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## Abolition of Statutory Audit Obligation of Small Limited Liability Companies in Norway. Should Tax Evasion Inclined Industries be Excepted?

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### Abstract

All over Europe, mandatory audit requirements have been repealed for small- and medium-sized enterprises (SMEs). Audit exemption was introduced for small enterprises in Norway in 2011. This option was justified by benefits of reduced costs and bureaucracy for small companies. On the other side, weakened reliability of financial statements and tax returns may increase the extent of tax evasion. This study of 163 769 Norwegian companies reveals that small companies in tax evasion inclined industries opt-out auditors to a significantly greater extent than companies in other industries. The results highlight the concern that the abolition of auditing obligations impair the reliability of tax accounts and lead to increased tax evasion. Several explanations for the result are discussed, including asymmetric information and opportunism and demand side issues within the Allingham and Sandmo (1972) framework for explaining tax evasion. The results may also be due to supply side factors such as the fact that companies in evasion inclined industries are likely to pay higher audit fees than companies in other industries. The increased information asymmetry actualises the question of whether the tax authority's control capacity should be strengthened or whether audit exemptions should be limited in evasion inclined industries.

**Keywords:** Audit, accounting, statutory, voluntary, tax evasion, industry, information asymmetry

### 1 Introduction

This study examines whether the exemption from the statutory audit obligation for small limited liability companies has affected companies in tax evasion inclined industries to use this option to a higher degree than companies in other industries. The concept of *tax evasion inclined industries* covers industries identified by the Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime's (Økokrim) threat assessment (National Authority for Investigation and Prosecution of Economic and Environmental Crime, 2010) and the Norwegian Tax Administration's experiences (Justis- og politidepartementet and Finansdepartementet, 2011) where companies are more inclined to evade taxes than in other industries. The risk of tax evasion is higher in cash-intensive industries not only in Norway. The Swedish National Audit Office (2017) has also found that small enterprises in cash-intensive businesses with no external auditing seem to evade taxes to a higher degree.

All over Europe, changes in policy favouring small- and medium-sized enterprises (SMEs) by repealing mandatory audit requirements. An important reason for abolishing the statutory audit obligation is to improve efficiency, with resulting lower costs for auditors' fees and less bureaucracy for small limited liability companies (European Commission, 2010, 2013; Haapamäki, 2018; Tabone and Baldacchino, 2003). However, the amendment to the Act may also have other consequences.

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The Statutory Audit Obligation Committee in Norway (Revisjonspliktutvalget 2008: 81–82) states: “In the Committee’s opinion, abolition of the statutory audit obligation for small limited liability companies will weaken the reliability of these companies’ financial statements and [tax] returns and may increase the extent of tax evasions. This applies, in particular, in those cases in which the company does not use an authorised accountant. In addition, the tax authorities will lose valuable information about which companies submit inadequate financial statements and tax returns or have committed significant accounting violations. Unless the exemption from the statutory audit obligation is offset by providing the tax authorities with increased control resources, the most likely outcome will be that the reduced quality of these companies’ financial statements and tax returns will overall result in lower tax revenues accruing to the State and municipalities.”

Small- and medium-sized companies that choose not to use an auditor give signals to the outside world. These companies may opt out of using an auditor to improve efficiency and reduce costs, but they may also have opportunistic motives (Haapamäki, 2018). By removing this control element, they increase the possibilities of evading taxes and duties. A study conducted by Haugen and Nygren (2015), based on data from the Norwegian Tax Administration, shows that enterprises that use an auditor are less inclined to evade taxes. The Swedish counterpart to Økokrim (Swedish Economic Crime Authority) arrived at the same conclusion in Sweden (Ekobrottsmyndigheten, 2016).

This means that opting out of using an auditor may weaken the reliability of companies’ financial statements and tax returns and increase the likelihood of tax evasions. Small limited liability companies that have opted out of using an auditor are also more tax aggressive than companies that use an auditor (The Swedish National Audit Office, 2017; Nygaard, 2016). The concept of tax aggressiveness does not solely comprise illegal tax evasion, but also includes legal tax planning and ethically questionable tax avoidance (Chen et al., 2010; Crocker and Slemrod, 2005; Hanlon and Heitzman, 2010; Fallan, 2015; Frank et al., 2009). According to these Scandinavian studies of tax behaviour, the decision not to use an auditor signals an increased risk of questionable tax adjustments and increased tax aggressiveness, see also the normative model for tax evasions (Allingham and Sandmo, 1972). Another Norwegian study found that, following the abolition of the statutory audit obligation, the quality of the financial reporting to the tax authorities has deteriorated for companies that do not have either an auditor or an accountant, in line with the Statutory Audit Obligation Committee’s expectations, or that have special opportunities for manipulating their financial statements (Langli, 2015). He did not find support for the claim of increased tax evasions among companies that do not use an auditor, but points out that data from the first year after the abolition of the statutory audit obligation do not necessarily show how companies adjust to a new equilibrium situation. The companies may have been cautious about engaging in tax evasions near the time at which they opted out of using an auditor, as they are uncertain about how the Norwegian Tax Administration would arrange its control activities. The other studies are based on more recent data in line with Langli’s recommendation.

However, Langli (2015) finds indications of increased tax evasions among companies that do not use an auditor in a few industries, even though his industry classification is rough and incomplete. Tax behaviour may vary between industries. Økokrim’s threat assessment 2011 – 2012 ranks tax crime as the type of economic crime that constitutes the biggest risk to society and citizens (Økokrim, 2010). The experiences of Økokrim and the Norwegian Tax Administration highlight the restaurant trade, building and construction, transport, cleaning, house painting, carwashing, E-commerce and maintenance as well as all service industries, which are well suited for generating undisclosed revenues, as industries that are highly represented when it comes to this type of economic crime. In the Norwegian Government’s action plan against economic crime, it is observed that industry checks are efficient and often receive much attention, which contributes to increasing the general preventive effect of such measures (Justis- og politidepartementet og Finansdepartementet, 2011). An obligation is therefore imposed on the tax authorities to intensify their control activities in industries/areas in which there is reason to believe that there is a high degree of serious tax and duty evasions. On assignment from the Norwegian Ministry of Finance, Langli (2015) has assessed the exemption from the statutory audit obligation for small companies. However, he points out that there is a need for more research and knowledge. The large share of companies that have chosen not to use an auditor, see the description below, highlights these problems.

There are no studies that have performed primary industry analyses of consequences of the abolition of the statutory audit obligation with the focus being on the inclination of various industries to commit tax evasions. Understanding attributes and consequences when an audit no longer is an obligation is vital to auditing profession as well as regulators, government and other users of financial statements (Haapamäki, 2018). This study is the first step to look into the specific behaviour of tax evasion inclined industries. We find it to be of public interest to know more about the correlation between industry and auditing, i.e. whether companies in tax evasion inclined industries and in other industries differ in their adjustment to the new auditing rules.

## 2 Abolition of the statutory audit obligation for small companies in Norway

As from 1 May 2011, small limited liability companies are exempt from having their financial statements audited, but they may voluntarily choose to use an auditor if they find this expedient. The terms for opting out of auditing are ascertained in the Norwegian Auditors Act § 2–1 and the Norwegian Limited Liability Companies Act § 7–6: (a) operating revenues from the overall business activities amount to less than NOK 5 million, (b) the company's balance sheet total amounts to less than NOK 20 million and (c) the average number of employees does not exceed ten man-years. Some industries that are subject to supervision by the Financial Supervisory Authority of Norway cannot, however, opt out of using an auditor regardless of their size, for example financing and insurance companies, law firms, estate agents, auditors and accountants. The same applies to the parent company in groups. A new committee was subsequently set up to assess further changes to the statutory audit obligation. The Limited Liability Companies Act Committee does not propose any changes to the threshold values for the statutory audit obligation, but proposes that parent companies for which there is currently a statutory audit requirement should only have a statutory audit obligation if the group's overall business activities exceed the threshold values for a statutory audit obligation (NOU 2016: 22). This has not been adopted.

The Brønnøysund Register Centre's annual statistics show the development in the number of small limited liability companies and other limited liability companies that opt out of using an auditor, see Table 1. These statistics do not classify companies in tax evasion inclined industries. The share of limited liability companies that choose not to use an auditor is increasing. These figures are especially boosted by an accumulation effect connected with newly-formed companies. Among new limited liability companies registered in each of the years 2012 to 2014, between 66 and 70 % opted out of using an auditor (Brønnøysund-registrene, 2015a; 2015b).

**Table 1:** Limited liability companies and auditing in the period 2010 to 2015

	2010	2011	2012	2013	2014	2015
<b>Number of limited companies</b>	215 076	219 977	235 174	250 367	264 457	270 296
<b>No auditor</b>	-	48 000	73 954	94 992	112 324	121 866
<b>Auditor</b>	215 076	171 977	161 220	155 375	152 133	148 430
<b>Per cent no auditor</b>	0 %	22 %	31 %	38 %	42 %	45 %

Source: Brønnøysundregistrene (2015a, 2015b)

## 3 Theory and research hypothesis

There may be many reasons why companies have their financial statements and tax returns audited or not. On the supply side, it is, for example, possible that auditors do not want clients in high-risk tax evasion industries. Another possibility is that the services provided by auditors and accountants are partly substitutes for each other according to the Statutory Audit Obligation Committee (Revisjonspliktutvalget, 2008). However, the principal explanations are most probably found on the demand side (Langli, 2015). Companies choose whether to use an auditor based on assessments of the perceived value that the auditing has for them compared with the perceived costs/disadvantages connected with both internal and external conditions. The cost-benefit analysis must also take into consideration the effects of signalling that the financial statements and tax returns have not been audited. Langli (2015) finds that the benefit of auditing weighed against the price of auditing services is the most decisive factor in companies' decision on whether to use an auditor. Industry risk connected with auditing is higher for companies in tax evasion inclined industries. The risk assessment entails requirements for extra auditing procedures. The increased time consumption that the auditor's work entails also results in increased time consumption for the company, accountant etc.

The auditing cost can thus be seen as disproportionately high for companies in tax evasion inclined industries. The tendency to opt out of using an auditor is higher in companies that have paid abnormally high auditors' fees. This indicates that the share of companies that choose to use an auditor is lower in tax evasion inclined industries. In turn, unaudited financial statements may increase the likelihood of an inspection of the company's books by the Norwegian Tax Administration. Such an inspection entails just as much extra work and costs for the company, regardless of whether it has anything to hide. Assessment of the benefit and cost of auditing includes strategic evaluations and possible opportunism. Allingham and Sandmo (1972) developed the classic normative model for explaining factors which affect the inclination to evade tax. In the model, the expected benefit of an undiscovered tax evasion was compared with the expected unpleasantness of penal sanctions connected with detection. The subjectively perceived risk of detection may deviate from the actual risk of detection and will affect the cost-benefit assessment. The expected benefit of an undiscovered tax evasion is linked to the size of the evaded amount and the subjectively perceived marginal tax rate, whereas the expected unpleasantness is linked to the risk of detection, the subjectively perceived additional tax payable as well as other penal sanctions, including social condemnation (Allingham and Sandmo, 1972). Empirical studies have subsequently extended the model with several current factors (Fallan, 2002; 50–55). Current independent variables that may be relevant to industry affiliation and a decision to choose or opt out of using an auditor include perceived risk of detection, the severity of penal sanctions, perception of the loyalty of other players in the industry to pay taxes and expressed tax morality. Strong support has been found for negative correlations between these factors and the inclination towards tax evasion (Eriksen and Fallan, 1996; Fallan, 1999). However, the studies do not examine differences between companies in tax evasion inclined industries and other industries, an aspect which must be discussed in further detail.

### 3.1 Perceived risk of detection

The risk of detection connected with audits is affected by both the elected auditor's examination of the company's financial statements and tax returns and the Norwegian Tax Administration's inspection of the company's books. Seen in isolation, the perceived risk of detection is reduced if the company does not have an auditor. At the same time, an audit of the financial statements and tax returns reduces the information asymmetry between company and tax authorities (Fallan, 2002). Submission of unaudited financial statements and tax returns may mean more hidden information and increased problems with unfavourable self-selection (Arrow, 1985). The Norwegian Tax Administration may regard the absence of an auditor as a signal that the taxpayer wishes to increase the information asymmetry (Eriksen, 2010) and that the tax authorities' control becomes more relevant. If companies in tax evasion inclined industries opt out of using an auditor to a greater extent than companies in other industries, this will further be regarded as such a signal by the tax authorities. A lack of auditing is also a selection criterion when the Norwegian Tax Administration selects companies for an inspection of their books (Finansdepartementet, 2011, 2012).

The Norwegian Tax Administration's inspection of a company's books and the company's selected auditor's audit are not equal checks (Eriksen, 2010). The inspection of a company's books is of a more investigative nature and is aimed at detecting errors. The company's elected auditor is less detail oriented in his or her audit than the Norwegian Tax Administration. Furthermore, the tax auditors use much time to inspect the individual company's books (Eriksen, 2010). The risk of detection of illegal adjustments and errors is therefore higher in connection with the Norwegian Tax Administration's checks than in connection with an ordinary audit.

However, it is uncertain how the control capacity in the Norwegian Tax Administration has developed. In connection with the abolition of the statutory audit obligation, the Norwegian Parliament decided "to strengthen the Tax Administration's work with guidance, assessment and control of small limited liability companies, see Proposition 120 S (2010–2011) to the Parliament. [...] The strengthening of the Tax Administration's work means that the Tax Administration can increase its manning in this area" (Finansdepartementet, 2011, 2012). According to an estimate by the Norwegian Association of Tax Auditors and Tax Accountants, 1,500 to 2,000 auditor man-years had to be added to the Norwegian Tax Administration if the control level was to be maintained after the abolition of the statutory audit obligation (Eriksen, 2010). However, in the years from 2010 up to and including 2014, the number of man-years in the Norwegian Tax Administration decreased by 258 (NSD, 2017).

The Norwegian Tax Administration is not only to detect, but also prevent, evasion of taxes and duties. One objective is therefore that taxpayers must experience that there is a high risk of detection if they deliberately evade taxes. Over time, an average of 65 % of Norwegian companies have responded that there is either a high or a very high risk that companies in their industry will be detected by the tax authorities if they evade taxes or duties (Table 2). This is a relatively high percentage (compared with the low share of companies that are actually checked), which may increase the willingness to report correct information to the Norwegian Tax Administration.

**Table 2: Perceived risk of detection**

	2006	2007	2008	2009	2011	2013	2015	Mean
<b>Very low and low perceived risk of detection</b>	15 %	27 %	28 %	30 %	29 %	22 %	21 %	25 %
<b>Very high and high risk of detection</b>	74 %	62 %	62 %	62 %	60 %	67 %	68 %	65 %
<b>Do not know</b>	11 %	11 %	10 %	8 %	11 %	11 %	11 %	10 %

Source: Næringslivets sikkerhetsråd (2015)

However, the perceived risk of detection varies significantly between industries (Arntsen et al., 2012). The building and construction industry has stood out in all the years in which the Norwegian Business and Industry Security Council (NSR) has conducted its survey. In 2015, 42 % in this industry responded that there was only very low or low risk of detection according to NSR (2015). The restaurant trade has also figured on this side of the scale. The industry classification in the study is very rough, but most of these industries are tax evasion inclined industries. At the opposite end of the scale, less than 10 % of the enterprises in education, health and social services, consisting primarily of non-inclined industries, find that there is either very low or low probability of getting away with tax evasions. One explanation of the results may be that there is significantly greater knowledge of the probability of being detected in the tax evasion inclined industries than in other industries (Arntsen et al., 2012) as well as more frequent contact with and greater knowledge of the tax authorities. The expectations will consequently be more realistic in these sectors than in the rest of society, in which, for example, media information about industry inspections will affect the perceived risk of detection.

The industrial differences mentioned in the previous section exist despite the fact that the Norwegian Ministry of Justice and Public Security and the Norwegian Ministry of Finance (2011) have imposed on the Norwegian Tax Administration a higher level of intensity in its control activities vis-à-vis tax evasion inclined industries. On the one hand, the auditor's confirmation of a company's tax reporting may thus become a more important tool for reducing information asymmetry between companies (which do not have anything to hide) and the tax authorities in these industries. This would indicate that the share of companies that have an auditor is higher in these industries. On the other hand, the experience of the Norwegian Tax Administration and Økokrim is that more companies in these industries engage in tax evasion and wish to avoid control and any negative findings by the auditor. Even though the risk of errors being detected is lower in connection with an ordinary audit than in connection with the Norwegian Tax Administration's inspection of a company's books, and companies in these industries have a more realistic view of the low probability of being selected for an inspection of their books. The perceived risk of detection thus warrants that fewer companies in tax evasion inclined industries use an auditor.

An external accountant may partly compensate for the non-use of an auditor to reduce the information asymmetry (and signalling purposes). An accountant is regarded as a barrier against tax evasions (Arntsen et al., 2012; Revisjonspålytutvalget, 2008). Langli (2015) found that the quality of the financial reporting to the Norwegian Tax Administration after the abolition of the statutory audit obligation was only reduced significantly for companies that had neither an auditor nor an accountant. In accordance with the existing legislation, accountant and auditor nevertheless have different tasks, duties and roles. An accountant does not give an opinion on the companies' tax reporting and must not issue numbered letters. The Norwegian Tax Administration thus does not receive a positive or negative audit opinion for use in its control work, unlike the opinion provided by an auditor. Langli (2015) also points out that his data stem from the period right after the abolition of the statutory audit obligation, when uncertainty about the risk of detection (and thus the behaviour) among companies was probably higher than today. The situation may thus have changed.

To sum up, differences in perceived risk of detection may result in less use of auditors in tax evasion inclined industries than in other industries.

### 3.2 Perceived severity of penalty sanctions

It is an open question whether there are differences between companies in inclined industries and in other industries when it comes to taxpayers' assessment of the severity of penalty sanctions. However, it is reasonable to assume that there are more such cases in tax evasion inclined industries and that contact with, or focus on, competitors means that these companies have a more realistic view of potential penalty sanctions.

At the same time, the consequences of errors and deviations detected by the Norwegian Tax Administration in its control inspections are more severe than in connection with the checks performed by the companies' elected auditor. Such penalty sanctions may be additional tax and/or duty, charging of interest, compulsory audit, fines and term of imprisonment. The assessment of how this affects the decision on whether to use an auditor will probably be parallel to the perceived risk of detection in inclined industries and other industries respectively.

### 3.3 Perception of tax compliance and tax ethics of other companies within their own industry

Industry affiliation is important when looking at the negative relation between a company's own inclination towards tax evasion and their perception of other companies' loyalty to meeting their tax liability. The tax behaviour of other companies is supposed to affect the inclination of a company's tax evasion. For example, it is a more widely held view in the building and construction industry as well as in the transport and warehousing industry than in other industries that your own enterprise has to compete with enterprises that having a lower cost level due to their tax evasions (Næringslivets sikkerhetsråd, 2015).

There is probably a negative relation between taxpayers' tax ethics and their own inclination to evade tax (e.g. Eriksen and Fallan, 1996; Fallan 1999). It is reasonable to assume that tax ethics is lower among executives in companies in the most inclined tax evading industries in which the tax authorities have experienced that companies are more inclined to make questionable tax adjustments.

It makes sense to assume that companies' assessments of whether to use an auditor, in inclined and non-inclined industries respectively, correspond to those outlined under the discussion of the perceived risk of detection. Seeing that companies in these industries are more inclined towards tax evasions, the advantages of less audit control are relatively greater in these industries. Fewer companies in inclined industries will thus have an auditor.

### 3.4 Hypothesis development

The extended cost-benefit perspective in the Allingham-Sandmø model (1972) and empirical studies in Scandinavia reveal that companies in what Økokrim (2010) and the Norwegian Tax Administration find to be tax evasion inclined industries will want to increase or maintain the information asymmetry attached to their financial statements and tax returns to a greater extent than companies in other industries. The Swedish National Audit Office (2017) has shared this threat assessment for Swedish small- and medium-sized companies. These observations lead to this hypothesis.

Hypothesis: Companies in tax evasion inclined industries opt out of using an auditor to a greater extent than small- and medium-sized companies in other industries.

## 4 Method

The study is based on cross-section data and uses a quantitative correlational design to analyse data and generalise results from the selected subjects to the population of small limited liability companies. A logistic regression model is adopted to test whether companies in tax evasion inclined industries opt out external auditing in higher degree than companies in other industries.

### 4.1 Data collection

The data in the study are based on accounting information and legal information from public registers. Most of the data have been retrieved from a database on financial statements which is generally meant to include all

companies in Norway. The data in the database are registered as at September 2016. The use of register data reduces the risk of incorrect registration by the researchers, but, at the same time, we do not know the risk of errors in the database.

#### 4.2 Population and Selection

The population consists of small limited liability companies that are free to choose whether they wish to have their financial statements audited, cf the Norwegian Auditors Act § 2–1 and the Norwegian Limited Liability Companies Act § 7-6. The database originally contained 425,050 limited liability companies. Companies that are still subject to a statutory audit requirement are not included in the population and were excluded from the analysis. Nearly 100,000 companies had not provided information about industry affiliation. These had to be excluded from the selection due to the object of the study. Companies deleted from the database were also excluded.

Spot checks indicate that the registration of non-active companies in the database is imprecise. Many of them are active. These companies have been included in the selection. The study has been based on the assumption that the distribution of companies that have and do not have an auditor is the same for (actually) active and non-active companies. Based on these criteria, there were 169,373 companies eligible for selection in the database. It was generally desirable to include all these companies in the analysis. Resource considerations connected with manual registration of industry affiliation nevertheless mean that the study has been limited to companies in 439 industries, including 71 tax evasion inclined industries with 37,654 companies and 368 other industries with 126,115 companies. The full selection consists of 163,769 companies. Evasion inclined industries were deliberately identified. Importance was attached to including the industries with the highest number of companies to increase the selection size. The rest of the industries were selected on a random basis, without knowledge of industry name, auditor share etc. The industry classification has been based on a five-digit code level in the standard for industry grouping (SN2007). The selection method and number of companies are assumed to give satisfactory external validity and permit generalisation of the results to the population.

#### 4.3 Dependent variable

The issue at hand warrants that the dependent variable must show whether the company has an auditor. This is a dichotomous variable (the company has an auditor: 1=yes, 0=no). A decision has therefore been made to analyse the data using logistic regression. These choices are in line with studies that have followed in the wake of the international trend towards abolition of statutory audit requirements (Barth and Rausch, 2013; Collis, 2010, 2012; Collis et al., 2004; Dedman et al., 2014; Hellem and Eilertsen, 2014; Langli, 2015; Niemi et al., 2012; Seow, 2001; Vestrum and Gjerding-Smith, 2012).

#### 4.4 Explanatory variable

In various ways, industry affiliation is of importance to the share of companies that (do not) have an auditor, according to e.g. Dedman et al. (2014), Langli (2015), Vestrum and Gjerding-Smith (2012). The operationalisation of these studies is based on other objectives and is not designed to analyse the significance of *tax evasion inclines industries*. Vestrum and Gjerding-Smith (2012) suggest, through descriptive statistics, that companies in some inclined industries use auditors to a lesser extent than others, but they have not performed hypothesis tests. Barth and Rausch (2013) analyse the opting out of the use of auditors among “unserious” companies identified through qualified audit opinions, but the industry classification is very rough. Other studies that attempt to explain why companies choose (not to) have an auditor have not analysed industry affiliation (Collis, 2010, 2012; Collis et al., 2004; Niemi et al., 2012; Seow, 2001). A review of the literature shows a need to analyse the significance of industry affiliation to whether companies use an auditor and to use detailed industry codes to improve the classification of the industries. The distinction between tax evasion inclined and other industries is the principal focus in this study. The explanatory variable distinguishes between industries with a high risk of tax and duty evasion and other industries and constitutes a dichotomous variable (the company operates in an evasion inclined industry: 1=yes, 0=no). The classification of industries as evasion inclined and non-inclined is critical. Several studies provide guiding principles for such identification (Arntsen et al., 2012; Barth and Rausch, 2013; Haugen and Nygren, 2015; Nygaard, 2016; Skattedirektoratet, 2002, 2005; The Swedish National Audit Office, 2017; Vestrum and Gjerding-Smith, 2012; Økokrim, 2010).

The Norwegian Tax Administration and Økokrim have issued statements identifying the following industries (and closely related industries) as tax evasion inclined industries: bars and restaurants, car washes, car maintenance and repair, building and construction, e-commerce, taxis and transport, hairdressers and beauticians, cleaning, hiring out of certain types of labour and enterprises with temporary sales outlets and a high degree of cash revenues.

In practice, grey zones occurred in the classification process. Tests nevertheless show that the results of this study are robust for alternative classifications of cases of doubt. One reason for this is that the industries with the largest number of companies are not in the grey zone.

#### 4.5 Other independent variables

In order to be able to analyse the importance of industry affiliation, it is necessary to check other variables that are relevant to whether companies must have an auditor. The company database set certain limitations to the variables that could be included, but the following potentially important variables have been included in the model:

*Size.* It is expected that the bigger the companies are, the more likely they are to be audited. Size is a common control variable and has been used in all the audit obligation studies referred to above. The expectation is also in line with these studies (e.g. Collis, 2010; Collis et al., 2004; Hellem and Eilertsen, 2014). The variable is measured as the number of employees and is a continuous variable.

*Subsidiary.* Even though subsidiaries can formally choose not to use an auditor, the group auditor and/or group management may demand that an audit be conducted (e.g. Abdel-Khalik, 1993). A greater probability of audits is expected in subsidiaries, and it is therefore important to check such status. This is a dichotomous variable (the company is a subsidiary: 1=yes, 0=no).

*External accountant.* The importance of checking this variable has been discussed above (Langli, 2015; Niemi et al., 2012; Revisjonspliktutvalget, 2008). Companies that have an external accountant are expected to be less likely to choose to use an auditor than other companies (Barth and Rausch, 2013; Hellem and Eilertsen, 2014; Vestrum and Gjerding-Smith, 2012). Use of an external accountant is high and increasing (Hellem and Eilertsen, 2014; Nygaard, 2016). The variable is dichotomous (the company has an external accountant: 1=yes, 0=no).

*Foreign parent company.* This variable is expected to have a positive correlation with the use of an auditor because it indicates a group affiliation. Foreign owners with a greater distance to the company may also choose to use an auditor, despite the direct cost, in order to reduce a perceived higher degree of asymmetric information (e.g. Abdel-Khalik, 1993; Carey et al., 2000; Tauringana and Clarke, 2000). The variable is dichotomous (the company has a foreign parent: 1=yes, 0=no).

*Date of establishment on or after 1. May 2011.* A lower share of companies established after the abolition of the statutory audit obligation in 2011 are expected to use an auditor than companies set up before 2011. They have not any relationship with an auditor and do not have to take active steps to drop their existing auditor. The amendment to the rules is also meant to contribute to an increase in the number of companies registered in Norway under organisational forms that were previously subject to a statutory audit requirement. Studies from several countries show that the share of companies that opt out of using an auditor increases over time and that the share is higher for newly-formed companies (Dedman et al., 2014; Langli, 2015). The variable is dichotomous (the company was established on or after 1. May 2011: 1=yes, 0=no).

*Age of the company.* Older companies are expected to have an auditor to a greater extent. A longstanding relationship with an auditor who may also have provided other services than auditing means that it will take more to drop the auditor. This is a continuous variable that is measured as number of years since establishment.

#### 4.6 Regression model

The regression model is as follows:

$$\text{Auditor}_i = \alpha_0 + B_1 \cdot \text{Industry} + B_2 \cdot \text{Size} + B_3 \cdot \text{Subsidiary} + B_4 \cdot \text{Accountant} + B_5 \cdot \text{Foreign parent} + B_6 \cdot \text{Date of establishment} + B_7 \cdot \text{Age} + \varepsilon_i$$

The notation  $i$  refers to the companies 1 to 163,769.



## 5 Results

Descriptive statistics for the variables are presented in Table 3. Table 3 shows that 29 % of the companies in the sample have an auditor in 2016 and that 71 % have thus exercised the option to drop audits of their financial statements. The share of companies that have an auditor is lower in tax evasion inclined industries (16 %) than in other industries (32 %). 23 % of the companies in the sample belong to evasion inclined industries. The companies have an average of just over 1 employee.

As much as 68 % of the companies in the sample have an external accountant, 22 % of the companies are subsidiaries, 52 % have been set up after the abolition of the statutory audit obligation (1. May 2011), while less than one percent have a foreign parent. On average, the companies are approximately 9 years' old, with a variation from newly established companies to the oldest company, which is 163 years old.

**Table 3:** Descriptive statistics

Variable	Sample size	Mean	Standard deviation	Minimum	Maximum
<b>Auditor (total sample)</b>	163 769	0.285	0.452	0	1
<b>Auditor (tax evasion inclined industries)</b>	37 654	0.161	0.367	0	1
<b>Auditor (other industries)</b>	126 115	0.323	0.467	0	1
<b>Inclined industries</b>	163 769	0.230	0.421	0	1
<b>Size</b>	163 769	1.154	2.030	0	10
<b>Subsidiary</b>	163 769	0.224	0.417	0	1
<b>External accountant</b>	163 769	0.684	0.465	0	1
<b>Foreign parent</b>	163 769	0.008	0.090	0	1
<b>Established after 30. April 2011</b>	163 769	0.520	0.500	0	1
<b>Age</b>	163 769	8.936	11.26	0	163

Bivariate correlations are shown in Table 4. The correlation between the company's age and whether the company has been established before or after 1 May 2011 is relatively high ( $r = .62$ ), but variance inflation factor (VIF) value does not indicate any multicollinearity. Most correlations are low, but external accountant and date of establishment seem to correlate with  $r \approx .20$  with election of an auditor. Subsidiary is also of significance to the use of an auditor, seen in isolation ( $r = .37$ ). The correlation also indicates that companies in vulnerable industries are slight bigger than companies in other industries ( $r = .26$ ).

**Table 4:** Correlation matrix. Pearson's  $r$

	Auditor	Inclined industry	Size	Subsidiary	External accountant	Foreign parent	Established after 30. April 2011	Age
<b>Auditor</b>	1.00							
<b>Inclined industry</b>	-.15***	1.00						
<b>Size</b>	-.03***	.26***	1.00					
<b>Subsidiary</b>	.37***	-.14***	-.10***	1.00				
<b>External accountant</b>	-.19***	.08***	.16***	-.09***	1.00			
<b>Foreign parent</b>	.04***	-.01***	-.00	-.04***	-.01***	1.00		
<b>Established after 30. April 2011</b>	-.22***	.15***	.02***	-.08***	-.03***	.02***	1.00	
<b>Age</b>	.17***	-.12***	-.02***	0.04***	.01*	-.02***	-.62***	1.00

Significance level: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

The results of the logistic regression analysis are revealed in Table 5. A significantly lower share of companies in tax evasion inclined industries has an auditor than the share among companies in other industries. All control variables are highly significant. A lower share of companies that has an external accountant has chosen to have an auditor. Companies set up after the exemption from the statutory audit obligation make less use of auditors than those set up before the introduction of the access to opt out of using an auditor. The regression also shows that subsidiaries, companies with a foreign parent company and the 'largest' companies use auditors to a greater extent than the other companies. All the variables have the same sign as expected based on the discussion in the chapter on theory and the chapter on method. This contributes to strengthening the validity of the study.

**Table 5:** Logistic regression. Dependent variable: Auditor. Expected sign, coefficient, standard error, and Z-value.

Independent variable	Expected sign	Coefficient	Standard error	Z
Inclined industry	-	-0.59	0.02	-33.8***
Size	+	0.08	0.00	25.3***
Subsidiary	+	1.80	0.01	131.1***
External accountant	-	.094	0.01	-71.7***
Foreign parent	+	1.45	0,06	24.4***
Established after 30. April 2011	-	-0.88	0.02	-56.8***
Age	+	0.01	0,00	17.5***
Constant		-0.50	0.02	-30.0***
Pseudo R <sup>2</sup>		0.18		

Significance level: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

## 6 Discussion and conclusion

The analysis shows that there is support for the hypothesis that companies in tax evasion inclined industries opt out of using an auditor to a greater extent than companies in other industries. This finding remains valid even when we check other important factors affecting this decision. 16 % of companies in evasion inclined industries have an auditor. The corresponding share for companies in other industries is as much as 32 %. The share of companies that use an auditor is generally relatively low, more specifically 28.5 %. Seen in isolation, it is not a problem that companies do not have an auditor. It is sensible to reduce costs and bureaucracy. However, financial statements of a poorer quality may entail challenges for users of financial statements, and a poorer quality of companies' tax reporting may constitute a threat to national tax revenues. Challenges connected with unintentional errors in the reporting can be reduced by using internal or external competence, for example an accountant. The Norwegian Tax Administration should probably have special focus on companies that have neither an auditor nor an accountant. This study does not analyse the consequence of companies having neither an auditor nor an accountant. Knowledge of this in a corresponding industry perspective should be increased through further studies.

Another effect of optional audits is that a lower control level may also increase the extent of deliberate tax evasions. The extended Allingham-Sandmø model (Allingham and Sandmø, 1972; Fallan, 2002) shows the cost-benefit assessment that forms the basis of companies' intentional tax evasions. The expected benefit of an undetected tax evasion is assessed against the expected unpleasantness of penal sanctions if the tax evasion is discovered. The absence of an auditor reduces the risk of detection and increases the companies' scope for tax evasions because the information asymmetry increases or is maintained. This is relevant, as there is a low probability of an inspection of the company's books by the Norwegian Tax Administration, even in tax evasion inclined industries. Competitors' tax evasions and poor tax morality are contagious, and this is critical seen from a social perspective. One possible implication is that tax behaviour in what Økokrim and the Norwegian Tax Administration today regard as industries with an increased inclination towards tax evasions may spread to other industries.

The findings in this analysis provide a basis for raising the question of whether the exemption from the statutory audit obligation should be as general as it is today. Social cost-benefit assessments may offer good arguments for scrapping general regulations, for example that the statutory audit obligation must apply to all limited small- and medium-sized liability companies.

Such an assessment did, in fact, form the basis of the decision to abolish the statutory audit obligation for the smallest limited liability companies. In turn, knowledge about the use of auditors in tax evasion inclined industries with an increased risk of tax evasions may entail that companies in these industries should be treated in the same way as in the other industries in which it has been regarded as necessary to maintain the statutory audit obligation, for example for companies that are subject to supervision. One alternative may be to strengthen the Norwegian Tax Administration's control capacity.

Two of the strong points of the study are the large number of selected companies and the selection of evasion inclined industries. The latter is based on the experiences of the Norwegian Tax Administration and Økokrim with industries that are more inclined to commit tax and duty evasion. The results are robust in relation to industry classification. At the same time, it is important to point out that the study does not analyse tax evasions as such.

It does not capture that many companies in tax evasion inclined industries do not engage in tax evasion and that a number of companies in other industries evade tax. However, The Swedish National Audit Office (2017) has recommended the Swedish Government to narrow the option to drop auditor for all small- and medium-sized liability companies based on their experiences after the abolition of statutory audit obligation. There is a need for more knowledge about variations in and between industries regarding the correlation between tax behaviour and the use of auditors.

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