Dedman and Kausar (2012) examine the impact of audit exemptions on firms' credit ratings. Lennox and Pittman (2011) find that after firms are exempted from a mandatory external audit, the choice to continue to be audited can lead to a credit-rating upgrade. Lennox and Pittman (2011) argue that this result is due to signaling effects, whereby firms that choose to subject themselves to an external audit send a positive signal to third parties such as credit-rating agencies. Similarly, Dedman and Kausar (2012) find that those firms that choose to continue to be audited receive a higher credit rating. These findings suggest that audit exemptions can have implications for firms' credit ratings, potentially with positive effects for firms that choose to continue to be audited.

In addition, Dedman and Kausar (2012) and Clatworthy and Peel (2013) examine the impact of audit exemptions on the quality of firms' accounting information. Dedman and Kausar (2012) find that financial-reporting quality is lower among those firms that no longer are audited, while

Clatworthy and Peel (2013) find that restatements occur around twice as often for firms that opt out of being audited. These findings suggest that audit exemptions can have a negative impact on the financial-reporting quality of those firms that choose no longer to be audited.

In this study, we focus on how audit exemptions affect firms' compliance with relevant accounting and tax regulation. The studies discussed above focus on the impact of audit exemptions for users of firms' financial-statement information, such as creditors and other third-party investors. By examining how audit exemptions affect firms' compliance with accounting and tax regulation, we focus on other important stakeholders – tax and regulatory authorities. This focus should be of relevance in many countries because of the link that exists between tax filings and financial statements.³ In countries with a high alignment between tax accounting and financial accounting, for instance Germany, Belgium, and France, audits of annual financial statements indirectly provide tax authorities with an independent verification of important parts of the firms' tax filings because financial statements are taken as the basis for taxation (Nobes and Schwenke 2006, Vanstraelen and Tenderloo 2008). In low-tax alignment countries, as for example UK and the Netherlands, the link is weaker, but it still exists. The auditor at least must audit the tax expense, and if relevant, deferred taxes. Correct estimates of the tax expense and deferred taxes require correct estimates of taxable income and of permanent and temporary differences. The auditor must therefore audit the firms' calculation of taxable income in order to verify the tax expense and deferred taxes. In effect, the auditor provides third-party verification of parts of the content in the firms' tax reports.

³The discussion paper of FEE (2016b) names the tax authorities as one of the stakeholders for small and medium sized entities. The new EU Accounting Directive (EU 2013/34/EU, article 4 no 6), which replaces the Fourth and the Seventh EU Directive on accounting, states that "Member States may require small undertakings to prepare, disclose and publish information in the financial statements which goes beyond the requirements of this Directive, provided that any such information is gathered under a single filing system and the disclosure requirement is contained in the national tax legislation for the strict purposes of tax collection." See also Eilifsen (2014) for a discussion of the relation between tax accounting and financial accounting.

Due to the link between taxation and financial statements, audit exemptions have the potential to affect firms' regulatory compliance with tax and accounting regulations in at least two ways. First, firms' incentives to facilitate an efficient audit decreases. As part of an audit, the auditor must assess the firm's internal control system and verify that the company's accounting information is complete, documented, and has a sufficient audit trail.⁴ For example, performing an audit would be difficult or very time-consuming if a firm does not have a sufficient audit trail, the documentation is unorganized, or there are other weaknesses in the firm's internal controls that require additional work by the auditor. Audited firms, therefore, have stronger incentives than non-audited firms to maintain a well-functioning and well-documented accounting system because the audit fee increases with the time spent on the audit (small firms, at least in our setting, are usually billed by the hour), and because weaknesses and errors may result in modified opinions.^{5, 6} Firms without an auditor do not need to take into account the potential information needs of an auditor

⁴Understanding the auditee's businesses and internal control system is fundamental for performing the audit. ISA 315 (paragraph 1) states that the standard "deals with the auditor's responsibility to identify and assess the risks of material misstatement in the financial statements, through understanding the entity and its environment, including the entity's internal control." ISA 265 contains examples of deficiencies in internal control, and specifically notes that "higher level of management oversight needs to be balanced against greater potential for management override of controls" (ISA 265, A5) in smaller firms. Of particular interest to tax authorities, the assessment of internal control includes for example controls related to prevention and detection of fraud (including management fraud) and significant transactions with related parties (ISA 265, A6, and A7).

⁵Note that non-audited firms still have certain incentives to maintain a well-functioning internal accounting system. For example, firms that are not audited still have to do financial and tax accounting, either by themselves or by hiring an external consultant. Hence, accounting-related weaknesses still can be costly for the firm. If the firm hires an external consultant, this external consultant could have to do more work, and thus charge a higher fee, because of any such weaknesses. If the firm does its financial and tax accounting itself, any such weaknesses could require the firm to exert more effort, which would involve opportunity costs for the firm. As a result, even non-audited firms benefit from having a well-functioning internal accounting system, but compared to audited firms it does not need to facilitate efficient third-party verifications.

⁶When Norwegian tax authorities inspect firms, the penalty for tax evasion is not dependent upon the time the tax inspectors use to calculate withdrawn income, but the amount of withdrawn income and whether the firm intentionally has provided erroneous information to the tax authorities in order to evade taxes. Thus, as long as firms know they can provide sufficient information upon request, they do not need to worry about a lack of oversight, order, and weak internal controls. Most tax inspections where tax evasion is documented do not result in the firm being reported to the police.

(e.g., that the auditor must be able to retrieve relevant documentation) or the risk of modified opinion due to errors, misstatements, or insufficient audit evidence (ISA 705).

Secondly, the auditor could give advice on compliance with various accounting and tax regulation. In general, external parties such as auditors and external accountants can play a useful role in giving business advice to small firms (e.g., Gooderham et al. 2004; Barbera and Hasso 2013; Collin, Ahlberg, Berg, Broberg, and Karlsson 2017). With respect to the opt-out law in particular, due to their limited resources, smaller firms that are relevant for opting out often do not have internal accounting or tax experts. Hence, external parties such as auditors can provide useful advice on accounting and tax regulation that the firms otherwise might struggle to comply with.⁷ Thus, after opting out, firms' compliance with tax and accounting regulation may decline because the firm loses access to accounting expertise. In Section 3.2 we outline how firms organize the accounting function in our setting.

3. Institutional details

3.1 Accounting and auditing regulation in Norway

The accounting and auditing regulations in Norway are in many respects similar to the regulation found in the member countries of the EU due to an agreement between Norway and EU that requires Norway to implement all directives issued by the EU.⁸ Compared with the EU countries, however, Norway has lagged behind when it comes to implementing options in the EU directives that may simplify the administrative burdens for firms. Thus, contrary to the EU member states, all limited-liability firms, independent of size, were required to make public complete sets of audited financial

⁷Our data provide information on firms' use of external consultants, but the data does not reveal to what extent the external consultants actually provide advice.

⁸The agreement between Norway and EU is called The European Economic Area (EEA) Agreement, which enables Norway (together with Iceland and Liechtenstein) to participate in the EU's Internal Market. As part of the agreement, Norway must implement all EU directives that relate to the free movement of goods, services, persons, and capital.

statements until May 1st, 2011. Starting in May 2011, most small limited-liability companies have been able to choose not to have their financial statements audited, but they are still required to disclose complete sets of financial statements.⁹ Firms must file their financial statements with the Brønnøysund Register Centre (BRC), a government agency that is responsible for the management of public registers and governmental systems for digital exchange of information, which subsequently makes the financial statements available for the public. Firms that do not file financial statements with the BRC will be dissolved by the court.

The auditing standards in Norway are translations from the International Standards of Auditing (ISA). In some areas, there are modifications and additions due to requirements in the Norwegian legislation. One such addition is that auditors must sign a couple of the tax forms that firms file with the NDT.¹⁰ By signing these forms, the auditor confirms that the financial statement is audited and that the auditor intends to issue an audit opinion with a positive conclusion without reservations regarding circumstances that impact taxes or duties (Auditing standard RS 3801 The auditor's verification of the basis for levying taxes and duties, our translation). The purpose of having the auditor sign the tax forms is to give the tax authorities "adequate, but not definitive" (our translation) reassurance that the firm had complied with the tax and value added tax legislation (RS 3801 paragraph 5). Thus, prior to implementing the opt-out rule, the NDT may have used the

⁹The option to opt out of auditing applies to firms with less than five million Norwegian crowns (NOK) in annual revenue (roughly \$800,000), less than NOK 20 million in total assets, and fewer than 10 employees. In addition, the firm cannot be a parent company or have a license from the Financial Supervisory Authority of Norway. In 2011, the first year opting out of auditing was possible, 43,937 firms voted down their auditors, which corresponds to about 34 percent of all firms that qualified for the opt-out rule. By the end of 2014, the percentage had increased to 42.5 percent.

¹⁰The forms are RF 1167 Næringsoppgave 2 (Trading statement 2) and RF-1022 Kontrolloppstilling over registrerte og innberettede beløp (Control with registered and reported amounts related to wages). RF-1167 is a more detailed version of the firm's income statement and balance sheet. The form also has a section that computes taxable income by starting with net income after taxes, and then adding back taxes and making corrections caused by differences in the accounting and tax law. Norway is a low-tax-alignment country (Nobes and Schwencke 2006) and deferred taxes, introduced in 1992, handle any differences between tax and accounting. RF-1022 is a form that verifies that wage expenses in the financial statements correspond with what the firm has reported as wages to the tax authority in relation to employment taxes and advanced withholding taxes. For further discussion, see Eilifsen (1998).

lack of the auditor's signature on these forms as a signal that firms may have violated tax legislation. After the opt-out rule was implemented, the NDT could no longer use the missing signature of the auditor as a signal of the firm's lack of ability or willingness to comply with this legislation for firms that opted out.

To assess the potential negative effects of introducing voluntarily auditing for the smallest firms, the Ministry of Finance instructed the NDT to evaluate the impact of the opt-out law on firms' compliance with important element of the tax and accounting regulation, i.e. to find out if the compliance was negatively affected by the opt-out rule. It is the data from NDTs evaluation we use in our analyses, and we provide further details below.

3.2 The role of the external auditor and external accountant

All firms need to keep records of transactions and events in order to fulfill filing requirements related to income taxes and other taxes such as sales taxes, employment taxes, and withholding taxes on wages to employees. The same transactions and events are also the basis for firms' financial statements, but the methods to measure income, expenses, assets, and liabilities in financial statements may differ from those used by the tax authorities. While the bookkeeping function and the preparation and filing of tax reports and financial statements can be outsourced to external accountants or performed by in-house personnel, the audit must be conducted by independent auditors.

When firms perform the accounting functions themselves there are no requirements regarding the competence of those performing the accounting functions. If firms outsource the accounting function, those performing the bookkeeping function must be external accountants (which may be licensed accountants or authorized auditors), but not those that prepare the financial statements. Auditors are prohibited by law from performing the bookkeeping function for those

clients they act as statutory auditor for, but they may provide technical assistance with the preparation of financial statements. For firms in which the auditor, who is also a licensed accountant, is *not* the elected statutory auditor, she may perform the bookkeeping function, prepare the annual financial statements, or do both. To summarize: While the bookkeeping can be done by two categories of experts (in-house personnel or external accountants), the preparation of financial statements can be done by three categories of experts (in-house personnel, external accountants, or auditors).

There is no legal requirement that creates a systematic relationship between which expert does the bookkeeping and which expert prepares the financial statements. However, one important point is that firms in our sample often hire the same entity to perform multiple tasks. For example, among the firm-years in our sample, when an external accountant prepares the financial statements, an external accountant does the bookkeeping, as well, in 96 percent of firm-years. When an external accountant does not prepare the financial statements, an external accountant does the bookkeeping in only 52 percent of firm-years. These data show that when a firm hires an external accountant to prepare the financial statements, it is more likely to hire an external accountant to do the bookkeeping, as well.

Hence, to understand how the opt-out rule changed the market for accounting and auditing services, one has to take into account that many firms hired the auditor to prepare the financial statements when auditing was mandatory. This is because the alternative implies that the auditor sends the final ledger balances (or a list with corrections to be made) back to the firm or the firms' external accountant, so that these could set up the financial statements, which they then return to

the auditor for final approval. Thus, many firms found it cost effective to let the auditor prepare the financial statements.¹¹

Firms that opt out of auditing no longer need the auditor to audit the ledger balances or their financial statements, but they still need to prepare and file financial statements. For firms without in-house accounting expertise, this may be challenging because the preparation of financial statements requires knowledge about how the accounting system works and the specific measurement and disclosure rules in the accounting regulation. Firms that opt out of auditing may therefore turn to the external accountant to fulfill the requirements to prepare and disclose financial statements, or seek assistance by an auditor.

4. Hypotheses

We examine three hypotheses. The first relates to cross-sectional differences in CQS of firms that continued to be audited after the opt-out law took effect and of firms that chose to stop being audited. In the context of auditor choice, one relevant factor is differences in firm “type” with respect to the incentive of firms to obtain an external audit so as to ensure high-quality accounting information.¹² Melamud and Thorman (1990) show that relative to high-risk firms, low-risk firms have stronger incentives to choose to be audited as a way to ensure high-quality accounting information. Hence, choosing to be audited could be viewed by external parties as a positive signal about the firm’s type. Consistent with this reasoning, Lennox and Pittman (2011) find that after audits became voluntary in the United Kingdom, firms that chose to continue to be audited received a credit-rating upgrade due to signaling effects. Hence, it is plausible that firms that choose to be

¹¹Firms may also engage the auditor to provide “technical assistance with filing of tax reports,” which means that the auditor prepares the firms’ tax forms.

¹²Other factors that could lead to cross-sectional differences in accounting quality include differences in information asymmetries (Fenn 2000, Santos 2003), in agency costs (Chow 1982, Francis and Wilson 1988, Chaney, Jeter, and Shivakumar 2004), and in financing concerns (Titman and Trueman 1986, Blackwell, Noland, and Winters 1998). Because we focus on how audit exemptions affect CQS, however, we do not focus on the impact of such factors on CQS or on accounting quality more generally.

audited are more willing to take other measures to ensure high-quality accounting information – for example, to maintain stronger compliance with relevant accounting regulation. As a result, our first hypothesis, stated in alternative form, is as follows:

H1: All else equal, opt-out firms have lower CQS than do audited firms.

Our second hypothesis relates to potential differences in opt-out firms' CQS after opting out. It is plausible that auditors are a useful source of expertise with respect to accounting and tax regulation for small firms, given that the limited resources of small firms could limit these firms' ability to develop internal expertise on such regulation. Hence, auditors potentially could improve these firms' CQS. As a result, choosing not to be audited, and the loss of the auditor's expertise that results, could have a negative impact on firms' CQS. In addition, opt-out firms have weaker incentives to maintain a well-functioning and well-documented accounting system, as explained above. This reasoning leads to our second hypothesis, stated in alternative form:

H2: All else equal, opt-out firms' CQS declines after these firms no longer are audited.

Our third hypothesis relates to whether opt-out firms take measures to reduce any negative impact on CQS that results from opting out. When audits are voluntary, firms make a cost-benefit trade-off in deciding whether to be audited (e.g., Chow 1982; Watts and Zimmerman 1983). For our sample of firms, one benefit of being audited is having access to the auditor's expertise in accounting and tax regulation. Firms that are not audited, however, have ways to recapture this benefit without incurring the other costs of being audited – specifically, firms can engage an external consultant. In doing so, a firm potentially can mitigate the decline in CQS that otherwise might result from opting out. This reasoning leads to our third hypothesis, stated in alternative form:

H3: All else equal, the use of an external accountant or auditor to prepare the annual financial statements is correlated with a smaller decline in CQS after opting out.

In addition to examining whether using an external accountant or auditor mitigates the decline in CQS that results from opting out, we examine the magnitude of this effect – specifically, we conduct tests that focus on whether using an external accountant mitigates in full, or only partially, the decline in opt-out firms' CQS after these firms no longer are audited. One plausible expectation is that using an external accountant or auditor to prepare the annual financial statements could offset to a large degree, and potentially in full, any decline in compliance that results from opting out. External accountants and other auditors should have a similar level of expertise in compliance as a company's own auditors. Moreover, external accountants and other auditors might be able to devote more time to compliance, given that the auditors of these small firms might devote more time to the audit and less time to other matters. The incentives to comply may also increase for opt-out firms since they may expect an increase in the likelihood of being subject to tax audits by the NDT since they no longer have an independent auditor. Hence, we run specific tests that examine to what extent using an external accountant or auditor mitigates the decline in compliance that results from opting out.

5. Research design

5.1 Sample and data

Norwegian authorities are interested in the costs and benefits of voluntary audits. The Ministry of Finance therefore instructed the NDT to evaluate to what extent the opt-out law had consequences

for firms' compliance with important tax and accounting rules.¹³ Statistics Norway was given the task of designing the sampling procedure such that the findings would be generalizable to the population of firms that are eligible for opting out. We discuss the sampling technique in Appendix 3.¹⁴ Based on the recommendation from Statistics Norway, experienced tax inspectors conducted detailed inspections of 2,117 different firms that all were eligible for opt out, and some chose to opt out, while others did not. As a result, all of the firms in our analyses had discretion in choosing whether to be audited.

The inspections were conducted in the course of 2012 and 2013, cover the years immediately before and after the opt-out law took effect (2009, 2010, 2011, and, in some cases, 2012), and were conducted at one point in time for each firm. The questions were answered by the NDT's inspectors, not by the firms themselves. An inspector from the NDT, for example, visited a given firm on-site in 2012 and evaluated the firm's compliance for each year in 2009, 2010, and 2011. For inspections conducted in 2013, the inspector would have evaluated the firm's compliance in 2012, as well. The inspections resulted in an unbalanced panel with observations from 2009-2012. The inspections took on average close to 3 days (the NDT used more than 20 man-years on the inspections) and were conducted in Norwegian. A translated version of the survey is in Appendix 2.¹⁵

¹³The inspections by the NDT were part of a larger evaluation initiated by the Norwegian Ministry of Finance with the aim of examining the positive and negative consequences "for the companies that choose not to be audited, for other economic actors, for the tax authorities, and for society" (Langli 2015a p.2). The evaluation report (Langli, 2015b), is only available in Norwegian. Langli (2015a) contains a summary of the evaluation report.

¹⁴The essence of the sampling strategy is that firms were randomly selected, conditional on region and whether the firm had an audit remark in 2010. Hence, the NDT's sampling strategy was designed to ensure that the inspected firms were representative of the broader population of firms that were eligible to opt out. This decision helps improve the generalizability of our analyses.

¹⁵ Answers on the questionnaires are from three sources: Publicly available registers (e.g., firms' financial statements), non-public filings (e.g., tax reports), and documentation provided by the firm or their external consultants when on-site inspections took place. Question 2.1.1 is an example of questions that were answered using public sources, question 2.2.2 is an example of questions answered using non-public filings, and question 3.2.2 is an example of questions answered on on-site visits. As an example, for question 3.2.2.g, the representative of the firm was first asked to give examples of the audit trail. Then, the tax inspector tested the audit trail for a number of transactions (we are not allowed

Broadly speaking, the questions on the inspection relate to the quality of firms' compliance with accounting and tax regulation that are important for the verification both of the financial statements and of the tax reports. Some of the questions relate to the accounting regulation (which consist of the Accounting Act and the Bookkeeping Act) – for example, whether the firm complies with relevant provisions in the Bookkeeping Act. Other questions relate to various tax laws – for example, whether the firm has given correct information with respect to the value-added tax and the payroll tax. In Section 5.2, we discuss in more detail the type of questions that are included in the inspections and how we evaluate firms' compliance with accounting and tax regulation. To the best of our knowledge, we are not aware of studies using scores based on similar information.

5.2 Variables

We have seven variables of interest, three dependent variables and four test variables (in addition we include a number of control variables as explained below). The first is our measure of the compliance score, CQS. We construct three versions of CQS. The first is *ScoreAll*, which covers all the questions in the survey taken together. The second is *ScoreAccTax*, which consists of the questions from the theme “System for bookkeeping and reporting.” In general, the questions from this theme relate to specific provisions in the Norwegian accounting and tax regulations. Examples of questions from this theme are the following:

- Does the company have substantial weaknesses relating to required reporting, as defined by Section 4 of the Norwegian Bookkeeping Act?
- Does the company have substantial weaknesses relating to its audit trail, as defined by

to disclose how many) to verify that the transactions were included in the income statement of the balance sheet. The tax inspector also tested if certain amounts in the income statement (expenses only) were supported by documentation. Only on-site visits were announced for the inspected firms (with three weeks advance notice). In the event that inspectors revealed that the firm had evaded taxes, the firm was subject to additional investigations and, depending on the seriousness of the misconduct, additional taxes and penalty taxes were levied.

Section 4 of the Norwegian Bookkeeping Act?

- Are the accounting procedures, accounting systems, and bookkeeping sufficient to ensure that the shareholders' use of certain capital assets is taxed appropriately?

For the most part, these questions require technical knowledge of accounting and tax regulations imposed by the Norwegian authorities.

The third version of CQS is for all of the questions from the remaining themes, taken together. In contrast to the accounting questions, these questions require less in-depth knowledge of accounting and tax regulations. As a result, we refer to these questions as “other questions” and label the variable *ScoreOther*. Examples of these questions are the following:

- Does the company have substantial weaknesses that relate to cash transactions (i.e. no cash register)?
- Does the company have sufficient documentation for travel expenses (the documentation must have information on e.g. the name of the traveler, the date of travel, the purpose of travel, and the firm providing the travel)?

It is likely that the expertise of the auditor and other third parties is most useful for the accounting questions, as these questions generally require deeper knowledge of bookkeeping techniques and certain accounting and tax regulations. As a result, to examine whether the impact on CQS of not being audited differs between the types of question, we test the three hypotheses discussed in Section 4 separately for all three versions of CQS: *ScoreAll*, *ScoreAccTax* and *ScoreOther*.

Each version of *Score* is constructed as follows: For each question, if the question was relevant, the inspector from the NDT evaluated the firm. If the question was irrelevant, the inspector

did not.¹⁶ We create a variable, *Max_Points*, whose value equals the number of questions the firm was evaluated on. In addition, for each question, we award 1 point if the NDT evaluated the firm in a way that implies “good compliance,” 0 otherwise. As an example, consider the question, “Does the firm’s balance sheet comply with the relevant accounting laws”: When the NDT’s response is “yes,” we award 1 point. When the NDT’s response is “no,” we award 0 points. We create a variable, *Tot_Points*, whose value equals the number of questions the firm was evaluated on in a way that implies good compliance. Finally, we define CQS as Tot_Points/Max_Points . A value for *ScoreAll* of 0.90, for example, means on 90 percent of the questions the NDT evaluated the firm on, the NDT deemed the firm to have “good compliance.” For each observation and each measure of compliance quality (*ScoreAll*, *ScoreAccTax*, and *ScoreOther*), the score is between 0 and 1.

One potential limitation of the CQS indices is that in principle, it could be based on a small number of questions. Consider the case where the NDT evaluates a firm on only two or three questions and views the firm as having good compliance on each issue: *Score* would have a value of 1 despite the limited scope of the NDT’s inspections. The data, however, suggest that such cases are rare. We compute a variable, *EvaluationRate*, defined as the number of questions the NDT evaluated each firm-year on divided by 64, the number of questions included in the score; *EvaluationRate* of 0.50, for example, means that the NDT evaluated the firm-year on half (32/64) of the potential questions. The mean and median for *ScoreAll* are 0.50 and 0.53, respectively. Hence, on average, the NDT evaluated each firm-year on around half of the questions. Moreover,

¹⁶For some firms, a given question is irrelevant because it relates to compliance in areas that are not relevant for the firm’s operations. One question, for example, is whether the firm has travel expenses above some materiality threshold. A follow-up question asks whether, conditional on having travel expenses above this threshold, any necessary information is lacking. Firms that do not have travel expenses above this threshold are not evaluated on this question. As another example, one question is whether the firm has substantial cash sales, and follow-up questions relate to whether, conditional on having substantial cash sales, the firm has weaknesses in documenting cash sales. The NDT does not evaluate this question for firms without substantial cash sales, as cash transactions are not a relevant part of these firms’ operations – hence, the documentation of such sales is not relevant.

the minimum value of *EvaluationRate* is 21.9, while the 10th percentile is 34.4 percent. Hence, even in the most extreme cases, the NDT evaluated firms on a non-trivial share of the questions. Similar comments apply also to *ScoreAccTax* and *ScoreOther*, although *EvaluationRate* tends to be higher for *ScoreAccTax*, which is as expected since these question to a greater extent apply to all firms. In the end of Appendix 2, we provide descriptive statistics for *EvaluationRate*.

The NDT evaluated each firm on each question for at least three years, and for four years if the inspection was conducted in 2013. Consequently, the NDT evaluated each firm separately for either three or four different years, potentially with different answers in different years. The NDT, for example, could conclude that a firm's balance sheet complied with the relevant accounting laws in 2009 and in 2010 but not in 2011 or in 2012. As a result, for each firm, we compute the scores separately for each year the firm's inspection covers. Similarly, when the inspector controlled the documentation for travel expenses or related-party transactions, he or she might discover that the requirements in the law were met in some years, but not in others. Thus, we have a measure of CQS that covers periods before and after these firms could opt out, and we can examine to what extent CQS changes for the opt-out firms after these firms no longer are audited.

The second and third variables of interest relate to auditor choice. To distinguish opt-out firms from audited firms, we use *OptOutFirm*, which equals 1 for opt-out firms and 0 for audited firms for all years the firm is included in the sample. If there are certain innate characteristics with opt-out firms, for instance that they prefer to avoid the scrutiny of an auditor or have less use of audited financial statements, *OptOutFirm* control for such effects. To distinguish between those years when opt-out firms used an auditor and those they did not, we use *NoAudit*. For audited firms, *NoAudit* always equals 0. For opt-out firms, *NoAudit* equals 1 in those years when opt-out firms did not use an auditor and equals 0 in those years opt-out firms did use an auditor (i.e., the years

before opt-out firms opted out). For example, suppose a firm opted out in 2011: for 2009 and 2010, $NoAudit = 0$. For 2011 and 2012, $NoAudit = 1$. For each year, $OptOutFirm = 1$.

Finally, four variables relate to the use of external consultants in producing a firm's financial statements. The first two are $RepAuditor$, an indicator variable which equals 1 if the company's financial statements are prepared by an auditor, 0 otherwise, and $RepExtAcc$, an indicator variable which equals 1 if the company's financial statements are prepared by an external accountant, 0 otherwise.¹⁷ Our interest, however, is not in these two variables alone. Rather, we focus on the interaction terms $RepAuditor \times NoAudit$ and $RepExtAcc \times NoAudit$. For example, consider $RepAuditor \times NoAudit$: this interaction term is equal to 1 if the firm is *not audited* and, in addition, if the firm uses an auditor to prepare its financial statements, 0 otherwise. Hence, for audited firms, this interaction term always is 0. For opt-out firms, this interaction term is 1 only for those years when the firm is not audited and the firm uses an auditor to prepare its financial statements. As a result, this interaction term allows for the impact on CQS of not having a statutory auditor to depend on whether the opt-out firm uses an auditor to prepare its financial statements. The interaction term $RepExtAcc \times NoAudit$ has an analogous meaning, but with respect to a firm's use of an external accountant rather than an auditor to prepare its financial statements.

In sum, the variables we focus on correspond to the following hypotheses:

- $OptOutFirm$: used to evaluate the first hypothesis, H1, which relates to cross-sectional differences in CQS between audited firms and opt-out firms.
- $NoAudit$: used to evaluate the second hypothesis, H2, which relates to difference in CQS

¹⁷For each firm, these two variables may have different values in different years – for example, if a given firm uses an external accountant to prepare its financial statements in 2009, 2010, and 2011, but not in 2012, $RepExtAcc$ is 1 in 2009, 2010, and 2011, but not in 2012. In addition, whether a firm is audited has no impact on the value of these variables – the value of these variables depends solely on who prepared the company's financial statements.

in opt-out firms when these firms were audited and when these firms were not audited.

- *RepAuditor* x *NoAudit* and *RepExtAcc* x *NoAudit*: used to evaluate the third hypothesis, H3, which relates to whether the impact on CQS of opting out depends on whether the opt-out firm used an external consultant in preparing its financial statements.

5.3 Regression model

In testing our hypotheses, one has to take endogeneity into account. The variable *OptOutFirm* is endogenous – firms themselves have the choice of whether to continue to be audited. To mitigate this problem, we follow prior literature (e.g., Lennox, Francis, and Wang 2012; Koren, Kosi, and Valentincic 2014; Peel 2014) and use the Heckman (1979) two-step estimation procedure. In the first stage, we estimate a probit model for the probability of being an opt-out firm. We use the results of this estimation to compute the inverse Mills ratio. We include the inverse Mills ratio, *InverseMills*, as a control variable in the second-stage regression as a way to control for selection bias. Consistent with prior literature (Lennox et al. 2012, page 591; Koren et al. 2014), we compute *InverseMills* separately for treatment firms (i.e., firms that chose to opt out) and control firms (i.e., firms that chose not to opt out).

For the first-stage estimation, we estimate the following probit model:

$$\begin{aligned} OptOutFirm_i = & \gamma_0 + \gamma_1 RepExtAcc_{it} + \gamma_2 RepAuditor_{it} + \gamma_3 BookExtAcc_{it} + \gamma_4 LnTotalAssets \\ & + \gamma_5 LnAge_{it} + \gamma_6 ProBankrupt_{it} + \gamma_7 Leverage_{it} + \gamma_8 ROA_{it} + \gamma_9 Intangibles_{it} \\ & + \gamma_{10} Inv\&AccRec_{it} + \gamma_{11} LnSales_{it} + \gamma_{12} LnEmployees_{it} + \gamma_{13} NonAuditFee_{it} \\ & + \gamma_{14} Big4_{it} + \gamma_{15} ModOpinion_{it} + \gamma_{16} EquityIssue_{it} + \gamma_{17} OwnershipCEO_{it} \\ & + \gamma_{18} NumOwners_{it} + \gamma_{19} AuditFee_{it} + \varepsilon_{it} \quad (1) \end{aligned}$$

We include a range of variables that are standard to use in auditor-choice models (e.g., Lennox et al. 2012) and that prior studies (e.g., Dedman et al. 2014; Abdel-Khalik 1993; Clatworthy,

Makepeace, and Peel 2009), find are correlated with a firm's decision on whether to be audited. Thus we include variables for size (*LnTotalAssets*, *LnSales*), firm age (*LnAge*), risk (probability of bankruptcy, *ProBankrupt*), intangible assets (*Intangibles*), inventory and accounts receivables (*Inv&AccRec*), leverage (*Leverage*), whether the audit report is modified or not (*ModOpinion*), the use of high-quality auditors (*Big4*), number of employees (*LnEmployees*), and acquisition of non-audit services (*NonAuditFee*). We include also year, industry, and county fixed effects and compute standard errors that are robust against heteroskedasticity.¹⁸ In Appendix 1, we provide a complete list of variable definitions.

One important part of the Heckman approach is the exclusion restriction (Lennox et al. 2012) – the restriction that at least one variable in the first-stage model (i.e., that affects the endogenous variable) is uncorrelated with the dependent variable in the second stage model. In our setting, the exclusion restriction implies that we need to include in the first-stage model variables that are correlated with, or influence, a firm's decision to opt out but are not correlated with a firm's compliance (i.e., with *ScoreAll*, *ScoreAccTax*, and *ScoreOther*).

We use four such variables.¹⁹ Similar to Koren et al. (2014), we use two governance-related variables: *OwnershipCEO*, which is the percentage of the firm's shares owned by the CEO, and *NumOwners*, the natural logarithm of the number of owners of the firm. Ownership structure reflects the degree to which firms potentially face agency conflicts and thus affects a firm's demand for an external audit. The third variable is *EquityIssue*, an indicator variable that equals 1 if the firm issues share capital, 0 otherwise. Firms that issue equity potentially face a stronger demand from

¹⁸ We include county fixed effects as Langli (2015b) documents that there are geographic differences in the firms' likelihood of voting down their auditors.

¹⁹The results using the Heckman two-step procedure (i.e., controlling for selection bias using the inverse Mills ratio) can be sensitive to the modelling choices used (Lennox et al. 2012). When we run our tests using different modeling choices (e.g., different combinations of instruments), however, we obtain the same results, qualitatively. In addition, we obtain the same inferences also when we simply include the instruments in the second-stage equation (model (2)) instead of the inverse Mills ratio.

external parties for audited financial statements. Both ownership structure and whether a firm issues equity should affect the demand for external audits but would plausibly have little effect on the extent to which a firm complies with relevant accounting and tax regulation.

The fourth variable is *AuditFee*, the natural logarithm of audit fees.²⁰ For firms that pay more in audit fees, auditing is more costly, all else equal. Hence, these firms could have stronger incentives to opt out. One issue this paper examines is the role of the auditor in helping firms comply with relevant accounting and tax regulations. Insofar as the auditor does so, however, such advice likely would be reflected by higher non-audit fees, not by higher audit fees. Hence, in the second-stage model, where the dependent variable is the compliance score, we include a variable for non-audit fees. Because audit fees themselves, however, relate to the carrying out of the audit, not to any consulting advice the auditor provides, *AuditFee* could plausibly be uncorrelated with the extent to which a firm complies with relevant accounting and tax regulation. Hence, we include *AuditFee* only in the first-stage model. When we include *AuditFee* in both the first- and second-stage models, however, we obtain the same inferences.

For the second-stage estimation, we estimate the following model:

$$\begin{aligned}
CQS_{it} = & \beta_0 + \beta_1 OptOutFirm_{it} + \beta_2 NoAudit_{it} + \beta_3 NoAudit \times RepLicAcc \\
& + \beta_4 NoAudit \times RepAuditor + \beta_5 RepExtAcc_{it} + \beta_6 RepAuditor_{it} + \beta_7 BookExtAcc_{it} \\
& + \beta_8 LnTotalAssets + \beta_9 LnAge_{it} + \beta_{10} ProBankrupt_{it} + \beta_{11} Leverage_{it} + \beta_{12} ROA_{it} \\
& + \beta_{13} Intangibles_{it} + \beta_{14} Inv\&AccRec_{it} + \beta_{15} LnSales_{it} + \beta_{16} LnEmployees_{it} \\
& + \beta_{17} NonAuditFee_{it} + \beta_{18} Big4_{it} + \beta_{19} ModOpinion_{it} + \beta_{20} InverseMills_{it} + \varepsilon_{it} \quad (2)
\end{aligned}$$

²⁰For firms that opt out of auditing, we define *AuditFee* as the natural logarithm of audit fees in the final year the firm was audited. Likewise, for *NonAuditFee*, *Big4*, and *ModOpinion*, we use the value for the final year that the firm was audited. This approach is consistent with the approach in Dedman et al. (2014).

We include also year, industry, and county fixed effects. We compute standard errors that are robust against heteroskedasticity. While *OptOutFirm* is endogenous, the inclusion of *InverseMills* is intended to account for the selection bias. As in prior studies (e.g., Lennox et al. 2012), we include in the second-stage model all of the variables from the first-stage model, with the exception of the four instruments discussed above. In addition, we include the variables *OptOutFirm*, *NoAudit*, *NoAudit x RepExtAcc*, and *NoAudit x RepAuditor*. By controlling for such factors as size, age, risk, and profitability (*ROA*), we control for factors that affect a firm’s accounting quality or accounting systems (Kinney and McDaniel 1989; Doyle, Ge, and McVay 2007; Clatworthy and Peel 2013). We estimate model (2) three separate times – one time when CQS includes all of the questions (*ScoreAll*), one time when CQS includes mainly accounting- and tax-related questions (*ScoreAccTax*), and one time when CQS includes all other questions (*ScoreOther*).

Econometrically, one important point is that the dependent variable in the second stage is not continuous. The variables capturing CQS are bounded between 0 and 1 and thus are a fractional dependent variable. As a result, estimating model (2) using OLS could lead to biased coefficient estimates (Papke and Wooldridge 2008). Hence, we estimate model (2) as a generalized linear model (GLM), as proposed in Papke and Wooldridge (2008), using the Stata command “glm.”

For our main tests, we estimate the full version of model (2) over the entire sample period. To focus more closely on the cross-sectional differences in compliance between opt-out firms and audited firms, however, we also estimate model (2) only for 2009 and 2010 – years when all firms were required to be audited. Estimating model (2) in this way helps isolate the difference between opt-out firms and audited firms that existed before opt-out firms could choose not to be audited (in

the mandatory audit regime, we drop the variables *NoAudit* and the two related interaction terms, as these variables always are 0).²¹

5.4 Descriptive statistics

In Table 1, we show summary statistics for all firms grouped together. We will comment on four properties of these statistics. First, the mean of *ScoreAll* is 0.871, and the median is 0.886. These observations suggest that firms in general have fairly high CQS, which is as expected since all firms had an auditor in 2009 and 2010 and 81 percent of the firms received a clean opinion in 2010 (Fjærli and Raknerud 2012). A clean opinion signals that the auditor finds the accounting system to be of sufficiently high quality to issue a clean opinion. Second, the mean of *OptOutFirm* is 0.475, so that opt-out firms account for 47.5 percent of the total observations in the sample. Third, the mean of *NoAudit* is 0.162, so that 16.2 percent of the total observations are for firm-years when the firm is not audited. While this figure might seem low, firms were required to have an auditor in each of the first two years in our sample period (2009 and 2010). Among firm-years from 2011 and 2012, the two years firms had the option to opt out, 36 and 46 percent did not have an auditor, respectively. Fourth, the respective means of *RepExtAcc* and *RepAuditor* are 0.419 and 0.499. Hence, for around 92 percent of the firm-years, firms used either an external accountant or an external auditor to prepare their financial statements (we return to this in relation to Table 4). The fraction of firms using a Big 4 auditor is 25 percent. The median audit fee is $e^{2.452} = 12$ or NOK 12,000. Using anecdotal evidence of hourly billing rates for Big-4 and non-Big-4 firms, the audit fee corresponds to between 9 and 13 hours of audit work. Recall that the tax inspector used close to 3 days on average. Thus, tax inspectors performed a much more thorough inspection than auditors do.

²¹ Note that testing the hypotheses using a difference-in-difference design yields identical results.

-- Insert Table 1 and 2 about here --

In Table 2, the correlation coefficients show that *ScoreAll* is not correlated with *OptOutFirm*, *NoAudit*, *NonAuditFee*, and *Big4*, and correlates positively with outsourcing of the bookkeeping function (*BookExtAcc*), *AuditFee*, and size measured by *LnSales* or *LnEmployees*. As expected, due to the duality in the decision to opt out and hire either external accountants or auditors to prepare the financial statements as explained in section 3.2, the correlation between *RepAuditor* and *RepExtAcc* is very high (correlation coefficient of -0.85). The second highest correlation coefficient is between *LnSales* and *LnEmployees* (correlation coefficient of 0.55). In general, all variables show low correlation with both *ScoreAll* and *OptOutFirm*.

In Table 3, we show separate data for opt-out firms and for audited firms from 2009 and 2010, years when audits were required. The p-value for a t-test of differences in means is in the far-right column. We will comment on four differences between these two types of firms. First, the difference in *ScoreAll* between opt-out firms and audited firms is not statistically significant. The bivariate analyses in Table 3, however, do not account for the potential impact of other variables. Second, the difference in size (measured by total assets and number of employees, but not using sales) between audited firms and opt-out firms is statistically significant. Third, the fraction of firms that hire the auditor (*RepAuditor*) to prepare the financial statements is much higher among those that kept their auditor, while opt-out firms engaged a much higher fraction of external accountants (*RepExtAcc*) to help with the financial statements. Fourth, 79 percent of opt-out firms had outsourced the bookkeeping function (*BookExtAcc*), which is significantly higher than among those that kept their auditor (where 62.5 percent used external accountants). These patterns underscore the importance of controlling for firms' decisions to opt out or not, and the differences that exist between these types of firms.

-- Insert table 3 about here --

In Table 4, we show separate data for opt-out firms in years when these firms did have an auditor and did not have an auditor. We will comment on two differences in opt-out firms before and after opting out. First, the mean of *ScoreAll* is higher after the opt-out firms no longer are audited. As above, however, the t-tests do not take into account the potential impact of other variables. The multivariate analyses in Section 6 as well as the univariate analyses below indicate that, in particular, the use of an external accountant or an auditor by opt-out firms has an important impact on these firms' CQS after opting out. Second, when opt-out firms were audited (i.e., before opting out), these firms used an external accountant or an auditor to prepare their financial statements in 93 percent of firm-years (the respective means of *RepExtAcc* and *RepAuditor* are 0.475 and 0.459, where $0.475 + 0.459 = 0.934$), compared to only 87 percent of firm-years when they were not audited. Note however, that these figures are averages for two years. Untabulated results show that the percentage of firms that prepared financial statements using their own personnel was 7 percent in 2009 and 2010, increased to 10 percent in 2011 and decreased to 8 percent in 2012. The development suggest that a higher fraction of firms tried to prepare financial statements by themselves in 2011, but realized that it would be better to leave it to the experts, and therefore hired more external consultants in 2012.²² Overall, after opting out, opt-out firms relied to a greater extent on themselves than on external consultants to prepare their annual reports, although the increase is modest (from 7 percent to 8 percent).

-- Insert table 5 about here --

In Table 5, we again show data for opt-out firms only in the years these firms were not audited, but we show separate data for those opt-out firms that used an external accountant or auditor to prepare

²²This explanation is consistent with Langli (2015b), who uses register data and documents more errors in the tax reports for the opt-out firms after they stop being audited, but the increase was temporary for firms that hired external accountants to file tax reports.

their financial statements and those that did not. Post-opt-out, these two groups of firms are similar in age, risk, and profitability but differ in *ScoreAll*. The difference in *ScoreAll* for opt-out firms that engaged an external accountant or auditor and for opt-out firms that did not, is statistically significant at the one-percent level (with a p-value of 0.000). Moreover, the magnitude of this difference is large. The mean of *ScoreAll* for opt-out firms that engaged an external consultant is 4.6 percentage points higher than for those that did not: 0.884 compared to 0.838. The difference in the median is 5.1 percentage points: 0.899 compared to 0.848. These differences suggest that the impact of opting out on CQS differed markedly among those opt-out firms that engaged an external consultant to prepare financial statements and those that did not.

6. Results

6.1 Regression results – 2009 and 2010 (pre-opt-out period)

In Table 6, we show the results of the estimation of model (2) for observations from 2009 and 2010, when all firms still were required to have an auditor. Because these observations come from the period before firms could opt out, we estimate model (2) without the variable for the inverse Mills ratio, *InverseMills*.

-- Insert table 6 about here --

The results in Table 6 show that in the regressions where the dependent variable is based on all of the questions (*ScoreAll*) and on only the accounting questions (*ScoreAccTax*), *OptOutFirm* is negative and statistically significant at the five-percent level. These results indicate that even when all firms were audited, compliance quality was lower for opt-out firms than for audited firms, all else equal. These results are consistent with the first hypothesis.

With respect to interpreting the results, because we use GLM, the coefficients in Table 6, and in the subsequent tables, do not capture the marginal effect of the independent variables – for example, the coefficient for *OptOutFirm* of -0.059 in the column *ScoreAll* does not mean that all

else equal, *ScoreAll* is 5.9 percentage points lower for opt-out firms than for audited firms. To examine the magnitude of this difference, we calculate and show in the bottom of Table 6 the marginal effect of *OptOutFirm*. The marginal effect is the impact on *ScoreAll* of a marginal change in a given independent variable when the value of each of the other independent variables is at its mean (Williams 2012). Throughout, to conserve space, we show the marginal effects only for the variables relevant to our hypotheses. For our most comprehensive quality measure, *ScoreAll*, the marginal effect of *OptOutFirm* is -0.006 (or 0.6 percentage points). This result suggests that although the difference between opt-out firms and audited firms when all firms were audited is statistically significant, the magnitude of this difference is small. When *ScoreAccTax* is the dependent variable, the marginal effect of -0.009, suggesting a similarly small, but statistically significant, difference.

6.2 *Baseline analyses*

In Table 7, we show the results of the first-stage probit estimation of model (1) – the model used to examine the probability that firms choose to opt out. We will comment on two aspects of these results. First, the model correctly predicts 72.3 percent of firms’ opt-out decisions,²³ similar to prior audit-choice prediction models; for example, Chaney et al. (2004) correctly predict 68.5 percent of the decisions of firms to choose a Big 5 auditor or a non-Big 5 auditor. Second, broadly speaking, the results of the four instruments are as expected. *EquityIssue* is negative and statistically significant, so that firms that issue equity are less likely to opt out; *OwnershipCEO* is positive and statistically significant, so that firms where the CEO owns a higher share of the firm’s equity (i.e.,

²³Consistent with prior studies (e.g., Chaney et al. 2004), we determine the correct classification percentage in the following way. First, we choose a cut-off level of 50 percent – if the estimated probability of opting out is greater than 50 percent, and if the firm chooses to opt out, we consider the classification as correct, while if the estimated probability of opting out is less than 50 percent, and if the firm chooses not to opt out, we consider the classification as correct. Otherwise, we consider the classification as incorrect. Next, we divide the number of correct classifications by the number of observations.

where manager-shareholder agency problems are lower) are more likely to opt out; and *AuditFee* is positive and statistically significant, so that firms that paid more in audit fees are more likely to opt out. The only instrument that is not statistically significant is *NumOwners*.

-- Insert table 7 about here --

-- Insert table 8 about here --

In Table 8, we show the results of the full regression of model (2), with observations from all of the years in the sample period. For each version of CQS, we estimate model (2) twice – once with only *OptOutFirm* included, as in the regression for the pre-opt-out period (the regression shown in Table 6) and once with all of the variables included. For now, we focus the discussion on *ScoreAll*. We find that *OptOutFirm* is negative and statistically significant in both estimations. This result indicates that all else equal, opt-out firms have worse CQS, consistent with the first hypothesis and the findings in Table 6. Moreover, when we include all of the variables, *NoAudit* is negative and statistically significant. This result indicates that the difference in CQS between opt-out firms and audited firms became larger after opt-out firms no longer were audited, consistent with the second hypothesis. Finally, the interaction terms *NoAudit x RepExtAcc* and *NoAudit x RepAuditor* are positive and statistically significant. This result indicates that after opt-out firms no longer were audited, those opt-out firms that used an external accountant or auditor to prepare their financial statements experienced a smaller decline in CQS. This result is consistent with the third hypothesis.

In addition, we analyze the results of model (2) in two other ways. First, to examine the *magnitude of the impact of not being audited*, we include toward the bottom of Table 8 the marginal effects of the four variables mentioned above; the interpretation of these marginal effects is the same as the interpretation discussed in Section 6.1. Two aspects of these results are of particular

interest. First, opting out had a non-trivial effect in reducing the CQS of opt-out firms. The marginal effect of *NoAudit* is -0.018, which indicates that *CQS* declines by 1.8 percentage points after opt-out firms no longer are audited. Second, the marginal effects of *NoAudit* x *RepExtAcc* and *NoAudit* x *RepAuditor* are 0.019 and 0.029, respectively. These results suggest that engaging an external accountant or auditor to prepare the annual financial statements can mitigate, if not fully offset, the impact on CQS of opting out.

Our second type of analysis is to examine the *joint effects of opting out and engaging an external consultant* to prepare the annual financial statements. At the bottom of Table 8, we include two rows labeled “Joint effects.” The joint effects are the sum of the coefficients of the *three* relevant variables given in the row. For example, in the row “*NoAudit* & *RepExtAcc*,” the joint effect is the sum of the following three coefficients: *NoAudit*, *RepExtAcc*, and the interaction term *NoAudit* x *RepExtAcc*. In a separate test, we examine the analogous joint effects for *NoAudit* and *RepAuditor*. We test whether these combined coefficients are different from 0. For both joint effects, we find that the combined coefficients are not different from 0. These results indicate that for those opt-out firms that used either an external accountant or auditor to prepare their financial statements, the use of such external consultants prevented the decline in CQS that otherwise would have occurred.²⁴

We also run all of the tests discussed above for the two other version of the CQS, *ScoreAccTax* and *ScoreOther*. For the accounting questions, we obtain the same inferences. For the other questions, we find almost no effects, for example, both *OptOutFirm* and *NoAudit* are not statistically significant. These results indicate that the decline in opt-out firms’ CQS after these

²⁴When we calculate the joint effects using only *NoAudit* and *NoAudit* x *RepExtAcc* (i.e., when we exclude the impact of *RepLicAcc*) we likewise find that the joint effects of *NoAudit* and *NoAudit* x *RepLicAcc* are not different from 0. We obtain the same inference for and *NoAudit* and *NoAudit* x *RepAuditor*.

firms opted out is driven mainly by the accounting- and tax-related questions. These results suggest that the impact of losing access to third-party expertise reduced firms' compliance specifically in areas that are closely related to detailed accounting and tax regulation – areas where such third-party expertise plausibly would be most beneficial.

The inverse Mills ratio is statistically significant in only one of the regressions, despite the finding that being an opt-out firm is correlated with equity issuance, more CEO ownership and with higher audit fees (Table 7). One potential reason for this insignificant result is multicollinearity. Lennox, Francis, and Wang (2012) note that by construction, the inverse Mills ratio is correlated with the other independent variables in the second-stage regression. Hence, the second-stage regression could be affected by multicollinearity. Consistent with this concern, for the full model of *ScoreAll*, the variation inflation factor (VIF) for *InverseMills* is 21.5. One common rule of thumb is that a VIF that exceeds 10 implies potential problems with multicollinearity (e.g., Craney and Surles 2002). Hence, multicollinearity could be a problem with respect to *InverseMills*. In addition, multicollinearity leads to higher standard errors (Lennox et al. 2012). Thus, the lack of significance of *InverseMills* could be due to multicollinearity.²⁵

To summarize: The results support our three hypotheses. Moreover, the decline in compliance quality of opting out can be fully offset by engaging external consultants to prepare the financial statements. This is interesting since the cost of hiring experts only to prepare the financial statements is much lower than hiring an auditor both to conduct an audit and to prepare the financial statements. Substituting audits with the use of external accountants to prepare financial statements thus ensures the same compliance quality as in a mandatory audit regime, but with the use of fewer

²⁵The VIF for *OptOutFirm* is 27.4, suggesting potential problems with multicollinearity for *OptOutFirm*, as well. However, because multicollinearity leads to higher standard errors (Lennox et al. 2012), the statistically significant results we find for *OptOutFirm* are in spite of any multicollinearity in our results, not because of multicollinearity.

resources.

6.3 Supplemental analyses – large firms v. small firms

In Table 9, we show the results of the estimation (2) for large and small firms. We define large (small) firms as those firms whose sales are equal to or above (below) the median for sales among all observations.²⁶

-- Insert table 9 about here --

These results suggest that the effects discussed in Section 6.2 are driven by large firms. For large firms, the results are largely the same as those for the full sample of firms. *OptOutFirm* is negative and statistically significant for all the questions (*ScoreAll*) and the accounting questions (*ScoreAccTax*). For *ScoreAll*, the signs of the coefficients of *NoAudit* and the two interaction terms *NoAudit* x *RepExtAcc* and *NoAudit* x *RepAuditor* are the same as before (negative, positive, and positive, respectively), although these variables no longer are statistically significant.²⁷ For *ScoreAccTax*, these variables have the same sign and are again statistically significant. These results suggest that among large firms, opting out led to a decline in compliance in areas most closely connected to detailed accounting and tax regulation, but that the use of an external consultant to prepare the annual financial statements helped mitigate this effect. An analysis of the marginal effects and joint effects, shown in the bottom of Table 9, indicates that the use of a consultant in this context again, at a minimum, compensated for the decline in CQS that resulted from opting out. For small firms, by contrast, we find neither cross-sectional differences between opt-out firms and audited firms nor any effect of opting out. For all three versions of CQS, both

²⁶When we partition firms based on total assets we obtain the same inferences.

²⁷One potential reason for this lack of significance is the smaller sample size; the sample size for each group is only half as large as when we analyze all of the firms grouped together, which reduces the power of the tests.

OptOutFirm and *NoAudit* are statistically insignificant.

One potential reason for the difference between large firms and small firms is that as firms become larger, complying with relevant accounting and tax regulation could become more difficult – for example, because larger firms have more assets and more transactions to keep track of. For example, consider the question that relates to the Norwegian Bookkeeping Act: on this question, the NDT evaluates companies on such issues as whether the company’s accounting information is complete, correct, and precise. In general, smaller firms have a smaller number of transactions, fewer assets, etc. to keep track of. Hence, a smaller firm might benefit less from the auditor’s assistance in ensuring that its accounting information is complete, correct, and precise. Moreover, smaller firms could be less complex in some sense, so that it is easier for these firms to comply with relevant accounting and tax regulation.

Regardless of the reason for this difference in results, this difference suggests that the effects discussed in Section 6.2 (Table 8) are driven mainly by large firms, especially with respect to the accounting- and tax-related questions. Hence, these results suggest that the potential impact of audit exemptions in reducing firms’ compliance with relevant accounting and tax regulation could become stronger as firms become larger, at least among the class of small firms in our sample. In this respect, increasing the size threshold for statutory audits could have certain negative consequences for compliance – specifically, as the threshold increases, those larger firms that opt out could experience an especially strong decline in compliance.²⁸ However, as the tests of joint effects show, the decline in compliance quality is fully offset for firms that hire external consultants

²⁸Mitigating this concern, the results of the probit first-stage model (shown in Table 7) indicate that larger firms are less likely to opt out – the coefficients for total assets, sales, and the number of employees are all negative, and total assets and the number of employees are statistically significant. This result is consistent with the results of Minnis (2011) and Dedman et al. (2014), who find that among private firms in the United States and the United Kingdom, respectively, larger firms are more likely to have an auditor.

to prepare the financial statements.

7. Conclusion

We focus on the impact of auditor exemptions on the quality of firms' compliance with accounting and tax regulation. We examine a quasi-natural experiment where a change in regulation gave small Norwegian firms the option to choose not to be audited. We use data from inspections conducted by the Norwegian Directorate of Taxes to measure the quality of firms' compliance with accounting and tax regulation. We examine whether the "compliance quality score" (CQS) of firms was affected by this law change.

We find that the CQS is significantly lower for firms that chose to opt out also when they had an auditor. This suggests that it is difficult to ensure uniform compliance quality in a mandatory audit regime. We also find that the CQS of those firms that chose not to be audited declined after these firms no longer were audited. Moreover, we find that this decline was especially large in areas that required more in-depth knowledge of accounting and tax regulations, i.e. the areas where the loss of the auditor's expertise plausibly was strongest. In addition, however, we find that firms that chose not to be audited could fully offset the decline in CQS by engaging a third party that has expertise in accounting and tax regulation to prepare the annual financial statements (e.g., an external accountant, or an auditor that also has a license as an accountant). In total, these results suggest that audit exemptions could have a negative impact on firms' CQS but that firms can take steps to mitigate this effect. At the same time, our results show that even after the law change took effect, those opt-out firms that chose not to use an external consultant had a high degree of CQS in the following one or two years. This is natural since the internal control and accounting system prior to opting out has been sufficient for the auditor to issue an audit opinion (of which 81 percent were clean). However, one caveat to this conclusion is that we focus on only the first two years after the opt-out law took effect. The impact of opting out on compliance could become stronger

over time. For example, for those firms that chose to stop being audited, more time will have passed since these firms have had access to the auditor's expertise in connection with the audit. Hence, these firms' knowledge of relevant tax and accounting regulation could become worse over time, resulting in a gradual decline in compliance.

The main contribution of this study is to identify effects of giving small firms an exemption from a mandatory audit requirement. While we focus only on Norwegian firms, our results are relevant for other European countries that have introduced, or are considering introducing, legislation that allows smaller firms to choose not to be audited; this issue is particularly relevant given that the new EU Accounting Directive (2013/34/EU), by increasing the size thresholds below which firms may be considered a small business, could increase the number of firms that may choose not to be audited (see Vanstraelen and Schelleman 2017). In particular, our results indicate that audit exemptions could have a negative impact on small firms' compliance with accounting and tax legislation in the relevant country. These results do not indicate that audit exemptions are undesirable. Audit exemptions have benefits – for example, by potentially reducing the administrative burden smaller firms face. These results do, however, indicate that audit exemptions have costs, as well. Hence, it could be useful for policy-makers to take into account such costs when deciding whether to implement audit exemptions, and when determining the size threshold below which firms may choose not to be audited.

In this paper, we focus on only one specific effect of audit exemptions – on how audit exemptions affect firms' CQS. Future research could examine other consequences of audit exemptions.²⁹ In addition, in Norway, only very small firms were given an audit exemption. One

²⁹ Langli (2015a, 2015b) analyze different consequences of allowing firms to opt out of auditing and Langli and Che (2016) analyze if opt-out firms experience negative financing effects as e.g. increased cost of debt or reduced access to credit. They report no negative financing effects for the opt-out firms.

interesting issue to examine in future research is how audit exemptions affect larger firms. These and other analyses could help yield further insights into the consequences of audit exemptions. We would also like to point out that our results are obtained using firms that have experience with being audited. Thus our findings do not generalize to firms that never have been audited.

In addition, our results indicate that among the group of small firms we analyze, the decline in CQS that resulted from opting out is stronger among larger firms. This result indicates that as the size threshold below which firms may choose no longer to be audited increases, the potential decline in compliance with relevant accounting and tax regulation could become stronger. In this respect, a sharp increase in the size threshold below which firms may opt out could have certain undesirable consequences. Mitigating this concern, however, our analyses indicate that larger firms, as measured by total assets and the number of employees, are less likely to opt out in the first place, and that hiring external consultants to prepare the annual financial statements fully offset the decline in CQS. Regulatory authorities that are concerned about the potential negative effect of reduced compliance of not having an auditor could therefore consider mechanisms that encourage firms to engage external accountants to prepare annual statements.

One potential limitation of our analyses is that because the data are collected by the tax authorities (the Norwegian Directorate of Taxes, NDT) themselves, we have no control over the sampling procedures or any potential errors in the initial collection of data. The way the NDT conducted the inspections suggests that such concerns are not major. For example, the NDT determined which firms to inspect by using stratified random sampling (see Appendix 3), which helps ensure that the inspected firms are representative of the broader population of firms that are eligible for opting out. In addition, the inspections were carried out by experienced tax authorities that spent, on average, close to 3 days on the inspection of each firm. Another limitation is the NDT measured compliance is measured in a binary way – the NDT evaluated each firm-year as having

“good compliance,” or not on each question. Hence, for a given question on the NDT’s inspections, we cannot evaluate the amount or degree of non-compliance with the relevant issue.

References

- Abdel-Khalik, A. R. (1993). Why do private companies demand auditing? A case for organizational loss of control. *Journal of Accounting, Auditing & Finance*, 8 (1), 31-52.
- Barbera, F., and Hasso, T., 2013. Do We Need to Use an Accountant? The Sales Growth and Survival Benefits to Family SMEs. *Family Business Review*, 26(3), 271-292.
- Becker, C.L., DeFond, M.L., Jiambalvo, J. and Subramanyam, K.R., 1998. The effect of audit quality on earnings management. *Contemporary Accounting Review*, 15 (1), 1-24.
- Blackwell, D.W., Noland, T.R., and Winters, D.B., 1998. The value of auditor assurance: evidence from loan pricing. *Journal of Accounting Research*, 36 (1), 57-70.
- Chaney, P.K., Jeter, D.C., and Shivakumar, L., 2004. Self-selection of auditors and audit pricing in private firms. *The Accounting Review*, 79 (1), 51-72.
- Chow, C.W., 1982. The demand for external auditing: size, debt, and ownership influences. *The Accounting Review*, 57 (2), 272-291.
- Clatworthy, M.A., Makepeace, G.H., and Peel, M. J. (2009). Selection bias and the Big Four premium: new evidence using Heckman and matching models. *Accounting and Business Research*, 39 (2), 139-166.
- Clatworthy, M.A. and Peel, M.J., 2013. The impact of voluntary audit and governance characteristics on accounting errors in private companies. *Journal of Accounting and Public Policy*, 32 (1), 1-25.
- Collin, S.O.Y., Ahlberg, J., Berg, K., Broberg, P., and Karlsson, A., 2017. The auditor as consigliere in family firm. *Journal of Family Business Management*, 7(1), 2-20.
- Collis, J., Jarvis, R., and Skerratt, L., 2004. The demand for audit in small companies in the UK. *Accounting and Business Research*, 34 (2), 87-100.
- Craney, T.A. and Surles, J.G. 2002. Model-dependent variance inflation factor cutoff values. *Quality Engineering*, 14 (3), 391-403.
- Dedman, E. and Kausar, A., 2012. The impact of voluntary audit on credit ratings: evidence from UK private firms. *Accounting and Business Research*, 42 (4), 397-418.
- Dedman, E., Kausar, A., and Lennox, C., 2014. The demand for audit in private firms: recent large-sample evidence from the UK. *European Accounting Review*, 23 (1), 1-23.
- DeFond, M., Erkens, D. H., and Zhang, J., 2016. Do client characteristics really drive the Big N audit quality effect? New evidence from propensity score matching. *Management Science*, in print.
- DeFond, M. and Zhang, J., 2014. A review of archival auditing research. *Journal of Accounting and Economics*, 58 (2), 275-326.

Doyle, J.T., Gi, W., and McVay, S., 2007. Determinants of weaknesses in internal controls over financial reporting. *Journal of Accounting and Economics*, 44 (1), 193-223.

Eilifsen, A., 1998. Auditing regulation and the statutory auditor's responsibilities in Norway. *European Accounting Review*, 7 (4), 709-722.

Eilifsen, A., 2014. Income Taxation Based On Financial Accounting Income. Wiley Encyclopedia of Management.

European Commission (EC), 2010. Audit policy: lessons from the crisis. URL: http://ec.europa.eu/internal_market/consultations/docs/2010/audit/green_paper_audit_en.pdf. Last accessed on February 2, 2016.

European Union (EU). DIRECTIVE 2013/34/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC.

Federation of European Accountants (FEE). 2016a. *Audit exemption thresholds in Europe. Update after the transposition of the Accounting Directive. Information Paper*. FEE: Brussels.

Federation of European Accountants (FEE). 2016b. *Pursuing a Strategic Debate: The Future of Audit and Assurance. Discussion Paper*. FEE: Brussels.

Fenn, G.W., 2000. Speed of issuance and the adequacy of disclosure in the 144A high-yield debt market. *Journal of Financial Economics*, 56 (1), 383-405.

Fjærli, E. and Raknerud, A., 2012. Bortfall av revisorplikt for mindre aksjeselskaper (Norwegian). Translation: Audit exemption for small private companies. Statistics Norway: Documents.

Francis, J.R. and Wilson, E.R., 1988. Auditor changes: a joint test of theories relating to agency costs and auditor differentiation. *The Accounting Review*, 63 (4), 663-682.

Francis, J.R. and Krishnan, J., 1999. Accounting accruals and auditor reporting conservatism. *Contemporary Accounting Review*, 16 (1), 135-65.

Francis, J.R., Maydew, E.L., and Sparks, H.C., 1999. The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory*, 18 (2), 17-34.

Gooderham, P.N., Tobiassen, A., Døving, E., and Nordhaug, O. 2004. Accountants as Sources of Business Advice for Small Firms. *International Small Business Journal*, 22(1), 5-22.

Heckman, J., 1979. The sample selection bias as a specification error. *Econometrica*, 47 (1), 153-162.

ISA 265, Communication deficiencies in internal control to those charged with governance and management. International Auditing Standards. International Federations of Accountants.

ISA 315, Identifying and assessing the risks of material misstatements through understanding the entity and its environment. International Auditing Standards. International Federations of Accountants.

ISA 705, Modifications to the opinion in the independent auditor's report. International Auditing Standards. International Federations of Accountants.

Kinney, Jr., W.R. and McDaniel, L.S., 1989. Characteristics of firms correcting previously reported quarterly earnings. *Journal of Accounting and Economics*, 11 (1), 71-93.

Klein, N., 2014. Small and medium size enterprises, credit supply shocks, and economic recovery in Europe. IMF Working Paper WP/14/98.

Koren, J., Kosi, U., and Valentincic, A., 2014. Does financial statement audit reduce the cost of debt of private firms? Working paper, Vienna University of Economics and Business.

Langli, J.C., 2015a. *Evaluation of a change in the Norwegian legislation: The effects of making audit voluntary for small firms*. Memorandum, BI Norwegian Business School.

Langli, J.C., 2015b. *Evaluering av unntak for revisjonsplikt i små aksjeselskaper*. Research Report, BI Norwegian Business School.

Langli, J.C. and L. Che, 2016. Har fravalg av revisor ført til dårligere finansieringsvilkår? (Do the terms of financing decrease for companies that vote down their auditor?) *Praktisk økonomi og finans*, Vol. 32, no. 1, p. 111-125.

Langli, J.C. and Svanström, T., 2014. Audits of private companies. Ch. 12 in: D. Hay, W.R. Knechel, and M. Willekens, eds. *Routledge Companion to Auditing*. Routledge, 148-159.

Lawrence, A., Minutti-Meza, M., and Zhang, P., 2011. Can Big 4 versus non-Big 4 differences in audit-quality proxies be attributed to client characteristics? *The Accounting Review*, 86 (1), 259-286.

Lennox, C. and Pittman, J., 2011. Voluntary audits versus mandatory audits. *The Accounting Review*, 86 (5), 1655-1678.

Lennox, C., Francis, J.R., and Wang, Z., 2012. Selection models in accounting research. *The Accounting Review*, 87 (2), 589-616.

Melamud, N.D. and Thoman, L., 1990. On auditors and the courts in an adverse selection setting. *Journal of Accounting Research*, 28 (1), 77-120.

Minnis, M., 2011. The value of financial statement verification in debt financing: evidence from private U.S. firms. *Journal of Accounting Research*, 49 (2), 457-506.

Niemi, L., Kinnunen, J., Ojala, H., and Troberg, P., 2012. Drivers of voluntary audit in Finland: to be or not to be audited? *Accounting and Business Research*, 42 (2), 169-196.

Nobes, C. and Schwencke, H.R., 2006. Modelling the links between tax and financial reporting: A longitudinal examination of Norway over 30 years up to IFRS adoption. *European Accounting Review*, 15 (1), 63-87.

Ohlson, J.A., 1980. Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, 18 (1), 109-131.

Papke, L.E. and Wooldridge, J.M., 2008. Panel data for fractional response variables with an application to test pass rates. *Journal of Econometrics*, 145 (1), 121-133.

Peel, M.J., 2014. Addressing unobserved endogeneity bias in accounting studies: control and sensitivity methods by variable type. *Accounting and Business Research*, 44 (5), 545-571.

RS 3801 Revisors kontroll av og rapportering om grunnlag for skatter og avgifter. Den norske revisorforening.

Santos, J.A.C., 2006. Why firm access to the bond market differs over the business cycle: a theory and some evidence. *Journal of Banking & Finance*, 2006 (1), 2715-2736.

Titman, S. and Trueman, B., 1986. Information quality and the valuation of new issues. *Journal of Accounting and Economics*, 8 (1), 159-172.

Van Tendeloo, B. and Vanstraelen, A., 2008. Earnings management and audit quality in Europe: evidence from the private client segment market. *European Accounting Review*, 17 (3), 447-469.

Vanstraelen, A. and Schelleman, C., 2017. Auditing private companies: what do we know? Working paper, Maastricht University.

Watts, R.L. and Zimmerman, J.W., 1983. Agency problems, auditing, and the theory of the firm: some evidence. *Journal of Law and Economics*, 26 (3), 613-633.

Williams, R., 2012. Using the margins command to estimate and interpret adjusted predictions and marginal effects. *The Stata Journal*, 12 (2), 308-331.

Table 1: Summary Statistics

Variable	Mean	Standard deviation	Minimum	Maximum	Percentiles				
					10 th	25 th	50 th	75 th	90 th
<i>ScoreAll</i>	0.871	0.093	0.212	1.000	0.760	0.824	0.886	0.943	0.977
<i>ScoreAccTax</i>	0.916	0.110	0.056	1.000	0.800	0.900	0.923	1.000	1.000
<i>ScoreOth</i>	0.840	0.110	0.190	1.000	0.686	0.789	0.853	0.923	0.962
<i>OptOutFirm</i>	0.475	0.499	0.000	1.000	0.000	0.000	0.000	1.000	1.000
<i>NoAudit</i>	0.162	0.368	0.000	1.000	0.000	0.000	0.000	0.000	1.000
<i>RepExtAcc</i>	0.419	0.493	0.000	1.000	0.000	0.000	0.000	1.000	1.000
<i>RepAuditor</i>	0.499	0.500	0.000	1.000	0.000	0.000	0.000	1.000	1.000
<i>BookExtAcc</i>	0.704	0.457	0.000	1.000	0.000	0.000	1.000	1.000	1.000
<i>LnTotalAssets</i>	7.133	1.655	-6.908	11.503	5.171	6.285	7.245	8.246	9.095
<i>LnAge</i>	2.117	0.789	0.000	4.635	1.099	1.609	1.946	2.708	3.178
<i>ProBankrupt</i>	0.401	0.396	-1.000	3.000	0.006	0.030	0.280	0.785	0.997
<i>Leverage</i>	0.160	0.358	0.000	3.000	0.000	0.000	0.000	0.112	0.656
<i>ROA</i>	-0.023	0.341	-1.354	0.546	-0.321	-0.056	0.014	0.117	0.292
<i>Intangibles</i>	0.023	0.082	0.000	0.567	0.000	0.000	0.000	0.000	0.046
<i>Inv&AccRev</i>	0.259	0.308	0.000	1.000	0.000	0.003	0.115	0.448	0.794
<i>LnSales</i>	5.814	2.470	-0.024	11.357	1.021	4.844	6.555	7.600	8.205
<i>LnEmployees</i>	0.333	0.487	0.000	2.907	0.000	0.000	0.000	0.660	1.115
<i>NonAuditFee</i>	1.126	1.099	0.000	5.011	0.000	0.000	1.386	2.079	2.485
<i>Big4</i>	0.250	0.433	0.000	1.000	0.000	0.000	0.000	1.000	1.000
<i>ModOpinion</i>	0.122	0.328	0.000	1.000	0.000	0.000	0.000	0.000	1.000
<i>EquityIssue</i>	0.138	0.345	0.000	1.000	0.000	0.000	0.000	0.000	1.000
<i>OwnershipCEO</i>	0.408	0.438	0.000	1.000	0.000	0.000	0.250	1.000	1.000
<i>NumOwners</i>	0.455	0.602	0.000	2.303	0.000	0.000	0.000	0.693	1.386
<i>AuditFee</i>	2.475	0.601	0.000	5.303	1.609	2.079	2.485	2.890	3.219

Table 1 contains summary statistics for all of the variables used in the regression analyses. The sample is an unbalanced panel from 2009-2012 and consists of 6,686 observations and 2,074 unique firms. *Leverage* takes values between 0 and 3, *ROA* is winsorized with 3 percent in each tail, and *Inv&AccRec* and *Intangibles* are winsorized with 1 percent in each tail. Variable definitions are in Appendix 1.

Table 2: Correlation Matrix

	<i>ScoreAll</i>	<i>OptOutFirm</i>	<i>NoAudit</i>	<i>RepExtAcc</i>	<i>RepAuditor</i>	<i>BookExtAcc</i>	<i>LnTotalAssets</i>	<i>LnAge</i>	<i>ProBankrupt</i>	<i>Leverage</i>
<i>OptOutFirm</i>	0.02	1.00								
<i>NoAudit</i>	0.03	0.46*	1.00							
<i>RepExtAcc</i>	0.10*	0.31*	0.32*	1.00						
<i>RepAuditor</i>	-0.06*	-0.32*	-0.36*	-0.85*	1.00					
<i>BookExtAcc</i>	0.07*	0.18*	0.09*	0.47*	-0.24*	1.00				
<i>LnTotalAssets</i>	0.02	-0.19*	-0.11*	-0.08*	0.08*	-0.06*	1.00			
<i>LnAge</i>	0.10*	0.00	0.06*	0.00	0.03	-0.02	0.04*	1.00		
<i>ProBankrupt</i>	0.03	0.00	0.00	0.03	-0.02	0.07*	-0.27*	0.00	1.00	
<i>Leverage</i>	0.04*	-0.05*	-0.03*	0.00	0.01	0.06*	0.11*	0.05*	0.32*	1.00
<i>ROA</i>	0.05*	0.02	0.00	-0.02	0.02	-0.04*	0.41*	0.02	-0.49*	-0.15*
<i>Intangibles</i>	0.04*	-0.03	0.00	0.00	-0.01	-0.01	-0.04*	-0.03	0.13*	0.01
<i>Inv&AccRev</i>	0.10*	0.01	0.01	0.04*	-0.02	0.06*	-0.15*	0.02	0.12*	-0.03*
<i>LnSales</i>	0.31*	0.00	-0.01	0.09*	-0.03	0.09*	0.44*	0.13*	-0.14*	0.07*
<i>LnEmployees</i>	0.33*	0.04*	0.01	0.12*	-0.07*	0.12*	0.04*	0.09*	0.02	-0.09*
<i>NonAuditFee</i>	0.01	-0.21*	-0.12*	-0.36*	0.42*	-0.14*	0.14*	0.05*	0.00	0.01
<i>Big4</i>	-0.03	-0.03*	-0.02	-0.03	0.00	-0.07*	0.07*	-0.03	-0.03	0.04*
<i>ModOpinion</i>	-0.07*	0.06*	0.03	0.04*	-0.04*	0.06*	-0.19*	-0.03	-0.33*	0.14*
<i>EquityIssue</i>	0.01	-0.01	0.25*	0.06*	-0.06*	0.02	-0.03	0.04*	0.04*	0.01
<i>OwnershipCEO</i>	0.04*	0.25*	0.13*	0.12*	-0.07*	0.11*	-0.13*	0.01	-0.06*	-0.10*
<i>NumOwners</i>	0.05*	-0.03	-0.03	0.06*	-0.04*	0.06*	0.00	0.04*	0.05*	0.09*
<i>AuditFee</i>	0.21*	0.03	-0.01	0.12*	-0.08*	0.09*	0.20*	0.13*	0.10*	0.05*

	<i>ROA</i>	<i>Intangibles</i>	<i>Inv&AccRev</i>	<i>LnSales</i>	<i>LnEmployees</i>	<i>NonAuditFee</i>	<i>Big4</i>	<i>ModOpinion</i>	<i>EquityIssue</i>	<i>OwnershipCEO</i>	<i>NumOwners</i>
<i>Intangibles</i>	-0.08*	1.00									
<i>Inv&AccRev</i>	-0.07*	-0.01	1.00								
<i>LnSales</i>	0.35*	-0.05*	0.16*	1.00							
<i>LnEmployees</i>	0.05*	0.05*	0.29*	0.54*	1.00						
<i>NonAuditFee</i>	-0.02	0.00	0.01	0.08*	0.04*	1.00					
<i>Big4</i>	-0.02	0.03	-0.03*	-0.06*	-0.05*	0.06*	1.00				
<i>ModOpinion</i>	-0.26*	0.03*	0.16*	-0.05*	0.17*	-0.08*	-0.14*	1.00			
<i>EquityIssue</i>	-0.04*	0.02	0.03	-0.01	0.00	0.04*	0.01	0.04*	1.00		
<i>OwnershipCEO</i>	0.05*	-0.06*	0.06*	0.11*	0.17*	-0.08*	-0.14*	0.01	-0.01	1.00	
<i>NumOwners</i>	-0.07*	0.05*	0.01	0.04*	0.06*	0.03	0.01	0.02	0.02	-0.29*	1.00
<i>AuditFee</i>	-0.02	0.08*	0.19*	0.43*	0.45*	0.04*	0.09*	0.09*	0.02	0.01	0.08*

Table 2 contains Pearson correlations. Correlations that are statistically significant at the one-percent level are denoted by an *. Variable definitions are in Appendix 1.

Table 3: Summary Statistics, Opt-Out Firms v. Audited Firms, 2009-2010

Variable	Opt-Out Firms		Audited Firms		P-value
	Mean	Median	Mean	Median	
<i>ScoreAll</i>	0.872	0.885	0.868	0.881	0.191
<i>RepExtAcc</i>	0.485	0.000	0.275	0.000	0.000
<i>RepAuditor</i>	0.447	0.000	0.646	1.000	0.000
<i>BookExtAcc</i>	0.792	1.000	0.625	1.000	0.000
<i>LnTotalAssets</i>	6.820	6.939	7.434	7.563	0.000
<i>LnAge</i>	2.029	1.946	2.037	1.792	0.764
<i>ProBankrupt</i>	0.396	0.281	0.394	0.288	0.907
<i>Leverage</i>	0.139	0.000	0.175	0.000	0.012
<i>ROA</i>	-0.012	0.021	-0.030	0.012	0.095
<i>Intangibles</i>	0.019	0.000	0.025	0.000	0.018
<i>Inv&AccRev</i>	0.261	0.142	0.252	0.086	0.385
<i>LnSales</i>	5.849	6.493	5.809	6.578	0.608
<i>LnEmployees</i>	0.365	0.037	0.313	0.000	0.001
<i>NonAuditFee</i>	0.877	0.000	1.280	1.609	0.000
<i>Big4</i>	0.233	0.000	0.267	0.000	0.015
<i>ModOpinion</i>	0.107	0.000	0.147	0.000	0.000
<i>EquityIssue</i>	0.018	0.000	0.030	0.000	0.018
<i>OwnershipCEO</i>	0.521	0.500	0.304	0.000	0.000
<i>NumOwners</i>	0.446	0.000	0.485	0.000	0.042
<i>AuditFee</i>	2.507	2.565	2.459	2.485	0.014

Table 3 shows data only for 2009 and 2010, when all firms were required to be audited. See Appendix 1 for variable definitions. The far-right column is the p-value for a t-test in differences in means in the relevant variable for opt-out firms and audited firms.

Table 4: Summary Statistics, Opt-Out Firms Only, Pre- v. Post-Opt-Out

Variable	Pre-OptOut		Post-Opt-Out		P-value
	Mean	Median	Mean	Median	
<i>ScoreAll</i>	0.871	0.883	0.878	0.894	0.043
<i>RepExtAcc</i>	0.475	0.000	0.784	1.000	0.000
<i>RepAuditor</i>	0.459	0.000	0.087	0.000	0.000
<i>BookExtAcc</i>	0.790	1.000	0.797	1.000	0.616
<i>LnTotalAssets</i>	6.836	6.948	6.729	6.883	0.068
<i>LnAge</i>	2.058	1.946	2.224	2.079	0.000
<i>ProBankrupt</i>	0.400	0.289	0.403	0.236	0.837
<i>Leverage</i>	0.144	0.000	0.133	0.000	0.405
<i>ROA</i>	-0.014	0.018	-0.021	0.020	0.570
<i>Intangibles</i>	0.019	0.000	0.023	0.000	0.156
<i>Inv&AccRev</i>	0.259	0.138	0.269	0.146	0.398
<i>LnSales</i>	5.837	6.487	5.738	6.490	0.267
<i>LnEmployees</i>	0.357	0.028	0.349	0.029	0.655
<i>NonAuditFee</i>	0.924	0.000	0.821	0.000	0.009
<i>EquityIssue</i>	0.034	0.000	0.331	0.000	0.000
<i>OwnershipCEO</i>	0.517	0.500	0.534	0.500	0.293
<i>NumOwners</i>	0.447	0.000	0.415	0.000	0.136

Table 4 shows data only for opt-out firms. Data in the columns “Audited” are for before these firms opted out; data in the columns “Unaudited” are for after these firms opted out. See Appendix 1 for variable definitions. The far-right column is the p-value for a t-test in differences in means in the relevant variable for opt-out firms when these firms were audited compared to when these firms were not audited.

Table 5: Summary Statistics, Opt-Out Firms, Post-Opt-Out, Consultant v. No Consultant

Variable	With Consultant		Without Consultant		P-value
	Mean	Median	Mean	Median	
<i>ScoreAll</i>	0.884	0.899	0.838	0.848	0.000
<i>RepExtAcc</i>	0.900	1.000	0.000	0.000	0.000
<i>RepAuditor</i>	0.100	0.000	0.000	0.000	0.000
<i>BookExtAcc</i>	0.899	1.000	0.108	0.000	0.000
<i>LnTotalAssets</i>	6.736	6.880	6.682	6.904	0.719
<i>LnAge</i>	2.228	2.079	2.198	2.079	0.627
<i>ProBankrupt</i>	0.406	0.243	0.387	0.182	0.611
<i>Leverage</i>	0.142	0.000	0.075	0.000	0.030
<i>ROA</i>	-0.023	0.023	-0.007	0.010	0.603
<i>Intangibles</i>	0.025	0.000	0.008	0.000	0.017
<i>Inv&AccRev</i>	0.278	0.169	0.207	0.027	0.011
<i>NonAuditFee</i>	0.812	0.000	0.883	0.000	0.458
<i>LnSales</i>	5.875	6.650	4.815	5.506	0.000
<i>LnEmployees</i>	0.374	0.053	0.180	0.000	0.000
<i>EquityIssue</i>	0.332	0.000	0.324	0.000	0.842
<i>OwnershipCEO</i>	0.549	0.500	0.438	0.500	0.006
<i>NumOwners</i>	0.416	0.000	0.408	0.000	0.864

Table 5 shows data only for opt-out firms, and only for the years after these firms opted out. Data in the columns “With Consultant” are for those opt-out firms that used an external accountant or an auditor to prepare their financial statements after opting out; data in the columns “Without Consultant” are for those opt-out firms that did not do so. See Appendix 1 for variable definitions. The far-right column is the p-value for a t-test in differences in means in the relevant variable for opt-out firms post-opt-out for those opt-out firms that used an external accountant or an auditor to prepare their financial statements and for those opt-out firms that did not.

Table 6: Regression Results, Pre-Opt-Out Period (2009 and 2010)

Dependent variable:	<i>ScoreAll</i>	<i>ScoreAccTax</i>	<i>ScoreOther</i>
<i>OptOutFirm</i>	-0.059** (0.03)	-0.130*** (0.05)	-0.021 (0.03)
<i>RepExtAcc</i>	0.093 (0.06)	0.032 (0.11)	0.146** (0.06)
<i>RepAuditor</i>	-0.054 (0.06)	-0.287*** (0.10)	0.053 (0.06)
<i>BookExtAcc</i>	-0.002 (0.04)	0.163** (0.06)	-0.081** (0.03)
<i>LnTotalAssets</i>	-0.036*** (0.01)	-0.042* (0.02)	-0.034*** (0.01)
<i>LnAge</i>	0.041** (0.02)	0.05 (0.03)	0.047*** (0.02)
<i>ProBankrupt</i>	0.083** (0.04)	0.075 (0.07)	0.111** (0.04)
<i>Leverage</i>	0.141*** (0.04)	0.129** (0.07)	0.160*** (0.04)
<i>ROA</i>	0.084* (0.05)	0.220** (0.09)	0.033 (0.05)
<i>Intangibles</i>	0.195 (0.17)	0.296 (0.35)	0.121 (0.16)
<i>Inv&AccRec</i>	-0.073 (0.04)	-0.038 (0.08)	-0.076* (0.04)
<i>LnSales</i>	0.058*** (0.01)	0.035*** (0.01)	0.072*** (0.01)
<i>LnEmployees</i>	0.357*** (0.04)	0.464*** (0.08)	0.313*** (0.04)
<i>NonAuditFee</i>	0.015 (0.01)	0.043* (0.02)	0.003 (0.01)
<i>Big4</i>	-0.002 (0.03)	0.046 (0.05)	-0.019 (0.03)
<i>ModOpinion</i>	-0.223*** (0.04)	-0.467*** (0.07)	-0.124*** (0.04)
<i>Constant</i>	1.757*** (0.13)	2.967*** (0.28)	1.232*** (0.12)
N	3,902	3,902	3,902
Marginal effect			
<i>OptOutFirm</i>	-0.006** (0.003)	-0.009*** (0.003)	-0.003 (0.004)

Table 6 shows regression results for observations only from 2009 and 2010. All estimations include year, industry, and county fixed effects. See Appendix 1 for variable definitions. All models are estimated using GLM (Papke and Wooldridge 2008). *, **, and *** denote statistical significance at the 10-, five-, and one-percent level, respectively. Heteroskedasticity-robust standard errors are in parentheses. The marginal effect is the impact on *Score* of a marginal change in *OptOutFirm* when the value of each of the other independent variables is at its mean (Williams 2012).

Table 7: Regression Results, First-Stage Probit Estimation

Dep. var.	<i>OptOutFirm</i>	
<i>RepExtAcc</i>	0.054	(0.12)
<i>RepAuditor</i>	-0.728***	(0.11)
<i>BookExtAcc</i>	0.278***	(0.08)
<i>LnTotalAssets</i>	-0.128***	(0.02)
<i>LnAge</i>	0.019	(0.04)
<i>ProBankrupt</i>	0.031	(0.08)
<i>Leverage</i>	-0.025	(0.09)
<i>ROA</i>	0.416***	(0.08)
<i>Intangibles</i>	-0.630*	(0.33)
<i>Inv&AccRec</i>	-0.332***	(0.10)
<i>LnSales</i>	-0.009	(0.02)
<i>LnEmployees</i>	-0.218***	(0.08)
<i>NonAuditFee</i>	-0.055*	(0.03)
<i>Big4</i>	-0.031	(0.07)
<i>ModOpinion</i>	0.181**	(0.08)
<i>EquityIssue</i>	-0.359***	(0.12)
<i>OwnershipCEO</i>	0.635***	(0.08)
<i>NumOwners</i>	0.044	(0.05)
<i>AuditFee</i>	0.156***	(0.05)
<i>Constant</i>	0.732***	(0.28)
N	6,686	
Pseudo R2	0.190	
Classification %	72.27%	

Table 7 shows the results of the first-stage probit model that predicts the probability that a firm chooses to opt out. All estimations include year, industry, and county fixed effects. Coefficients are on the left; standard errors that are clustered by firm and robust against heteroskedasticity are in parentheses on the right. See Appendix 1 for variable definitions. *, **, and *** denote statistical significance at the 10-, five-, and one-percent level, respectively. “Classification %” is the percentage of opt-out decisions that the model correctly predicted.

Table 8: Regression Results, Full Model

Dependent variables	<i>ScoreAll</i>		<i>ScoreAccTax</i>		<i>ScoreOther</i>	
<i>OptOutFirm</i>	-0.195** (0.09)	-0.187** (0.09)	-0.469*** (0.17)	-0.447*** (0.17)	-0.03 (0.09)	-0.025 (0.09)
<i>NoAudit</i>		-0.160* (0.09)		-0.348** (0.14)		-0.089 (0.08)
<i>NoAudit x RepExtAcc</i>		0.191** (0.09)		0.405*** (0.15)		0.109 (0.09)
<i>NoAudit x RepAuditor</i>		0.305*** (0.10)		0.628*** (0.18)		0.174* (0.10)
<i>RepExtAcc</i>	0.105** (0.05)	0.051 (0.05)	0.098 (0.09)	-0.023 (0.09)	0.135*** (0.05)	0.105** (0.05)
<i>RepAuditor</i>	-0.06 (0.05)	-0.106** (0.05)	-0.263*** (0.08)	-0.369*** (0.08)	0.051 (0.05)	0.026 (0.05)
<i>BookExtAcc</i>	0.021 (0.03)	0.022 (0.03)	0.207*** (0.05)	0.209*** (0.05)	-0.070** (0.03)	-0.069** (0.03)
<i>InverseMills</i>	0.077 (0.06)	0.069 (0.06)	0.181* (0.10)	0.166 (0.11)	0.003 (0.06)	-0.001 (0.06)
<i>LnTotalAssets</i>	-0.023*** (0.01)	-0.023** (0.01)	-0.026 (0.02)	-0.026 (0.02)	-0.019** (0.01)	-0.019** (0.01)
<i>LnAge</i>	0.037*** (0.01)	0.037*** (0.01)	0.045* (0.02)	0.047* (0.02)	0.040*** (0.01)	0.041*** (0.01)
<i>ProBankrupt</i>	0.098*** (0.03)	0.101*** (0.03)	0.106** (0.05)	0.111** (0.05)	0.116*** (0.03)	0.117*** (0.03)
<i>Leverage</i>	0.115*** (0.03)	0.113*** (0.03)	0.116** (0.05)	0.112** (0.05)	0.121*** (0.03)	0.120*** (0.03)
<i>ROA</i>	0.084** (0.04)	0.083** (0.04)	0.216*** (0.07)	0.215*** (0.07)	0.025 (0.04)	0.025 (0.04)
<i>Intangibles</i>	0.189 (0.13)	0.18 (0.13)	0.197 (0.24)	0.18 (0.24)	0.175 (0.12)	0.169 (0.12)
<i>Inv&AccRec</i>	-0.113*** (0.04)	-0.114*** (0.04)	-0.075 (0.07)	-0.076 (0.07)	-0.113*** (0.04)	-0.113*** (0.04)
<i>LnSales</i>	0.052*** (0.00)	0.052*** (0.00)	0.022** (0.01)	0.023** (0.01)	0.069*** (0.01)	0.069*** (0.01)
<i>LnEmployees</i>	0.381*** (0.03)	0.381*** (0.03)	0.493*** (0.06)	0.493*** (0.06)	0.343*** (0.03)	0.343*** (0.03)
<i>NonAuditFee</i>	0.002 (0.01)	0.002 (0.01)	0.007 (0.02)	0.009 (0.02)	-0.003 (0.01)	-0.003 (0.01)
<i>Big4</i>	-0.005 (0.02)	-0.006 (0.02)	0.044 (0.04)	0.04 (0.04)	-0.022 (0.02)	-0.023 (0.02)
<i>ModOpinion</i>	-0.230*** (0.03)	-0.230*** (0.03)	-0.464*** (0.06)	-0.466*** (0.06)	-0.141*** (0.03)	-0.141*** (0.03)
<i>Constant</i>	1.782*** (0.12)	1.812*** (0.12)	3.070*** (0.26)	3.138*** (0.26)	1.176*** (0.12)	1.192*** (0.12)
N	6,686	6,686	6,686	6,686	6,686	6,686
Marginal effects						
<i>OptOutFirm</i>	-0.021** (0.10)	-0.020** (0.01)	-0.034*** (0.01)	-0.032** (0.01)	-0.004 (0.01)	-0.003 (0.01)
<i>NoAudit</i>		-0.018* (0.01)		-0.027** (0.01)		-0.012 (0.01)
<i>NoAudit x RepExtAcc</i>		0.019**		0.025***		0.014

	(0.01)	(0.01)	(0.01)
<i>NoAudit x RepAuditor</i>	0.029***	0.034***	0.021*
	(0.01)	(0.01)	(0.01)
Joint effects			
<i>NoAudit & RepExtAcc</i>	0.083	0.034	0.125**
	(0.166)	(0.747)	(0.038)
<i>NoAudit & RepAuditor</i>	0.039	-0.089	0.110
	(0.627)	(0.570)	(0.174)

Table 8 shows regression results for the full model, with observations from all of the years. All estimations include year, industry, and county fixed effects. See Appendix 1 for variable definitions. All models are estimated using GLM (Papke and Wooldridge 2008). *, **, and *** denote statistical significance at the 10-, five-, and one-percent level, respectively. Apart from joint effects, we show inside the parentheses heteroskedasticity-robust standard errors. The marginal effect is the impact on *Score* of a marginal change in the relevant variables when the value of each of the other independent variables is at its mean (Williams 2012). Under joint effects, the top value is the combined value of the coefficients (not the marginal effects) for the three relevant variables – for example, *NoAudit & RepExtAcc* shows the combined value for the coefficients of *NoAudit*, *RepExtAcc*, and the interaction term *NoAudit x RepExtAcc*. Inside parentheses, we show the p-value for a test where the null hypothesis is that the combined value of the coefficients is not different from 0.

Table 9: Regression Results, Full Model, for Large and Small Firms

Subsample	Large			Small		
	<i>ScoreAll</i>	<i>ScoreAccTax</i>	<i>ScoreOther</i>	<i>ScoreAll</i>	<i>ScoreAccTax</i>	<i>ScoreOther</i>
<i>Dependent variable:</i>						
<i>OptOutFirm</i>	-0.301** (0.14)	-0.754*** (0.27)	-0.147 (0.13)	-0.031 (0.08)	-0.14 (0.15)	0.06 (0.08)
<i>NoAudit</i>	-0.254 (0.20)	-0.776** (0.30)	-0.041 (0.18)	-0.101 (0.09)	-0.203 (0.16)	-0.067 (0.09)
<i>NoAudit x RepExtAcc</i>	0.247 (0.20)	0.788** (0.31)	0.032 (0.18)	0.15 (0.10)	0.277* (0.17)	0.101 (0.10)
<i>NoAudit x RepAuditor</i>	0.368 (0.24)	0.698* (0.38)	0.232 (0.21)	0.290*** (0.11)	0.680*** (0.18)	0.133 (0.11)
<i>RepExtAcc</i>	0.180* (0.10)	0.008 (0.19)	0.256*** (0.09)	-0.003 (0.06)	-0.043 (0.10)	0.045 (0.06)
<i>RepAuditor</i>	-0.017 (0.10)	-0.388** (0.18)	0.113 (0.09)	-0.103** (0.05)	-0.309*** (0.09)	0.012 (0.06)
<i>BookExtAcc</i>	-0.05 (0.05)	0.166* (0.09)	-0.139*** (0.04)	0.043 (0.03)	0.197*** (0.06)	-0.037 (0.03)
<i>InverseMills</i>	0.10 (0.08)	0.287* (0.16)	0.034 (0.08)	-0.014 (0.04)	0.007 (0.08)	-0.039 (0.04)
<i>LnTotalAssets</i>	-0.072*** (0.02)	-0.126*** (0.05)	-0.050** (0.02)	-0.014 (0.01)	-0.007 (0.02)	-0.014 (0.01)
<i>LnAge</i>	0.045** (0.02)	0.081** (0.04)	0.038* (0.02)	0.038** (0.02)	0.039 (0.03)	0.045** (0.02)
<i>ProBankrupt</i>	0.224*** (0.07)	0.291** (0.12)	0.238*** (0.07)	0.049 (0.03)	0.033 (0.06)	0.071** (0.04)
<i>Leverage</i>	0.114** (0.06)	0.039 (0.10)	0.141*** (0.05)	0.102** (0.04)	0.129* (0.07)	0.098** (0.04)
<i>ROA</i>	0.238*** (0.07)	0.471*** (0.13)	0.177** (0.07)	0.048 (0.05)	0.106 (0.08)	0.013 (0.04)
<i>Intangibles</i>	0.450** (0.21)	0.227 (0.44)	0.511*** (0.18)	0.094 (0.15)	0.233 (0.28)	0.024 (0.15)
<i>Inv&AccRec</i>	-0.306*** (0.07)	-0.374*** (0.12)	-0.280*** (0.07)	-0.036 (0.04)	0.03 (0.08)	-0.044 (0.04)
<i>LnSales</i>	-0.057* (0.03)	-0.094* (0.05)	-0.043 (0.03)	0.039*** (0.01)	0.000 (0.01)	0.063*** (0.01)
<i>LnEmployees</i>	0.332*** (0.04)	0.416*** (0.08)	0.298*** (0.04)	0.638*** (0.13)	0.334* (0.18)	0.781*** (0.14)
<i>NonAuditFee</i>	-0.011 (0.02)	-0.01 (0.03)	-0.014 (0.01)	0.007 (0.01)	0.011 (0.02)	0.002 (0.01)
<i>Big4</i>	-0.052 (0.04)	-0.106 (0.07)	-0.04 (0.04)	0.025 (0.03)	0.125*** (0.05)	-0.011 (0.03)
<i>ModOpinion</i>	-0.314*** (0.05)	-0.551*** (0.10)	-0.228*** (0.05)	-0.178*** (0.04)	-0.431*** (0.07)	-0.075* (0.04)
<i>Constant</i>	3.094*** (0.33)	5.202*** (0.63)	2.337*** (0.32)	1.627*** (0.22)	2.557*** (0.43)	1.045*** (0.23)
N	3,343	3,343	3,343	3,343	3,343	3,343
Marginal effects						
<i>OptOutFirm</i>	-0.026** (0.01)	-0.041*** (0.02)	-0.015 (0.01)	-0.004 (0.01)	-0.013 (0.01)	0.009 (0.01)
<i>NoAudit</i>	-0.023 (0.02)	-0.051** (0.03)	-0.004 (0.02)	-0.013 (0.01)	-0.019 (0.02)	-0.011 (0.01)
<i>NoAudit x RepExtAcc</i>	0.020 (0.01)	0.032*** (0.01)	0.003 (0.02)	0.019 (0.01)	0.023* (0.01)	0.015 (0.01)

<i>NoAudit x RepAuditor</i>	0.027* (0.02)	0.027** (0.01)	0.022 (0.02)	0.034*** (0.01)	0.048*** (0.01)	0.020 (0.02)
Joint effects						
<i>NoAudit & RepExtAcc</i>	0.173 (0.126)	0.047 (0.500)	(0.020) (0.924)	0.031 (0.802)	0.247** (0.016)	0.079 (0.275)
<i>NoAudit & RepAuditor</i>	0.096 (0.582)	0.086 (0.274)	-0.467 (0.146)	0.167 (0.250)	0.304** (0.042)	0.078 (0.399)

Table 9 shows regression results for the full model, with observations from all of the years, for large and small firms. "Large firms" are those firms whose sales are equal to or larger than the median of sales. "Small firms" are all other firms. All estimations include year, industry, and county fixed effects. See Appendix 1 for variable definitions. All models are estimated using GLM (Papke and Wooldridge 2008). *, **, and *** denote statistical significance at the 10-, five-, and one-percent level, respectively. Apart from joint effects, we show inside the parentheses heteroskedasticity-robust standard errors. "Marginal effects" and "Joint effects" are the same as in Table 8.

Appendix 1: Variable Definitions

<i>AuditFee</i>	=	natural logarithm of audit fee (audit fee in 1,000 NOK). For firms opting out of auditing, the audit fee is set equal to audit fee for the last year with auditor.
<i>Big4</i>	=	1 if the audit firm is a member of the Big-4 audit firm, and 0 otherwise. For firms opting out of auditing, <i>Big4</i> uses the audit firm in the last year with auditor.
<i>BookExtAcc</i>	=	1 the record keeping is carried out by an external accountant, and 0 otherwise.
<i>EquityIssue</i>	=	1 if the firm issues share capital, and 0 otherwise.
<i>Intangibles</i>	=	intangible assets / total assets, winsorized at the 1 st and 99 th percentiles.
<i>Inv&AccRec</i>	=	(inventory and accounts receivables) / total assets, winsorized at the 1 st and 99 th percentiles.
<i>Leverage</i>	=	total interest-bearing debt / total assets, winsorized to be between 0 and 3.
<i>LnAge</i>	=	natural logarithm of the firms age in years.
<i>LnEmployees</i>	=	natural logarithm of the number of employees.
<i>LnSales</i>	=	natural logarithm of sales (sales in 1,000 NOK).
<i>LnTotalAssets</i>	=	natural logarithm of total assets (total assets in 1,000 NOK).
<i>ModOpinion</i>	=	1 if the audit opinion is modified (capturing all types of deviations from a clean opinion), and 0 otherwise. For firms opting out of auditing, <i>ModOpinion</i> uses the value for the last year with auditor.
<i>NoAudit</i>	=	1 for the years a firm is without an auditor, and 0 otherwise. <i>NoAudit</i> is 1 in 2011 and 2012 for firms opting out in 2011, and 0 in 2009 and 2010.
<i>NonAuditFee</i>	=	natural logarithm of non-audit services (non-audit services in 1,000 NOK).
<i>NumOwners</i>	=	Natural logarithm of the number of owners.
<i>OptOutFirm</i>	=	1 if the firm opts out of auditing, and 0 otherwise. <i>OptOutFirm</i> = 1 for all years if the firms opt out in 2011 or 2012.
<i>OwnershipCEO</i>	=	the percentage of share owned by the CEO.
<i>ProBankrupt</i>	=	the probability of bankruptcy using Ohlson (1980).
<i>RepAuditor</i>	=	1 if the financial statement is prepared by the statutory auditor, and 0 otherwise.
<i>RepExtAcc</i>	=	1 if the financial statement is prepared by an external accountant, and 0 otherwise.
<i>ROA</i>	=	net income before extraordinary item / average total assets, winsorized at the 3 rd and 97 th percentiles.
<i>ScoreAccTax</i>	=	number of questions related to accounting on which the firm has “good compliance” divided by the total number of questions related to accounting the tax authorities evaluated the firm on.
<i>ScoreAll</i>	=	number of questions on which the firm has “good compliance” divided by the total number of questions the tax authorities evaluated the firm on, using all questions included in the questionnaire used by the tax inspectors.
<i>ScoreOther</i>	=	number of questions not related to accounting on which the firm has

“good compliance” divided by the total number of questions not related to accounting the tax authorities evaluated the firm on.

Appendix 2: Inspection questions (translated from Norwegian)

We define as the “accounting questions” all of the questions that come from “Theme 3: System for bookkeeping and reporting.” We define as the “other questions” all of the questions from themes 1, 2, 4, 5, 6, and 7.

For each question, we provide in parentheses two pieces of information. The first is the percentage of firm-years that the NDT evaluated on each question; we denote by “evaluation rate” this percentage. An evaluation rate of 68.8%, for example, means that the NDT evaluated 68.8% of firm-years on this question; for the other $100 - 68.8 = 32.2\%$ of firms, the NDT considered this question not relevant for the firm and thus did not evaluate the firm on this question.

The second is data on the responses. We use “evaluated positively” to mean that the NDT viewed the firm-year as complying with the regulation. For example, “evaluated positively” with respect to question 3.2.2(a), “Does the company have any substantial weaknesses that relate to required reporting,” means that the NDT evaluated the firm-year as *not* having any such weaknesses.

In the end of this appendix, we provide descriptive statistics for the number of questions that the NDT evaluated each firm-year on.

1. General

- 1.1.1 Are the annual reports sent in to and approved by the Brønnøysund Register Centre (Brønnøysundsregistrene)? (100% evaluation rate; 99% evaluated positively)

Question 1.1.1 is included in *ScoreAll* and *ScoreOther*.

2. Annual accounts

- 2.1.1 Is the income statement completed in accordance with the Norwegian accounting laws? (99.9% evaluation rate; 99.8% evaluated positively)
- 2.2.1 Is the balance sheet completed in accordance with the Norwegian accounting laws? (99.8% evaluation rate; 99.8% evaluated positively)
- 2.2.2 Is the difference between the accounting- and tax-based values reconciled in the tax return, entry number 0670/0870. (68.8% evaluation rate; 81.9% evaluated positively)
- 2.3.1 Are all substantial balance-sheet entries documented? (97.7% evaluation rate; 89.7% evaluated positively)
- 2.3.2 If “no” to 2.3.1: Is documentation of the inventory accurate and easy to understand? (5.0% evaluation rate; 68.1% evaluated positively)
- 2.3.3 If “no” to 2.3.1: Does the company have the required documents from the bank concerning its deposits and bank debt? (15.8% evaluation rate; 86.7% evaluated positively)
- 2.4.1 Does the company disclose any compensation given to management or the members of the board? (100% evaluation rate; 77.4% disclosed such compensation)
- 2.5.1 Is a loan given, or collateral pledged, to management, the members of the board, or shareholders? (100% evaluation rate; 10.3% gave such loans or pledged such collateral)

- 2.5.2 If “yes” to 2.5.1: Does the company disclose information about the loan’s:
- a) terms (10.6% evaluation rate; 58.6% evaluated positively)
 - b) interest rate (10.6% evaluation rate; 62.3% evaluated positively)
 - c) repayment plan (10.6% evaluation rate; 56.1% evaluated positively)
- 2.5.3 Is a loan given, or collateral pledged, for the benefit of closely related persons to management, the members of the board, or shareholders? (100% evaluation rate; 2.4% gave such loans or pledged such collateral)
- 2.5.4 If “yes” to 2.5.3: Does the company disclose information about the loan’s
- a) recipient (2.5% evaluation rate; 71.8% evaluated positively)
 - b) size (2.5% evaluation rate; 47.6% evaluated positively)
- 2.5.5 Is the loan given, or collateral pledged, in accordance with Section 8-7 of the Company Act? (100% evaluation rate; 95.8% evaluated positively)

Questions 2.1.1, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3, 2.4.1, 2.5.2(a)-(c), 2.5.4(a)-(b), and 2.5.5 are included in *ScoreAll* and *ScoreOther* if the questions apply (e.g., question 2.5.2 is not included if the company is not evaluated by the NDT on this question).

3. *System for bookkeeping and reporting*

- 3.1.1 Who carries out the bookkeeping? (100% evaluation rate)
- a) the company itself (29.6% of firm-years)
 - b) external accountant (70.4% of firm-years)
- 3.1.2 Who sets up the financial statements? (100% evaluation rate)
- a) the company itself (8.0% of firm-years)
 - b) external accountant (42.0% of firm-years)
 - c) auditor (50.0% of firm- years)
- 3.2.1 What kind of system is used for registering the accounting data?
- a) standard accounting program (94.4% of firm-years)
 - b) spreadsheet (Excel or similar) (4.5% of firm-years)
 - c) another manual system (1.1% of firm-years)
- 3.2.2 Section 4 of The Bookkeeping Act sets requirements to basic bookkeeping principles. Does the company have substantial weaknesses that relate to
- a) required reporting (100% evaluation rate; 98.3% evaluated positively)
 - b) completeness (100% evaluation rate; 97.4% evaluated positively)
 - c) reality (100% evaluation rate; 96.1% evaluated positively)
 - d) correctness and precision (100% evaluation rate; 96.9% evaluated positively)
 - e) frequency (100% evaluation rate; 97.3% evaluated positively)
 - f) documentation (100% evaluation rate; 93.3% evaluated positively)
 - g) the audit trail (100% evaluation rate; 96.8% evaluated positively)
 - h) preservation of accounting material (100% evaluation rate; 98.0% evaluated positively)
 - i) protection against changes, deletions, *etc.* (100% evaluation rate; 98.3% evaluated positively)
- 3.2.3 Does the company own cars, boats, homes, cabins, holiday homes, or other capital assets that can be used by shareholders or closely related parties? (100% evaluation rate; 14.6% have such capital

assets that are used by related parties)

- 3.2.4 If “yes” to 3.2.3: Are the accounting procedures and systems as well as the bookkeeping good enough to ensure that the shareholders’ use of these capital assets is taxed appropriately? (14.6% evaluation rate; 73.7% evaluated positively)
- 3.2.5 Do shareholders own capital assets that are rented out to the company? (100% evaluation rate; 6.6% have such capital assets)
- 3.2.6 If “yes” to 3.2.5: Is the price basis for these rentals well-documented? (7.2% evaluation rate; 60.2% evaluated positively)
- 3.3.1 Is the company registered in connection with the value-added tax (VAT)? (100% evaluation rate; 58.3% are registered in connection with the VAT)
- 3.3.2 Is the company’s documentation for the outgoing VAT, the incoming VAT, and the basis for the calculation of the VAT in accordance with the accounts in the accounting system? (56.7% evaluation rate; 95.2% evaluated positively)
- 3.3.3 Is the value of the outgoing VAT in the accounting system the same as the value specified in the tax return? (55.2% evaluation rate; 95.9% evaluated positively)
- 3.3.4 Is the value of the incoming VAT in the accounting system the same as the value specified in the tax return? (55.8% evaluation rate; 95.1% evaluated positively)
- 3.3.5 Is the value of the debit/credit VAT in the accounting report the same as in the report submitted to the tax authorities? (56.4% evaluation rate; 92.4% evaluated positively)
- 3.4.1 Does the company give compensation that must be reported in the wage statement? (100% evaluation rate; 47.8% give such compensation)
- 3.4.2 Does the information given for wage and pension costs correspond with that given in connection with the payroll tax? (47.4% evaluation rate; 93.7% evaluated positively)
- 3.4.3 Does the company have an account for employees’ tax deductions? (50.8% evaluation rate; 88.6% evaluated positively)
- 3.4.4 Have the employees’ tax deductions gone into this account? (44.4% evaluation rate; 82.6% evaluated positively)

RepAuditor and *RepExtAcc* are based on question 3.1.2. *RepAuditor* = 1 if an auditor prepares the financial statements, 0 otherwise; *RepExtAcc* = 1 if an external accountant prepares the financial statements, 0 otherwise..

Questions 3.2.2(a)-(i), 3.2.4, 3.2.6, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.3, and 3.4.4 are included in *ScoreAll* and *ScoreAccTax* if the questions apply.

4. Documentation

- 4.1.1 Does the company issue invoices when selling goods and services? (100% evaluation rate; 59.2% have such invoices)
- 4.1.2 If “yes” to 4.1.1: Section 5.1 of the Bookkeeping Act requires certain documentation in the invoices.
Does the company lack substantial weaknesses that relate to
 - a) the invoice’s number and date (59.3% evaluation rate; 92.6% evaluated positively)

- b) the consent of the parties (59.3% evaluation rate; 95.6% evaluated positively)
 - c) the compensation's type and scope (59.3% evaluation rate; 95.1% evaluated positively)
 - d) the time and place of the delivery (59.3% evaluation rate; 95.6% evaluated positively)
 - e) the consideration given and the date the payment is due (59.3% evaluation rate; 96.4% evaluated positively)
 - f) possible value-added taxes or other taxes or fees (59.3% evaluation rate; 97.5% evaluated positively)
- 4.2.1 Does the company have substantial cash sales? (100% evaluation rate; 11.1% have such sales)
- 4.2.2 If "yes" to 4.2.1: Does the company have a cash register? (14.1% evaluation rate; 70.8% have a cash register)
- 4.2.3 If "yes" to 4.2.2: Does the company lack substantial weaknesses that relate to
- a) real-time registration of sales, with a timestamp for each sale (14.1% evaluation rate; 95.8% evaluated positively)
 - b) the documentation of the sale, a receipt (or something similar) with the number and date (14.1% evaluation rate; 97.0% evaluated positively)
 - c) the documentation of corrections, with indications of the sum, the reason, and the number of corrections (14.1% evaluation rate; 96.7% evaluated positively)
 - d) the daily reporting of dated, numbered receipts (14.1% evaluation rate; 96.0% evaluated positively)
 - e) the daily reconciliation of the "z-report" with the report from the cash register (14.1% evaluation rate; 87.9% evaluated positively)
- 4.3.1 Purchases should be documented with the documentation the seller has issued. This documentation should contain all of the information required by Section 5.1 of the Bookkeeping Act. Does the company lack substantial weaknesses that relate to:
- a) the invoice's number and date (86.8% evaluation rate; 97.3% evaluated positively)
 - b) the consent of the parties (86.8% evaluation rate; 93.0% evaluated positively)
 - c) the compensation's type and scope (86.8% evaluation rate; 96.9% evaluated positively)
 - d) the time and place of the delivery (86.8% evaluation rate; 97.2% evaluated positively)
 - e) the consideration given and the date the payment is due (86.8% evaluation rate; 97.9% evaluated positively)
 - f) possible value-added taxes or other taxes or fees (86.8% evaluation rate; 97.7% evaluated positively)
- 4.4.1 Does the company have documentation in the following areas:
- a) wages and other forms of compensation that must be reported (100% evaluation rate; 98.2% evaluated positively)
 - b) withholding tax (100% evaluation rate; 98.6% evaluated positively)
- 4.5.1 Is the company required to document accrued time? (100% evaluation rate; 12.2% required to document such time)
- 4.5.2 If "yes" to 4.5.1: Has the person who carries out the services documented the number of hours for each owner and employee in the case of a direct correlation between compensation and time use? (12.3% evaluation rate; 74.2% evaluated positively)

Questions 4.1.2(a)-(f), 4.2.3(a)-(e), 4.3.1(a)-(f), 4.4.1(a)-(b), and 4.5.2 are included in *ScoreAll* and *ScoreOther* if the question applies.

5. *Appointments*

- 5.1.1 Is the company of a type that carries out appointments? (100% evaluation rate; 5.0% carry out appointments)
- 5.1.2 If “yes” to 5.1.1: Are the appointments documented? (5.4% evaluation rate; 84.6% evaluated positively)
- 5.1.3 If “yes” to 5.1.2: Does the documentation include the point of time for the service and the customer’s name? (5.1% evaluation rate; 87.6% evaluated positively)
- 5.1.4 If “yes” to 5.1.2: Does the company have documentation for which appointments are not carried out? (4.9% evaluation rate; 76.6% evaluated positively)

Questions 5.1.2, 5.1.3, and 5.1.4 are included in *ScoreAll* and *ScoreOther* if they apply.

6. *Withdrawals*

- 6.1.1 Are resources withdrawn from the company? (100% evaluation rate; 3.0% withdraw resources)
- 6.1.2 If “yes” to 6.1.1: Does the company have documentation for:
 - a) the withdrawal’s date (3.0% evaluation rate; 71.6% evaluated positively)
 - b) the nature of the payment (3.0% evaluation rate; 72.6% evaluated positively)
 - c) the size of the payment (3.0% evaluation rate; 76.6% evaluated positively)
 - d) a statement of the fair value (3.0% evaluation rate; 69.7% evaluated positively)

Questions 6.1.2(a)-(d) are included in *ScoreAll* and *ScoreOther* if they apply.

7. *Expenses*

- 7.1.1 Does the company have travel and residence expenses above the materiality threshold? (100% evaluation rate; 15.2% have such expenses)
- 7.1.2 If “yes” to 7.1.1: Does the company have documentation for:
 - a) whom the expenses cover (5.9% evaluation rate; 48.0% evaluated positively)
 - b) the objective of the trip (5.9% evaluation rate; 15.6% evaluated positively)
- 7.1.3 Do the travel expenses seem legitimate? (100% evaluation rate; 15.2% have such expenses) (18.3% evaluation rate; 91.2% evaluated positively)
- 7.2.1 Does the company have entertainment expenses above the materiality threshold? (100% evaluation rate; 4.7% have such expenses)
- 7.2.2 If “yes” to 7.2.1: Does the company have documentation for
 - a) whom the entertainment includes (2.8% evaluation rate; 23.5% evaluated positively)
 - b) the objective of the entertainment (2.8% evaluation rate; 38.5% evaluated positively)

Questions 7.1.2(a)-(b), 7.1.3, and 7.2.1(a)-(b) are included in *ScoreAll* and *ScoreOther* if they apply.

To conclude this appendix, we show descriptive statistics for the variable *EvaluationRate*, the percentage of questions the NDT inspected each firm-year on. To calculate *EvaluationRate*, we first define the variable *NumQuestions* as the raw number of questions that the NDT evaluated the firm-year on; *NumQuestions* = 32, for example, means that the NDT evaluated the firm-year on 32 questions. *Score* includes 64 questions in total. Hence, to calculate *EvaluationRate*, we divide *NumQuestions* by 64. If *NumQuestions* = 32, for example, $EvaluationRate = 32 / 64 = 0.50$. To be clear, we calculate *EvaluationRate* separately for each firm-year – for example, if the NDT inspected a firm in 2009, 2010, 2011,

and 2012, *EvaluationRate* can, in principle, be different for each of the four years. We calculate *Evaluation_Rate* three separate times: once for all of the questions (*ScoreAll*, 64 questions), once for only the accounting questions (*ScoreAccTax*, 18 questions), and once for all of the non-accounting questions (*ScoreOther*, 46 questions).

Below is the table with descriptive statistics for *EvaluationRate*:

Variable	Question	Mean	Standard deviation	Minimum	Maximum	Percentiles				
						10 th	25 th	50 th	75 th	90 th
<i>Evaluation_Rate</i>	All	0.505	0.126	0.219	0.859	0.344	0.375	0.531	0.594	0.656
	Accounting	0.715	0.174	0.500	1.000	0.500	0.500	0.722	0.889	0.944
	Other	0.422	0.122	0.109	0.848	0.261	0.326	0.457	0.500	0.565

EvaluationRate tends to be higher for the accounting questions because these questions generally were more closely related to central accounting regulations, such as the Norwegian Bookkeeping Act. Even for the non-accounting questions, however, the 10th percentile for *EvaluationRate* is 0.261 – given that the non-accounting questions include 46 separate questions, this figure implies that over 90 percent of firm-years were evaluated on 12 or more questions.

Appendix 3: NDT's sample selection

In this appendix, we describe the process the Norwegian Directorate of Taxes (NDT) used to choose which 2,117 firms to sample (the “inspected firms”). To simplify the math, we use in these examples 2,000 firms instead of 2,117. To choose the sample, the NDT used stratified random sampling.³⁰ First, the NDT divided Norway into five different regions which corresponds to the five regional organization units of the NDT. Second, the NDT ensured that each region accounted for the same share of the inspected firms as for the NDT's normal inspections. If a region, Region A, accounted for 30 percent of the NDT's normal inspections, for example, $2,000 \times 0.30 = 600$ of the inspected firms came from Region A. This requirement was used to ensure that the workload with the inspections (which amounts to more than 20 man-years) reflected the capacity to do inspections within each regional unit. Third, the NDT ensured that within each region, the share of the inspected firms that received at least one audit remark in 2010³¹ was the same as for the NDT's normal inspections.³² If 20 percent of Region A's firms had at least one audit remark during the NDT's normal inspections, for example, $600 \times 0.20 = 120$ of the inspected firms from Region A had at least one audit remark in 2010; the remaining $600 - 120 = 480$ firms did not.

This approach yields 10 separate strata – five regions, and two groups within each region (one group that consisted of firms with at least one audit remark, and one group that consisted of firms with no audit remarks). Within each strata, the NDT ensured that the share of the inspected firms that chose not to be audited was the same as the share of all of the “inspection candidates” (i.e., all of the firms that were eligible for opting out) that chose not to be audited. Suppose that in

³⁰Statistics Norway was asked to design the sample procedure. The procedure is described in Fjærli and Raknerud (2012) (available only in Norwegian).

³¹2010 was the final year all firms were required to have an auditor. Hence, even those firms that opted out could have had an audit remark in 2010.

³²To be clear, not all firms had an audit remark – the NDT chose to inspect firms so that the percentage of firms with an audit remark was the same in these inspections as in the NDT's normal inspections. The NDT made this decision so as to ensure that the firms in the inspections were representative of the types of firms that the NDT conducts inspections on in the normal course of its operations.

Region A, 40 percent of the firms that (1) could have opted out and (2) had at least one audit remark did choose to opt out: The NDT ensured that $120 \times 0.40 = 48$ of the inspected firms from the stratum “Region A, at least one audit remark” opted out. These 48 inspected firms were randomly chosen from among all inspection candidates in Region A that had at least one audit remark and that chose to opt out. The remaining $120 - 48 = 72$ inspected firms from this stratum did not choose to opt out. These 72 inspected firms were randomly chosen from among all the inspection candidates in Region A that had at least one audit remark and that chose to continue to be audited.