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Financial and non-financial performance measurement at the municipal group level – Evidence from municipal budgets in Sweden

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Abstract

Purpose – This paper aims to explore Swedish municipalities' adoption of politically decided goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

Design/methodology/approach – A regression analysis of the adoption of financial and non-financial performance measurement by 289 Swedish municipalities was performed, including eight independent variables and several control variables.

Findings – Of the municipalities, 26% adopted financial and 13% non-financial goals and targets in their 2021 budgets. The former choice appears to be driven by functional rationality, while the latter is driven by institutional and political incentives. The low adoption level of performance measurement implies that political group-level management has not yet adapted to new organisational conditions.

Practical implications – To enhance political governance and accountability, controllers should assist politicians in incorporating municipal group goals into the budget. Not least, more attention should be given to non-financial perspectives, as they better support strategy implementation and better promote comprehensive accountability to citizens and stakeholders. A further implication for policymakers is that when designing future legal financial and non-financial requirements for municipalities, it is important to define those at the municipal group level.

Originality/value – This study empirically and theoretically contributes to previous research on the adoption of performance measurement as it is the first study to explore the adoption pattern of financial and non-financial performance measurement at the municipal group level. This study further contributes theoretically by highlighting the importance of distinguishing between the adoption of financial and non-financial goals and targets, as the analysis reveals that financial and non-financial performance measures are adopted due to different rationales.

Keywords Municipality, Performance measurement, Group level, Accountability, Sustainability

Paper type Research paper

1. Introduction

Driven by rational needs and management trends, municipalities in many countries have implemented various legally autonomous or autonomous semi-entities to provide public services (Rackwitz and Raffer, 2024). The literature suggests that factors such as fiscal stress and budget restrictions, the need for increased organisational size to address specific issues and attract certain competencies, political ideology and blame avoidance, and the ideals of new public management are all influential rationales for municipalities to reorganise service provision (Rackwitz and Raffer, 2024; Van Genugten *et al.*, 2020; Carini *et al.*, 2019; Cruz *et al.*, 2014; Argento *et al.*, 2010). The municipal organisational changes have taken different routes influenced by the historical, institutional, political and cultural contexts of different countries, resulting in numerous organisational solutions such as municipal companies, inter-

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municipal companies, public–private joint ventures, outsourcing and more (Van Genugten *et al.*, 2020; Cruz *et al.*, 2014; Argento *et al.*, 2010). However, a common feature of these organisational forms is a high degree of legal autonomy based on private law.

The shift of significant resources and service provision from the core municipal administration to legally autonomous entities has brought several problematic consequences for municipal management (Voorn *et al.*, 2020; Berge and Torsteinsen, 2021; Bergh *et al.*, 2021). One overarching implication of extensive externalisation of service provision is that the public administration becomes less valid as an overall political governance unit (Bergmann *et al.*, 2016). Berge and Torsteinsen (2021) effectively describe that implementing legally autonomous entities detaches these organisations from the formal hierarchical chain of political governance and accountability. Several researchers conclude that this formal separation results in a fragmented municipal organisation and a loss of political control over strategy and accountability for outcomes (Van Genugten *et al.*, 2020; Bergh *et al.*, 2021; Berge and Torsteinsen, 2021). If this concern extends to municipalities with multiple externalised entities, it might undermine the role of the budget and annual report, as these documents will only control and disclose the performance of the public administration segment within the overall municipal group of organisations (Bergmann *et al.*, 2016; Carlsson *et al.*, 2016). Consequently, political principals may have difficulty ensuring and accounting for the achievement of municipal objectives through the traditional political accountability cycle, which starts with the budget and ends with the annual report (Ryan *et al.*, 2002).

The lack of comprehensive political control and accountability for the municipality as a whole has almost exclusively been recognised in the municipal financial accounting literature, with reference to the need for consolidated financial reporting (Santis *et al.*, 2018; Donatella *et al.*, 2024). This literature suggests that consolidated financial reporting is core to promoting the governance of a municipal group (Santis *et al.*, 2018; Carini *et al.*, 2019). However, the annual report is *ex post*, marking the end of the political accountability cycle. There seems to be little academic discussion regarding forward-looking governance tools from a municipal group perspective (Chow *et al.*, 2019), which is further emphasised by Grossi and Argento (2022) who stress that municipalities need better performance measurement that focuses on the comprehensive performance of public organisations. In this article, we spotlight municipalities' adoption of goals and targets in the municipal budget that are formulated for the accounting unit of the municipal group: public administration together with controlled entities.

Adopting performance measurement at the corporate group level is an established practice in the private sector. It is used to control subsidiaries, exploit strategic and operational synergies within the group, and better communicate group-level performance (Kraus and Lind, 2010). However, based on what we know, this practice is not widespread among municipalities. Research on the adoption and implementation of performance measurement within the public sector is now an established field (Kroll, 2015; van der Kolk, 2022; Dimitrijevska-Markoski, 2023), also within the frame of municipal budgeting (see Budding *et al.*, 2022). In relation to research on the implementation of municipal companies (Van Genugten *et al.*, 2020; Bergh *et al.*, 2021; Rackwitz and Raffer, 2024), emerging literature also considers the use of performance measurement for municipal corporate governance purposes (Voorn *et al.*, 2020; Daiser and Wirtz, 2021; Krause and Swiatczak, 2020). To the best of our knowledge, no study has addressed the adoption of performance measurement designed to control the municipality as a group. However, local research in Sweden has documented a steadily growing number of municipalities that have started to adopt goals and targets formulated for the municipal group as if it was one organisation (Brorström *et al.*, 2009; Carlsson *et al.*, 2016). Since it is a novel practice, this study aims to explore Swedish municipalities' adoption of goals and targets in the municipal budget, formulated for the accounting unit of the municipal group. Sweden is an interesting context, as the externalisation of municipal services into municipally owned companies or other legal forms is extensive (Argento *et al.*, 2010; Bergh *et al.*, 2021). Furthermore, the political responsibility for and the

importance of the municipal budget are greater than in most other countries (Donatella and Karlsson, 2024). Additionally, Swedish municipalities have comparatively long experience with municipal consolidated reporting (Donatella *et al.*, 2024). Thus, Swedish municipalities should have both the incentives and the basic reporting infrastructure to motivate the adoption of performance measurement at the municipal group level.

As this study focuses on politically decided goals and targets within the municipal budget, the empirical study relates to the primary function of performance measurement, which is to specify goals to enable evaluation (Fryer *et al.*, 2009; Bryson *et al.*, 2024). To address the rationality behind municipalities' adoption of performance measurement at the municipal group level, we implement a functionalist approach (Chenhall, 2003; Saliterer and Korac, 2013). This approach was chosen because it is the most-used theoretical perspective to explain performance measurement adoption (Julnes and Holzer, 2001; Van Dooren, 2006; Johansson and Siverbo, 2009; Monteduro, 2017; Budding *et al.*, 2022; van der Kolk, 2022; Dimitrijevska-Markoski, 2023) and because it allows for an analysis of whether this relatively new phenomenon (i.e. performance measurement at the municipal group level) is related to current organisational, operational and strategic factors. However, since it has been documented in previous research that institutional and political factors also influence the adoption of performance measurement (van der Kolk, 2022), such factors are used as controls in this study.

This paper is organised as follows. Since there is essentially no discussion of the role of performance measurement at the municipal group level in previous public-sector research, a discussion of this subject is provided in Section 2 before the hypotheses are derived. Section 3 presents the Swedish municipal context and describes the empirical model. Section 4 presents the results, and Section 5 ends the paper with a discussion and conclusions.

2. Theoretical framework

2.1 Performance measurement at the municipal group level

Performance measurement can be adopted at various levels (van der Kolk, 2022). The municipal group is seldom covered in public-sector performance measurement literature. However, in public sector financial accounting literature, a municipal group is defined as an "economic entity" encompassing the public administration and any controlled entities, such as municipal companies (Santis *et al.*, 2018). Defining and deciding on goals and targets for the municipal group essentially creates an accounting unit that legally doesn't exist. Thus, the aim of a group perspective is to erase legal boundaries and treat various entities as if they were "one organisation": a single accounting unit (Bergmann *et al.*, 2016). Issues of implementation are beyond the scope of this article, but implementing performance measurement for the municipal group is undoubtedly challenging. There's a wide variety of services, different financing structures, special regulations to consider and many organisational layers. A typical feature of a municipal group is the difference between public administration and municipal companies, with the latter often regulated by private sector legislation in many countries (Van Genugten *et al.*, 2020). The implication is that the traditional hierarchical chain of governance must be complemented with corporate governance (Daiser and Wirtz, 2021).

A primary concern with reorganising municipal service provision into autonomous municipal entities is the loss of political control and accountability (Van Genugten *et al.*, 2020; Berge and Torsteinsen, 2021). Berge and Torsteinsen (2021) describe the hierarchical governance and accountability chain as a delegation of power from citizens to politicians who then delegate to internal committees and departments, which report back to the political level accountable to the public. The hierarchical chain is annually manifested through the crucial political cycle of accountability, beginning with the budget and ending with the annual report (Ryan *et al.*, 2002). As noted by Berge and Torsteinsen (2021), externalisation to legally separated municipal entities weakens the direct hierarchical link between political authority and professional service provision, making it harder for politicians to formally control and take

responsibility for outcomes. If externalisation expands into multiple or very large municipal entities, it might undermine the value of the budget and annual report as instruments for political governance and accountability. This is because, under such circumstances, the municipal budget and annual accounts will only partially control and disclose municipal performance, as they only include the public administration part of the municipal group (Bergmann *et al.*, 2016; Carlsson *et al.*, 2016). This loss of aggregated accountability is acknowledged in relation to the arguments for, and implementation of, municipal consolidated financial reporting (Bergmann *et al.*, 2016; Santis *et al.*, 2018). The annual report, however, marks the end of the political accountability cycle. Incorporating political goals and targets for the accounting unit of the municipal group within the budget could provide a starting point to build a political accountability cycle from a municipal group governance perspective.

The primary purpose of setting goals and targets is to implement strategy effectively (Bryson *et al.*, 2024; Johnsen *et al.*, 2024). In a public setting, several authors argue that it is crucial to implement these goals and targets within the budget system, as the budget holds overriding significance for the implementation of strategies and plans (Budding *et al.*, 2022; Bryson and George, 2020). However, the creation of autonomous municipal entities often implies that strategy formulation and implementation are delegated to these entities with little unified governance and control from the central municipality (Voorn and Van Genugten, 2022), which has in many cases led to mission drift, goal divergence and suboptimisation (Van Genugten *et al.*, 2020). The purpose of a group-level perspective is quite the opposite. As highlighted in the private sector literature, the goal of group-level performance measurement is for individual units to formulate local strategies aligned with the global group-level strategy, to achieve strategic and operational synergies by combining the resources of the whole group and minimise suboptimisation (Kraus and Lind, 2010; Franco-Santos *et al.*, 2012). Analogously, incorporating municipal group-level goals and targets in the municipal budget might clarify the overall level of requirements and political-strategic directions for the whole municipality. These can serve as a reference point for both internal committees/departments and external municipal entities when developing local strategies, budgets and performance measures. Just as with the accountability cycle, Bryson and George (2020) emphasise that the implementation of strategy must be accompanied by processes of follow-up and feedback to evaluate the fulfilment of missions, goals and targets, and to stimulate strategic learning. Research also emphasises that implementing group-level performance measurement may also enhance dialogue between the central level and subunits (see Dossi and Patelli, 2010; Franco-Santos *et al.*, 2012). This is an important aspect since a lack of cooperation and occasionally hostile dialogue between the central public administration and its companies are recurring problems (Van Genugten *et al.*, 2020; Bergh *et al.*, 2021). Thus, analogous to Carini *et al.* (2019), the process of developing and implementing group-level performance measures within the budget can also strengthen the relations between the central municipality and controlled entities.

Private sector research further suggests that the efficiency of performance measurement at the group level may be influenced by supplementing financial with non-financial performance measures (Kraus and Lind, 2010; Franco-Santos *et al.*, 2012). The rationale is often related to the limitations of a predominantly "diagnostic financial control". In general, non-financial performance measures are more forward-looking and more adequate to measure value creation, service quality and societal impact. Thus, adopting non-financial goals and targets at the municipal group level in the municipal budget could promote the dissemination of more comprehensive accountability information to citizens and other stakeholders (cf., Budding *et al.*, 2022). Furthermore, non-financial performance measures offer a more comprehensive picture of performance drivers and allow competing strategic priorities to be better balanced, which makes it easier for entities in a group to translate strategy into operational strategies and targets (Dossi and Patelli, 2010). Moreover, if entities can report back in a non-financial manner, the politicians will have better opportunities to understand the service model of the entity (Micheli *et al.*, 2011). Thus, non-financial performance measurement holds the potential for better internal and external communication. To summarise, non-financial performance

measures may enhance the general benefits of performance measurement at the municipal group level. However, Kraus and Lind (2010) give a warning: they find that practice in the private sector does not follow this prescription, since financial measures are still the dominant perspective for group-level control.

2.2 Functional explanations for the adoption of performance measurement at the municipal group level

Julnes and Holzer (2001) distinguish between the adoption and implementation of performance measurement, a categorisation followed by several other studies (Van Dooren, 2006; Johansson and Siverbo, 2009; Monteduro, 2017; Budding *et al*., 2022; Dimitrijevska-Markoski, 2023). Adoption pertains to the formulation and design of performance measurement systems, while implementation relates to their actual use. Distinguishing between adoption and implementation is crucial since theory suggests that different factors may influence each. Julnes and Holzer (2001) and Dimitrijevska-Markoski (2023) hypothesise that adoption follows more rational/technical arguments (factors), whereas use is more related to political/cultural factors. Further, as Malmi (1999) concluded, new accounting tools develop in phases where rational factors and institutional factors may influence adoption differently depending on the development phase. From a rational and functionalist performance measurement perspective (Saliterer and Korac, 2013), the assumption is that performance measurement is adopted to help organisations achieve desired goals or performance. To do so, performance measurement systems must be adapted to internal and external circumstances (Chenhall, 2003). Thus, there is no universally appropriate performance measurement system; rather, it is assumed that an organisation's specific situation influences its adoption of performance measurement (Chenhall, 2003; Johansson and Siverbo, 2009; Monteduro, 2017). Certainly, there is no guarantee that an organisation will choose the right solution, in part because it is difficult to design and implement measures that capture performance in a highly complex organisation (Johansson and Siverbo, 2009). The following hypotheses explore whether the political adoption of municipal group-level goals and targets within the municipal budget can be explained by organisational design and operational and strategic challenges, which are closely related to the functional role of performance measurement at the municipal group level.

2.2.1 Municipal organisational design. Municipalities can choose to organise personnel-intensive and/or capital-intensive services outside the public administration. In Sweden, it is mainly capital-intensive activities (public housing, energy, water and sewerage) that are carried out outside the public administration (Argento *et al*., 2010; Carlsson *et al*., 2020). This implies that if there are substantial tangible assets in the municipal companies, the companies' operations and strategies significantly influence the municipal group's investment level and its financing situation (risk). Research also indicates that issues related to investments and financing are considered significant to manage from a municipal group perspective (Carini *et al*., 2019). The implication is that the importance of managing the municipal group, both financially and non-financially, through the political budget should increase in relation to the allocation of fixed assets outside the public administration. Therefore, the first hypothesis is formulated as follows:

> *H1*. The share of fixed assets organised outside the public administration positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

Previous research stresses that organisational complexity motivates municipalities to adopt performance measurement practices (Johansson and Siverbo, 2009; Monteduro, 2017). However, the need for group-level performance measures should depend on the complexity of the organisational structure outside public administration. Swedish municipalities have many possible organisational choices to make, such as corporatising a few or several services into

one or multiple companies (Argento *et al.*, 2010). Consequently, there is also significant variation in the number of primarily municipal companies implemented by each municipality (Bergh *et al.*, 2021). An increasing number of subsidiaries tends to increase the need to follow-up on responsibilities, coordinate resource distribution and steer units to work towards common goals and synergies (Kraus and Lind, 2010; Franco-Santos *et al.*, 2012). Thus, it is expected that the complexity of the municipal group will influence the need to develop group-level financial and non-financial performance measures. The following hypotheses are formulated:

H2. The number of municipally owned companies positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

2.2.2 Municipal effectiveness. From the perspective of economic theory, it is argued that financially stressed organisations may adopt performance measurement systems to improve performance (Johansson and Siverbo, 2009; Saliterer and Korac, 2013). This claim was supported in a study by Johansson and Siverbo (2009) who identified a positive relation between the adoption of performance measurement and financial stress among Swedish municipalities. Incorporating financial and non-financial goals and targets defined at the group level within the budget may serve as an instrument to address a financially weak position, as improved steering of the municipal group may enhance resource allocation and control, and to stimulate the capitalisation of synergies within the group (cf., Kraus and Lind, 2010; Micheli *et al.*, 2011; Franco-Santos *et al.*, 2012). Thus, the following hypothesis is proposed:

H3. The level of financial stress positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

Some municipalities might not be financially stressed but still have inefficiencies that need to be addressed. Since performance measurement is considered an important tool for pursuing greater efficiency, theory suggests that inefficiencies should motivate its adoption (Julnes and Holzer, 2001; Johansson and Siverbo, 2009). The rational argument is that, if there are inefficiencies somewhere in the municipal group, then optimising processes and the use of resources within the whole municipal group might be a viable strategy to address the problem. With similar argumentation as H3, the following hypotheses are formulated:

H4. The level of municipal inefficiency positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

2.2.3 Municipal sustainability. Perhaps the major argument for the adoption of financial and, especially, non-financial performance measurement at the municipal group level is to motivate the whole group to address municipal strategic challenges and priorities. Strategic challenges can be very individual. However, it is fairly universal for most contemporary municipalities to be economically, socially and environmentally sustainable (Santis, 2020). Sustainability is high on the political agenda, not least against the background of the implementation of the UN's Agenda 2030 and the 17 global sustainability goals. Research also documents that municipalities have taken the initiative to develop performance measurement systems to address sustainability-related challenges (Adams *et al.*, 2014; Wälitalo and Missimer, 2022). Here, four different sustainability-related hypotheses are suggested.

Municipalities have different structural conditions for conducting their activities. Structural factors, which are mainly related to demography and geography, have a strong impact on the cost structures of municipalities, as they are closely related to service needs and economies of scale (Santis, 2020). Sweden is a relatively large country in relation to its population, and there is a great variation in geography, population density and socioeconomic status across different municipalities. Against this background, Syssner (2020) argues that

municipalities with unfavourable demographic conditions need an active adaptation policy. Group-level performance measurement could be one tool to strategically steer the whole municipal group to mitigate the consequences of the local cost structure. The following hypothesis is therefore proposed:

H5. A higher municipal cost structure positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

Local economic activity is essential for the financial sustainability of municipalities, as it has positive effects on unemployment rates, tax revenues and public debt (Santis, 2020).

Kwon and Gonxales-Gorman (2014) argue that one way to improve the implementation of municipal programmes for local economic activity is to use performance measures of local economic development. Thus, weak economic development might motivate municipalities to adopt performance measurement at the municipal group level to align the whole municipal group towards activities that stimulate local economic activity. The following hypothesis is suggested:

H6. Lower municipal economic activity positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

A large income gap in society has been associated with several negative outcomes, including high crime rates, low levels of education achievement, poor health and other social ills (Boustan *et al.*, 2013). For this reason, income inequality is recognised as a politically important strategic sustainability challenge for municipalities (Mastronardi and Cavallo, 2020). Sweden has low-income inequality as a country, but income inequality increases and there is a relatively high variation in income inequality within the country (Statistics Sweden, 2023). Thus, there are Swedish municipalities where the combined effort of the municipal group could be a municipal strategy to address the issue of income equality. Moreover, research has identified that municipalities have started to implement strategies and performance measurements for social sustainability (Adams *et al.*, 2014), as well as in Sweden (Wälitalo and Missimer, 2022). We therefore hypothesise that:

H7. Higher municipal income inequality positively influences the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

The environmental impacts of municipal operations, local businesses and local inhabitants are a major challenge for contemporary municipalities. One highlighted area is carbon emissions, which are closely related to global warming. Municipalities all over the world are taking measures to reduce emissions and are also implementing performance measures that capture emissions as indicators of environmental sustainability (Adams *et al.*, 2014). Following the Paris Agreement, Sweden has set a national goal to achieve net-zero emissions and against this background, Rosvall *et al*. (2023) found that several Swedish municipalities have set their own local goals for emissions. It can be assumed that municipalities with high levels of emissions prioritise setting goals and measures to reduce emissions because the issue is high on the political agenda (Rosvall *et al.*, 2023). This is also a policy area where municipalities can benefit from utilising the entire municipal organisation, as municipality-owned corporations often operate in industries that can directly or indirectly affect local emissions (e.g., waste management, energy and housing). Our hypothesis is as follows:

H8. Higher levels of municipal carbon emissions positively influence the likelihood of adopting goals and targets, within the budget document, that are formulated for the accounting unit of the municipal group.

3. Method

3.1 The Swedish context for municipal group-level performance measurement in the municipal budget

To politically define and implement goals and targets in the municipal budget is challenging since the 290 Swedish municipalities provide a broad range of services, such as social welfare, elderly care, schools, waste collection, water and sewerage, urban planning and management of local roads. Swedish municipalities have a high degree of organisational freedom. The Municipal Act allows municipal activities to be carried out through limited companies and other juridical forms (Municipal Act [no. 2017:725], Ch. 10, § 1) as long as the municipality ensures the municipal purpose through control (Municipal Act [no. 2017:725], Ch. 10, §§ 3–4, 9). Thus, the municipality must employ corporate governance and governance based on contracts. Sweden is one of the European countries with the most municipal companies (Bergh *et al.*, 2021), but there is no definition of a municipal group in the municipal law. The one that exists is within the Accounting Act. The act defines the municipal group as the public administration plus the municipal group companies which in turn are defined as any legal form over whose operations, goals and strategies a municipality has control (normally operationalised as 20% ownership) (Municipal Bookkeeping and Accounting Act [no. 2018:597], Ch. 2, §§ 5–6).

The legal history of performance measurement within the municipal budget goes back to 1992 when a new Municipal Act (no. 1991:900) took effect. Since 1992, Swedish municipalities have been required by law to enact sound economic management. However, the concept was not, and still is not, exactly defined, nor were municipalities required to set goals and targets related to sound economic management (Prop. 2003/04:105). A decade later, as part of the amended Municipal Act of 2005, it became mandatory for municipalities to adopt financial and operational goals and targets within the budget, in which they must define the performance necessary to achieve the legal requirement of sound economic management. Thus, the municipal council itself defines what sound economic management is and determines the appropriate goals to set accordingly (Prop. 2003/04:105).

In Sweden, the political responsibility for the municipal budget is larger than that of municipalities in most other countries (Donatella and Karlsson, 2024). All major decisions regarding the budget are made collectively by the local council, including setting a plan for the coming year and a long-term budget for the subsequent two years, as well as deciding the level of taxation and fees (Ch. 11, § 6, Municipal Act [no. 2017:725]). The Municipal Act also requires that the goals shall be evaluated in the annual report and judged by the auditors, making them part of the yearly political accountability process (Donatella and Karlsson, 2024).

There is no requirement in the Municipal Act that the budget must be set for the accounting unit of the municipal group, which also includes the goals and targets related to sound economic management. What is regulated is that these goals must relate to the municipal administration and services organised in other juridical forms controlled by the municipality (Ch. 11, § 1, Municipal Act [no. 2017:725]). However, the municipal group must be financially followed up with a consolidated income statement and balance sheet in the annual report (Municipal Bookkeeping and Accounting Act [no. 2018:597]). This inconsistency in the regulation of the budget and annual report does not prevent the council from formulating goals and targets for the accounting unit of the municipal group. It is a municipal self-government issue, and past studies in Sweden have identified that municipalities have started to formulate goals and targets for the accounting unit of the municipal group (Brorström *et al.*, 2009; Carlsson *et al.*, 2016).

3.2 Data selection

The hypotheses were tested using data from all Swedish municipalities, except Gotland, which has more extensive areas of responsibility than the other municipalities. The sample thus

consists of 289 municipalities. A common approach in previous international research (Van Dooren, 2006; Monteduro, 2017; Budding *et al.*, 2022) and locally in Sweden (Brorström *et al.*, 2009; Carlsson *et al.*, 2016) is to measure adoption through municipal budgets/annual reports. These formal documents give a strong indication of formal adoption that is comparable across units (e.g., municipalities) (Van Dooren, 2006). The approach does not directly measure use or non-use, besides that we know that the budget has been formally decided by the municipal council. The study is based on all 289 municipal budgets for the year 2021 (decided at the latest in December 2020) and publicly available data, mainly from Statistics Sweden.

3.3 Dependent variables

This study is based on two dependent binary variables: politically decided *financial performance measurement (FPMGL)* and *non-financial performance measurement (non-FPMGL) at the municipal group level* adopted in the municipal budget.

Performance measurement is limited to formulated goals and targets. Goals and targets are used together since some are formulated more generally (goals) and some more specifically regarding desired performance (see Bryson *et al.*, 2024 for a discussion). To identify goals and targets in the budget, we studied the table of contents in each budget and searched for concepts such as goals, sound economic management and municipal group. For a goal or target to be classified as a common one for the group, it must be explicitly stated that it refers to the accounting unit of the municipal group (see examples in Section 4.1) or explained elsewhere in the budget (typically in the description of the control system). Individual goals and targets for an internal or external service/unit are not considered as formulated at the group level. Therefore, the method to measure adoption must be considered conservative (Brorström *et al.*, 2009). There is, of course, a possibility that other policy documents regulate that goals and targets in the budget are formulated for the accounting unit of the municipal group or that they are implemented as such in practice. In connection with the study 54 different owner directives for various companies in different municipalities were studied. None contained concrete goals related to overall municipal goals or targets in the budget. In an older study, municipal ownership policy documents and owner directives in one region containing 33 municipalities were analysed. The conclusion of the study is that a municipal group perspective is largely absent within these documents (Carlsson *et al.*, 2020). Thus, we believe that the municipal budgets are the most robust documents to capture adoption in Swedish municipalities.

Since performance measurement for the accounting unit of the municipal group is in its early stages, the adoption rate is still quite low. Further, the number of goals and targets adopted is relatively few, ranging from 1 to 3 in total. Thus, at this stage of development, it was deemed most reasonable to focus on the pattern of adoption by implementing the simple dichotomy of financial and non-financial goals and targets. Financial goals and targets relate to the consolidated balance sheet, income statement or cash flow statement. Non-financial ones refer to all other measures. The two dependent variables are based on the inclusion of at least one financial and at least one non-financial performance measure within the budget.

3.4 Independent variables

The operationalisation of the independent variables included in the analysis is presented below. Data for the independent variables are taken from 2019 because these are input values for the 2021 budget, which is being developed and decided by December 2020 at the latest.

(1) *The relative fixed-asset size (H1) (FixedAssets)* is the total fixed assets of the municipal companies and other consolidated entities divided by the total municipal group-level fixed assets in % (source: Statistics Sweden).

(2) *Number of municipally owned companies (H2) (NoComp)* is a measure of complexity and includes all owned municipal companies (source: Statistic Sweden).

(3) *Financial stress (H3) (EquityRatio)* is measured by the group-level equity ratio (in %). Since financial stress is related to lower values of the equity ratio, a negative relation is expected (source: Statistics Sweden).

(4) *Municipal inefficiency (H4) (CostSlack)* is represented using a cost slack indicator, following Johansson and Siverbo (2009). The cost slack indicator is an index of the difference between the expected cost and the real cost (a relationship in %). A *de facto* cost that exceeds the expected cost (computed by Statistics Sweden via the regression of numerous variables) indicates the existence of slack. The slack indicator relates to the public administration part of the group.

(5) *Municipal cost structure (H5) (CostStructure)* is the sum of all standard costs (SEK/inhabitants) according to the Swedish municipal cost equalisation system. Standard cost resembles expected cost (see above). Standard cost is calculated for childcare and school activities, individual and family care, care for the elderly, infrastructure and public transport (source: Statistics Sweden).

(6) *Municipal economic activity (H6) (EconActivity)* is measured by the gross municipal product (GMP) in SEK divided by the number of people employed in the geographical area. GMP is the municipal equivalent of gross domestic product (GDP) (source: Statistics Sweden).

(7) *Municipal income inequality (H7) (IncomeIneq)* is measured by the Gini coefficient, which is used to compare the income dispersion of citizens in different municipalities in Sweden. When it comes to income distribution, individualised disposable (household) income is the most used measure (Edvinsson *et al.*, 2021). The Gini coefficient has a value between zero (0) and one (1). A low value indicates smaller differences, while a high value indicates greater ones (source: Statistics Sweden).

(8) *Level of carbon emissions (H8) (CarbEm)* measures the municipalities' average emissions of carbon dioxide *per capita* (source: The Swedish Environmental Protection Agency).

3.5 Control variables

Municipal performance measurement practices are strongly embedded in a political and institutional context. Previous research has strongly confirmed that political and institutional rationales influence the adoption of performance measurement (Johansson and Siverbo, 2009; Monteduro, 2017; van der Kolk, 2022). The following control variables are therefore included:

- *Tax level (TaxL)*: The municipal tax rate is a flat-rate income tax paid by inhabitants that caters for two-thirds of the revenue for all municipalities. In municipalities with relatively higher tax rates, the inhabitants may put stronger pressure on politicians by demanding accountability, since higher tax rates affect the financial impact on taxpayers. Since the decision on the municipal tax rate belongs to the municipal politicians, they may feel the need to convince voters that the municipality is governed responsibly, and the adoption of performance measurement at the municipal group level might be one way to do so. A positive relation is expected. Tax level is measured in % (source: Statistics Sweden).
- *Political competition/minority rule (MinRule)*: Political competition is an important yet complex factor. It is complex because, while political competition may stimulate the adoption of performance measurement (to demonstrate good management), it might also counteract adoption, since performance information can be used by the opposition (Johansson and Siverbo, 2009). One way of measuring political competition is through the minority/majority dichotomy (Donatella, 2020). Municipalities in which the

governing party or parties control <50% of the seats in the municipal council are coded as 1 (=minority) and otherwise as 0. No direction of the relation is hypothesised (source: Statistics Sweden).

- Municipal networks: In Sweden and elsewhere, it has been observed that municipalities in municipal networks tend to influence each other regarding accounting choices (Donatella, 2020). This mimetic process predicts that organisations operating within the same organisational fields will imitate each other to reduce uncertainty and ambiguity (e.g. Dimitrijevska-Markoski, 2023). Previous accounting research in Sweden (Donatella, 2020) has used the governmental administrative division of the country into regions to measure the influence of municipal network. A dummy variable is used for each region, with the largest (i.e. Stockholm) being used as the reference category, for a total of 20 regions (with Gotland excluded). Each regions has an average of 14.5 municipalities, varying from the largest region, Västra Götaland, with 49 municipalities, to the smallest region, Blekinge, with five municipalities.

4. Results

4.1 Descriptive statistics

Table 1 presents the descriptive statistics of the variables. The statistics effectively show that performance measurement at the municipal group level is not a widely implemented practice; 26% of the municipalities adopted financial and 13% adopted non-financial goals and targets in their budget for the year 2021. A development should be noted: in 2014, 8% of the municipalities adopted goals and targets at the municipal group level (Carlsson *et al*., 2016). Typical financial goals and targets adopted at the group level include measures related to equity or debts ratios, self-financing of investments or result levels. The following example illustrates a typical financial performance measure:

> Good economic management and long-term financial sustainability must prevail in the entire municipal group, and operations must be conducted efficiently and effectively. A long-term goal is for the equity ratio in the municipal group to reach 25% by 2030. (Budget 2021, Strängnäs municipality)

Turning to the non-financial goals and targets, common examples are related to the sick leave of the staff, the residents' perceived safety or the environment. Environmental measures were the most frequently adopted non-financial performance measure. A quote from Örebro municipality illustrates an environmentally oriented performance target defined at the municipal group level:

> Compared with the year 2000, the climate burden of the municipal group shall be reduced by at least 80 percent per inhabitant. (Budget 2021, Örebro municipality)

Only two municipalities stressed operational synergies through defined goals and targets in their budgets. One municipality emphasised the importance of optimising the use of properties in the municipal group (Budget 2021, Hässleholm municipality) and the other did the same regarding the municipality's vehicles (Budget 2021, Västervik municipality).

On average, almost 50% of the fixed-asset values are organised outside the public administration part of the municipal group. Furthermore, 47% of the municipalities have 50% or more of their asset values organised in companies and other organisational forms. These figures indicate the high value relevance of a group-level perspective on performance measurement. In terms of complexity, the average number of municipal companies is 6.6, and 63% of the municipalities have at least four companies. Three municipalities do not have a company; however, they consolidate other organisational forms such as municipal confederations.

The variation in financial stress, measured by the group equity ratio, is large among the municipalities. The average equity ratio is 20.34%, but some municipalities have a negative

Table 1. Descriptive statistics

		N	Yes No	%	No No	%
Dependent variables	FPMGL (Yes = 1)	289	75	26%	214	74%
	Non-FPMGL (Yes = 1)	289	37	13%	252	87%
		N	Min	Max	Mean	Std. Dev
Independent variables	FixedAssets (%)	289	0.00	0.91	0.49	0.20
	NoComp (No companies)	289	0.00	56.00	6.60	7.47
	EquityRatio (%)	289	−26.87	66.83	20.34	13.50
	CostSlack (%)	289	−21.10	19.60	1.71	6.25
	CostStructure (SEK/Inhab.)	289	35937.00	56289.00	43830.12	3074.89
	EconActivity (SEK/ Empl.inhab)	289	118.70	993.70	348.73	130.41
	IncomeIneq (Gini coef)	289	0.30	0.60	0.37	0.04
	CarbEm (emission/inhab.)	289	0.34	27.04	3.05	2.01
Control variables	TaxL (%)	289	29.18	35.15	33.16	1.15
	Minority rule (Yes = 1)	289	123	43%	166	57%
	Municipalities in regions					
	Blekinge (Yes = 1)	289	5	2%	284	98%
	Dalarna (Yes = 1)	289	15	5%	274	95%
	Gävleborg (Yes = 1)	289	10	3%	279	97%
	Halland (Yes = 1)	289	6	2%	283	98%
	Jämtland (Yes = 1)	289	8	3%	281	97%
	Jönköping (Yes = 1)	289	13	4%	276	96%
	Kalmar (Yes = 1)	289	12	4%	277	96%
	Kronoberg (Yes = 1)	289	8	3%	281	97%
	Norrbotten (Yes = 1)	289	14	5%	275	95%
	Stockholm (Yes = 1)	289	26	9%	263	91%
	Skåne (Yes = 1)	289	33	11%	256	89%
	Södermaland (Yes = 1)	289	9	3%	280	97%
	Värmland (Yes = 1)	289	16	6%	273	94%
	Västerbotten (Yes = 1)	289	15	5%	274	95%
	Västernorrland (Yes = 1)	289	7	2%	282	98%
	Västmaland (Yes = 1)	289	10	3%	279	97%
	Västra Götaland (Yes = 1)	289	49	17%	240	83%
	Uppland (Yes = 1)	289	8	3%	281	97%
	Örebro (Yes = 1)	289	12	4%	277	96%
	Östergötland (Yes = 1)	289	13	4%	276	96%
		Sum	*289*	*100%*		

Source(s): Author's own work

ratio, indicating a weak financial position. Swedish municipalities deviate on average by +1.71% from their expected cost level, and the standard cost per inhabitant is 43830.12 SEK. The mean value of the GMP assigned to each municipality per inhabitant is 348.73 SEK, and the mean carbon emission per inhabitant is 3.05 tonnes. Both these measures have a fairly high standard deviation. The mean Gini coefficient is 0.37. Of the municipalities, 43% have a minority rule, and the municipal tax level range in between 29% and 35%, with an average of 33.16%.

4.2 Bivariate analysis

As shown in Table 2, a correlation matrix was produced to examine the correlations between the variables in the models.

The correlation matrix does not indicate any presence of multicollinearity across the independent variables in the models. As can be seen in the correlation matrix in Table 2, none

Table 2. Correlation matrix (Spearman)

		1	2	3	4	5	6	7	8	9	10	11	12
1	FPMGL												
2	Non-FPMGL	0.246**											
3	FixedAssets	0.200**	0.216**										
4	NoComp	0.192**	0.220**	0.499**									
5	EquityRatio	0.078	0.087	−0.077	0.328**								
6	CostSlack	−0.017	−0.064	0.018	−0.166**	−0.400**							
7	CostStructure	0.026	−0.116*	−0.209**	−0.374**	−0.214**	0.029						
8	EconActivity	0.060	0.212**	0.200**	0.404**	0.260**	−0.033	−0.183**					
9	IncomeIneq	0.078	0.120*	0.123*	0.291**	0.243**	−0.453**	0.036	0.068				
10	CarbEm	−0.055	−0.100†	−0.135*	−0.225**	−0.176**	0.321**	0.256**	0.022	−0.461**			
11	TaxL	−0.036	−0.124*	−0.018	−0.223**	−0.498**	0.614**	0.258**	−0.008	−0.587**	0.418**		
12	MinRule	−0.031	0.173**	0.111	0.160**	0.131*	−0.102	−0.113	0.096	0.178**	−0.067	−0.219**	

Note(s): Spearman correlations are presented for all variables used in the regression analysis, except regions. All regions have been analysed, but not included in the table. * Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed). † Correlation is significant at the 0.10 level
Source(s): Author's own work

of the pair-wise correlations exceeds 0.7, which is below the threshold of 0.8 (Djurfeldt *et al*., 2007). The highest correlation is between the variables TaxL and CostSlack, at 0.614 in the Spearman correlation. An additional collinearity test confirmed the general absence of collinearity problems, as all the variance inflation factor (VIF) values (except TaxL, where VIF = 2.8) were well below the strict threshold of 2.5 (e.g. Djurfeldt *et al*., 2007).

Both the relative asset size (FixedAssets) and the number of municipally owned corporations (NoComp) are positively correlated (sig. at the 0.01 level) with the adoption of both financial and non-financial goals and targets. Furthermore, the municipal cost structure (CostStructure) is negatively (at the 0.05 level) and the economic activity (EconActivity) is positively (at the 0.01 level) correlated with the likelihood of adopting non-financial goals and targets. Also, the municipal income dispersion indicator (IncomeIneq) is positively correlated (at the 0.05 level) with the likelihood of adopting non-financial performance measures. A high tax level is negatively correlated (at the 0.05 level) with the likelihood of adopting non-financial performance measures. Regarding political competition, a minority rule is positively correlated (at the 0.01 level) with the likelihood of adopting goals and targets in the political budgets, which is also the case with one region (Uppland, not displayed in the table).

4.3 Multivariate analysis

Based on the independent variables and control variables, the following model was used to analyse the likelihood of the adoption of politically decided financial (FPMGL, Model 1) or non-financial (Non-FPMGL, Model 2) performance measures, respectively, at the municipal group level:

$$\begin{aligned}\mathrm{FPMGL}_i;\ \mathit{NonFPMGL}_i = {} & \beta_0 + \beta_1 \mathrm{FixedAssets}_i + \beta_2 \mathrm{NoComp} + \beta_3 \mathrm{EquityRatio}_i \\ & + \beta_4 \mathrm{CostSlack}_i + \beta_5 \mathrm{CostStructure}_i + \beta_6 \mathrm{EconActivity}_i \\ & + \beta_7 \mathrm{IncomeIneq}_i + \beta_8 \mathrm{CarbEm}_i + \beta_9 \mathrm{TaxL}_i + \beta_{10} \mathrm{MinRule}_i \\ & + \beta_{11} \mathrm{REGION\_BLEKINGE}_i + \beta_{12} \mathrm{REGION\_DALARNA}_i \\ & + \beta_{13} \mathrm{REGION\_GÄVLEBORG}_i + \beta_{14} \mathrm{REGION\_HALLAND}_i \\ & + \beta_{15} \mathrm{REGION\_JÄMTLAND}_i + \beta_{16} \mathrm{REGION\_JÖNKÖPING}_i \\ & + \beta_{17} \mathrm{REGION\_KALMAR}_i + \beta_{18} \mathrm{REGION\_KRONOBERG}_i \\ & + \beta_{19} \mathrm{REGION\_NORRBOTTEN}_i + \beta_{20} \mathrm{REGION\_SKÅNE}_i \\ & + \beta_{21} \mathrm{REGION\_SÖDERMALAND}_i \\ & + \beta_{22} \mathrm{REGION\_VÄRMLAND}_i \\ & + \beta_{23} \mathrm{REGION\_VÄSTERBOTTEN}_i \\ & + \beta_{24} \mathrm{REGION\_VÄSTERNORRLAND}_i \\ & + \beta_{25} \mathrm{REGION\_VÄSTMALAND}_i + \beta_{26} \mathrm{REGION\_UPPLAND} \\ & + \beta_{27} \mathrm{REGION\_ÖREBRO}_i + \beta_{28} \mathrm{REGION\_ÖSTERGÖTLAND}_i \\ & + \beta_{29} \mathrm{REGION\_VÄSTRAGÖTALAND}_i + \varepsilon_i\end{aligned}$$

As shown in Table 3, the likelihood of adopting financial performance measurement at the municipal group level is positively influenced by FixedAssets (sig. at the 0.05 level) and NoComp (sig. at the 0.01 level). Furthermore, the likelihood of adopting financial goals and

Table 3. Regression analysis

			Model 1: FPMGL			Model 2: Non-FPMGL		
		Exp. Sign	B	S.E	Exp (B)	B	S.E.	Exp (B)
Independent variables	FixedAssets	+	2.125*	0.928	8.374	3.515*	1.385	33.61
	NoComp	+	0.078**	0.029	1.081	0.025	0.035	1.025
	EquityRatio	−	0.016	0.015	1.016	−0.005	0.025	0.995
	CostSlack	+	0.01	0.037	1.01	−0.012	0.050	0.988
	CostStructure	+	0.000**	0.000	1.000	0.000	0.000	1.000
	EconActivity	−	−0.001	0.001	0.999	0.003†	0.002	1.003
	IncomeIneq	+	−3.029	6.651	0.048	−2.026	1.369	0.132
	CarbEm	+	−0.192	0.156	0.826	−0.640*	0.306	0.528
Control variables	TaxL	+	−0.027	0.294	0.973	−0.565	0.412	0.568
	MinRule	±	−0.511	0.322	1.667	1.157*	0.454	0.314
	Regions/ Networks	±						
	Kalmar					2.961†	1.577	19.311
	Kronoberg					2.969*	1.474	19.473
	Norrbotten					4.713**	1.742	111.345
	Värmland					3.884**	1.461	48.628
	Västernorrland					4.187*	1.776	65.835
	Uppland					4.069**	1.526	58.472
	Constant		−9.324	9.967	0.000	12.167	14.122	192307.477
	Correct prediction %		77.5%			90.7%		
	Nagelkerke's R^2		0.193			0.341		

Note(s): All regions used to proxy municipal networks were included in both models, but only significant regions are reported in this table. * Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed). † Correlation is significant at the 0.10 level
Source(s): Author's own work

targets is positively influenced by a challenging cost structure, since FPMGL is positively correlated with CostStructure (sig. at the 0.01 level). Turning to the adoption of non-financial goals and targets at the municipal group level, the results are rather different. As with FPMGL, the likelihood of adopting non-FPMGL is influenced by FixedAssets (sig. at the 0.05 level). However, contrary to the prediction, the likelihood of adopting non-FPMGL is positively correlated with EconActivity (sig. at the 0.10 level) and negatively correlated with CarbEm (sig. at the 0.05 level). Moreover, non-FPMGL is correlated with several of the control variables. MinRule is positively correlated with the adoption of non-FPMGL (sig. at the 0.05 level), and there are several positively correlated regions, some of them even neighbouring (i.e. Kalmar, Kronoberg), indicating network effects in the adoption of non-FPMGL. The Nagelkerke R^2 is 19.3% in Model 1 and 34.1% in Model 2, which is comparable to previous research on the adoption of performance measures in municipalities (Monteduro, 2017; Johansson and Siverbo, 2009).

For robustness, the regressions were done without control variables. The same independent variables are significant in the same direction as in Table 3. The Nagelkerke R^2 dropped to 12.0% in the FPMGL model and to 16.9% in the non-FPMGL model, illustrating how relevant political and institutional factors are as factors influencing the probability of adoption of non-financial performance measurement at the municipal group level. Municipal size – as in the number of inhabitants – is often used as a proxy for complexity (Johansson and Siverbo, 2009; Monteduro, 2017). In our data, size is highly correlated with the number of companies (0.768, sig. at the 0.01 level). Performing Models 1 and 2 while replacing NoComp with Size yielded the same results, albeit with a slightly lower Nagelkerke R^2. It could be argued that in

municipalities with few companies, a group management perspective is probably not on the mental map of politicians and professionals. Therefore, the same regressions were performed with a data set of municipalities owning at least two companies, resulting in 256 included municipalities. The adoption rate increases to 29% for FPMGL, and the same variables remain significant in the same way. Similarly, for non-FPMGL, the adoption rate increases to 15%, with the same variables remaining significant in the same direction of probability. A data set with municipalities owning three companies or more ($N = 221$) was also analysed. This did not influence the adoption rate at all, and the same variables remain significant in both models, except that one more region is positively correlated with the probability of adopting non-FPMGL.

To summarise, the results provide support for H1, H2 and H5 in Model 1: FPMGL. When it comes to Model 2: non-FPMGL, only H1 is confirmed; instead, the probability of adoption is explained by the political and institutional control variables.

5. Discussion and conclusions

This study empirically contributes to previous research on the adoption of performance measurement by exploring the novel practice of Swedish municipalities adopting financial and non-financial goals and targets within the budget document formulated for the accounting unit of the municipal group. Previous research on municipal groups has almost exclusively analysed the adoption of consolidated reporting. Since the adoption pattern is analysed against municipalities' extensive implementation of legally autonomous municipal entities, the research also extends our knowledge on how the reorganisation of the organisational structure of municipalities influences the need for and adoption of performance measurement systems.

The study documents that Swedish municipalities own a relatively large number of municipal companies (6.6 on average) and organise approximately 50% of their fixed assets outside the traditional public administration. Furthermore, 26% of the municipalities adopted financial and 13% adopted non-financial goals and targets in their budgets for the year 2021. An empirical conclusion is that, although the implementation of performance measurement at the municipal group level has increased in scope, the adoption rate indicates that group-level management, with the municipal budget as a starting point, has not yet adapted to the organisational conditions.

Incorporating political goals and targets for the accounting unit of the municipal group within the budget could provide a starting point to build a political governance and accountability cycle from a municipal group governance perspective. At present, there are few municipalities in Sweden that can build a political governance and accountability mechanism that considers the municipal group performance. In Sweden, there are no clear legal requirements for performance management from a municipal group perspective, and municipal auditing is relatively weak (Donatella, 2020). There is an infrastructure for consolidated financial reporting in the annual report. However, previous research, both in Sweden and elsewhere, has identified several problems with implementing consolidated reporting regarding compliance and use (Donatella *et al.*, 2024; Carini *et al.*, 2019). Additionally, the adoption of performance measurement within the budget may also be superficial and not utilised effectively (Johansson and Siverbo, 2009). This study does not measure use and follow-up through annual reports; thus, there may be further issues along the accountability cycle to address, even among those municipalities that have adopted goals and targets within their budgets. The potential loss of aggregated political accountability is worrying, as fragmented or unclear political accountability for the municipality as a whole is one of the major side effects of the externalisation of municipal services and assets (Bergmann *et al.*, 2016).

A major argument for implementing performance measurement within the municipal budget is that it is a primary tool for executing municipal strategies (Budding *et al.*, 2022; Bryson and George, 2020). The emphasis on the adoption of financial goals found in this study

implies a more diagnostic control strategy over a strategic orientation, which has been similarly reported regarding group-level performance measurement in the private sector (Kraus and Lind, 2010). Theoretically, the adoption of non-financial performance measurement has the potential to support better dialogue and better strategic alignment between the central municipality and its subsidiaries, which addresses one of the key problems identified in previous research (Van Genugten *et al.*, 2020). The fact that few examples of goals and targets aiming to stimulate synergies were found further indicates that performance measurement at the municipal group level has not yet reached its potential. However, it should be noted that the non-financial goals and targets that are adopted in the budgets often focus on sustainability challenges, such as environmental issues.

The analysis of the adoption pattern indicates that the probabilities of municipalities adopting financial versus non-financial goals and targets are predominantly affected by different conditions and factors. For both types of performance measures, the value relevance (i.e. externalised share of fixed assets) is positively correlated with adoption. Beyond this point, the pattern diverges. The likelihood of adopting financial goals and targets is positively affected by increased complexity (number of companies) and a more challenging municipal cost structure, as predicted by functional theory. The adoption of non-financial goals and targets, on the other hand, is positively affected by higher municipal economic activity and lower carbon dioxide emissions – findings that do not correspond to the formulated hypotheses. Given that the bivariate correlation indicated a significant relationship between the adoption of non-financial goals and targets and lower inefficiency, lower municipal cost structure and lower tax rate, one interpretation might be that already well-performing municipalities, in a broad sense, see communicative advantages in incorporating goals in the budget that they know will make them look good when followed up in the annual report (cf., van Dooren, 2006). From a political perspective, the positive relation between the more competitive political environment of a minority rule and the probability of adopting non-financial goals and targets at the group level indicates that such adoption might be motivated by the incentive to signal external accountability in a politically competitive environment (cf., Johansson and Siverbo, 2009). Several regions, some of which are neighbours, have a positive association with the likelihood of adopting non-financial goals and targets. This finding supports related research that local municipal networks, as in regional proximity, influence the adoption of accounting policies (Donatella, 2020), underscoring the importance of learning about imitation effects in networks.

Previous research indicates that adoption is more related to rationality and use more to culture (Julnes and Holzer, 2001; Dimitrijevska-Markovski, 2023). This study contributes theoretically by highlighting the importance of distinguishing between the adoption of financial and non-financial goals and targets. The results suggest that the adoption of financial goals and targets in municipal budgets is more functionally driven, while non-financial goals are more institutionally and politically driven. Part of this difference is likely due to the historically strong focus on diagnostic financial control among municipalities. There are also established measures and a maturity in accounting for them through consolidated reporting, which stimulates rational adoption (Malmi, 1999). Furthermore, the corporatised activities in Sweden are significant in terms of investment and financing, which are important governance issues from a municipal group perspective (Carini *et al.*, 2019). Regarding the non-financial perspective, there is a greater variety of possible and less standardised goals and measures, and their use is not as established. It is likely that, as our results indicate, when adoption is in an early development stage (cf. Malmi, 1999), municipal networks play a significant role. Additionally, the object of study is politically decided goals and targets presented in the budget, which is a highly politically sensitive context. The non-standardised character of non-financial goals and measures is well-suited for use by politicians to manage accountability, as our results also support. Finally, let us conclude with a prediction. The importance of sustainability will increase as a real municipal challenge, and regulations requiring goals and follow-up are likely to emerge. Consequently, we will likely see a much greater adoption of

sustainability-related non-financial measures, especially at the municipal group level, as municipal companies largely engage in activities that impact sustainability. In time, the adoption of non-financial performance measurement could become more strategically and functionally driven.

As in other countries in Europe, the use of municipal companies in Sweden has increased for over 50 years. It is concerning that research indicates that the externalisation of municipal operations is associated with significant problems regarding political management, transparency and accountability (Van Genugten *et al.*, 2020; Bergh *et al.*, 2021; Berge and Torsteinsen, 2021). To enhance political governance and accountability, controllers should assist politicians in incorporating municipal group goals into the budget. Not least, more attention should be given to non-financial measures, as research shows they better support strategy implementation and dialogue within a group (Dossi and Partelli, 2010; Micheli *et al.*, 2011) and promote comprehensive accountability to citizens and stakeholders (Budding *et al.*, 2022). That said, municipalities are not used to managing groups. In Sweden, and presumably elsewhere, there is only a weak legal infrastructure that supports municipal governance, performance and political accountability at the municipal group level. Therefore, an implication for policymakers is that when designing future legal financial and non-financial requirements for municipalities, it is important to define those at the municipal group level.

A limitation of this study is that it only measures adoption within the budget. Even though the budget is the most central political governance mechanism, there could be other important policy documents and processes where group-level performance measurement is adopted. Further, as this study does not consider implementation, classical studies on the design, implementation and use of performance measurement at the municipal group level are warranted. Further, research is needed to investigate the challenges and opportunities of designing common performance indicators for municipal groups that could promote greater synergies, strategic alignment and communication, and how these could be integrated into democratic accountability processes.

References

Adams, C., Muir, S. and Hoque, Z. (2014), "Measurement of sustainability performance in the public sector", *Sustainability Accounting, Management and Policy Journal*, Vol. 5 No. 1, pp. 46-67, doi: 10.1108/SAMPJ-04-2012-0018.

Argento, D., Grossi, G., Tagesson, T. and Collin, S.O. (2010), "The 'externalisation' of local public service delivery: experience in Italy and Sweden", *International Journal of Public Policy*, Vol. 5 No. 1, pp. 41-56, doi: 10.1504/IJPP.2010.02978.

Berge, D.M. and Torsteinsen, H. (2021), "Governance challenges of different institutional logics and modes of organising: a Norwegian case study of municipal water supply", *Local Government Studies*, Vol. 49 No. 3, pp. 471-491, doi: 10.1080/03003930.2021.1942853.

Bergh, A., Erlingsson, G.Ó. and Wittberg, E. (2021), "What happens when municipalities run corporations? Empirical evidence from 290 Swedish municipalities", *Local Government Studies*, Vol. 48 No. 4, pp. 704-727, doi: 10.1080/03003930.2021.1944857.

Bergmann, A., Grossi, G., Rauskala, I. and Fuchs, S. (2016), "Consolidation in the public sector: methods and approaches in Organisation for Economic Co-operation and Development countries", *International Review of Administrative Sciences*, Vol. 82 No. 4, pp. 763-783, doi: 10.1177/00208523155767.

Boustan, L., Ferreira, F., Winkler, H. and Zolt, E.M. (2013), "The effect of rising income inequality on taxation and public expenditures: evidence from US municipalities and school districts, 1970-2000", *The Review of Economics and Statistics*, Vol. 95 No. 4, pp. 1291-1302, doi: 10.1162/REST_a_00332.

Brorström, B., Donatella, P. and Petersson, H. (2009), "På rätt väg! Mål för god ekonomisk hushållning i kommuner och landsting", *Kommunforskning i Västsverige (KFi)*.

Bryson, J. and George, B. (2020), "Strategic management in public administration", *Oxford Research Encyclopedia: Politics*, Oxford University Press, Oxford, pp. 1-26.

Bryson, J.M., George, B. and Seo, D. (2024), "Understanding goal formation in strategic public management: a proposed theoretical framework", *Public Management Review*, Vol. 26 No. 2, pp. 539-564, doi: 10.1080/14719037.2022.2103173.

Budding, T., Faber, B. and Schoute, M. (2022), "Integrating non-financial performance indicators in budget documents: the continuing search of Dutch municipalities", *Journal of Public Budgeting, Accounting and Financial Management*, Vol. 34 No. 1, pp. 52-66, doi: 10.1108/JPBAFM-02-2020-0009.

Carini, C., Giacomini, D. and Teodori, C. (2019), "Accounting reform in Italy and perceptions on the local government consolidated report", *International Journal of Public Administration*, Vol. 42 No. 3, pp. 195-204, doi: 10.1080/01900692.2017.1423500.

Carlsson, J., Ekström, S., Haraldsson, M. and Sandell, N. (2016), *Sammanställd redovisning – En kartläggning av Sveriges kommuners årsredovisningar, KEFU:s skriftserie 2016:6*, KEFU, Lund.

Carlsson, J., Haraldsson, M. and Sandell, N. (2020), Kommunala koncerner: En studie av bolagsstrukturer, budgetar och ägardirektiv, 45 s. KEFU:s skriftserie 65.

Chenhall, R.H. (2003), "Management control systems design within its organizational context: findings from contingency-based research and directions for the future", *Accounting, Organizations and Society*, Vol. 28 Nos 2-3, pp. 127-168, doi: 10.1016/S0361-3682(01)00027-7.

Chow, D.S., Pollanen, R., Baskerville, R., Aggestam-Pontoppidan, C. and Day, R. (2019), "Usefulness of consolidated government accounts: a comparative study", *Public Money and Management*, Vol. 39 No. 3, pp. 175-185, doi: 10.1080/09540962.2018.1535034.

Cruz, N.F., Marques, R.C., Marra, A. and Pozzi, C. (2014), "Local mixed companies: the theory and practice in an international perspective", *Annals of Public and Cooperative Economics*, Vol. 85 No. 1, pp. 1-9, doi: 10.1111/apce.12032.

Daiser, P. and Wirtz, B.W. (2021), "Strategic corporate governance factors for municipally owned companies: an empirical analysis from a municipal perspective", *International Review of Administrative Sciences*, Vol. 87 No. 1, pp. 135-153, doi: 10.1177/0020852319845451.

Dimitrijevska-Markoski, T. (2023), "The impact of rational and political factors on performance measurement and its utilisation: analysis of municipal governments from Mississippi", *Local Government Studies*, Vol. 49 No. 2, pp. 334-354, doi: 10.1080/03003930.2021.1976156.

Djurfeldt, G., Larsson, R. and Stjarnhagen, O. (2007), *Statisktik Verktygslada [Statistical Toolbox]*, Studentlitteratur, Lund.

Donatella, P. (2020), "Determinants of mandatory disclosure compliance in Swedish municipalities", *Journal of Public Budgeting, Accounting and Financial Management*, Vol. 32 No. 2, pp. 247-265, doi: 10.1108/JPBAFM-03-2019-0048.

Donatella, P. and Karlsson, D. (2024), "Why do politicians perceive the same financial conditions differently?", *Public Administration*, pp. 1-16, doi: 10.1111/padm.13029.

Donatella, P., Sylvander, J. and Tagesson, T. (2024), "More than a compliance exercise? The case of consolidated financial accounts in Swedish municipalities", *Public Money and Management*, pp. 1-8, doi: 10.1080/09540962.2023.2294710.

Dossi, A. and Patelli, L. (2010), "You learn from what you measure: financial and non-financial performance measures in multinational companies", *Long Range Planning*, Vol. 43 No. 4, pp. 498-526, doi: 10.1016/j.lrp.2010.01.002.

Edvinsson, S., Häggström Lundevaller, E., Malmberg, G. and Ng, N. (2021), "Income inequality in Swedish municipalities 1986–2013: development and regional patterns", CEDAR Working Papers 2021:21, Centre for Demographic and Ageing Research, Umea University, Umea.

Franco-Santos, M., Lucianetti, L. and Bourne, M. (2012), "Contemporary performance measurement systems: a review of their consequences and a framework for research", *Management Accounting Research*, Vol. 23 No. 2, pp. 79-119, doi: 10.1016/j.mar.2012.04.001.

Fryer, K., Antony, J. and Ogden, S. (2009), "Performance management in the public sector", *International Journal of Public Sector Management*, Vol. 22 No. 6, pp. 478-498, doi: 10.1108/09513550910982850.

Grossi, G. and Argento, D. (2022), "The fate of accounting for public governance development", *Accounting, Auditing and Accountability Journal*, Vol. 35 No. 9, pp. 272-303, doi: 10.1108/AAAJ-11-2020-5001.

Johansson, T. and Siverbo, S. (2009), "Explaining the utilization of relative performance evaluation in local government: a multi-theoretical study using data from Sweden", *Financial Accountability and Management*, Vol. 25 No. 2, pp. 197-224, doi: 10.1111/j.1468-0408.2009.00474.x.

Johnsen, Å., Solholm, K. and Tufte, P.A. (2024), "Performance measurement system design as link between strategy formulation and performance information use in public sector organizations", *Public Performance and Management Review*, pp. 1-36, doi: 10.1080/15309576.2024.2360158.

Julnes, P.D.L. and Holzer, M. (2001), "Promoting the utilization of performance measures in public organizations: an empirical study of factors affecting adoption and implementation", *Public Administration Review*, Vol. 61 No. 6, pp. 693-708, doi: 10.1111/0033-3352.00140.

Kraus, K. and Lind, J. (2010), "The impact of the corporate balanced scorecard on corporate control—a research note", *Management Accounting Research*, Vol. 21 No. 4, pp. 265-277, doi: 10.1016/j.mar.2010.08.001.

Krause, T.A. and Swiatczak, M.D. (2020), "In control we trust!? Exploring formal control configurations for municipally owned corporations", *Journal of Public Budgeting, Accounting and Financial Management*, Vol. 33 No. 3, pp. 314-342, doi: 10.1108/JPBAFM-10-2019-0160.

Kroll, A. (2015), "Drivers of performance information use: systematic literature review and directions for future research", *Public Performance and Management Review*, Vol. 38 No. 3, pp. 459-486, doi: 10.1080/15309576.2015.1006469.

Kwon, S.W. and Gonzalez-Gorman, S. (2014), "Links between performance measures and local economic development: examination of a two-stage model of internal and external factors", *Public Performance and Management Review*, Vol. 37 No. 4, pp. 658-678, doi: 10.2753/PMR1530-9576370406.

Malmi, T. (1999), "Activity-based costing diffusion across organizations: an exploratory empirical analysis of Finnish firms", *Accounting, Organizations and Society*, Vol. 24 No. 8, pp. 649-672, doi: 10.1016/S0361-3682(99)00011-2.

Mastronardi, L. and Cavallo, A. (2020), "The spatial dimension of income inequality: an analysis at municipal level", *Sustainability*, Vol. 12 No. 4, p. 1622, doi: 10.3390/su12041622.

Micheli, P., Mura, M. and Agliati, M. (2011), "Exploring the roles of performance measurement systems in strategy implementation: the case of a highly diversified group of firms", *International Journal of Operations and Production Management*, Vol. 31 No. 10, pp. 1115-1139, doi: 10.1108/01443571111172453.

Monteduro, F. (2017), "The adoption of outcome-related performance indicators in external reporting: an empirical study", *International Journal of Public Administration*, Vol. 40 No. 10, pp. 860-874, doi: 10.1080/01900692.2017.1280824.

Rackwitz, M. and Raffer, C. (2024), "Shifts in local governments' corporatization intensity: evidence from German cities", *Journal of Public Administration Research and Theory*, Vol. 34 No. 3, pp. 371-386, muae001, doi: 10.1093/jopart/muae001.

Rosvall, M., Gustafsson, M. and Åberg, M. (2023), "Strategic visions for local sustainability transition: measuring maturity in Swedish municipalities", *Journal of Environmental Policy and Planning*, Vol. 25 No. 5, pp. 539-553, doi: 10.1080/1523908X.2023.2218273.

Ryan, Stanley and Nelson (2002), "Accountability disclosures by Queensland local government councils: 1997–1999", *Financial Accountability and Management*, Vol. 18 No. 3, pp. 261-289, doi: 10.1111/1468-0408.00153.

Saliterer, I. and Korac, S. (2013), "Performance information use by politicians and public managers for internal control and external accountability purposes", *Critical Perspectives on Accounting*, Vol. 24 Nos 7-8, pp. 502-517, doi: 10.1016/j.cpa.2013.08.001.

Santis, S. (2020), "The demographic and economic determinants of financial sustainability: an analysis of Italian local governments", *Sustainability*, Vol. 12 No. 18, p. 7599, doi: 10.3390/su12187599.

Santis, S., Grossi, G. and Bisogno, M. (2018), "Public sector consolidated financial statements: a structured literature review", *Journal of Public Budgeting, Accounting and Financial Management*, Vol. 30 No. 2, pp. 230-251, doi: 10.1108/JPBAFM-02-2018-0017.

Syssner, J. (2020), "Arguments for a local adaptation policy", *Pathways to Demographic Adaptation: Perspectives on Policy and Planning in Depopulating Areas in Northern Europe*, pp. 69-86, doi: 10.1007/978-3-030-34046-9_6.

van der Kolk, B. (2022), "Performance measurement in the public sector: mapping 20 years of survey research", *Financial Accountability and Management*, Vol. 38 No. 4, pp. 703-729, doi: 10.1111/faam.12345.

Van Dooren, W. (2006), "Performance measurement in the Flemish public sector: a supply and demand approach", *KUL, Faculteit Sociale Wetenschappen*.

van Genugten, M., Van Thiel, S. and Voorn, B. (2020), "Local governments and their arm's length bodies", *Local Government Studies*, Vol. 46 No. 1, pp. 1-21, doi: 10.1080/03003930.2019.1667774.

Voorn, B. and Van Genugten, M. (2022), "Dealing with multiple principals in at arm's length organizations: a qualitative study of Dutch municipally owned corporations", *Public Administration*, Vol. 100 No. 2, pp. 291-307, doi: 10.1111/padm.12746.

Voorn, B., Van Genugten, M. and Van Thiel, S. (2020), "Performance of municipally owned corporations: determinants and mechanisms", *Annals of Public and Cooperative Economics*, Vol. 91 No. 2, pp. 191-212, doi: 10.1111/apce.12268.

Wälitalo, L. and Missimer, M. (2022), "The organization of social sustainability work in Swedish eco-municipalities", *Sustainability*, Vol. 14 No. 5, p. 2770, doi: 10.3390/su14052770.

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