

Journal of Urban Affairs

ISSN: 0735-2166 (Print) 1467-9906 (Online) Journal homepage: www.tandfonline.com/journals/ujua20

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To cite this article: Jostein Askim, Kurt Houlberg & Jan Erling Klausen (2025) Local government amalgamations and pre-merger overspending: Central naivety meets local opportunism, Journal of Urban Affairs, 47:2, 451-467, DOI: 10.1080/07352166.2023.2187302

To link to this article: https://doi.org/10.1080/07352166.2023.2187302

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Published online: 13 Apr 2023.

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JOURNAL OF URBAN AFFAIRS
2025, VOL. 47, NO. 2, 451–467
https://doi.org/10.1080/07352166.2023.2187302

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Local government amalgamations and pre-merger overspending: Central naivety meets local opportunism

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ABSTRACT

Amalgamation of local governments is an incentive for pre-merger overspending as the costs are transferred to the merged unit of the future. The article updates application of the common pool theory to such opportunistic pre-merger behavior. It studies Norway's reform of the 2010s and paints a uniquely nuanced picture of pre-merger overspending, comparing fiscal policies before and after enactment of the reform among merging and non-merging municipalities. It provides corroboration that local governments that are about to merge overspend prior to the merger. New insights are gained into local governments' differential incentives to allocate overspending to capital or current expenditure, and their opportunities to act on these incentives in the final and penultimate years before mergers are implemented. New insights are also gained into the differential incentive structures of junior and senior partners to a merger. Juniors overspend the most on current expenditure, while junior and senior partners overspend equally on capital expenditure. These insights not only have theoretical value but also practical applications.

KEYWORDS

Amalgamation; common pool problem; last-minute spending; pre-merger overspending; freeriding

Introduction

A consistent effect of local government amalgamation reforms is soon-to-merge local governments changing fiscal policy just before mergers are implemented, increasing spending to benefit the locality before a new leadership assumes control of the merged jurisdiction's resources (Gendźwiłł et al., 2021; Tavares, 2018). Such pre-merger overspending has been conceptualized as last-minute spending (Blom-Hansen, 2010), hoarding (Askim et al., 2020), freeriding (Hinnerich, 2009; Jordahl & Liang, 2010; Nakazawa, 2018) and fiscal easing (Askim et al., 2022). In theory, a merger creates a common pool problem: a *future* common pool that an amalgamating entity can exploit prior to amalgamation in order to benefit its current population (Hansen, 2019; see also Ostrom, 1990). Viewed from the perspective of the merged unit, pre-merger overspending reduces the economic potential for future services and priorities (Reingewertz & Serritzlew, 2019).

As there is a well-known incentive to exploit the merger situation, amalgamation reformers sometimes limit local governments' fiscal autonomy in the period between announcement and implementation of a reform, for example, budget-vetting procedures and caps on investments and loans. From a researcher's point of view, such regulations are "noise"; they imply that local governments' fiscal policymaking is affected not only by the incentives an amalgamation reform creates, but also by state regulations (and attempts to find loopholes in them). Scholarship in the field consequently needs studies of "noise-free" reforms where no specific regulations are placed on local

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governments in the pre-merger period. This article reports on a study of precisely such a reform: Norway's local government amalgamation reform of the 2010s.

Based on a study of this reform, we ask, firstly, whether overspending occurs prior to amalgamation. Secondly, a question that has been left open in the existing literature: Is pre-merger overspending allocated more to capital expenditure than current expenditure? Based on common pool theory, allocating overspending to capital expenditure, and thus providing lasting goods, represents the stronger incentive of the two. And thirdly, do municipalities that are small relative to the ones with which they merge, overspend more than the relatively larger ones prior to the merger? Based on the logic known as the exploitation of the great by the small (Olson, 1971), the junior units have greater incentives and better opportunities than the senior ones to overspend prior to the merger.

Empirically, the research into pre-merger overspending has thus far covered only a limited number of outcome variables, with few investigations into directly how local governments actually overspend on goods for the current population. We use variables that, taken together, cover the two general ways of allocating pre-merger overspending (current spending and capital investments), as well as the three main ways of financing it (taking out loans, using savings, or running down the operating balance). We study Norwegian municipalities' fiscal policies in the period 2015–2020 using municipal final accounts data. We use DiD regression analysis to test whether pre-merger spending varies depending on whether or not a municipality is going to be merged, and whether to-be-merged municipalities are small or large relative to the merged unit.

In combining a no-regulation environment and a broad array of outcome variables, the article paints a uniquely nuanced and complete picture of how local governments act on the incentive to overspend prior to a merger and provides a new standard for testing hypotheses about pre-merger overspending. The findings suggest that municipalities overspend significantly on both current and capital expenditure before merging. However, a preference for overspending on capital expenditure only materializes only in the final year before mergers are implemented. Furthermore, junior partners to a merger overspend more on current expenditure than do senior partners, while junior and senior partners overspend equally on capital investments.

In what follows, we review the relevant literature and develop the study's hypotheses. We then present the research context and the design and methods before presenting and discussing results.

Pre-merger overspending

Theoretically, increased spending prior to a merger can be conceptualized as a common pool problem, i.e. a problem that arises when the cost of an activity that benefits a small group is shared among a larger group (Ostrom, 1990). The new, amalgamated unit is a future pool of resources shared by the members of the amalgamation consortium. Amalgamation means that all the assets of all the consortium members are transferred to this common pool. Local governments that are about to merge thus have the incentive to engage in a last-minute flurry of spending before "closing time" in order to secure goods for the citizenry currently under their governance and pass the political and economic costs of financing the goods and reducing expenditure on to the new, amalgamated unit. If all members of the merger consortium freeride on each other, a "tragedy of the commons" situation (Hardin, 1968) likely ensues, as overspending has detrimental effects on the fiscal health of the new unit. Table 1 offers a brief summary of central scholarly articles on pre-merger overspending as identified by a literature search supplemented by works cited in the articles identified.[1]

While theory predicts that leaders of soon-to-merge municipalities are incentivized to overspend on goods that are popular with their citizens, this incentive does not translate directly into a preference for one particular form of *financing*. What matters to the citizens of the old units is which goods they receive, not how the goods are financed; a new recreation center is valued equally, irrespective of how it is financed. Accordingly, the question of whether leaders of the old units choose to finance overspending by taking on debts, using savings or running down operating surpluses can be considered a secondary consequence of their having followed the incentive to overspend before the merger. As

Table 1. Overview of empirical studies of pre-merger overspending.

Study	Case	Fiscal indicators	Main findings	Regulatory framework
Hinnerich (2009)	Sweden, 1962/1968–1974	Debt	Debt increase prior to mergers, mainly to fund large projects. A smaller share of population in new unit is associated with larger debt increase	No specific pre-merger regulation. Long-term debts to fund localized investments only. Nominal governmental loans approval procedure
Jordahl and Liang (2010)	Sweden, 1944–1952	Debt	Debt increase prior to mergers. No effect of relative size of merging municipalities.	No specific pre-merger regulation. No restrictions on short-term debt, no balanced budget requirement. Long-term debts to fund localized investments only
Blom-Hansen (2010)	Denmark, 2003–2006	Budget overruns of capital and current expenditure*	Pre-merger overruns of capital budgets and in selected areas of the current budget (local roads, schools) in the year prior to merger, depending on the relative size of merging municipalities	Pre-merger regulation: ministerial loan approval, compulsory saving scheme, tax freeze, fees on local supplementary appropriations
Hansen (2014)	Denmark, 1996–2006	Current expenditure and budget overruns of current expenditure	Overspending of current expenditure in the year prior to merger, depending on the number of partners in the merger consortium	Same as Blom-Hansen (2010)
Hansen (2019)	Denmark, 1996–2006	Budget overruns of current expenditure	Budget overruns of current expenditure in the year prior to merger, but only in municipalities where the mayor is not re-elected as mayor of the new, amalgamated municipality.	Same as Blom-Hansen (2010)
Saarimaa and Tukiainen (2015)	Finland, 2000–2008	Debt, cash reserves**	Debt increase and cash reserve depletion in merged municipalities, spent mostly on investment and on increasing current expenditure relative to current revenues. Inverse effect of the relative size of merging municipalities.	No specific pre-merger regulation. Extensive fiscal autonomy sustained, no restrictions on debts
Fritz and Feld (2015)	Germany (Baden-Württemberg), 1964–1988	Debt	Debt accumulation associated with increasing numbers of merger partners, with forced amalgamation as opposed to voluntary, and as annexations as opposed to merger.	(Not reported)
Nakazawa (2016)	Japan, 1996–2005	Debt	Moderate pre-merger debt accumulation observed (govt. allowed local bonds to be issued to encourage mergers)	No new restrictions. Issuing of local public bonds subject to govt. approval, within a ceiling based on the "debt expenditure ratio"
Hirota and Yunoue (2017)	Japan, 1998–2005	Total expenditure, investments, debt	Subordinate merger partners increased total expenditure, investment expenditure and debt prior to mergers	Same as Nakazawa (2016)

*Total current expenditure and expenditure in selected areas. **Investments, current expenditure relative to current revenues, tax rates and public employment are analyzed to test the robustness of the main findings.

shown in Table 1, previous studies have predominantly analyzed finance-related indicators, typically debt accumulation or budget overruns. Only one study (Blom-Hansen, 2010) has indicators of both capital investments and current spending, with current spending measured as budget overruns, not as levels of spending.

The contention is that debt accumulation and changes in liquid assets are the most valid indicators for municipalities' freeriding on the future common resource pool, since only these costs are shifted to the merger partners (Saarimaa & Tukiainen, 2015, p. 140).[2] Our view is that it is injudicious to focus

solely on the financing side, as the essential characteristic of the pre-merger situation is the incentive to engage in a last-minute flurry of *spending* to please or placate the local citizenry.

Measuring the financing aspect entails addressing how local governments assemble resources that can potentially be used to finance pre-merger overspending. Irrespective of how the old units finance it, their pre-merger overspending will unavoidably affect the financial capabilities and fiscal health of the future jurisdiction. The costs of repaying the loans, rebuilding liquid assets, and re-establishing a fiscally healthy operating balance will have to be paid by the merged unit. From the perspective of the citizens of the old units—the intended beneficiaries of the pre-merger overspending—the source of financing is less relevant than how pre-merger overspending is allocated.

Although we regard the choice between financing options—taking out loans, using savings or running down the operating balance—as secondary, we would also note that the current literature on pre-merger overspending does not reflect this breadth in financing options. Each individual contribution typically focuses solely on one financing option, which means that there is a chance of overlooking (some of) the pre-merger overspending that occurs in the cases under study and, importantly, that causal analyses of pre-merger overspending can suffer from an overly conscribed dependent variable. In the light of this, one contribution that this article makes is its use of an unusually rich and nuanced measurement of the phenomenon of pre-merger overspending.

As mentioned in the introduction, in some cases governments attempt to forestall pre-merger overspending by restricting local governments' fiscal autonomy in the interim period between announcing and implementing mergers (see last column of Table 1). For example, lending was subject to ministerial approval prior to Denmark's reform in the 2000s (e.g., Hansen, 2019). In other cases, such as Sweden's reforms in the 1940s, 1950s and 1960s (Hinnerich, 2009; Jordahl & Liang, 2010) and Japan's reform in the 1990s and 2000s, the normal level of local fiscal autonomy was upheld in the interim period. Local fiscal behavior prior to mergers is affected not only by the incentives produced by the reform, but also by government regulations specific to the interim period. For theoretical and methodological purposes, cases without such regulations consequently offer the most promising context for studying how local governments act on the incentive for pre-merger overspending.

Hypotheses

We analyze pre-merger overspending among local governments about to implement mergers, with the expectation, based on common pool theory, that pre-merger overspending will occur in the years immediately prior to the implementation of a merger:

H1: Local governments about to merge will overspend prior to the merger.

Allocation of overspending

Based on common pool theory, local governments have the strongest incentive to allocate pre-merger overspending to capital expenditure because, compared to allocating current expenditure to items such as salaries and service levels, the value of capital goods has greater longevity. The benefit of a capital good is secured for the citizens of the current locality because it cannot be (easily) rolled back by the new, amalgamated unit. A new school wing or swimming pool cannot be packed up and moved from one location to another. Such goods will therefore benefit the population living inside the borders of the old jurisdiction for many years to come.

Why would local governments overspend on *current* expenditure prior to a merger? First, even short-term benefits in the form of temporarily improved service standards or increased volumes of municipal services represent a net gain for the current citizenry, as long as the service is not financed by increased taxes or fees but by draining the stock of liquid assets—and leaving the bill to rebuild liquid assets to the merged unit. Allocating pre-merger overspending to current expenditure is therefore perfectly rational; it provides a higher level of services to the citizens of the old unit, at least until the merged unit implements its first budget.

Second, it is possible, although far from certain, that the benefits will last. Obviously, inequalities in service levels, student/teacher ratios for example, are more easily rolled back and harmonized across a new jurisdiction's territory than are inequalities in infrastructure and other capital goods. Still, the merged unit might accept continuing to finance at least parts of the ballooned pre-merger service level. The inclination toward incrementalism in public budgeting (Wildavsky & Caiden, 2004) implies that some of the benefits derived from pre-merger overspending may live on in the merged unit. Once in the budget, current expenditure has a propensity to stick. For example, the merged unit might find it difficult to revert to a less generous allocation of resources, at least in the short term, if the freeriding unit has taken on new staff that cannot easily be let go.

Municipalities undergoing a merger therefore have incentives to overspend in relation to both current and capital expenditure. However, as the incentives to overspend capital expenditure are stronger, our hypothesis is that:

H2: Pre-merger overspending will be allocated more to capital expenditure than to current expenditure.

Size and overspending

The propensity for pre-merger overspending will vary among partners to a merger. Based on common pool theory, the smaller units have the strongest incentive to overspend prior to a merger because they can expect their partners to pay for most of the costs incurred in the future as a result of overspending; larger units can expect their citizens to have to cover a relatively larger share themselves (Blom-Hansen, 2010). This logic is known as "the exploitation of the great by the small" (Olson, 1971, pp. 35, 36). Furthermore, smaller units have the best opportunities to overspend prior to a merger because their fiscal dispositions matter less for the future fiscal health of the merged jurisdiction than that of larger units. Viewed from the perspective of larger units, the overspending of junior partners can go unnoticed or unsanctioned because the adverse consequences are limited. Moreover, larger municipalities know that their smaller partners may observe them during the pre-amalgamation phase, and that if they overspend it might instigate these smaller partners to overspend too, the bulk of which they will subsequently have to pay.

The proposition that the smallest partners in an amalgamation freeride on their larger partners has strong support in the literature. The study by Hinnerich (2009, p. 722) of amalgamations in Sweden supported the assumption that the incentive to freeride is stronger when a local government's constituency population is small relative to the size of the post-merger local government. Fritz and Feld (2015, p. 19) found that common pool exploitation in Germany tends to occur when smaller municipalities are annexed by a larger neighbor, compared with cases of equally sized partners merging. Similarly, Hirota and Yunoue (2017) found that smaller Japanese municipalities that were absorbed by larger neighbors increased public debt before amalgamation. This finding was supported by Nakazawa (2016, p. 820). In the context of Denmark's 2007 amalgamation reform, Houlberg (2014, p. 17) found overspending to be more prevalent in relatively smaller local governments than among their larger partners. Saarimaa and Tukiainen (2015, p. 148) found that overspending by Finnish municipalities prior to voluntary mergers varied in accordance with their relative size to the common pool. Only a small number of studies did not find that pre-merger overspending was affected by the relative sizes of the amalgamating local governments (Blom-Hansen, 2010; Jordahl & Liang, 2010). Accordingly, H3 is:

H3: Pre-merger overspending will be more pronounced among junior than among senior partners to a merger.

Whereas H2 represents a novel application of the common pool theory to the study of amalgamations, H1 and H3 have been tested in various contexts. As argued above, an important contribution of

this study is its testing of both established and novel hypotheses with a uniquely nuanced dependent variable and in a no-regulation scenario. The research context and the methodology are detailed next.

Norway's local government amalgamation reform

Norway is a decentralized unitary state; its local governments are multipurpose jurisdictions administering a broad range of legally mandated tasks and services. The local government sector is funded by local taxation, user fees and central government grants. Municipalities decide on current spending and capital investments, and freely allocate resources across policy areas. Their fiscal autonomy is bounded by the requirement that the budget is balanced, realistic, complete and transparent (Local Government Act §14). However, within these limits, there is a comparatively high level of fiscal autonomy (Ladner et al., 2016), with councils able to transfer surplus funds or budgetary overlays to the following year.

Local governments may take out loans for investments in their own capital assets (Local Government Act, §14-5). Current expenditure may only be funded by current income and not by loans (§14-9).

Norway's local government amalgamation reform was introduced in 2014 and implemented in 2020 by Prime Minister Erna Solberg's 2013–2021 center-right minority coalition government. In 2014, the government presented a proposal to parliament outlining the reform's timeline, instruments, and objectives. It was necessary to involve the parliament because, according to the Territorial Division Act, only strictly voluntary mergers can be decided by the government. Parliament debated the reform proposal in June, with a large majority in support. Mergers were to be encouraged through government appeals, merger subsidies and an adjustment to the governmental grants scheme; forced amalgamation would only be applied in very special cases. The municipalities were given almost two years to assess options for amalgamation and to voluntarily develop merger proposals.

By June 2017, the government had secured a parliamentary majority for the reform proposal. The outcome of the reform was a reduction in the number of municipalities to 356 in 2020. Of Norway's 428 municipalities at the start of the reform in 2014, 119 would be a part of a new municipality by 2020. Eleven municipalities were merged into five new ones in 2017 or 2018, and 108 municipalities were merged into 44 new ones in 2020.

As for regulation of local fiscal autonomy, in May 2014 the government proposed curtailing the freedom of municipalities to take out loans and enter into long-term lease agreements until implementation of the reform in 2020. The government cited fears that "debts may increase because the current municipal council can invest and roll the costs onto the new, larger municipality" (Ministry of Local Government and Modernisation, 2014, p. 50). However, the government shelved the proposal in September 2014 due to protests from the local government sector and from the opposition parties in parliament. The government judged that the reform would only result in a small number of voluntary local merger proposals unless it backtracked from placing any extraordinary regulations on the municipalities' fiscal autonomy (Klausen et al., 2021).

Design, methods and data

We use a difference-in-difference (DiD) logic to compare the pre-merger fiscal policies in a treatment group of municipalities that were amalgamated in 2020 with a control group of municipalities that were not. By the time the reform was enacted by parliament in June 2017, 108 municipalities knew they would be part of a merger and thus cease to exist in their current form in 2020. 2018 and 2019 would consequently be the last years that they had full authority over their financial policies. This is our treatment group. These municipalities also knew the municipalities with which they would be merged and whether they would be a major or a minor partner in terms of population and economy. The remaining municipalities knew they would *not* be part of a merger in 2020, and they constitute our control group.

Our dataset covers the 5 years from 2015 to 2019, with 2017 the year when 108 municipalities were "treated" with a parliamentary decision to be amalgamated in 2020. For the sake of simplicity, we consider 2017 as the reform year. 2015 and 2016 constitute two pre-reform years and 2018 and 2019 two post-reform years. As stated, the government did not set any specific regulations regarding fiscal policies for the soon-to-merge municipalities in 2018 and 2019.

Some municipalities have been excluded from the analysis because of incomparability: Oslo, because of its two-tier status as both county and municipality; Utsira, because it is extraordinarily small; and 10 municipalities because they are extraordinarily rich due to revenues from hydropower plants. We also exclude 11 municipalities that were fast-tracked in the reform process and merged into five new municipalities in 2017 and 2018. We thus end up with a dataset containing 405 cases across 5 years, and a total of 2,025 observations. Of the 405 cases included, 107 municipalities were merged in 2020 and 298 were not.

Our two main dependent variables measure the allocation of pre-merger overspending to, respectively, current and capital expenditure:

- Net current expenditure per capita
- Gross investments per capita

In addition, we include three dependent variables focusing on the sources of financing for pre-merger overspending:

- Net operating surplus per capita (current revenues less current expenditure and interest)
- Liquid assets per capita (savings)
- Long-term debt per capita

These financing indicators are linked to the two allocation indicators, as increased current expenditure is likely to be reflected in reduced operating surplus and/or reduced liquid assets, and increased gross investments are likely to be reflected in reduced liquid assets and/or increased long-term debt. As mentioned above, these financing indicators have been used as indirect measures of spending in the existing research.

All five dependent variables are based on final accounts data from KOSTRA, the official Norwegian database for local-to-central government reporting (Statistics Norway, 2021). All estimates in the results section are given in Norwegian Krone (NOK). Conversion rates were around 10 NOK to 1 EUR and 9 NOK to 1 USD throughout the study period.

The sorting of municipalities into groups for merged and non-merged municipalities was not random. Moreover, fiscal policy is influenced by factors other than mergers. We therefore include controls for two variables known to affect the fiscal policies of Norwegian municipalities: municipal wealth and population (Borge & Tovmo, 2009; Hagen & Vabo, 2005). In addition, we include year dummies to control for the general time trend in the period. As fiscal policy can be conditioned by political preferences, we also include a control for the political leaning of the municipalities, specifically the share of seats for right-wing parties in the municipal council in 2016 (municipal elections were held in 2015 and 2019). See Table A1 in the appendix for information about the measurement of all variables. Additional background information concerning the sample and the two groups is included in Table A2 in the appendix.

Results

Before turning to the DiD-based regression analyses, we present an initial view of the dependent variables in Figure 1. The figure shows the development of fiscal policy over time for the five

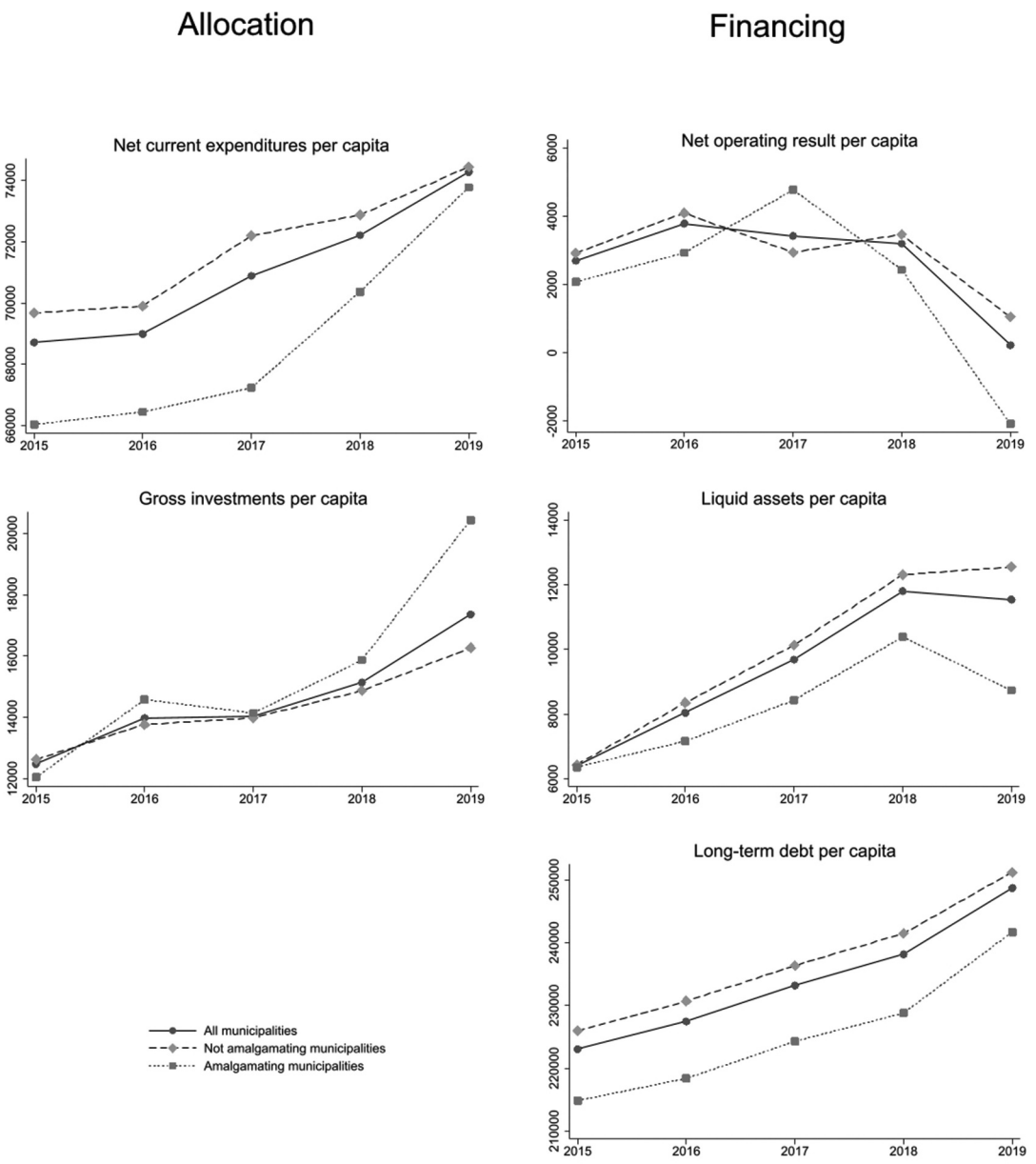


Figure 1. Fiscal policies 2015–2019 in merging and non-merging municipalities (simple means).

dependent variables in merged and non-merged municipalities—and a supplementary line for all municipalities taken together.

It is important for the validity of the DiD regression analyses that treatment and control groups developed similarly before the "reform-treatment" by parliament in 2017. Overall, Figure 1 does not indicate systematically different trends across the two groups in the pre-treatment years of 2015 and 2016. The pre-treatment trends for current expenditure, net results and long-term debt are parallel. However, pre-treatment trends are less parallel for the gross investments allocation variable and the liquid assets financing variable than for the other dependent variables, so results for these two indicators are more indicative.

Table 2. DiD analysis of pre-merger overspending, merging vs. non-merging municipalities.

	Allocation		Financing		
	(1) Net current expenditures	(2) Gross investments	(3) Net operating result	(4) Liquid assets	(5) Long term debt
Amalgamating (dummy)	−515.37	−174.71	−615.12	547.45	2,352.50
	(651.50)	(1,083.36)	(376.91)	(855.26)	(4,964.35)
DiD estimators (ref. = amalgamating * 2015)					
Amalgamating * 2016	234.27	1,503.39	−321.36	−1,107.07***	−1,058.59
	(267.43)	(1,150.21)	(320.45)	(321.38)	(1,286.66)
Amalgamating * 2017	−1,439.60*	831.30	2,658.29***	−1,681.35***	−1,320.64
	(750.75)	(1,537.51)	(818.72)	(456.00)	(2,224.94)
Amalgamating * 2018	1,120.78**	1,911.88	−205.64	−1,864.99**	−1,634.32
	(478.50)	(1,604.36)	(656.14)	(762.90)	(2,626.43)
Amalgamating * 2019	2,989.34***	4,967.88***	−2,298.46***	−3,752.86***	1,664.07
	(613.12)	(1,816.93)	(598.10)	(846.45)	(3,062.40)
Control variables					
Wealth per capita	0.91***	0.21***	0.11***	0.31***	2.92***
	(0.04)	(0.07)	(0.03)	(0.08)	(0.36)
Population (ln)	−2,375.95***	−111.62	439.96*	427.38	−7,824.57***
	(373.93)	(494.86)	(235.74)	(766.02)	(2,863.48)
Share of right-wing seats	−31.29*	−4.08	−7.61	7.00	−524.54***
	(17.49)	(24.33)	(9.09)	(29.28)	(131.47)
Year dummies					
2016	−231.92	622.00	1,122.54***	1,764.11***	3,256.55***
	(178.38)	(573.69)	(230.90)	(219.40)	(753.65)
2017	1,586.68***	470.59	−91.67	3,378.84***	7,366.63***
	(209.53)	(851.95)	(261.12)	(307.94)	(1,012.68)
2018	2,371.93***	1,010.55	450.91	5,592.17***	12,836.12***
	(216.53)	(844.72)	(415.02)	(470.85)	(1,293.92)
2019	2,852.05***	1,821.69**	−2,091.99***	5,466.38***	19,044.27***
	(275.41)	(904.16)	(306.30)	(603.61)	(1,676.46)
Constant	32,335.56***	1,294.96	−7,365.33**	−17,099.10	122,626.69***
	(5,726.54)	(8,269.53)	(3,434.62)	(10,773.70)	(44,876.40)
Observations	2,025	2,025	2,025	2,025	2,025
Adj. R^2	0.812	0.057	0.124	0.132	0.565

Robust standard errors in parentheses (clustered at each municipality), ***$p < .01$, **$p < .05$, *$p < .1$.

The DiD-based regression analysis presented in Table 2 formally tests whether merging municipalities changed their fiscal policy relative to non-merging municipalities between pre-treatment and treatment years. 2015 is the reference category for the DiD estimates.

The dummy variable—"Amalgamating"—in the first line indicates whether the municipality belongs to the treatment group. It estimates the pre-reform (2015) difference between the treatment group and the control group. If municipalities were selected for merger based on their fiscal policies, the effect of this dummy would be large and significant. However, in none of the five models is the effect significantly different from zero, thus indicating that the decision to merge municipalities was generally independent of the municipalities' fiscal policies. Since we have two pre-reform observations, we also use the interaction term amalgamating * 2016 to estimate the change in difference between the treatment and control groups from 2015 to 2016. Apart from model 4 (Liquid Assets), these estimates are statistically insignificant. The estimates thus confirm the impression given by Figure 1 that the pre-reform trends for treatment and control groups are largely parallel.

We now address the DiD estimates for the 2018 and 2019 treatment years, estimated using the interaction terms amalgamating * 2018 and amalgamating * 2019. The DiD estimates are interaction terms that interact the group to which a municipality belongs with a treatment year. The reference group for all DiD estimates is the pre-reform level of the dependent variable in 2015 for the control group of non-merging municipalities. We thus estimate whether the difference between the treatment group and the control group was larger or smaller than it was in 2015 for each reform year.

The DiD estimates for 2018 show that the amalgamating municipalities significantly increased spending allocated to current expenditure but not capital investments relative to the non-merging municipalities in the penultimate year before the merger. Regarding financing options, it should be recalled that the results for the liquid assets variable are indicative. Nevertheless, the 2018 estimate for liquid assets indicates that the increase in spending on current expenditure was financed by a decrease in liquid assets. There are no indications that overspending was financed by running down the operating surplus and taking out loans (long-term debt) in 2018.

The picture changes in the final year before amalgamation, with the DiD estimates for 2019 significant in four of the five models. In this final year before the merger, the merging municipalities significantly increased spending on both gross investments and current expenditure. In terms of financing, the merging municipalities reduced their operating surplus, and, indicatively, reduced liquid assets. The only indicator not affected by the forthcoming merger seems to be long-term debt. Our interpretation is that the pre-merger overspending of gross investments and current expenditure was not financed by increasing the municipality's long-term debt but primarily by running down the operating surplus and draining the stock of liquid assets.

Pre-merger overspending in amalgamating municipalities is not only statistically, but also substantively, significant. In terms of how overspending was allocated, the merging municipalities increased their current expenditure by 2,990 NOK per capita in 2019 compared to the pre-reform difference in 2015 between these municipalities and the control group of non-merger municipalities. Compared to the average current expenditure of 71,019 NOK per capita for all municipalities in the years studied, the expenditure increase is substantial, at 4.2%. Similarly, the relative increase in gross investments by 4,968 NOK per capita represents a last-minute increase in capital spending of 33% compared to average gross investments of 15,257 NOK per capita in the period. In the final year before merging, the municipalities overspent substantially more on capital investments (about 5,000 NOK per capita) than on current expenditure (about 3,000 NOK per capita).

The results suggest that the merging municipalities financed their overspending by reducing their operating surpluses to a minimum. Compared to the pre-reform difference in 2015, the merging municipalities reduced their operating surpluses in 2019 by 2,298 NOK per capita relative to the control group. Compared to the overall average operating surplus of 2,663 NOK per capita, the size of the reduction represents a very substantial reduction in the operating surplus (86%). With the caveat that the results for liquid assets are more indicative (see comments to Figure 1, above), model 4 in Table 2 shows that in 2019 the merging municipalities reduced liquid assets by 3,753 NOK per capita more than the non-merging municipalities compared to the pre-reform difference between the two groups in 2015. Compared to the average liquid assets of 9,494 NOK per capita for all municipalities in the years studied, this represents a drainage of liquid assets of 40% immediately prior to "closing time."

The lower part of Table 2 contains the control variables and the year dummies. It appears that variations in fiscal policies across municipalities and over time are partly contingent on these fiscal constraints. In the period under analysis, relatively wealthier municipalities had significantly higher levels of expenditure, net surplus, liquid assets and long-term debt than the less wealthy. In addition, the estimates for population size indicate that larger municipalities experience economies of scale with regard to current expenditure, net operating surplus and long-term debt. The control for the political leaning of the municipalities indicates that a higher share of council seats for right-wing parties is associated with lower net current expenditure as well as a lower level of long-term debt. The year dummies estimate the general time trend in the period, i.e. the development in fiscal policies in the control group of non-merger municipalities.

Having established that on average the merging municipalities did overspend in the final year before "closing time," we now zoom in on the merging municipalities to investigate whether overspending was greatest among the junior partners in the mergers. Non-merging municipalities are excluded from this part of the analysis.

Table 3. DiD analysis of pre-merger overspending, differentiated by the size of the municipality relative to the merged unit.

	Allocation		Financing		
	(1) Net current expenditures	(2) Gross investments	(3) Net operating result	(4) Liquid assets	(5) Long term debt
Population share of new municipality	−4.78	29.63	22.87**	10.98	246.49
	(18.83)	(31.68)	(10.71)	(20.93)	(179.37)
DiD estimators (ref. = pop.share of new municipality * 2015)					
Pop.share of new municipality * 2016	0.44	25.46	−9.67	18.91**	−58.84
	(5.69)	(34.07)	(6.95)	(8.80)	(35.66)
Pop.share of new municipality * 2017	6.13	−4.21	−8.41	30.00**	−134.87*
	(24.41)	(43.56)	(25.50)	(12.13)	(71.34)
Pop.share of new municipality * 2018	−25.34*	−1.72	−12.29	16.89	−136.46*
	(13.13)	(47.40)	(14.59)	(18.67)	(82.16)
Pop.share of new municipality * 2019	−43.73**	−78.09	31.09*	43.63**	−206.82**
	(17.27)	(51.55)	(16.17)	(20.33)	(92.84)
Control variables					
Wealth per capita	1.16***	0.32**	0.05	0.27***	3.81***
	(0.06)	(0.13)	(0.03)	(0.07)	(0.49)
Population new municipality (ln)	−629.72	941.86	245.88	1,471.67**	−8,557.47**
	(599.59)	(967.77)	(309.60)	(713.05)	(4,152.35)
Share of right-wing seats	−58.05	−24.06	−11.31	−15.79	−344.41
	(44.79)	(59.48)	(18.30)	(36.24)	(307.96)
Year dummies					
2016	−146.18	1,077.33	1,210.72***	−64.85	4,035.38**
	(305.74)	(1,945.88)	(376.32)	(537.04)	(1,968.12)
2017	−419.32	1,344.00	2,971.12*	570.21	10,165.93**
	(1,632.58)	(2,694.70)	(1,677.24)	(712.03)	(4,002.53)
2018	4,211.06***	2,888.88	790.11	3,106.82**	15,565.25***
	(854.71)	(2,748.15)	(901.08)	(1,195.24)	(4,448.77)
2019	6,992.12***	9,635.18***	−5,481.18***	87.37	26,782.52***
	(1,162.88)	(3,120.81)	(1,043.30)	(1,246.39)	(4,479.44)
Constant	3,514.11	−15,965.36	−3,817.31	−24,834.70**	70,387.16
	(7,491.06)	(17,015.03)	(4,304.47)	(10,788.13)	(71,002.80)
Observations	535	535	535	535	535
Adj. R^2	0.808	0.087	0.177	0.119	0.571

Robust standard errors in parentheses (clustered at each municipality), ***$p < .01$, **$p < .05$, *$p < .1$.

The DiD-based regression analysis presented in Table 3 tests whether fiscal policies varied among merging municipalities depending on their population size relative to that of the jurisdiction into which they were to merge. Again, 2015 is the reference category for the DiD estimates.

Apart from focusing solely on the merging municipalities and the DiD-estimator being based on a continuous variable, the DiD logic in Table 3 is similar to the logic in Table 2. The variable "population share of new municipality" shows that the senior partners, i.e. the municipalities with populations that would make up a larger share of the merged jurisdictions, had higher operating surpluses in 2015 than the junior partners. For the four remaining indicators, the population share variable was insignificant in 2015.

When interpreting the DiD estimators, it should be recalled that they measure the *relative* overspending among the merging municipalities—a group that we have established did overspend on both current and capital expenditure in 2019. The DiD estimate for current expenditure in 2019 of -44 NOK per capita shows that when a municipality's share of the new municipality's population increases by 1 percentage point, the overspending of current expenditure is reduced by 44 NOK per capita. So the larger a municipality is compared to the new jurisdiction, the less it overspends on current expenditure prior to the merger. The DiD estimator for 2019 is insignificant for gross investments. These results indicate that the municipality's relative share of the new municipality's population did not affect the propensity to overspend on capital expenditure. Since we know from Table 2 that on average the merging municipalities did overspend on capital expenditure in 2019, the results in Table 3 imply that

junior and senior partners increased gross investments to the same degree in the final year before "closing time." Independent of the relative population size, the merging municipalities increased pre-merger spending to the same extent on durable capital goods.

The junior partners financed overspending by significantly reducing their operating surplus and liquid assets. Framed in reverse: the larger a municipality's share of the new municipality's population, the less operating surplus and liquid assets are reduced in the final year before "closing time." In addition, the senior partners seem to increase long-term debt by a smaller amount than the junior partners. However, as set out in Table 2, on average merging municipalities did not increase long-term debt by more than the non-merging municipalities. The results in Table 3 thus indicate that the junior partners did increase long-term debt before "closing time" but that this was offset by a relative reduction in long-term debt among senior partners. As for the control variables, similar to the results reported in Table 2, increasing wealth is associated with higher levels of current expenditure, investments, liquid assets and long-term debt. The operating result is, however, not significantly different in wealthier municipalities. Larger municipalities experience economies of scale with regard to liquid assets and long-term debt. The estimates for share of right-wing seats are not significant for any of the five models.

Discussion

Hypotheses revisited

Based on common pool theory, our first hypothesis was that pre-merger overspending would occur in Norway's local government amalgamation reform. The analysis confirmed the hypothesis. The reform was enacted in 2017 and the DiD analysis showed that overspending started in 2018, with the reform causing the merging municipalities to overspend on current expenditure. Overspending intensified in 2019, the final year before "closing time," with the merging municipalities allocating their overspending to capital investments as well as to current expenditure.

The fact that overspending is highest in the last year before the mergers are implemented corresponds with results from existing research (Blom-Hansen, 2010; Hansen, 2014; Hinnerich, 2009; Jordahl & Liang, 2010). Based on a study of Sweden's 1969–1974 reform, Hinnerich (2009) suggests that overspending increases the longer "time in treatment" a municipality has to endure. Although it makes sense to consider two years as the treatment period in the empirical context we study, we consider the final pre-merger year as the best window through which to study how municipalities tackle the "last minute" situation. It is likely that it takes some months after the national government has placed the writing on the wall before municipal leaders realize that they have the incentive to overspend prior to the merger. Also, *acting* on this incentive takes time. It might take some months to realize that other units in the same situation are overspending and getting away with it vis-à-vis merger partners and the national government. It might also take time to overcome resistance to overspending inside the unit itself, since overspending can be regarded as inappropriate (Askim & Houlberg, 2022) or ineffective by some local officials.

Our second hypothesis, which is new to amalgamation scholarship, was that pre-merger overspending would be allocated more to capital than to current expenditure. The results for the final year before the mergers corroborate the hypothesis, with the municipalities allocating substantially more (40% more) overspending to capital investments than to current expenditure prior to "closing time."

The results for 2018, the penultimate year before the mergers, do not corroborate H2. However, as explained above, we place most emphasis on the results for the final year. Our interpretation of the results in 2018 is not that municipalities were not incentivized to allocate overspending to capital investments. Rather, we consider the time lag in overspending allocated to capital investments to be, firstly, an expression of geographical cleavages inside the old municipalities. Since swimming pools and schools, for example, represent lasting benefits, it will take the old municipality's power centers some time to fight it out and agree on exactly where to locate new capital goods. Secondly, capital investments typically go into projects that, in distinction to taking on extra teachers or nurses, require

time-consuming planning. Further studies, possibly qualitative ones, are needed in order to delve more deeply into the reasons for the time lag in capital investments compared to overspending on current expenditure.

Notwithstanding the fact that overspending intensifies in the final year before merger, we would have overlooked pre-merger overspending in the penultimate year altogether had we not included a measure for current expenditure in the research design. An implication is that current expenditure can be an early warning of widespread overspending. Reformers would therefore be advised to keep an eye on current expenditure in the local government sector as soon as a reform is enacted. Monitoring can also enable merger partners to persuade each other to show financial due diligence in advance of the merger.

Our third hypothesis was that the junior partners would overspend the most. This hypothesis, too, received strong support. The same pattern has been observed in numerous other countries, so we can be increasingly confident that this is an effect one must expect to see following the decision to merge local governments (Fritz & Feld, 2015; Hansen, 2014; Hinnerich, 2009; Hirota & Yunoue, 2017; Houlberg, 2014; Nakazawa, 2016; Saarimaa & Tukiainen, 2015). However, as we analyze a broader range of indicators than these studies, our study provides more nuanced insights into the overspending behavior of junior and senior partners. Notably, the junior partners overspent more than the senior ones on current expenditure but not on capital investments. As regards capital expenditure, the senior partners apparently joined the junior partners in a last-minute flurry of spending. Following the logic behind this study's H2, the explanation is that the senior partners may resist the incentive to overspend on current expenditure, but not the even stronger incentive to overspend on capital expenditure. This is a novel insight, extending common pool-oriented research on pre-merger overspending, and one it was possible to make because of the uniquely broad set of dependent variables used in the study. We encourage more research into the potentially differing incentives that small and large merging municipalities have for allocating their pre-merger overspending. Qualitative studies of pre-merger overspending (see for example, Swianiewicz & Szmigiel-Rawska, 2021) may provide nuanced analysis to supplement the predominantly quantitative extant literature.

Conclusion

To summarize, overspending on current expenditure and capital investments did occur prior to Norway's local government amalgamation reform in the late 2010s. In addition, municipalities that were small relative to those with which they merged, overspent more than the relatively large ones. Few, if any, existing studies of pre-merger fiscal policies have found patterns that conform better than ours with hypotheses deduced from the theory that amalgamation reforms incentivize local governments to take advantage of the future common pool.

The effects we have found are not only statistically significant, they also represent substantial sums of money. Building knowledge of the pre-merger effects of local government amalgamation reforms is therefore important to complement the larger body of evidence about effects that occur post-mergers (Reingewertz & Serritzlew, 2019; Steiner & Kaiser, 2017), thereby contributing to a more complete understanding of the effects of this type of administrative reform.

The Norwegian reform case had no pre-merger-specific regulation of local fiscal autonomy, like reforms in Japan (Nakazawa, 2016), Finland (Saarimaa & Tukiainen, 2015) and Sweden (Hinnerich, 2009). Effects observed in these studies can thus be interpreted as naked expressions of how local governments respond to the incentive to overspend prior to a merger.

For us, the most important aspect to study in the light of common pool theory is the allocation of overspending to localized goods, not the assembling of resources that can potentially be used for pre-merger overspending (see also Hansen, 2019). That said, we did include dependent variables for the financing of pre-merger overspending too, for exploratory purposes, because these variables are frequently used in the literature to which we relate our findings, and because it is of some practical importance. Compared to the existing studies, this article studies a uniquely broad range of fiscal outcome variables, which means we reduce the risk of making type-II errors. Crucially, we measured

spending in addition to indebting and other fiscal behaviors with a more indirect relation to overspending. Had we studied indebting only, we would have mistakenly concluded that no pre-merger overspending occurred in the case under study. Additionally, including a measure of current expenditure prevented our overlooking the fact that overspending occurred in the penultimate year before the mergers were implemented.

We have argued that the financing of pre-merger overspending is of practical relevance because it is easier for reformers to curb the assembling than the use of financial resources prior to mergers. The government can, for example, restrict access to loans and require municipalities to balance their budgets. It is harder to control and sanction fiscal allocations that municipalities make during the year. On that note, the Norwegian government's plan for countering pre-merger overspending, which was to limit the municipalities' access to loans to finance overspending, appears misguided. Had that regulation been enacted, it would not have counteracted the overspending that occurred. The municipalities did overspend, but they did not finance it by taking out loans; instead, they financed it by running down the operating surplus and by using liquid assets. This shows it is difficult to effectively counteract the tendency to overspend before mergers as amalgamation reforms set in motion complex distributive and redistributive dispositions in the local government sector. Would-be reformers are generally well advised to keep in mind that the pre-merger situation relaxes the disciplinary effects of the norms that are present in the normal situation where local leaders have "eternal" time horizons.

In terms of generalizability, the purposes toward which local governments can and will allocate pre-merger overspending will vary depending on their task portfolio and fiscal autonomy; in many contexts, there is a smaller portfolio and less autonomy than in the Norwegian local government sector (Ladner et al., 2016). However, our expectation is that the same patterns would be seen as are found in this study, although possibly with weaker substantive effects in contexts where local governments generally have a narrower investment portfolio and a smaller operating budget. There is, for instance, evidence of pre-merger overspending among local governments in Japan (e.g., Hirota & Yunoue, 2017; Nakazawa, 2016) even though Japanese local governments have less autonomy in relation to spending than Norwegian ones.

The generalizability of our findings is also affected by contingencies in the Norwegian reform context. Notably, we found that pre-merger overspending was financed by a decrease in operating surplus and by using liquid assets, not by an increase in long-term debts. This pattern might not occur in contexts where the local governments are less wealthy and lack access to savings that can be used for this purpose. However, the result should be generalizable to contexts where local governments do have access to savings. Moreover, there can be differences in the potential sources of financing due to contextual factors. Depending on national regulations, specific sources of financing may be more or less relevant for the allocation of overspending to capital or current expenditure. Long-term debts may, for instance, be restricted to solely funding capital investments, balanced budget requirements may apply, and specific pre-merger regulations may restrict use of liquid assets and the raising of loans in the pre-merger period.

As a final reflection, recall that the Norwegian government chose—some might say, surprisingly or even naively—not to introduce regulations to counteract pre-merger overspending—despite being aware of the local incentive to take fiscal advantage of the merger situation (Klausen et al., 2021). But note that there are arguments, inspired by theories other than the common pool problem, that might resolve this paradox. Extending arguments put forward by Saarimaa and Tukiainen (2015, p. 142), we propose that although pre-merger overspending might be problematic at the granular level, i.e. for the financial situation of the new entities in the years following amalgamation, it might be seen as a necessary evil or a drop in the ocean by the government, with its helicopter view of the well-being of the local government sector in the long run. According to Sørensen (2006), a key impediment to voluntary mergers is a difficulty in ensuring an equitable distribution of gains and losses due to the merger, for instance, due to pre-existing differences in public or private wealth between the partners. Having the opportunity to de facto redistribute wealth before the new unit is formed, is perhaps exactly what is needed for local government units to accept or wish to merge with their neighbors. Following this line of argument, the Norwegian government was not naïve in choosing not to counteract pre-merger overspending. Instead,

allowing pre-merger overspending was perhaps, in a sense, a viable strategy for local merger consortia to even out redistributive inequities that would otherwise jeopardize the merger project.

Notes

1. In addition to the studies of actual mergers in Table 1, other studies show that even the prospect of a potential merger incentivizes municipalities to ease fiscal policies (Askim et al., 2020, 2022). Additionally, in Hirota and Yunoue (2014) study of Japan's amalgamation reforms of 1999–2006, municipalities undergoing a merger were found to freeride on intergovernmental transfers by increasing the numbers of well-paid council posts prior to the merger. In the same reform context, Nakazawa (2018) found evidence of premerger freeriding among voluntary partners by deciding on long-term insurance premiums that would be paid for by the merged unit.
2. According to Saarimaa and Tukiainen (2015), changes in expenditure levels do not reflect overuse of resources, as they can be balanced by changes in revenue. However, we will argue that overspending may be financed by running down the operating balance without changing revenues before the merger (within any regulatory requirements to balance budgets) and by passing the political and economic costs of re-establishing a fiscally sustainable operating balance on to the merged unit.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Research Council of Norway under grant number 255111.

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Appendix

Table A1. Measurement of variables and descriptive statistics 2015–2019.

Variables	Measurement	Mean	Std. Dev.	Min	Max
Dependent variables:					
Net current expenditure	Net current expenditure per capita in the final accounts of the year.	71,019	14,706	23,317	142,640
Gross investments	Gross investments per capita in the final accounts of the year.	15,257	11,952	231	139,647
Net operating surplus	Net operating surplus per capita in the final accounts of the year. Net operating surplus is measured as current revenues minus current expenditure and interest ("Netto driftsresultat i kroner per innbygger").	2,663	4,895	−31,983	62,450
Liquid assets per capita	Liquid assets per capita in the final accounts of the year ("Disposisjonsfond").	9,494	10,364	−4,134	188,262
Long-term debt	Long-term debt per capita in the final accounts of the year.	234,081	62,134	80,590	569,715
Independent and control variables:					
Wealth per capita	Municipal wealth per capita. Total revenues from general grants and local taxes ("Frie inntekter").	64,582	11,605	36,302	110,207
Population (ln)	Natural log of municipal population January 1.	8.54	1.15	6.12	12.55
Share of right-wing seats	Percentage of seats for Conservatives, Progressives, Liberals, and Christian Democrats in the municipal council.	36.22	18.01	0	84
Population share of new municipality	Population share of new municipality in per cent	39.3	30.5	1.9	97.1
Population new municipality (ln)	Natural log of the population of the merged municipality January 1 2020.	10.09	1.01	7.84	12.23

N = 535 for liquid assets. N = 2,025 for all other variables. All economic figures calculated in NOK, 2019 prices.

All data consists of register data from the KOSTRA database run by *Statistics Norway* (https://www.ssb.no/offentlig-sektor/kostra). It includes data on municipal fiscal indicators stemming from the local governments' accounting systems, based on national specifications set by the national government framework for KOSTRA. In addition, Statistics Norway collects demographic and socioeconomic data on all local governments.

Table A2. Pre-merger descriptive statistics for treatment and control group in regression models (N = 405). Means for the pre-reform year 2015.

Variables	Non-merged (control group)	Merged (treatment group)	All
Dependent variables			
Net current expenditure	69,677	66,029**	68,713
Gross investments	13,992	13,214	13,786
Net operating surplus	2,914	2,076*	2,693
Liquid assets per capita	6,429	6,359	6,411
Long-term debt	225,915	214,851*	223,024
Independent and control variables			
Wealth per capita	64,320	61,782**	63,650
Population (ln)	8.47	8.71*	8.53
Share of right-wing seats	34.12	42.07***	36.22
Population share of new municipality	n/a	39.25	
Population new municipality (ln)	n/a	10.09	
N	298	107	405

Two-sided T-test of significance between the two groups: ***$p < .01$, **$p < .05$, *$p < .1$.