The puzzle of extensive financial reporting errors by the Finnish municipalities

This study addresses the financial reporting quality in terms of health expense reporting of Finnish municipalities in 2016-2020. The importance of health care costs, covering the majority of public expenditure, motivates the study. It set three hypothesis: (1) there is a positive association between non-compliance in recognizing health care expenses and proximity of the crisis municipality indicator, (2) there is a positive association between the compliance choice of other municipalities and that of the district centre regarding health care expense accruals, and (3) there is a negative association between non-compliance in recognizing health care expenses and the audit performed by the same auditor both at the municipality and the respective health care district. Our empirical results suggest non-compliance of health care cost reporting is widespread in municipalities belonging to a health care districts with deficit. The results also show that the decision by a municipality to comply with the pertinent accounting requirement is positively associated with the reporting choice of the health care district centre. We do not find, however, an association between non-compliance of health care district expense provisions and proximity of the crisis municipality indicator. Distressingly, the empirical results suggest also that having the same auditor in the municipality and in the respective health care district does not improve the quality of the reporting. We contribute to the studies on the determinants of comparability beyond accounting standards, and to the stream of literature that examines the determinants of financial reporting quality in local governments.

Introduction

The calls for enhanced accountability have increased in different domains of society, such as corporate social responsibility and public spending, in the recent decades. "Nobody argues with the need for accountability" as Sinclair (1993) pointed out, but the different practices through which accountability is expected to come about continue to be a matter of scrutiny and debate. The concept itself is somewhat elusive. It is "associated with the process of being called 'to account' to some authority for one's actions" (Jones 1992, p. 73) or shortly, "answerability for performance" (Romzek, 2003, p. 21). Transparency has been considered a key element of accountability, and "faith in transparency as a source of trust for distant others" (Roberts, 2009, p. 962).

In the context of a democratic state, the primary accountability relationships are those between the citizens and the government, but also between the state and the local government, "within the ranks of office holders, between elected politicians and bureaucrats". The accountability relationship arises between the government and the citizens concerning the provision of service and the use and redistribution of public funds.

How local governments can be made accountable, is through proper accounting practices. In the financial statements the local governments report on their use of public funds; they are a means to give an account of the use of power and resources, and the production of services. Further, the local government financial statements are used by the state to monitor the use of public funds and local governments' ability to provide services to their citizens as independent entities (cf. Pratchett, 2004). The financial statements play an important role in the scrutiny of the actions of public officials by the legislators and in making those answerable for their mistakes. They are also used in determining the basis for redistribution of money from the state to the local governments. The rules on financial reporting – which local governments are obliged to follow – are set by the state, at least as far as the Nordic countries are concerned. The quality of local government financial management and reporting are of particular importance because the budget balance is a precondition for the ability of the local government to provide the mandated services to its citizens in the long run. Therefore, a high level of compliance with the rules of financial reporting is a precondition for the state to be able to effectively monitor the local governments' ability to fulfil their obligations towards local citizen and secure a fair basis of redistributing tax revenues.

Accounting reforms tend to centre around attempts to improve the quality of financial reporting, often in terms of enhanced comparability of the financial statements and/or compliance with accounting

regulations (Chen et al., 2020). In general, comparability is an advantageous characteristic of the financial statements (FASB, 2021; IASB, 2018, e.g. De Franco, Kothari & Verdi, 2011). In the private sector financial reporting, comparability is desirable because it is expected to "contribute to improving transparency, accountability and efficiency in financial markets" (Tarca, 2020; also De Franco et al., 2011). As a notable example, in its Conceptual Framework, the IASB considers comparability to be an enhancing characteristic that improves information that is relevant and representationally faithful (IASB, 2018).

In the Nordic welfare system, the public sector largely covers the costs of health care. In Finland, the health services are provided by the municipalities, and in practice, the municipalities have further delegated this service provision to health care districts, fully owned by the municipalities that use their services. A health care district is a statutory joint municipal authority responsible for the provision of specialised health care services to the residents of its member municipalities. In this role of a service provider, it is facing three types of agency relationships: first, municipal officials report to citizens of the municipality, second, they report to municipal councils and, third, to the Ministry of Finance. This reporting process relies on the assumably transparent financial statements that the municipalities issue and mandatory municipal auditing (by certified independent municipal auditors) of municipals and health care districts.

Yet, it is well known that municipalities are willing to maintain their autonomy, as compared to undergoing a merger with a better-off neighbouring municipality, and the autonomy may be conditional to the information disclosed in the financial statements: Under Finnish Local Government Act, a municipality will either voluntarily, or in the lack of willingness, mandated by the Ministry of Finance, merge with a better-off municipality in a case of breaching the solvency criteria set by the law. Therefore, the municipality may have incentives to manage its reported earnings.

In this study, we examine compliance with the regulation regarding recognition of mandatory health care provisions. In this context, a provision can be defined as a liability of uncertain timing or amount (cf. IAS37). One of the strengths of our empirical data is that we can directly observe compliance, and accordingly, the degree of uniformity between different municipalities in the reporting practices concerning the provisions. The decision to comply with the regulation impacts the earnings quality and comparability of the financial statements between different local governments. The fact that the (non)compliance is directly observable in our data is a clear advantage compared to much of prior literature.

According to FASB (1980, 40) "comparability is the quality of information that enables users to identify similarities and differences between two sets of economic phenomena". To study comparability empirically, De Franco et al. (2011) define financial statement comparably as follows "Two firms have comparable accounting systems if, for a given set of economic events, they produce similar financial statements." In our setting, we know that the nature of the economic event is the same for all municipalities under examination, which makes the setting particularly powerful for studying comparability.

Most often, studies on financial reporting quality, compliance, and comparability, need to rely on crude proxies such as abnormal accruals or analyst forecast errors (DeFond, 2010, De Franco, 2011). Our study has the following three strengths in observing manipulation of reporting surplus (deficit). First, we can directly observe the compliance without relying on indirect proxies, such as abnormal accruals. Second, whether the municipality needs to recognize the provision for its share of the cumulative loss of the health care district is not a matter of interpretation. Third, the amount and timing requirements are specified in a regulation that allows a researcher to easily observe whether the municipality in question has complied with the respective norm, and even calculate the provision that the municipality should recognize.

During recent decades, significant efforts have been made to enhance the quality and comparability of financial reporting. In the public sector, much of the discussion has centred around aiming to achieve these qualitative characteristics by adopting accrual accounting and IPSAS standards (Oulasvirta, 2014; Gomes et al. 2019; Rossi et al. 2016). As Chen et al. (2020) have argued, however, "despite its importance, we know relatively little about the extent to which economic agents and institutional incentives influence comparability beyond the role of accounting standards" (p. 115).

The present paper contributes to the literature on the determinants of comparability beyond accounting standards (Chen et al., 2020; Black, Chen & Cussatt, 2021) by enhancing our understanding of the influence of peers on the accounting choices (compliant/non-compliant). More specifically, the paper shows that the compliance choice of a municipality is strongly influenced of the choices by the other municipalities located in the same health care district (geographic proximity). Whereas the prior studies in this stream of literature highlight the managerial incentives, effectiveness of monitoring (Black et al., 2021) or the signing auditor (Chen et al. 2020; Li, Qi & Zhang, 2021; Shi et al., 2021) as determinants of comparability, the present study expands the range of determinants to behavioural motivations.

Institutional setting

There are 294 municipalities in mainland Finland, which are responsible for a wide range of services. Municipalities procure special health care services from health care districts that are joint municipalities. Every municipality must be a member of one of the health care districts. Figure 1 illustrates the Finnish health care districts and shows an example of one such district, Pohjois-Savo. The payments by the municipalities to health care districts have not always covered the expenses, although they have a significant impact on economic balance in member municipalities. The formation agreement (or foundation treaty) of a joint municipality (here, health care district) specifies how the member municipalities are responsible for covering the deficit. Common approach is to do so on per cent basis.

Finnish municipalities use the accrual accounting principle to prepare their annual reports (Mattisson et al., 2004; Local Government Act, 2015). The accounting principles of municipalities are subject to the provisions of the Accounting Act. The local government sub-committee of the Finnish Accounting Board issues instructions and opinions on applying the Accounting Act. (Local Government Act, 2015). The sub-committee has issued a specific opinion on the deficits in joint municipalities. Because the member municipalities are responsible for the obligations of the joint municipality, the share of the deficit must be recorded as a future expenditure if it cannot be covered by other income in the joint municipality (the local government sub-committee of the Finnish Accounting Board, opinion 113/2015). According to the instructions, future expenditure should be recorded as expenditure for the financial year when the coverage obligation arises at the time of the deficit.

As the municipality is mandated to recognise its share of the cumulative deficit in the joint municipality in its financial statements, it should be noted that the choice between recognition (in main statements) vs disclosure (in the footnotes) or the alternative to comply-or-explain does not exist.

Figure 1. An example of a health district: Northern-Savo
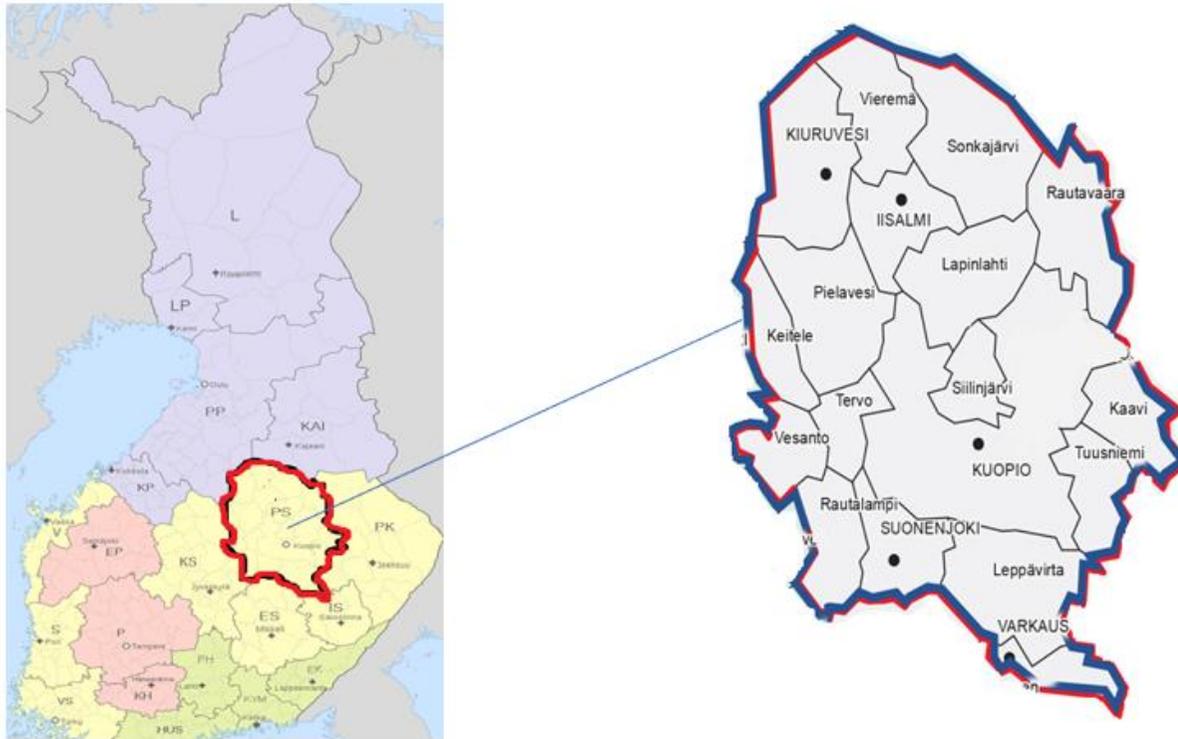
Figure 1 presents the health care district of Northern Savo, which takes care of the special healthcare of 247 000 inhabitants living within the district. At the university hospital of Kuopio, the district also takes care of the special level of healtcare of almost 1 milloin people who live in Eastern and Middle Finland. There are 18 municipalities that are included to this Hospital district: Iisalmi, Kaavi, Keitele, Kiuruvesi, Kuopio, Lapinlahti, Leppävirta, Pielavesi, Rautalampi, Rautavaara, Siilinjärvi, Sonkajärvi, Suonenjoki, Tervo, Tuusniemi, Varkaus, Vesanto ja Vieremä.

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A municipality is under the law given a four-year period in which to balance its economy. According to the Local Government Act (section 110), a deficit in the municipality's balance sheet must be covered within no more than four years from the start of the year following the adoption of the financial statements. If the economy of the local government at the end of the period is not in balance, it has to negotiate with representatives of the state government if it meets the required preconditions to continue as a separate entity. The assessment procedure (section 118) can be started if a municipality has not covered the deficit in its balance sheet within the period laid down in section 110. The assessment group shall formulate proposals for the measures required to secure the services for the municipality's residents. (Local Government Act, 2015.)

Considering the above background, a municipality may have incentives to consider ignoring accounting instructions to avoid being involved in the assessment procedure.

Case examples

In the following, we provide two examples of the intertwined decision-making and subsequent financial reporting in the two-tier reporting setting of the municipalities and the health care districts owned by the municipalities.

Case 1. Costly outsourcing of special health care services to a private health care provider

The health care district of Länsi-Pohja had been running on deficit during the years 2016-2017 when they made a controversial (and unique within the health care districts in Finland) decision to outsource all the health care services for the next 15 to a private health care service provider Mehiläinen in late 2017. Since then, the health care districts has continued to be unable invoice its expenses from its member municipalities and as a result has continued to accumulate deficit until 2022. Mandated by the legislative requirements preceding the reorganisation of Finnish health care districts, the health care district of Länsi-Pohja did not follow the requirement to request an injection of fresh capital from its member municipalities. Instead, it requested a special permission from the national accounting board to "balance its financial situation" without new invested capital but rather by performing a simple bookkeeping reorganization of its balance sheet line items within total capital, by netting the cumulative deficit against initial capital. The accounting board refused to allow such a permission. Instead of the legally binding decision of the accounting board, the board and council made formal decision to proceed their initial idea of not requesting municipals to inject fresh capital and thus went

against binding national norms. The auditor of the health district and its president expressed their dissent on the above decisions of the health a.

Case 2. Instructions by the health care district not to recognise its accumulated deficit

The Pirkanmaa health care district advised its member municipalities not to recognise the accumulated deficit in their financial statements. The health care district argued that there is no need to recognise the provisions related to the deficit given that the health care district may sell the land area of the existing hospitals to the municipalities where the land is located, in the near future. According to this scenario, the land area is sold to a price exceeding its current balance sheet value. As a result of this non-arm's length transaction, the respective premium over previous balance sheet value will the never be recognised as expense by the municipalities because the land areas are not subject to depreciation (cf. Annual Report 2020 of Pirkanmaa health care district, page 18).

In other words, the health care district interfered with the reporting of health care expenses and related provisions by the 23 member municipalities, even though the health care district had recognised €30 million accumulated deficit that should also be recognised by the member municipalities in accordance with the GAAP.

The advice given by the health care district violated with the GAAP: There is no exception in the GAAP as to recognising the municipality's share of accumulated deficit reported by the health care district. Further, some of the same municipalities that health care district advised to refrain from recognising the provision due to the potential transaction would participate in the given transaction.

In the end of the following accounting period, year 2021, the health care district still reported cumulative deficit of €8 million and the projected sale of land had not been taken place.

Literature review and hypotheses

A varierity of motivations for accounting choice and differential accounting quality have been both theorised and documented in the for-profit-sector, including debt contracting, compensation

arrangements and avoidance of political costs, to name some (Watts and Zimmerman, 1978; Fields, Lys & Vincent, 2001). In accounting literature, the theoretical underpinnings for understanding the motivations for accounting choice or differential quality in local government are, however, more limited (Naughton, et al., 2015). A potential avenue for examining these issues is offered in the public choice theory (e.g. Buchanan, 2003), which we use in the present paper to complement theoretical tools offered by agency theory.

Public choice theory applies economic ideas to political structures and processes. According to public choice theorists, agents in the collective decision making (politicians and bureaucrats) are motivated by self-interest, but competition between policy-makers can channel their actions towards outcomes that are representative of common good. (Buchanan & Tollison, 1984; Boyne, 1998.) In a more moderate form, the theory suggests that individuals are pursuing their own objectives, which might also include a concern for the wellbeing of others.

The literature on public choice finds that politicians tend to delay unpopular fiscal policy changes or cuts in public services until after elections and to postpone troublesome regulatory activity to reduce controversies at the election time (Shamoun & Yandle, 2016). Likewise, politicians tend to be motivated to postpone developing plans for coping with dire events, such as hurricanes or epidemics, that are most likely to occur on someone else's watch (Shughart, 2006). Taken to accounting context, this implies that when room for accounting discretion exists, politicians may be tempted to select accounting methods that lead to or understating the expenses during their electoral period and postponing the expenses to following period.

Prior empirical research on local government financial reporting has shown that the quality of financial information is affected by factors such as size (Falkman & Tagesson 2008), political competition (Collin et. 2017, Donatella et al., 2019; Donatella 2020), and the extent to which the municipality is dependent on state financing (Falkman & Tagesson 2008; Paananen, Rönkkö, Zerni & Hay 2020).

According to Streim (1994, p.179), municipalities have at least three main sets of principal-agent relationships: between electorate as principal and legislature as an agent, between legislature as principal and government as an agent, and between government as principal and bureaucracy as an agent. The principal-agent model allows a reinterpretation of administrative accountability's 'traditional' problem, namely that of the institutional mechanisms that allow elected politicians to hold bureaucrats accountable.

In the context of Finnish municipalities, a high level of financial autonomy is a precondition for local autonomy more generally, which implies that "there is an inevitable tension between central government's concern with overall economic management and local government's demand for policy discretion" (Pratchett 2004, 365). Based on the above discussion concerning municipal autonomy, self-governance, and the municipalities right to levy municipal taxes, we posit that municipalities are unwilling to stand down from these privileges. Given that the municipalities want to stay autonomous by reporting a healthy financial position, a municipality has an incentive to manage its earnings upwards by not recognising the provision if it has an accumulated deficit in its opening balance sheet.

Consequently, our first hypothesis is:

H1: *There is a positive association between non-compliance in recognizing health care expenses and proximity of the crisis municipality indicator.*

In addition to agency-based explanations for organizational behaviour, accounting choices may reflect institutional or social-psychological behavior. Organizations can be considered to be decision makers who interact with each other and their actions may influence the actions taken by other decision makers (Manski, 2000). Furthermore, an empirical regularity of decision makers behaving alike in various situations has been observed in many fields of social science, with labels such as 'conformity', 'neighborhood effects', 'social norms' describing the phenomenon (Manski, 2000).

A well-known formalized example of such behavior is herding: decision makers may herd if they believe that a previous decision maker has information that is useful to them, regardless of their own signal concerning the decision (Banerjee, 1992). Such behaviour could be optimal for an individual who does not possess sufficient knowledge or experience (Bikchandani, Hirshleifer and Welch, 1992). Herd behaviour is consistent with agency-based explanations. If managers differ in their level of ability, the low-ability managers may ignore their own private information and mimic behaviour of other managers so that their low ability will not be revealed (Devenow and Welch, 1996). Correlated decisions may also result from "sharing the blame", with herding caused by a fear of being judged harshly for not taking sensible decisions when others do so (Scharfstein and Stein, 1990). That is, managers could be more favourably evaluated if they follow the decisions taken by others rather than standing out of the crowd (Scharfstein and Stein, 1990).

While herding mostly relates to observational learning, it is also possible that decision makers communicate with each to obtain information (Manski, 2000). Conversations between different decision makers may lead them to adopt information that differs between groups even if they share the same knowledge on the matter (Shiller, 1995). In the accounting context, accountants may, for example, meet on an on-going basis and exchange information (Donatella, 2020a). Empirical evidence suggests that such municipal accounting networks are positively correlated with compliance in Sweden (Donatella, 2020a) and Portugal (Carvalho et al., 2007). Since preparers of municipal financial reports within health care districts are likely to engage in conversations with each other, it is plausible that reporting choices within health care districts may exhibit conformity. Hence, our second hypothesis reads as follows:

H2. *There is a positive association between the compliance choice of other municipalities and that of the district centre regarding health care expense accruals.*

The quality of financial information is also affected by audits. In audit risk models, audit risk consist of the following components: inherent risk, control risk and detection risk. In the Nordic setting the bankruptcy is not possible for municipalities because financial distress and structural debt problems are solved via merging process of municipalities rather than letting municipalities go bankrupt. Therefore, the auditors may not evaluate the inherent risk to be particularly high in the Nordic setting. Detection risk means "the risk that the procedures performed by the auditor will not detect a misstatement that exists and that could be material, individually or in combination with other misstatements" (PCAOB, 2021).

It is well known that receivables and inventories are considered as hard to audit items and require more complex internal control procedures in manufacturing firms (e.g. Raghunandan & Rama, 2006). Analogically, municipal auditors are likely to put more effort to receivables and inventories compared to other balance sheet items, such as provisions and other liabilities.

The non-inclusion of liabilities in the balance sheet maybe hard to detect. One well known case of misreporting liabilities is Enron where special purpose entities were used to hide liabilities (Feng et al., 2009). In the same vein, the states have incentives to manipulate the outputs of the accounting system to influence the outcomes of elections (Kido et al., 2012) and provide states with the flexibility to avoid raising taxes or cutting entitlement programs during economic downturns by for example understating the size of pension obligations (Naughton et al., 2015).

One of the areas that have being identified by e.g. International Auditing and Assurance Standards Board as affecting the audit risk are transactions involving related parties (IFAC, 2021), which the

transactions between the municipalities and healthcare districts are an example of. The risk of not detecting that a provision related to health care expenses is missing from a municipality's financial statements should be lower, however, if the same auditor is auditing the health care district and the respective municipality.

Based on the above discussion, we posit our third hypothesis that reads as follows:

H3. *There is a negative association between non-compliance in recognizing health care expenses and the audit performed by the same auditor both at the municipality and respective health care district.*

Data and methods

The data covers all municipalities located in the Finnish mainland and the related healthcare districts. The district of the Åland Islands is omitted from the analysis due to its substantial administrative autonomy. The number of municipalities (indexed by *i*) varies between 297 (in 2016) and 294 (in 2020). The data was hand-collected from their financial statements 2016-2020 (indexed by *t*). In addition, supplemental data on municipalities was obtained from Statistics Finland. All variable definitions can be found in Table A2 in Appendix.

Since a healthcare district's deficit could result from its member municipalities running deficits and thus providing insufficient funding to the joint municipality, the sample of potential non-compliant reporters might be self-selected. To mitigate the resulting bias, we estimate a model which yields the probability of running a deficit for a municipality. Following Connolly (2018), we estimate the incidence of a deficit rather than an absolute or relative value of deficit spending. Consequently, the indicator variable *Deficit* equals one if a municipality has a deficit and is zero otherwise. The regression model is:

$$Deficit_{i,t} = \beta_0 + \beta_1 Deficit_{i,t-1} + \beta_2 PopUnder15_{i,t} + \beta_3 PopOver64_{i,t} + \beta_4 EmpRate_{i,t} + \beta_5 Sufficiency_{i,t} + \beta_6 Urban_{i,t} + \beta_7 DepRatio_{i,t} + \beta_8 PopChange_{i,t} + \beta_9 LogPop_{i,t} + YearFE + \varepsilon_t \quad (1)$$

We include several predictor variables for deficit spending. As suggested by Veiga and Veiga (2007) and Connolly (2018), several factors relating to age structure, population density and employment may affect the municipality's expenditures and taxes. For this reason, we use the percentages of population under 15 and over 64 (*PopUnder15* and *PopOver64*, respectively) because minor and senior citizens tend to require more public services (e.g., day care, schools, elderly care) than the

working age population. Employment rate (*EmpRate*) measures the percentage of population in the labor force. Workplace self-sufficiency (*Sufficiency*) accounts for the relative share of workplaces in the municipality. It is computed as a ratio of the number of persons working in the area divided by the employed labor force living in the area. It could also be viewed as a proxy for businesses located in a municipality, which relates to business taxes paid to the municipality. The economic dependency ratio (*DepRatio*) is the ratio of the numbers of unemployed persons unemployed or those outside the labour force per one the number of employed persons. A high economic dependency ratio could result in a high level of expenditures and a lower tax base. The degree of urbanization (*Urban*) is the proportion of population living in urban settlements within the municipality. It could be argued that the provision of municipal services is more efficient in urban locales. Finally, population change in percent (*PopChange*) and a logarithm of population (*LogPop*) measure the demographic dynamics and size of the municipality's population, respectively.

Equation (1) is estimated with fixed-effects logistic regression, which accounts for within municipality variation. We recover the yearly predicted probabilities of running a deficit from Equation (1) and construct a variable, *ProbDeficit*, from them.

After this we estimate the following empirical model with pooled logistic regression to carry out hypothesis testing on non-compliant financial reporting:

$$
\begin{aligned}
Non-compliance_{i,t} &= \beta_0 + \beta_1 ProbDeficit_{i,t} + \beta_2 Conformity_{i,t} + \beta_3 SameAuditor_{i,t} \\
&+ \beta_4 FemaleShare_{i,t} + \beta_5 LeftIndistMaj_{i,t} + \beta_6 FirstTimers_{i,t} \\
&+ \beta_7 MinorityGov_{i,t} + YearFE + \varepsilon_t
\end{aligned}
\tag{2}
$$

It should be noted that not all municipalities or healthcare districts will be included in this analysis because if a healthcare district runs a surplus, the issue of non-compliance vanishes.

In Equation (2), the dependent variable is *Non-compliance*, which is a dichotomous variable that equals one if a healthcare district has accumulated deficit, but a municipality that is a member in the healthcare district fails to recognize an expense provision related to the deficit. The baseline empirical model omits district centres because (i) it is extremely unlikely that a district centre would be forced to merge with a smaller neighbouring municipality and (ii) we use the district central as the benchmark for other municipalities in a healthcare district.

The regression model has three focus variables. First, as mandated by the Finnish Local Government Act, a municipality that has accumulated a deficit must generate a surplus in the following accounting periods in order to avoid being classified as a 'crisis municipality'. Consequently, we use *ProbDeficit* which is the probability that a municipality breaches the threshold of the financial distress classification as a proxy for financial distress. Second, previous research suggests that municipal accounting choices are correlated between neighbouring municipalities (Carvalho et al., 2007; Donatella 2020a). We operationalize the district level conformity with a dummy variable (*Conformity*), which equals one if municipalities in a healthcare district make the same reporting decision as the district central (i.e., the municipality with the central hospital which invariably is the largest municipality in the district by population). Finally, *SameAuditor* is a dummy variable taking the value of one in cases where a healthcare district and its member municipality have the same auditor. In all cases, a statistically significant and positive estimated coefficient on the focus variable is consistent with rejecting hypotheses H1 to H3.

We control for several attributes that may correlate with municipal financial reporting quality. First, several studies concerning in private sector audits suggest that Big N audit firms are associated with a higher audit quality (Hay and Cordery, 2018). In a Nordic setting which is comparable to the one explored in this paper, the local government audit firm is a predictor of earnings management (Falkman and Tagesson, 2008; Donatella et al., 2019). Thus, we control for the municipal Big 4 audits with a dummy variable (*Big4*) which equals one for Big 4 auditors and is zero otherwise. Second, we control for the municipality size with a natural logarithm of the municipal population (*LogPop*), as prior research has established that size correlates with accounting quality in municipalities (e.g., Falkman and Tagesson, 2008; Donatella, 2020b). Third, political competition is considered to improve monitoring. Hence, following Donatella (2020b), we include a dummy variable for the minority government (*MinorityGov*), which is operationalized as a single party holding less than 50% of the council seats. Fourth, the composition of the city council may be related to monitoring efforts. Tagesson et al. (2013) control for the ideological compositions of the municipal council by indicator variables for majorities (over 50% of seats) held by left-wing parties, conservative-liberal parties, or an indeterminate majority[1]. However, since there were so few cases of indeterminate majorities (less than 1%), we lumped together left-wing and indeterminate majorities to a single variable (*LeftIndistMaj*) and conservative-liberal parties to another (*ConsLibMaj*). In the regression model,

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[1] The left-wing parties are the Social Democratic Party or the Left Alliance. Liberal-Conservative parties are the Center Party, the National Coalition, the Christian Democratic Party and the Swedish Party. The indeterminate majority consists of council seat majorities held by the Green Party, the True Finns, or a minor party or politically independent council members.

we keep the conservative/liberal majority as the reference category. We also control for the number of first-time council members (*FirstTimers*) because experience may correlate with monitoring. Furthermore, a vast literature suggests that gender diversity in the form of female representation on boards improve monitoring (e.g., Adams and Ferreira, 2009). Thus, we control for diversity by a variable which records the share of female council members (*FemaleShare*). Finally, we control for time-related effects (e.g., the election year of 2017) by including dummy variables for health districts and sample years.

Results

Figure 1 illustrates the health care expense accruals of municipalities. Strikingly, more than 73 per cent of the municipalities in healthcare districts are non-compliant with the regulation between 2016 and 2020 (see Table A1 in Appendix). The overall share of non-compliant municipalities remains fairly consistent within the sample over time.

Figure 2. Compliant (green) and non-compliant (red) municipalities in health care cost reporting in 2020-2016

2020   2019   2018   2017   2016
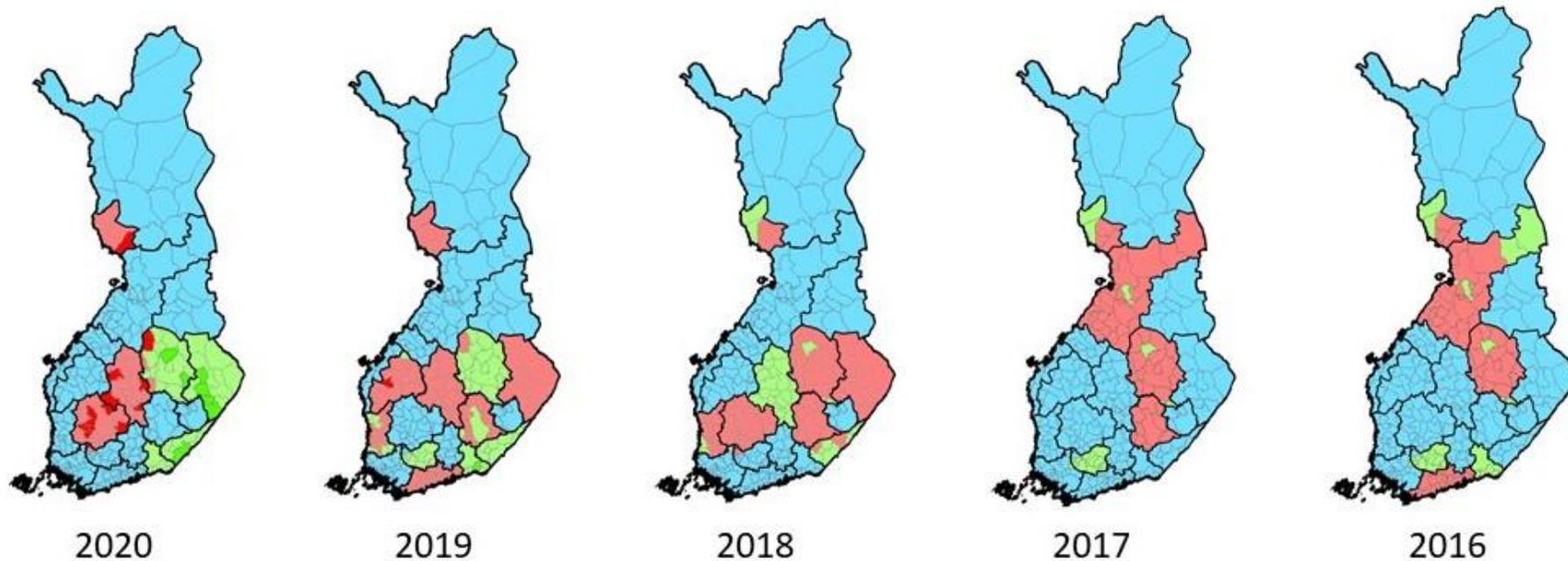
The above maps represent a five-year period from 2020 (the first on the left) to 2016 (the last on the right). In each map, the health districts that recorded a deficit in the respective year are highlighted in other colour than blue (red/green). Each healthcare district consists of a certain number of municipalities (ranging from 4 to 29 in one healthcare district) that obtain special medical services from the health district (while primary health care services are provided by the municipalities themselves). In case the healthcare district has accumulated a deficit, the municipalities in a health district are required to report their share of this deficit in their financial statements. Therefore, the maps show with either green (compliant) or red (non-compliant) colour whether the municipality has reported the provision based on its share of the deficit following the accounting standards.

Table 1 reports the descriptive statistics of the variables used in the regression analysis predicting the municipality's probability of deficit spending. The left-hand panel reports the statistics for all municipalities. On average, 14% of municipalities record a deficit during the observation period. In an average municipality, 16% of the population is under 15 years old and 27% over 64 years old. Employment rate is 70%, with 87% of workplaces located within the municipality. The level of urbanization is 64%. A hundred working age persons support 164 persons outside the labor force. The average municipality in Finland has 18,639 inhabitants, which was 0.9% less than the year before.

The next two panels show a breakdown of municipalities based on whether they run a surplus or a deficit. The differences between the two groups are examined with the t-test, which is indicated in the right-most panel. The key differences based on the statistically significant t-tests suggest that the municipalities running a deficit also had a deficit in the previous year, their population tends to be older, they are less self-sufficient in the share of workplaces located in the municipality, they are less urban, smaller by population and tend to experience a higher rate of population decline.

Table 2 reports summary statistics for the variables used in the regression analysis of non-compliance, which includes the municipalities which belonged to a healthcare district that reported a deficit in any year of the data period. The left-hand panel shows statistics for all municipalities in the sample. The statistics indicate that the mean of non-compliance is 72%. The average probability of a deficit was 16%. The same auditor audited the municipality and the healthcare district in 3% of the cases, with a Big 4 firm being responsible for 26% of audits. 88% of the municipalities were ruled by conservative-liberal majorities and the rest by left-wing or indistinct majorities. A minority government characterized 59% of the municipalities. Out of the elected municipal council members, 38% were female and 14% served their first term. The average population of a municipality was 19306 inhabitants.

The next two panels from the left summarize statistics of non-central and central municipalities, with the right-most panel indicating the t-value of the statistical difference between the two groups. The two groups exhibit some differences. Non-central municipalities are less often governed by left-wing or indistinct majority governments and more often by a minority government. They also have a higher share of female council members. The difference in population is large: the average central municipality is ten times larger than the non-central one. Conformity cannot be compared between the two; however, 89% of the non-central municipalities in the sample take the same reporting choice as the central municipality does.

Table 3 reports the correlation matrix for the regression analysis predicting the municipality's probability of deficit spending. The correlation coefficient between Deficit and its lagged term indicates that running a deficit tends to place in consecutive years. Intercorrelations show that some explanatory variables are highly correlated with each other. They suggest that municipalities tend to differ by their age structures. Further, municipalities with a high share of population under 15 tend to be more urban and have more sustainable dependency ratios. By contrast, a high share of senior citizens is positively correlated with a high dependence ratio and negatively correlated with urbanization and outflow of citizens.

Table 4 shows the correlation matrix for the variables used in the regression analysis of non-compliance. Concerning the correlations between the focus variables and the dependent variable, the correlation coefficient between *Conformity* and *Non-compliance* is 0.25, which provides initial support for hypothesis H2. However, *ProbDeficit* and *SameAuditor* exhibit almost non-existent correlation with the dependent variable. Regarding explanatory variables, their intercorrelations are mostly low, which suggests that multicollinearity is unlikely to be an issue.

Table 5 reports the regression results of the model predicting the probability of deficit spending. The statistically significant variables that are positive predictors of deficit spending include a previous year deficit and the shares of population under 15 and over 64. In contrast, negative predictors are employment rate, workplace sufficiency and the dependency ratio.

Table 6 reports the results of a regression predicting the incidence of non-compliant reporting. Concerning the variables of interest, only the estimated coefficient on *Conformity* is positive and statistically significant, which provides empirical support for H2. This implies that a municipality takes a non-compliant reporting choice in concert with the central municipality. However, neither *ProbDeficit* nor *SameAuditor* are statistically significant. Consequently, we reject H1 and H3. Regarding the control variables, only the coefficient on *LeftIndistMaj* is significant and positive. This suggests that the municipalities governed by left-wing or indistinct majorities are more likely to engage in non-compliant financial reporting than the municipalities with conservative/liberal majorities.

Robustness checks

These results are robust to exclusion of the control variables and alternative model specifications. For instance, a separate model was estimated for each focus variable, which permitted including the

district centres in two models. These results were consistent with the ones reported in Table 6. We also estimated the model by including healthcare district fixed effects to the model of non-compliance. While this reduced the number of observations by a third, the results were quantitatively and qualitatively robust with the results presented in the paper.

Conclusions

The present paper analysed the quality and comparability of financial reporting in a municipal setting. Using health care expense related data for approximately 300 municipalities for five years (from 2016 to 2020), we examined whether the municipalities report in accordance with the requirements of the regulation concerning these expenses and the related provisions, and what factors explain the propensity to comply with the regulation. More specifically, we examined whether municipalities follow the requirements to recognise a provision for the municipality's share in the cumulative deficit of the local health care district. We chose to examine the recognition of this provision because these patricular empirical data allow us to observe the compliance directly. We assume that this specific item is informative of more general level of compliance in the municipal financial reporting.

Overall, we find that the share of municipalities that do not comply with this requirement is alarmingly large. On average, over 70 per cent of the municipalities fail to report the provision related to the municipality's share in the health care district deficit.

Our regression results suggest that the decision by a municipality to comply with the pertinent accounting requirement is positively associated with the reporting choice of the health care district centre municipality. We do not find, however, an association between non-compliance of health care district expense provisions and proximity of the crisis municipality indicator. In other words, the lack of compliance is not explained by the municipal management's incentive to sustain the municipal autonomy by manipulating the financial position reported. Whether the municipality and the respective health care district are audited by the same auditor does not effect the quality of financial reporting.

Our regression results suggest also that the propensity to comply with the requirement, i.e. to report the expenses and provisions in question, is not explained by the traditional determinants of financial reporting quality in the local governments identified in prior literature such as size (Falkman & Tagesson 2008), political competition (Collin et. 2017, Donatella et al., 2019; Donatella 2020), and dependence of the municipality on state financing (Falkman & Tagesson 2008; Paananen, Rönkkö,

Zerni & Hay 2020). This further highlights the role of the peer influence in the compliance choice as indicated by our results.

Our has made the following contributions: First, we contribute to the growing literature on the determinants of comparability beyond accounting standards (Chen et al., 2020; Black, Chen & Cussatt, 2021; Ege, Kim & Wang, 2020). While this literature has investigated economic agents and institutional incentives that influence comparabity beyond accounting standards by studying the role of auditors (Chen et al., 2020; Li, Qui & Zhang, 2021; Ege et al., 2020) or country-level factors (e.g. Kvaal and Nobes, 2012), the present study adds a focus on the financial statement preparers.

Second, we contribute to the literature on determinants of financial reporting quality in local governments (Donatella, 2020a; Falkman & Tagesson, 2008; Vermeer et al., 2012). Future research could attempt to find other settings where comparability is directly observable.

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Table 1. Descriptive statistics of the variables used in the regression model of deficit spending.

Variable	*All municipalities*					*Municipalities running a surplus*					*Municipalities running a deficit*					
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max	t-value
Deficit	1470	0.14	0.35	0	1	1267	0.00	0.00	0.0	0.0	203	1.00	0.00	1.0	1.0	na.
Deficit$_{t-1}$	1470	0.14	0.35	0	1	1267	0.05	0.21	0.0	1.0	203	0.75	0.43	0.0	1.0	-22.59***
PopUnder15	1470	15.67	4.00	7.3	34.7	1267	15.73	4.11	7.3	34.7	203	15.28	3.17	8.7	23.5	1.79*
PopOver64	1470	26.88	6.39	9.1	43.6	1267	26.73	6.51	9.1	43.6	203	27.81	5.49	16.4	40.7	-2.53**
EmpRate	1470	69.62	5.80	53.1	85.0	1267	69.60	5.86	53.1	85.0	203	69.70	5.47	55.7	82.2	-0.24
Sufficiency	1470	86.74	18.75	38.2	149.9	1267	87.47	18.64	41.5	149.9	203	82.15	18.82	38.2	126.3	3.74***
Urban	1470	63.59	19.42	0.0	100.0	1267	64.29	19.48	0.0	100.0	203	59.20	18.50	25.8	99.9	3.61***
Dependency	1470	164.42	30.76	103.2	254.5	1267	164.23	31.11	103.2	254.5	203	165.62	28.53	109.4	237.9	-0.64
PopChange	1470	-0.90	1.18	-6.6	3.5	1267	-0.84	1.18	-6.6	3.5	203	-1.29	1.10	-4.3	2.0	5.29***
Pop	1470	18639.17	49443.45	690	653835	1267	20196.62	52855.16	690	653835	203	8918.56	12617.57	1096	116921	6.52***

Notes: The column labelled as 't-test' reports the t-test statistic for the difference between the means of district central and non-central municipalities.
Statistical significance: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

Table 2. Descriptive statistics of the variables used in the regression model of non-compliant financial reporting.

	All municipalities					*Non-central municipalities*					*Central municipalities*					
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max	t-value
Non-compliance	511	0.72	0.45	0.00	1.00	476	0.72	0.45	0.00	1.00	35	0.69	0.47	0.00	1.00	0.48
Conformity	na.	na.	na.	na.	na.	476	0.89	0.31	0.00	1.00	na.	na.	na.	na.	na.	na.
ProbDeficit	511	0.16	0.27	0.00	0.98	476	476	0.14	0.25	0.00	0.98	35	0.12	0.23	0.00	0.93
SameAuditor	511	0.03	0.16	0.00	1.00	476	0.03	0.16	0.00	1.00	35	0.03	0.17	0.00	1.00	-0.11
Big4	511	0.26	0.44	0.00	1.00	476	0.25	0.43	0.00	1.00	35	0.40	0.50	0.00	1.00	-1.79*
ConsLibMaj	511	0.88	0.33	0.00	1.00	476	0.88	0.32	0.00	1.00	35	0.80	0.41	0.00	1.00	1.17
LeftIndistMaj	511	0.12	0.33	0	1	476	0.12	0.32	0	1	35	0.20	0.41	0	1	-1.17
MinorityGov	511	0.59	0.49	0.00	1.00	476	0.60	0.49	0.00	1.00	35	0.40	0.50	0.00	1.00	2.31**
Diversity	511	0.38	0.08	0.14	0.59	476	0.38	0.08	0.14	0.59	35	0.34	0.09	0.23	0.53	2.61**
FirstTimers	511	13.67	5.81	1.95	43.35	476	13.71	5.84	1.95	43.35	35	13.22	5.52	4	29	0.51
Pop	511	19306.13	51311.89	690	648042	476	11815.44	24179.87	690	283632	35	121179.5	140913.3	20707	648042	-4.59***

Notes: The column labelled as 't-test' reports the t-test statistic for the difference between the means of district central and non-central municipalities.
Statistical significance: * p-value < 0.1; ** p-value < 0.05; *** p-value < 0.01.

Table 3. Pearson correlation matrix of the variables used in the regression model of deficit spending.

	Deficit	Deficit$_{t-1}$	PopUnder15	PopOver64	EmpRate	Sufficiency	Urban	DepRatio	PopChange	LogPop
Deficit	1.00									
Deficit$_{t-1}$	0.69	1.00								
PopUnder15	-0.04	-0.04	1.00							
PopOver64	0.06	0.04	-0.85	1.00						
EmpRate	0.01	0.00	0.53	-0.52	1.00					
Sufficiency	-0.10	-0.07	-0.34	0.22	-0.40	1.00				
Urban	-0.09	-0.06	0.33	-0.57	0.26	0.15	1.00			
DepRatio	0.02	0.00	-0.50	0.74	-0.86	0.24	-0.50	1.00		
PopChange	-0.13	-0.11	0.49	-0.66	0.41	-0.10	0.53	-0.59	1.00	
LogPop	-0.11	-0.08	0.24	-0.57	0.17	0.22	0.82	-0.49	0.52	1.00

Table 4. Pearson correlation matrix of the variables used in the regression model of non-compliant financial reporting.

	Non-compliance	Conformity	ProbDeficit	SameAuditor	Big4	ConsLibMaj	LeftMaj	MinorityGov	FemaleShare	FirstTimers
Conformity	0.25	1.00								
ProbDeficit	-0.05	0.00	1.00							
SameAuditor	0.04	-0.03	-0.06	1.00						
Big4	0.08	0.06	0.02	-0.03	1.00					
ConsLibMaj	-0.12	-0.02	-0.02	0.02	0.00	1.00				
LeftMaj	0.04	-0.07	0.01	-0.02	0.01	-0.33	1.00			
MinorityGov	-0.02	-0.09	0.13	-0.14	0.22	-0.12	0.03	1.00		
FemaleShare	0.02	-0.04	0.09	-0.02	0.03	-0.12	-0.05	0.01	1.00	
FirstTimers	0.06	0.10	0.07	0.04	0.16	-0.31	-0.03	0.28	0.31	1.00
LogPop	-0.05	-0.06	-0.23	-0.01	0.09	-0.04	-0.02	0.05	-0.03	0.02

Table 5. Regression results for the probability of deficit.

	Coef.	Std. Err.	z-value	p-value
Deficit$_{t-1}$	4.987***	0.312	15.96	0.000
PopUnder15	0.381**	0.162	2.35	0.019
PopOver64	0.330**	0.138	2.39	0.017
EmpRate	-0.293**	0.116	-2.52	0.012
Sufficiency	-0.023**	0.009	-2.5	0.012
Urban	0.006	0.011	0.52	0.605
DepRatio	-0.069**	0.028	-2.51	0.012
PopChange	-0.256*	0.134	-1.91	0.056
LogPop	-0.183	0.194	-0.94	0.346
YearFE	Yes			
Constant	16.376	8.118	2.02	0.044
Obs.	1470			
Wald Chi2	326.42***			0.000
Pseudo-R2	0.506			

Notes: Dependent variable: *Deficit*. Standard errors adjusted for municipalities.

Table 6. Regression results for non-compliance.

	Coef.	Std. Err.	z-value	p-value
Conformity	1.485***	0.491	3.02	0.002
ProbDeficit	-0.184	0.570	-0.32	0.747
SameAuditor	1.079	0.940	1.15	0.251
Big4	0.385	0.377	1.02	0.307
ConsLibMaj	-1.207***	0.443	-2.72	0.006
LeftMaj	0.099	1.065	0.09	0.926
MinorityGov	-0.244	0.384	-0.64	0.524
FemaleShare	0.350	1.910	0.18	0.855
FirstTimers	0.001	0.027	0.03	0.974
LogPop	-0.117	0.150	-0.78	0.435
Year-FE	Yes			
Constant	1.851	1.702	1.090	0.277
Obs.	476			
Wald Chi2	39.75***			0.000
Pseudo-R2	0.081			

Dependent variable: *Non-compliance*. Standard errors adjusted for municipalities.

Appendix

Table A1. Proportions of non-compliant accounting choices by municipalities in healthcare districts.

Healthcare district	2016	2017	2018	2019	2020
Etelä-Karjala			33.3	0.0	0.0
Etelä-Pohjanmaa				94.4	
Etelä-Savo		100.0	100.0	77.8	77.8
Helsinki and Uusimaa	100.0			100.0	
Kanta-Häme	0.0	0.0	0.0	0.0	90.9
Keski-Suomi				100.0	100.0
Kymenlaakso	0.0				0.0
Länsi-Pohja	66.7	66.7	66.7	66.7	66.7
Pirkanmaa			100.0		100.0
Pohjois-Karjala				100.0	0.0
Pohjois-Pohjanmaa	86.2	96.6			
Pohjois-Savo	88.9	88.9	88.9	5.5	16.7
Satakunta			88.2	64.7	
Total	73.4	78.1	78.3	67.8	67.6

Table A2. Variable descriptions.

Probability of deficit spending	
Variable	Description
Deficit/ *Deficit$_{t-1}$*	We use a dummy variable for an accumulated deficit (*Deficit*), which takes the value of one if a municipality has deficit and is zero otherwise.
PopUnder15	The percentage share of population under 15 years old.
PopOver15	The percentage share of population over 64 years old.
Employment rate	The percentage share of population being employed either full time or part time.
Sufficiency	The ratio of the number of persons working in the area divided by the employed labor force living in the area.
Urban	The degree of urbanization measures the proportion of population living in urban settlements within the municipality.
DepRatio	The economic dependence ratio is the ratio of the numbers of unemployed persons unemployed or those outside the labour force per one the number of employed persons.
PopChange	A percentage change in population during the previous year.
LogPop	A natural logarithm of the municipal population.

Probability of non-compliant financial reporting	
Variable	Description
Non-compliance	A dummy variable which takes the value of one if a municipality does not recognize a loss provision for the healthcare district's accumulated deficit, in which it is a member. If a loss provision is not recognized, the variable has been coded as zero.
Conformity	A dummy variable which takes the value of one if a municipality adopts the same reporting choice as the healthcare district municipality.
ProbDeficit	The probability of a deficit recovered from Equation (1).
SameAuditor	A dummy variable which takes the value of one if a municipality and a healthcare district are audited by the same auditor and is zero otherwise.
Big4	A dummy variable which takes the value of one if a municipality is audited by a Big 4 auditing firm and is zero otherwise.
ConsLibMaj	A dummy variable which takes the value of one if a municipality is governed by a majority formed by conservative or liberal parties and is zero otherwise.
LeftwingIndistMaj	A dummy variable which takes the value of one if a municipality is governed by a majority formed by leftwing or other parties and is zero otherwise.
MinorityGov	A dummy variable which takes the value of one if a municipality is governed by a minority government and is zero otherwise.
FemaleShare	The percentage share of female council members.
FirstTimers	The percentage share of council members serving their first term.
LogPop	A natural logarithm of the municipal population.