

One size fits all? Facility management in Norwegian local governments*

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Abstract

Up to the mid-1990s almost all Norwegian local governments had a decentralized structure on their facility management. Over the following 15 years we observed a swift centralization, and in 2010 roughly 85% of the local governments used a centralized facility management model. Centralization is the most recommended structure, but the arguments used to separate the structures are often somewhat vague. This paper contributes by formulating a stylized model for the relationship between facility conditions and production of welfare services. The model suggests that it is not obvious that a centralized structure is superior for all local governments, but that this may depend on local factors. To test the implications of the model, we use data from two unique surveys. The empirical findings suggest that small local governments with low levels of party fragmentation prefer a decentralized structure. The empirical findings are thus largely consistent with the predictions from the theoretical model.

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1 Introduction

During a period of 10-15 years starting in the mid 1990s we observed a rapid change in the organizational structure of the facility management in Norwegian local governments. While almost all local governments had a decentralized structure on their facility management when entering the 1990s, a large majority had centralized their facility management by the mid 2000s (Haugen, 2003). The two structures are very different. In the decentralized framework, the respective service sectors are responsible for operating and maintaining the facilities. In the centralized framework a central facility management unit holds this responsibility.

In 2003 a government commission was appointed to evaluate the facility management in the local public sector in particular. In its final report (NOU, 2004) the commission concluded that a vast majority of local governments had insufficient levels of maintenance. The commission argued that the local governments should adopt a centralized structure. A similar conclusion is found in a report commissioned by The Norwegian Association of Local and Regional Authorities (Econ and Multiconsult, 2002). The most commonly used arguments in favor of a centralized structure relate to building technical competence. It is expected that a centralized facility management unit will have higher technical competence than a sector with production of welfare services as its main purpose. Hence, the centralized facility management unit should be able to use the maintenance expenditures more efficiently. Furthermore, whereas a central facility management unit cares mainly about maintenance of facilities, the service producing sectors focus mainly on production of services.

It is argued that the combination of a lower level of competence and a different focus may cause two problems for local governments with a decentralized structure. Firstly, one may have that the maintenance expenditures are too low. This can be both because the service producer may choose to cut down on maintenance in order to boost other expenditures or that it lacks the competence to observe the actual need for maintenance. Secondly, one may have that the maintenance expenditures are not used in the most efficient way. A possible consequence is that shortsighted maintenance that may seem important for those working

with production of services displaces more important maintenance projects that are hard to observe for an untrained eye.

Even though centralization was recommended by the central government commission, we have that a considerable number of local governments have chosen to keep a decentralized structure. One argument in favor of decentralization is the possibility for utilization of local knowledge.¹ Above it was mentioned that it may be problematic that service producers can prioritize other maintenance projects than a centralized facility management unit. However, it may be that some parts of the maintenance have a larger impact on the service production in the facilities than others. If this is the case, decentralized responsibility for the facility management can be beneficial since it will be easier to relate maintenance to other operations when the decisions are taken locally. Hence, the service producer may to some extent compensate for lower building technical competence with higher local knowledge.

This paper is related to studies of reforms in the public sector. In a recent study Bonesrønning (2012) found that public sector employees are reluctant to implement accountability reforms meant to enhance public sector productivity. Rattsø and Sørensen (2004) present similar findings. The skepticism is especially related to reforms which introduce competition in the production of public services. The two Norwegian studies are related to studies of how different interest groups can influence policy outcomes. Early contributions are Dubin and Navarro (1988) and Coughlin et al. (1990). The facility management reforms studied in this paper differ in one crucial sense from these studies since centralization most often involves the establishment of a municipal agency, rather than increased competition. Thus, we expect there to be less political dispute concerning centralization of the facility management.

Data limitations force us to take a descriptive approach in this study. The main aim is to investigate if local governments that choose different structures for their facility management differ with regards to observable characteristics. Further, we consider if these differences may explain why different local governments choose different structures for their facility

¹The Econ and Multiconsult (2002) mentions the tight connections between janitors and management in the service producing sector as an advantage with the decentralized model.

management.

The theoretical framework suggests that small and rural local governments may be better off with a decentralized structure. This is because such local governments are likely to have less gain in terms of high competence in a central facility unit. Another argument is based on monitoring. Local governments that are able to monitor their service producers effectively, can to a larger extent make sure that the service producer in fact maintains its buildings well, reducing the need for a separate facility management unit. We expect that monitoring is easier in small local governments, due to a lower number of units. Further, we assume that a strong political leadership will find it easier to monitor than more fragmented ones. Thus, the empirical discussion is based on population, urbanity and political fragmentation. The findings are in accordance with the hypotheses outlined above. This can be interpreted as an indication that local governments are able to consider the different structure and choose the one that fits them best. This is in contrast to a widespread opinion that all should centralize and that the ones with a decentralized structure are lagging behind in the development.

The remainder of the paper is organized as follows. Section 2 presents a stylized model of facility conditions and production of welfare services. Survey data on the organization of the facility management in Norwegian local governments is presented in Section 3 before the econometric specification is presented in Section 4. The main results from the empirical analysis are discussed in Section 5. Finally, some concluding remarks are offered in Section 6.

2 A stylized model of facility conditions and production of welfare services

We start out by looking at a simple organizational framework. We study a local government that consists of a sponsor (i.e. the central organs of the local government) and a service producing sector. The sponsor has to choose between a decentralized or centralized structure for

its facility management. The sponsor has an exogenous income Y which is to be distributed between operational expenditures, r , and maintenance, m . The budget constraint is thus

$$Y = r + m \tag{1}$$

The important difference between the two structures is that in the decentralized case the service producer receives Y and decides the allocation between r and m . In the centralized case, the sponsor decides the allocation and grants r to the service producer and m to the facility manager. The sponsor has a utility function over production of services (X) given by (2), while the production of services is given by (3). Both functions are concave.

$$w_s = u(X) \tag{2}$$

$$X = x(r, K) \tag{3}$$

The facility conditions depend on the maintenance expenditures and how efficiently these are spent. (4) and (5) give the facility condition in the decentralized and centralized case respectively.

$$K_O = \bar{K} + (\alpha_O + \beta) m \tag{4}$$

$$K_C = \bar{K} + \alpha_C m \tag{5}$$

where the constant \bar{K} indicates that the facilities are in place when entering the period. The facility conditions are defined as how well the facilities serve the purpose of producing services, rather than building technical value.² α_i is the building technical competence. If the competence is perfect ($\alpha_i = 1$), m is used perfectly efficiently. The central facility manager has at least as high technical competence as the service producer, so that $1 \geq \alpha_C \geq \alpha_O > 0$. However β indicates that missing technical competence to some extent is compensated for

²In an earlier version we used building technical value and included this in the sponsor's utility function. The findings are, however, qualitatively very similar and we thus prefer the more parsimonious specification.

through local knowledge about the production of services in the decentralized case.³ Since local knowledge only partly compensates for low technical competence we have $0 < \alpha_O + \beta \leq 1$. Importantly, β introduces ambiguity since $\alpha_C \gtrless \alpha_O + \beta$. We assume that the competences are common knowledge. The sponsor's utility is maximized when the production of x is maximized. The first order condition in a world of perfect technical competence is

$$\frac{\partial x}{\partial r} = \frac{\partial x}{\partial K} \quad (6)$$

Any deviation from this will give a lower production and thus lower utility for the sponsor. Immediately, we see that imperfect competence will create distortions. Since the sponsor decides the allocation in the centralized case, and cares only about production, we find the solution by taking the possibility for imperfect competence into account.⁴

$$\frac{\partial x}{\partial r} = \alpha_C \frac{\partial x}{\partial K} \quad (7)$$

The distortion arises because the sponsor will choose to increase the grant to the service producer (r) on the expense of the grant to the facility manager (m) if he knows that some of m will be wasted due to imperfect competence. This gives an allocation where too little is spent on maintenance relative to operational costs.

As the sponsor, the service producing sector has a positive utility of production. Importantly, it also has an additional utility from shifting its spending towards operational costs. This can be interpreted as rent extraction or a spending bias due to lack of building technical knowledge.

$$w_O = u(X) + \gamma(r) \quad (8)$$

However, the service producing sector cannot choose the allocation totally independent of

³The local knowledge has a positive effect on how the facilities affect production, but it is not certain that it has a positive effect on the building value in technical terms.

⁴It will be harder to monitor a complex service producing unit than a unit with facility management as its sole purpose. Hence, we simplify by disregarding the monitoring problem in the centralized case altogether.

the sponsor's wishes. Rather, the sponsor is able to monitor the service producer and enforce its preferred allocation to some extent. We illustrate the monitoring problem by $0 \leq \theta < 1$. If $\theta = 0$, the monitoring is perfect and the service producer is totally unable to deviate from the allocation found to be optimal by the sponsor. Thus, we can formulate the utility of the service producer, given the level of monitoring

$$\bar{w}_O = u(X) + \theta\gamma(r) \quad (9)$$

Since the service producer decides the allocation in the decentralized structure, conditioned on the level of monitoring, we obtain the FoC in the decentralized case by differentiating through (9)

$$\frac{\partial x}{\partial r} = (\alpha_O + \beta) \frac{\partial x}{\partial K} - \theta \frac{\partial \gamma / \partial r}{\partial u / \partial x} \quad (10)$$

There are two implications to be read from (10). Firstly, the service sector, being aware of its own imperfect competence, will choose to spend less on maintenance than in the first best case. This is reasonable, since the service producer has no utility from the waste that occurs if maintenance expenditures are spend inefficiently. Secondly, the possibility for imperfect monitoring also leads to an additional spending bias in favor of operational expenditures because of the service producer's utility function. Thus, we have two mechanisms that both go in the direction of too low maintenance expenditures and thus lower production than in the optimal solution.

The very stylized model offers two hypotheses. Firstly, local governments where α_C is large relative to α_O will benefit more from centralization. We expect this to be the case in urban areas, because of better access to highly qualified personnel. Secondly, we expect that local governments that find it difficult to monitor their service producer(s) are more likely to centralize. We will consider two observable characteristics we assume to be related to the possibility of monitoring. We expect that the possibility of monitoring is lower in (i) large municipalities, since these have more service producers than smaller local governments

and (ii) in local governments with weak political leadership. A more precise specification of the hypotheses to be tested is presented in Section 4 where the econometric formulation is discussed.

3 Survey data on the choice of organizational structure

As in other Scandinavian countries, Norwegian local governments provide important welfare services like child care, primary and lower secondary education, primary health care, and care for the elderly. After labor, facilities are probably the most important input in production of local public services. In this paper we aim to study the facility management for the two most important building types, schools and health care buildings. The two make up close to 50% and well above 20% of the total building mass respectively.

The first data source is a government commission (NOU 2004: 22) that was set up to evaluate the facility management in the local public sector. The commission conducted a survey on building conditions, maintenance, and organization of the facility management. The survey was mailed to all local governments and achieved a response rate of 55%. Small local governments (population size below 5,000) are underrepresented in the sample. Unfortunately, this data set is too small to be used in the formal analyses presented in this paper.⁵ Thus, we only present descriptive statistics from this data source.

As part of the survey the respondents⁶ were asked to classify their organizational framework for the operation and maintenance of their facilities. Table 1 presents the distribution of the responses to the 2004 survey. Note that the centralized and decentralized structures both have several sub-categories. For our purposes, however, it is only interesting to separate between a centralized or decentralized framework. The categories C, D and E represent the centralized categories. The others indicate different versions of the decentralized structure. We observe that more than 80% used one of the centralized structures, with the municipal

⁵We have conducted some preliminary analyses, the coefficients were mostly insignificant and highly unstable due to the small sample size.

⁶For both surveys we have that the chief facility manager is the most frequent respondent.

agency as the far most common.

Table 1: Distribution of answers. 2004 survey.

Category	School buildings (N=241)		Health care buildings (N=240)	
A. The individual user/institution is responsible for the management of their properties	21	8.71%	19	7.92%
B. The central unit (school, health care, etc.) manages the properties for their institutions	18	7.47%	18	7.50%
C. Municipal agency	181	75.10%	181	75.42%
D. Municipal enterprise	12	4.98%	13	5.42%
E. Share holding companies, partly (or fully) owned by the municipality	1	0.41%	1	0.42%
F. Inter-municipal collaboration	1	0.41%	1	0.42%
G. Other	7	2.90%	7	2.92%
Decentralized (A, B, G)	46	19 %	44	18 %
Centralized (C, D, E, F)	195	81 %	196	82 %

The second source of information is a survey from 2010/2011.⁷ This was meant as a follow up to the government commission survey and the design is therefore very similar. The survey was initially e-mailed to all local governments and we received 145 answers, or roughly 34 % of the local governments. Because of the limited number of responses on the full (and very comprehensive) survey, the non-respondents were contacted and encouraged to answer the specific question regarding their choice of organizational structure. This resulted in 235 extra responses so that we for 2010 have data for a total of 380 local governments (88% of the local governments). With such a large share of the local governments we are confident that we have a representative sample. The answers from this survey are summarized in Table 2.

Table 2: Distribution of answers. 2010 survey.

Category	School buildings (N=380)		Health care buildings (N=380)	
A. The individual user/institution is responsible for the management of their properties	18	4.74%	20	5.26%
B. The central unit (school, health care, etc.) manages the properties for their institutions	7	1.84%	8	2.11%
C. Municipal agency	308	81.05%	307	80.79%
D. Municipal enterprise	22	5.79%	21	5.53%
E. Share holding companies, partly (or fully) owned by the municipality	0	0%	0	0%
F. Inter-municipal collaboration	2	0.53%	2	0.53%
G. Other	23	6.05%	22	5.79%
Decentralized (A, B, G)	48	13%	50	13%
Centralized (C, D, E, F)	332	87%	330	87%

⁷We refer to this as the 2010 data. The survey was conducted as a project at the Center for Real Estate and Facilities Management at NTNU, and was designed by the research group (including Borge and Hopland).

Table 2 displays a picture which is fairly similar to that observed in Table 1. However, it is worthwhile noting that the centralized structures are even more frequently observed than in the data from the 2004-survey. This indicates that we are still in a transitional phase where more local governments shift towards the centralized framework. The trend towards centralization is also observed when we look at the 214 local governments that participated in both surveys. We observe that around 25 local governments changed from one of the decentralized structures to a centralized structure during this period. However, the picture is not perfectly clear cut. A few also report to have changed from a centralized structure to more decentralized structures. This suggests that the process of sorting local governments into the structure that they find to be most favorable goes both ways. Notably, those that change to a decentralized structure are rural local governments, indicating that our hypotheses are not too far fetched. The time variation between the surveys is, unfortunately, too small for us to exploit the panel dimension in the formal econometric analysis, so we use only the data from the 2010 survey. The proceeding section outlines our empirical approach.

4 Econometric specification

Table 3: Descriptive statistics for the binary choices

Variable	Mean (st.dev)	Sample
Centralized management for school buildings	0.87 (0.33)	(N=380)
Centralized management for health care buildings	0.87 (0.34)	(N=380)

We aim to investigate whether local governments with a centralized facility management differ systematically from those with a decentralized structure and if the observed differences are consistent with the hypotheses from the theoretical framework. The empirical discussion is based on a logit equation

$$\text{prob}(C_{iB} = 1 | \mathbf{Dem}_i, \mathbf{Pol}_i, \mathbf{Fiscal}_i) = \frac{1}{1 + \exp(-\lambda_D \mathbf{Dem}_i - \lambda_P \mathbf{Pol}_i - \lambda_F \mathbf{Fiscal}_i)} \quad (11)$$

C_{iB} is a dummy which equals one if local government i has chosen a centralized management structure for building type B . The choice variables are summarized in Table 3. \mathbf{Dem}_i , \mathbf{Pol}_i and \mathbf{Fiscal}_i are vectors consisting of demographic, political and fiscal variables respectively.

The demographic variables are the share of the population living in densely populated areas and three dummies that equal 1 if the population in a local government is either below 2,000, between 2,000 and 3,000 or between 3,000 and 5,000 respectively. The reason why we choose to measure the population in this way is that roughly 80% of the local governments with a decentralized structure have less than 5,000 inhabitants. Thus it makes little sense to include the population linearly. Rural local governments may have problems attracting highly qualified personnel to the facility management unit. This gives that the potential efficiency boost due to higher technical competence in a centralized facility manager is reduced. Further, large and urban municipalities will have a larger number of service producers, which will complicate the sponsor's monitoring. Hence, we expect the share of the population living in densely populated areas to come out as positive when estimating the probability of choosing a centralized structure. Likewise we expect the small local government dummies to come out as negative.

We also expect political fragmentation to be associated with monitoring problems. The political system at the local government level is a representative democracy where the members of the local council are elected every fourth year. The national parties are important players, and the national struggle between the socialist and non-socialist camps is mirrored at the local level. Compared to national politics, a main difference is that the majority coalition does not form a cabinet. The typical organization is an alderman model with an executive board with proportional representation from all major parties. The executive board is led by the mayor, and the members of the executive board, including the mayor and the deputy mayor, are elected among the members of the local council.

Several studies of Norwegian local governments have emphasized the impact of politi-

cal strength. Political strength is shown to reduce administrative spending (Kalseth and Rattsø, 1998), to increase efficiency (Borge et al., 2008 among others), to reduce the budget deficit (Borge, 2005) and to give better maintenance (Borge and Hopland, 2011). We expect that strong politicians will also be better suited to perform monitoring than their weaker counterparts. Hence, we expect that political fragmentation is positively associated with the probability to adopt a centralized structure. We use the effective number of parties (*ENOP*), which is the inverse of the traditional Herfindahl-Hirschman index

$$ENOP = \left(\sum_{p=1}^P SH_p^2 \right)^{-1} \quad (12)$$

where SH_p is the share of representatives from party p . In our sample, the effective number of parties varies from 1.7 to nearly 7, with an average just above 4. Since a higher value indicates more fragmentation, we expect it to come out as positive in the regressions. In Norway, the socialist camp is dominated by the Labor party, while the non-socialist camp is more fragmented. As a consequence, there is a negative correlation between party fragmentation and the share of socialists in the local council.⁸ Since we cannot rule out that socialist influence has an impact on the choice of organizational framework, we will control for the share of socialists. Socialist parties are defined as the social democrats (The Labor Party) and all parties to its left.

In addition, we include fiscal indicators. It is not given how fiscal conditions affect the choice of structure. One may have that local governments with low revenues are eager to reform because they hope to be able to reduce costs. On the other hand, one may have that local governments experiencing fiscal stress cannot afford to start the reform process, due to transaction costs. The main fiscal variable is local government revenue. We use an indicator of real per capita revenue published by the Ministry of Local Government, which is widely accepted as the most reliable indicator of fiscal capacity. While the local governments enjoy

⁸The correlation between the effective number of parties and the share of socialists is -0.42.

a fairly wide discretion as to deciding their expenditures, their revenues are to a large extent based on centrally set tax rates and grants. The starting point is the sum of block grants and local tax revenues. Most taxes are of the revenue sharing type, and the tax revenues comprise income and wealth tax from individuals, as well as the property tax. Since the block grant system provides compensation for high spending needs, the revenues must be “deflated” in order to capture the real differences across local governments. An index of spending needs from the spending needs equalization system is used as deflator. It captures unfavorable cost conditions related to population size, settlement pattern, the age composition of the population, and social factors.

In addition to per capita revenues as indicator of fiscal capacity, we have tried to include a number of indicators of fiscal distress. Fiscal distress is broadly defined as actual fiscal performance in relation to the balanced-budget-rule (BBR). The main requirement in the Norwegian BBR is operational budget balance. In the budget (or ex ante), current revenues must be sufficient to cover current expenditures (wages and materials) and debt servicing costs (net interest payment and net installment on debt). It turned out that only one measure of fiscal distress came out as significant, and we thus restrict the discussion to this. The variable captures whether the local government is included in the Register for State Review and Approval of Financial Obligations (ROBEK). The register lists local governments that have violated the BBR by passing a budget with a net operating deficit or have been unable to cover an actual deficit within two years.⁹ The far most common reason for being in the register is that it has taken too long to cover a deficit. The consequence of being in the register is that the budget and resolutions to raise new loans must be approved by the county governor, the central government’s representative in the county. Local governments in the register are subject to stronger central government control, and must tighten their budgetary policy in order to be removed from the register.

The local government revenue is measured as the average over the period 1998-2010, while

⁹An actual deficit is covered when future surpluses are at least as large as the deficit.

the averages of the political variables capture average of the electoral periods 1995-99, 1999-2003, 2003-07 and 2007-11. The Robek variable is measured as the number of months the local government was listed in this register during 2001-2009.¹⁰

Table 4 presents descriptive statistics and a comparison of the local governments with a centralized and decentralized structure on their facility management. A few local governments have a decentralized structure on either schools or health care buildings and a centralized structure on the other. To keep the table easy to read, we only separate the local governments that have a centralized structure on either one of them from those which have a decentralized structure on both. This does not matter for the averages reported, since it regards very few local governments (see Table 1). From this raw comparison we observe that there are some interesting differences between the local governments with a centralized structure and those that use a decentralized structure. It seems that the local governments that have a centralized structure on average have a higher share of their population living in urban areas, larger population, a higher degree of party fragmentation and lower revenues. Even though the observations from the descriptive statistics are in accordance with our hypotheses, we cannot make any conclusions before we have studied the results from the formal econometric procedure. These are presented in the following section.

We have also tried to include a variety of other control variables. We tried including variables capturing the age composition in the local governments. These may be interpreted as the relative strength of interest groups representing different service sectors. It is possible that a strong focus on certain services may also affect the choice of framework for the facility management. Similarly, we have also tried to control for the influence of different political parties (in addition to the control for the share of socialists). However, neither age composition nor political preferences seem to matter and we thus omit them from the analysis. As discussed in the Introduction, it is not very surprising that political preferences seem to play little role for this question.

¹⁰The register was established in 2001.

Table 4: Descriptive statistics, explanatory variables

	Full sample avg. (st.dev.)	Avg. cent. (st.dev.)	Avg. decent. (st.dev.)	Difference in averages
Share (%) of pop. living in densely pop. areas	51 (28)	53 (27)	37 (26)	16***
No. of observations	380	334	46	380
Population	10531 (20788)	11496 (21926)	3524 (4991)	7972**
No. of observations	380	334	46	380
Effective number of parties	4.14 (0.95)	4.19 (0.94)	3.77 (0.95)	0.42***
No. of observations	375	328	47	
Share of socialists in the local council	0.37 (0.13)	0.37 (0.13)	0.36 (0.15)	0.01
No. of observations	377	330	47	
Local government revenue	106.69 (23.33)	105.61 (23.58)	114.32 (20.17)	-8.71**
No. of observations	377	330	47	
Central government control (Robek)	23.88 (35.28)	22.65 (33.60)	32.55 (44.83)	-9.90*
No. of observations	377	330	47	

*** p<0.01, ** p<0.05, * p<0.1

5 Results

Because of the limited variation in the data we focus on the direction of the links rather than marginal effects when studying the empirical findings. This has two implications for the proceeding discussion. Firstly, we are careful not to interpret the findings as strictly identified causal relationships, since there may be characteristics that we are unable to control for. Secondly, as an extension of this we do not focus on a detailed discussion of marginal effects, but rather discuss the signs related to what would be consistent with the theoretical framework.

Table 5 reports results from estimations using school buildings, while Table 6 reports the results when studying health care buildings. Since the results are very similar, we discuss the tables jointly. Consistent with our hypothesis, we observe that the share of the population living in densely populated areas comes out as positive while the population dummies are negative. The population seems to be the most important determinant, since it is always highly significant, and very stable across the different specifications. The share of the population living in densely populated areas is significant as long as the population is omitted, but loses its significance when the population is included. As expected, we also obtain positive

Table 5: Estimation of probability of choosing a centralized structure for school buildings. Logit.

VARIABLES	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Share of pop. living in densely pop. areas	0.0198*** (0.00551)		0.00397 (0.00756)	0.0136* (0.00735)		0.0126* (0.00734)	
Pop. under 2,000		-1.927*** (0.470)	-1.761*** (0.606)		-1.628*** (0.552)		-1.580*** (0.582)
Pop. 2000-3000		-1.809*** (0.513)	-1.676*** (0.628)		-1.559*** (0.564)		-1.395** (0.559)
Pop. 3000-5000		-1.710*** (0.502)	-1.612*** (0.562)		-1.603*** (0.511)		-1.543*** (0.512)
Effective number of parties				0.434** (0.220)	0.259 (0.207)	0.483** (0.214)	0.357* (0.208)
Share of socialists				1.311 (1.410)	0.903 (1.395)	1.664 (1.443)	1.309 (1.420)
Local government revenue						-0.00816 (0.00498)	-0.00224 (0.00525)
Central government control (ROBEK)						-0.0104** (0.00452)	-0.00971** (0.00474)
Observations	380	380	380	374	374	372	372

Robust standard errors in parentheses. A constant term (not reported) included.

*** p<0.01, ** p<0.05, * p<0.1

coefficients for the party fragmentation. These are also fairly stable and mostly significant. The share of socialists comes out as positive but insignificant. Interestingly, income does not seem to matter for the choice of organizational structure. However, the Robek variable comes out as significantly negative. This indicates that local governments that have been subject to fiscal distress over some time do not centralize their facility management.

Table 6: Estimation of probability of choosing a centralized structure for health care buildings. Logit.

VARIABLES	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Share of pop. living in densely pop. areas	0.0182*** (0.00564)		0.00223 (0.00747)	0.0124* (0.00753)		0.0114 (0.00759)	
Pop. under 2,000		-1.858*** (0.447)	-1.764*** (0.565)		-1.606*** (0.523)		-1.615*** (0.558)
Pop. 2000-3000		-1.670*** (0.495)	-1.595*** (0.594)		-1.458*** (0.541)		-1.294** (0.542)
Pop. 3000-5000		-1.571*** (0.483)	-1.515*** (0.533)		-1.485*** (0.490)		-1.434*** (0.493)
Effective number of parties				0.431* (0.221)	0.229 (0.208)	0.495** (0.219)	0.340 (0.212)
Share of socialists				1.078 (1.420)	0.559 (1.377)	1.492 (1.464)	1.000 (1.423)
Local government revenue						-0.00794 (0.00492)	-0.00105 (0.00542)
Central government control (ROBEK)						-0.0116*** (0.00422)	-0.0111** (0.00447)
Observations	380	380	380	374	374	372	372

Robust standard errors in parentheses. A constant term (not reported) included.

*** p<0.01, ** p<0.05, * p<0.1

6 Concluding remarks

This paper aims to study the choice between a decentralized and centralized structure on the facility management in Norwegian local governments. Until the mid-1990s almost all local governments had a decentralized structure, but in 2010 the picture is opposite with more than 85% having a centralized structure. It is a common argument that the local governments should centralize their facility management because centralized structures are expected to be superior with regards to competence and should thus be able to use the maintenance expenditures more efficiently. However, this paper discusses a stylized framework which suggests that a centralized structure not necessarily will be superior for all local governments.

Rather, the prediction is that that small and rural local governments may be better off with a decentralized structure. This is because such local governments are likely to have less gain in terms of high competence in a central facility unit. Further, local governments that are able to monitor their service producers effectively, can to a larger extent make sure that the service producer in fact maintains its buildings well, reducing the need for a separate facility management unit. We expect that monitoring is easier in small local governments, due to a lower number of units. Finally, we assume that a strong political leadership will find it easier to monitor than more fragmented ones. Thus, the empirical discussion was based on population, urbanity and political fragmentation. The findings are in accordance with the hypotheses. Thus local governments seem to be able to consider the different structure and choose the one that fits them best. This is in contrast to a widespread opinion that all should centralize and that the ones with a decentralized structure are lagging behind in the development.

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