The Effects of Local Government Consolidation on Turnout: Evidence from a Quasi-Experiment in Switzerland

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Abstract: In the last decades, municipal mergers have been one major element of local government reforms in Switzerland and beyond. In this article, we describe and analyze the political effects of this development. We use a quasi-experimental setting to test the impact of municipal mergers on electoral participation. We find that in merged municipalities, the decrease in turnout is significantly stronger than in non-merged municipalities. Further, the effect is more pronounced in relatively small localities. There is a temporal dimension to this effect—that is, turnout drops mainly in the first election after the first merger, but not so much after the second or third merger. Hence, the study provides a skeptical yet differentiated perspective on the democratic consequences of municipal mergers and points to further research avenues to develop a more comprehensive understanding of local government consolidation.

KEYWORDS: Local Democracy, Local Government Reform, Quasi-experiment, Switzerland, Municipal Mergers, Amalgamation

Introduction

In recent years, local government consolidation—either through incorporation or amalgamation—has been (re)considered in various countries as a viable option of territorial reform (for a recent overview, see Baldersheim and Rose 2010, and for the Swiss case, see Ladner 2011a). Local government consolidation is often driven by economic concerns such as improving service provisions, exploiting economies of scale, pooling professional competences or reducing spillover effects. Yet, mergers are likely to have intended and/or unintended effects on local democracy, as they increase in an abrupt way the size of the respective electorate, alter local bureaucracies and force extant local political actors to adjust to the emergent political unit. The baseline argument of the article is that mergers change the conditions for individual and collective political actions. As a result, we expect municipal mergers to affect the workings of local democracy. The goal of the study is, thus, to explore the direction and magnitude of these effects.

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1 We would like to thank Karima Bousbah and Andreas Rohner for their assistance in gathering and handling data, and two anonymous referees for constructive comments on earlier versions of the paper.

2 In the remainder of the paper, we use “consolidation” and “merger” interchangeably.
In the political as well as the academic realm, the debate on local government consolidation and democracy has been polarized. On the one hand, some political scientists argue that in small municipalities the “sense of community” is more developed, leading to greater responsibility with regard to the public interest and a greater political consciousness. On the other hand, some political scientists claim that only in large municipalities do governments have the capacity to address meaningful political issues, thereby leading to contested politics, greater potential to mobilize the citizenry and a more heterogeneous organizational life. Hence, depending on the perspective, municipal mergers are a blessing or curse for local democracy (for the Swiss discussion, see Bühlmann 2006: 251–254; Ladner and Bühlmann 2007: 266; Rühli 2012).

In this paper, we operationalize local democracy in a rather narrow fashion, focusing on turnout in elections, which is an important element for the legitimacy of a polity as well as for substantial policy outcomes. Yet, turnout in local elections is only one aspect of local democracy. Other issues—for example, the party system (Koch and Rohner 2015), political representation (Zwicky and Kübler 2016), political/fiscal autonomy (Steiner and Kaiser 2017) or intergovernmental relations (Mueller 2016)—are also key for understanding transformations of local democracies. Given the lack of robust empirical evidence on the effects of municipal mergers (especially for Switzerland), as well as the heated debate around local government reforms, we deliberately decided to focus on one aspect to increase conceptual and methodical clarity at the expense of empirical breadth. For this purpose, we developed a unique dataset. Usually, effects of local government consolidations on turnout are difficult to study, because in most instances no electoral data are collected at the scale of the dissolved municipalities after they have merged into a new polity. Hence, recent empirical studies on the political effects of local mergers use survey data (see Hansen 2013, 2015; Lassen and Serritzlew 2011; Steiner and Kaiser 2017). In our study, election results have been compiled at the scale of the pre-merger municipalities before and after the merger. Therefore, the unit of analysis and data collection does not change over time. Note that we compare turnout differences over time and not differences between absolute turnout levels across space. Following the advice by Blais (2006: 121) with regard to turnout studies, our analysis is dynamic.

The article is structured as follows. In the next two sections, we review scholarly work on the impact of mergers on local democracy; we also briefly situate the study by describing current efforts to consolidate local governments in Switzerland. In what follows, we present our research strategy, the data used for the purpose and the first descriptive evidence. Next, we present our empirical findings on the political effects of municipal consolidations. In the final section, we conclude our study by discussing the results and implications of our findings.

Local Government Consolidation and Electoral Participation

Most studies on the political effects of municipal mergers have focused on population size as the main driver of change. The relation between population size and local democracy is a recurrent topic in political science (see Dahl 1967; Dahl and Tufte 1973; Denters et al. 2014; Heinisch and Mühlböck 2016; Newton 1982; Oliver 2000, 2012). Often, it is presumed that small municipalities enhance the democratic quality, whereas larger ones are conducive for economic efficiency. Newton (1982: 196) describes the still-dominant view on the topic:
“The larger the political unit, so it is argued, the more difficult it is to sustain democracy: as the unit grows beyond manageable and human proportions, citizens lose their sense of community, they start to develop feelings of alienation and inefficacy, they start to know less and care less about public affairs, their attitudes towards government become unfavorable, the social and political distance between leaders and citizens starts to grow, and the costs of individual political participation increase to a point where sustained activity is the preserve of the few.”

Indeed, comparative electoral studies suggest a negative relation between population size and turnout (Blais 2006; Cancela and Geys 2016; Geys 2006; Stockemer 2016). With regard to the Swiss case, several authors also report a negative relation between municipal size and turnout as well as with other forms of participation (Ladner 2002; Ladner and Bühlmann 2007; Ladner and Fiechter 2012; Milner and Ladner 2006). Yet, these size-and-democracy studies are often cross-sectional and thus do not provide strong evidence for causality. Note, for instance, that the observed effects might be due to the deliberate choices of citizens with particular propensities for living in small or large places (Hansen 2013; Lassen and Serritzlew 2011). Further, Oliver (2000: 371) demonstrates that the population size effect is largely due to the different character of social relations in small and large places, and not due to size per se:

“As city size increases, people are less likely to know their neighbors and less likely to have social contacts that are geographically proximate. In this environment, local organizations and political movements find it hard to recruit members and disseminate information, which limits many opportunities for participation.”

Such differences in the character of social relations, however, are hardly affected by local government consolidation. Mergers increase population size, but they do not change social relations—at least not in the short term.

Some of the most recent contributions have used comprehensive municipal consolidations as a quasi-experimental setting to test more specific aspects of the relation between polity size and how individuals evaluate their political context. In his study on Danish local government consolidation, Hansen (2013, 2015) finds a negative relation between an increase in population size, which is due to municipal mergers and local political trust. He argues that this negative relation is mainly due to a drop in the perceived responsiveness of local politicians, and that this effect is in turn mostly present in small municipalities that merge with large ones. Lassen and Serritzlew (2011: 255) present similar results. They show that a change in jurisdiction size due to municipal merger has a “detrimental effect on citizens’ sense of internal political efficacy”. As the findings suggest, the effect of merger is related to citizens’ evaluation of local politics. These two studies show that municipal mergers impact citizens’ perspectives about the responsiveness of (external efficacy) and their ability to (internal efficacy) understand local politics. Both are crucial conditions for political participation. Other studies of other contexts support these claims. For instance, in jurisdictions that have experienced institutional change, information costs for electoral participation are higher and the net benefit of going to the ballot box decreases, which together result in lower turnout rates (Hayes and McKee 2009; Kraaykamp et al. 2001; Seamon and Feiock 1995). Higher information costs should be especially crucial in the first election after a merger, when

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3 Steiner and Kaiser (2017) also provide insights on the effects of local amalgamations in Switzerland. However, the data quality of their study is not high enough to be reliable for assessing changes in turnout rates over time.
citizens are not yet accustomed to the new political system. Hence, we expect a temporal
effect of mergers on turnout.

These results partly undermine arguments contending that municipal mergers increase
the salience and the stakes of local politics and, as a consequence, lead to more
participation. Indeed, consolidations in Switzerland are often justified in these terms. They
are perceived as a means to enhance the importance of local governments and their
autonomy. As a result, mergers are believed to elevate the appeal of local public offices
and foster participation in local elections (Rühli 2012). Of course, local politics matter
more in large places because public authorities have more financial resources, have a
greater capacity to act and are more politicized. In electoral studies, the significance and
power of the elected body is often perceived as a strong determinant of turnout because it
appears to make the elections more salient to voters (Blais 2006). To date, there is no
empirical evidence whether mergers actually have such effects.

Against the backdrop of existing studies, we generally expect local government
consolidation to have a negative effect on turnout. The effect, however, should be
mediated by time and by the characteristics of the municipalities involved—we assume the
negative effect on turnout to be more pronounced in those municipalities with a low share
of the post-merger electorate.4 Thus, our theoretical expectations read as follows:

H1.1: Municipal consolidations reduce turnout.
H1.2: The negative effect of municipal consolidations on turnout is larger in
municipalities with a low share of the post-merger electorate.
H1.3: The effect of municipal mergers on turnout has a temporal dimension—that is, the
negative impact is most pronounced in the first election after the first merger.

Situating the Study: Local Government Consolidation in Switzerland

A distinct feature of the Swiss federalist three-tier system is the high fragmentation and the
stability of its local government system. Whereas there were 3'205 municipalities in 1850
(BFS 1992), there were 3'021 in 1990 (BFS 2013). Municipal consolidations have never been
popular in Switzerland, and the far-reaching territorial reforms in most of the Northern
European countries in the 1960s and 1970s proceeded without influencing Switzerland’s
municipalities (Kübler and Ladner 2003: 140; Ladner and Steiner 2003: 238–239).

In the last two decades, however, Swiss municipalities have been increasingly under
strain5 and subject to various reforms (for an overview, see Kübler and Ladner 2003;
Ladner 2000, 2011b; Ladner and Steiner 2003). The reorganization of municipal
administrations is often inspired by New Public Management, the intergovernmental
reallocation of tasks and financial resources, the creation of network-like organizations for
service provision and, last but not least, municipal consolidations, which are key elements

4 It cannot be assumed that mergers are stable or homogeneous treatments across units. Imagine two
municipalities, one having 10'000 residents, the other 100 residents. A merger of these two municipalities cannot
be considered to have the same effect on both. The merger involves hardly any changes for the former, but it will
change the entire political system of the latter.

5 Geser (1999: 456) and Ladner (2005: 141–143) mention the processes of individualization, pluralization, and
secularization; furthermore, the results of their survey of local secretaries have shown that the citizens have
become more critical and demanding insofar as the performance of the political-administrative apparatus is
concerned; and last but not least, the reduced willingness to stand for office and the increased professionalization
of the administration challenges the established political militia system (Milizsystem).
of recent reform activities. In general, the reforms aim at preserving the important role of local governments in the Swiss political system in the face of structural change. More precisely, they are often implemented in order to enhance the local government’s capacity to act at the local level and to increase the efficiency of policy outputs (Kübler and Ladner 2003).

To promote these reforms, many cantons have amended their legislation, allowing them to incentivize or legally compel unviable municipalities to merge with other municipalities. As a result, between 1990 and today, the number of municipalities has decreased—drastically when compared to the relative stability between 1850 and 1990—from 3’021 to 2’485 (BFS 2013).

**Case Selection, Data and Research Strategy**

Whereas the causal arguments outlined in the preceding sections theoretically apply to all municipal mergers in Switzerland, we decided to limit our analysis to a single canton—a setup that controls for the large inter-cantonal variance in political institutions and political culture. We decided to focus on the canton of Ticino, and we did so for the following reasons. First, Switzerland’s southernmost canton is one of the most active promoters of municipal consolidations. Second, Ticino is the only canton where the merged municipalities continue to exist as *uffici elettorali* (electoral offices), which report the electoral results at the scale of pre-merger municipalities. Third, unlike in many other cantons, in Ticino the municipal elections are held concurrently. Last but not least, the election results were available electronically. These features provide a quasi-experimental setup with observations before and after the treatment—that is, before and after the municipal consolidation.

We collected panel data for the municipal elections of the executives between 1996 and 2012 for all municipalities within the canton of Ticino. We are aware that based on the aggregated data we use, we cannot identify at the individual level whether or not the same citizens decided to participate at different points in time. However, due to the lack of individual data, and given the fact that population size remains relatively stable, we assume a relatively high internal validity for our findings at the municipal level. Additional data on municipal consolidations were obtained from the Official List of Municipalities in Switzerland (*Offizielles Gemeindeverzeichnis der Schweiz*), provided by the Swiss Federal Statistical Office. The results on the municipal elections in the canton of Ticino between the years 1996 and 2012 were made available by the Statistical Office of the Canton of Ticino.

The units of interest are the municipalities in the canton of Ticino. These units, however, are not stable over time. By its very nature, the study of municipal consolidations has to accommodate changing units of interest, as some municipalities lose their autonomy and continue to exist as neighborhoods in consolidated municipalities.

Conceptually, there are two approaches that could accommodate the changing units of interest. The first approach holds constant the number of municipalities that exist at the end of the period of interest (t\textsubscript{2012}) by prospectively consolidating the municipalities at t\textsubscript{1996}, t\textsubscript{2000}, t\textsubscript{2004}, and t\textsubscript{2008}. In our case, we would have counted the 147 municipalities that remained in 2012. By contrast, the second approach tries to disaggregate the consolidated municipalities at t\textsubscript{2012} in order to obtain observations equivalent to the earlier observations. In our case, that would entail disaggregating the 245 municipalities existing at the beginning of the period of study. Of course, the second approach is more interesting for a quantitative approach, because the number of cases is considerably higher.
By focusing on the canton of Ticino, we are fortunate to have electoral data for the uffici elettorali (electoral offices), which in most cases correspond to the pre-merger municipalities. This allows us to use the second approach. Compared to the first approach, the second not only leaves us with a comparatively higher number of observations, but it also allows us to discern the potentially divergent effects between the different partners in municipal consolidations. The downside of this strategy is that because the electoral offices are not official jurisdictions, we do not have official (i.e., census) data on that level, but only information that is directly linked to the specific elections. In other words, we do not have any information about the uffici’s social, political or economic context after the merger. As we will discuss later, we try to rule out omitted variable bias from unobserved characteristics by including time and municipality fixed effects.

We chose 1996 as \( t_1 \) and 2012 as \( t_5 \). The general municipal elections of 2000 were the last elections before the canton of Ticino enacted the cantonal law on mergers and separations of municipalities (Legge sulle aggregazioni e separazioni dei Comuni). This law provides the cantonal authorities with a wide set of coercive measures and financial incentives to promote municipal consolidations. However, we included the 1996 elections as an additional time point to make our estimate more reliable in terms of pre-merger covariates. The 2012 elections are the most recent general municipal elections for which data at the level of the uffici elettorali are available.

Our sample theoretically includes all 245 municipalities that existed in 1996. Practically, however, we can only use municipalities and uffici elettorali for which we have electoral results. In 1996, 80 out of the 245 municipalities either held tacit elections, postponed their elections or did not find an equivalent in the form of an ufficio elettorale. In 2000, this number slightly increased to 85 municipalities, before decreasing to 63 municipalities in 2004, 68 in 2008 and 51 in 2012. In total, we have 878 cases for our study. In the period under study, 133 or the 245 municipalities went through a consolidation. Taken together, 98 municipalities merged once, another 24 merged twice and 11 even three times. Looking at the time periods, 70 municipalities merged between 2000 and 2004, followed by 59 municipalities between 2004 and 2008 (when 20 municipalities merged a second time). In the final period between 2008 and 2012, another 50 municipalities went through consolidation. For 15 of those communities it was their second consolidation, and for eleven communities it was their third.

In total, we observe an average turnout of around 76 percent in 1996, which continuously decreased to 61 percent in 2012 (see Table 1). Moreover, the turnout data show that participation was highest in 1996 and lowest in 2012 in municipalities that merged between 2004 and 2008. At the same time, these municipalities are the ones with the smallest numbers of voters. Merged municipalities are smaller than the control units (i.e. the municipalities that did not go through consolidation between 1996 and 2012).

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6 The Legge sulle aggregazioni e separazioni dei Comuni is accessible online at: http://www3.ti.ch/CAN/rl/program/default.htm?02_33.htm. [accessed: 2 August 2017].
7 According to the state chancellery of the canton of Ticino (email from 9 August 2016), the results of the 2016 municipal elections have not been reported on the level of the electoral offices (i.e. the dissolved municipalities), only on the level of the actual municipality. Hence, we were not able to include the latest elections in our study.
8 Note that one municipal merger might involve more than two municipalities and that municipalities might merge more than once. This means that the decrease of 98 municipalities in the period under scrutiny (from 245 to 147) cannot be calculated based on the number of municipalities involved in mergers.
From a rational choice perspective, one could argue that the probability of casting the decisive vote—although already very small—further decreases when the size of the electorate increases due to consolidation. On the other hand, each vote may count more if the merger involves an increase in the number of seats on the municipal council. In the canton of Ticino, we observe that 59 of the 133 municipalities that went through consolidation have seen a rise in the size of the council of two or four seats after the merger (see Table 2). Only three municipalities were confronted with a lower municipal council size, whereas the size of the council did not change in 39 municipalities.9

Looking at the electoral competition, operationalized by the number of parties that race for office, we do not see a clear overall trend (see Table 3). The average number of parties slightly decreases from 3.7 in 1996 to 3.6 in 2004 before increasing to 4.3 in 2012. For the control units, the average number of parties is quite stable over time. For the merged municipalities, on the other hand, we see an increase in the number of parties, especially around the time of consolidation. In the municipalities that merged between 2008 and 2012, we can observe an increase from 3.8 to 5.2 parties, from 3.1 in 2004 to 4.8 in 2008 for the 2008 mergers and from 3.6 in 2000 to 4.1 in 2004 for the 2004 mergers. Overall, when we look at the average number of parties in the single elections, consolidation seems to foster electoral competition.

In the last part of this section we specify our empirical model. The key independent variable of our models indicates whether there was a municipal consolidation. In the first model, we use a binary variable that we coded 1 if a municipality $i$ has merged before the election at time point $t$, and 0 otherwise. Municipalities that did not consolidate serve as the reference group. The outcome is the turnout rate.

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Table 1: Descriptive Statistics on Turnout and Electoral Size over Time

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Turnout (in %): Mean</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>75.8</td>
<td>72.0</td>
<td>67.8</td>
<td>64.6</td>
<td>60.6</td>
</tr>
<tr>
<td>Merger 2004</td>
<td>75.8</td>
<td>73.6</td>
<td>66.6</td>
<td>64.0</td>
<td>61.3</td>
</tr>
<tr>
<td>Merger 2008</td>
<td>78.4</td>
<td>76.0</td>
<td>73.6</td>
<td>63.4</td>
<td>57.7</td>
</tr>
<tr>
<td>Merger 2012</td>
<td>74.3</td>
<td>71.9</td>
<td>69.3</td>
<td>68.7</td>
<td>63.6</td>
</tr>
<tr>
<td>Control</td>
<td>75.2</td>
<td>70.0</td>
<td>66.7</td>
<td>65.0</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Size of electorate: Mean</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1274</td>
<td>1304</td>
<td>1347</td>
<td>1390</td>
<td>1440</td>
</tr>
<tr>
<td>Merger 2004</td>
<td>943</td>
<td>973</td>
<td>998</td>
<td>1031</td>
<td>1079</td>
</tr>
<tr>
<td>Merger 2008</td>
<td>546</td>
<td>569</td>
<td>596</td>
<td>627</td>
<td>614</td>
</tr>
<tr>
<td>Merger 2012</td>
<td>740</td>
<td>772</td>
<td>818</td>
<td>847</td>
<td>823</td>
</tr>
<tr>
<td>Control</td>
<td>1707</td>
<td>1738</td>
<td>1793</td>
<td>1845</td>
<td>1927</td>
</tr>
</tbody>
</table>

Note: “Merger 2004” stands for the municipalities that merged for the first time between 2000 and 2004. “Merger 2008” stands for mergers between 2004 and 2008 (first consolidation). “Merger 2012” stands for mergers between 2008 and 2012 (first consolidation). “Control” stands for municipalities that did not merge in the period under scrutiny. “Total” stands for all 245 municipalities, or ufficio elettorali. For ease of comparability, only complete cases are shown for the size of the electorate.

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9 Another five control units saw a decrease of two seats in the size of their municipal council between 1996 and 2012. We do not have data for 32 merged municipalities.
To estimate the effect of the treatment, we use a fixed-effects regression:

\[
Y_{it} = \gamma_i + \lambda_t + \delta \times \text{Consolidation}_{it} + \beta X_{it} + \varepsilon_{it}
\]

where \(Y_{it}\) is the municipal turnout rate, \(\gamma_i\) is a municipality fixed effect, \(\lambda_t\) is a time fixed effect, \(X_{it}\) is a vector of time-varying covariates and \(\varepsilon_{it}\) is an error term. The inclusion of the municipality fixed effect, \(\gamma_i\), allows us to rule out omitted variable bias from unobserved time-invariant municipality characteristics. The year fixed effect, \(\lambda_t\), on the other hand, helps to control for factors that change nonlinearly over time. Finally, \(\delta\) identifies the effect of the treatment (i.e. the consolidation). Standard errors are clustered.

Additionally, we carried out a series of robustness checks. First, we included time-varying covariates that might have independent causal effects on turnout. As we showed in the previous section, merged municipalities are on average smaller than the control units. Therefore, we include the size of the electorate (i.e. the number of citizens who can vote) at time point \(t\) as the first covariate. Furthermore, several municipalities merged more than once in the time period under study, meaning that there have been several consolidations in some communities (see below). We capture this fact by including a binary variable that is coded 1 if a municipality \(i\) underwent a second consolidation before an election at time \(t\) took place, and 0 otherwise. Descriptive analysis indicates that consolidation can go hand
in hand with a change in the size of the municipal council. To capture this potential intervening effect, we include a third covariate, which indicates changes in the size of the municipal council at time point $t$. In concrete, we subtract the size of the municipal council at the beginning of our time series (i.e. 1996) from each municipality $i$’s council size at time point $t$. A value of 2, for example, means that the municipality $i$’s council at time point $t$ has two more seats than it did in 1996. Finally, we have shown that the electoral competition, measured by the number of parties, increases, especially in the elections just after a merger. Therefore, we include the municipality $i$’s number of parties at time point $t$ as a fourth control variable.

In the second robustness check, we restrict our analysis to complete cases. In other words, we investigate whether our results are biased with reference to the fact that several—especially smaller—municipalities had tacit elections between 1996 and 2012. Third, we do not assume that the assignment to treatment and control group is truly randomized. Accordingly, we have to analyze whether this non-random assignment influences the effect estimates. Thus, in this third step, we only look at municipalities that merged during our time period.

In the next step, we perform fixed-effects regressions with the share of the electorate in successor municipalities as the key independent variable:

$$Y_{it} = \gamma_i + \lambda_t + \delta \times \text{Share of Electorate}_{it} + \beta X_{it} + \epsilon_{it}$$

Again, $Y_{it}$ is the municipal turnout rate, $\gamma_i$ is a municipality fixed effect, $\lambda_t$ is a time fixed effect, $X_{it}$ is a vector of time-varying covariates and $\epsilon_{it}$ is an error term. $\delta$ identifies the effect of the share of the electorate on $Y_{it}$.

The key independent variable, $\text{Share of Electorate}_{it}$, can have values between 0 and 1. A value of 1 indicates that there has not been a consolidation (i.e. that the single municipality makes up the whole electorate). For merged municipalities, however, we find values between 0.004 and 0.996. This means that the single municipalities make up between 0.4 and 99.6 percent of the successor municipality. For ease of comparability, we standardized this vector so that a value of zero means no consolidation. In turn, the higher this value—that is, the closer it is to 1—the smaller the share of the municipality in the whole successor municipality. Standard errors are clustered.

We again calculated robustness checks based on the size of the electorate, whether there has been a second consolidation or a change in the size of the municipal council. Additionally, before we restrict the dataset to complete cases and limit the analysis to municipalities that did run through a consolidation, we include the number of competing parties.

**Findings**

In the review section on local government reforms and electoral participation, we claim that municipal mergers likely have a negative impact on turnout and that this effect is more pronounced for the smaller municipalities. To examine these two theses, we run two regressions. The first one considers only the effect of municipal mergers as such, and the second also takes the relative number of the electorate into account.

As shown in Table 4, the effect of a municipal merger on turnout is negative at a value of around 4 percent. In the first column, we calculate the effect considering all observations. In the consecutive columns, we check to determine whether each result is
robust against certain manipulations. First, we only include those municipalities for which we have observations for all points in time. The result remains the same. Second, we exclude all non-merged municipalities to evaluate the internal validity of the result. Again, the result does not change (i.e. it is not dependent on the changes in turnout of non-merged municipalities).

To test the robustness of the results, we include the size of the electorate, a dummy variable for second consolidations, the size of the municipal council and the number of parties as independent variables (models 2, 4 and 6). The results support our findings. In Table 5 we analyze the impact of mergers conditioned by the relative size of the electorate. The rationale is that mergers have a differential impact on electoral participation depending on the sizes of the involved municipalities. Local amalgamations are not uniform treatments, and therefore they also need to be studied relationally (cf. Lassen and Serritzlew 2011; see footnote 3). Consider two merging municipalities. The first one has an electorate ten times greater than the other. It is likely that the electorate of the second municipality is more affected by the merger in terms of its propensity to vote than the electorate in the first municipality.10 The results in Table 5 confirm this assumption: the lower the share of a municipality in the total electorate, the higher the decline in turnout. In the above-mentioned example, following the consolidation, we expect an average decrease in turnout of about 0.5% in the larger municipality and a decrease of 4.8% in the smaller one. Given two merging municipalities of the same size, we expect an average effect on the turnout of around −2.7%. This result is quite robust, as the effect of relative size does not change in direction when we reduce the sample to complete cases and merged cases only.

Table 4: Effect of Consolidation on Municipal Turnout

<table>
<thead>
<tr>
<th>Sample</th>
<th>All Municipalities</th>
<th>Complete Cases</th>
<th>Merged Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td>-4.065***</td>
<td>-3.835***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.637)</td>
<td>(0.810)</td>
</tr>
<tr>
<td></td>
<td>Municipality FEs</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Time FEs</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Covariates</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Observations</td>
<td>878</td>
<td>878</td>
</tr>
<tr>
<td></td>
<td>Municipalities</td>
<td>227</td>
<td>227</td>
</tr>
</tbody>
</table>

Note: Coefficients of OLS panel fixed-effects regression with clustered robust standard errors in parentheses for the period 1996–2012. The independent variable is consolidation (1 for consolidation, 0 for otherwise). Covariates (size of electorate, second consolidation, size of the municipal council and number of parties) are included in models 2, 4 and 6. Models 3 and 4 are restricted to complete cases (i.e. no tacit elections in the studied time period). Models 5 and 6 are restricted to merged municipalities. “FEs” stands for fixed effects. The outcome variable is municipal turnout. Significance levels: ***p < 0.001, **p < 0.01, *p < 0.05.

10 Zwicky and Kübler (2016) provide convincing single-case study evidence for this argument in their study of the merger of the city of Aarau with its suburb municipality Rohr.
These effects are even stronger when we include additional covariates, namely the size of the electorate, a dummy variable for second consolidations, the size of the municipal council and the number of parties (models 8, 10 and 12).

In the next step, we want to examine the temporal dynamics of municipal mergers. In Figure 1, we plot turnout change in local elections in three time periods (2000–2004,

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Table 5: Effect of the Share of Electorate in Successor Municipality on Municipal Turnout

<table>
<thead>
<tr>
<th>Sample Model</th>
<th>All Municipalities</th>
<th>Complete Cases</th>
<th>Merged Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model (7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
<tr>
<td>Share of electorate</td>
<td>-5.375***</td>
<td>-6.315***</td>
<td>-3.731***</td>
</tr>
<tr>
<td>Municipality FE</td>
<td>(0.768)</td>
<td>(1.096)</td>
<td>(0.808)</td>
</tr>
<tr>
<td>Time FE</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Covariates</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Observations</td>
<td>878</td>
<td>878</td>
<td>525</td>
</tr>
<tr>
<td>Municipalities</td>
<td>227</td>
<td>227</td>
<td>105</td>
</tr>
</tbody>
</table>

Note: Coefficients of OLS panel fixed-effects regression with clustered robust standard errors in parentheses for the period 1996–2012. The independent variable is the share of the electorate in the successor municipality. For ease of comparability, this value is standardized so that 0 stands for 100% (i.e. no consolidation) and 1 indicates—theoretically—that the municipality counts for 0% of the total electorate in the successor municipality. Taken together, the closer to one the value is, the smaller the share of the municipality’s electorate. Covariates (size of electorate, second consolidation, size of the municipal council and number of parties) are included in models 8, 10 and 12. Models 9 and 10 are restricted to complete cases (i.e. no tacit elections in time period). Models 11 and 12 are restricted to merged municipalities. “FEs” stands for fixed effects. The outcome variable is municipal turnout. Significance levels: ***p < 0.001, **p< 0.01, *p< 0.05.

Figure 1: Turnout Difference for each Municipality in the Three Electoral Cycles under Study

These effects are even stronger when we include additional covariates, namely the size of the electorate, a dummy variable for second consolidations, the size of the municipal council and the number of parties (models 8, 10 and 12).

In the next step, we want to examine the temporal dynamics of municipal mergers. In Figure 1, we plot turnout change in local elections in three time periods (2000–2004,
2004–2008 and 2008–2012) for each municipality (i.e. 136 observations in 2000–2004, 153 in 2004–2008 and 161 in 2008–2012). In the first period, we can see that turnout decreases slightly more in merged than in non-merged municipalities. The average change in turnout is −4.5% (N=31) in merged and −3.3% (N=105) in non-merged municipalities. In the second period, the effect is even more pronounced (−6.7%, N=43 for merged compared to −1.4%, N=82 for non-merged municipalities) and holds even for those municipalities that merged in the period before (−5.2%, N=28). In the last period, the results are different. The merged municipalities display less turnout drop (−2.9%, N=36) than the non-mergers (−4.6%, N=68). The municipalities with the biggest turnout decline are those that had already merged before (−6.7%, N=57).

The graphical representation of turnout changes over time generally supports our theses. In the first and second periods, turnout drops stronger in merged than in non-merged municipalities, and in the second period, the turnout decrease is more pronounced in those municipalities that merged in that period. In the last period under scrutiny, however, the results are different. This is interesting, because this period might provide counter-evidence to our theses. To get a better understanding of this period, we perform some additional calculations with regard to the number of mergers the municipalities had already gone through. In other words, we examine whether there are differences among the group of municipalities that merged between those that merged for the first time and those that merged for the second or third time. Indeed, this is the case (see Table 6).

Municipal mergers have a significant negative effect on electoral turnout only after the first merger. This holds true for all models we have calculated. There is no significant relation between a second merger and turnout. Yet we find a positive effect of a third merger on electoral turnout in municipalities. However, due to limited cases for second-(15 municipalities) and third-time (11 municipalities) mergers, we are rather cautious with regard to the internal and external validity of this result. It is also difficult to interpret this finding in theoretical terms. In the review section, we argue that a negative effect on turnout should be most pronounced in the first election after the merger, and mainly in relatively smaller municipalities. This is because citizens have to grow accustomed to a new political system, but such a system is no longer new in the second election after the merger. It is therefore plausible to assume a “custom effect.” Of course, the same can be said with regard to mergers as such: whereas the first might profoundly challenge not only existing ways of getting information but also ways of acting politically, citizens might confront a second merger with more of a routine. However, this custom effect is not helpful for understanding why turnout increases after the third merger. Maybe after its third merger, a municipality reaches a size that makes politics more competitive and more appealing to the electorate. But for now, and with the current data at hand, we can provide nothing more than ad hoc and episodic evidence.11

Discussion and Implications

Our findings provide an answer to the pressing and highly relevant question as to whether or not municipal consolidations affect local democracy. Taking advantage of the quasi-experimental setting in the canton of Ticino, we find that municipal consolidations have a disruptive effect, at least on one aspect of local democracy, namely turnout in local

11 That said, we would also welcome single-case studies that follow their cases over time to provide more nuanced narratives about how mergers transform the local political system.
elections. When looking at consolidated municipalities only, we find that the effect of a municipal merger depends on the municipality’s share of the total electorate in the post-merger municipality. In relatively smaller municipalities, turnout decreases more than in relatively larger municipalities. Further, we observe that there is a temporal dimension to this effect, where turnout drops mainly in the first election after the first merger, but not so much after the second or third merger.

One question that we have not discussed so far is the external validity of our findings. Whereas the general trends that necessitate municipal reforms and the political discussions that come along with such profound transformations resemble those in other cantons, two features in the canton of Ticino might make it difficult to generalize our findings to municipal consolidations in other cantons and beyond Switzerland. First, the average size of municipalities in the canton of Ticino is—eventhough the average size of municipalities in the canton of Ticino is—even after the recent wave of municipal consolidations—significantly smaller than in other cantons. In smaller municipalities, however, even small changes can make a big difference. Second, the local political system in the canton of Ticino is generally considered the most politicized in Switzerland, as even in very small municipalities political parties, rather than local, civil society organizations, dominate the political processes (Geser et al. 2011: 84; Ladner 1991; Ladner 2011b: 15). Therefore, the effects of municipal consolidations might be more immediately reflected in the electoral system of the canton of Ticino than in other, less politicized local political systems. Yet, we know little as to if and how specific institutional settings might shape the

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<tr>
<td></td>
<td>(13)</td>
<td>(14)</td>
<td>(15)</td>
</tr>
<tr>
<td>1st Consolidation</td>
<td>-4.222*** (0.646)</td>
<td>-3.796*** (0.806)</td>
<td>-3.361*** (0.690)</td>
</tr>
<tr>
<td>2nd Consolidation</td>
<td>0.644 (0.967)</td>
<td>0.566 (0.972)</td>
<td>0.696 (1.032)</td>
</tr>
<tr>
<td>3rd Consolidation</td>
<td>4.564** (1.766)</td>
<td>4.833** (1.795)</td>
<td>6.146** (1.952)</td>
</tr>
<tr>
<td>Municipality FEs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Time FEs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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Note: Coefficients of OLS panel fixed-effects regression with clustered robust standard errors in parentheses for the period 1996–2012. The independent variable is the number of mergers a municipality has gone through. Covariates (size of electorate, second consolidation, size of the municipal council and number of parties) are included in models 14, 16 and 18. Models 15 and 16 are restricted to complete cases (i.e. no tacit elections in time period). Models 17 and 18 are restricted to merged municipalities. “FEs” stands for fixed effects. The outcome variable is municipal turnout. Significance levels: ***p < 0.001, **p < 0.01, *p < 0.05.

In 2000, the average size of a municipality in the canton of Ticino was 1'627 inhabitants; for the rest of Switzerland, the average municipality size was 2'703 inhabitants. In 2012, the average size of a municipality in Ticino was 2'292; for the rest of Switzerland, the mean for municipality size was 3'369 inhabitants.
direction and magnitude of the effect of local mergers. Therefore, it is rather speculative to wonder whether our findings could be extrapolated to other contexts. Based on the state of research in the field (cf. Hansen 2013, 2015; Lassen and Serritzlaw 2011; van Houwelingen 2017), we can claim that local mergers have a significant and rather troubling effect on the workings of local democracy and that this is independent of the specific institutional contexts, at least with regard to participation in local elections.

Another point that needs to be addressed is the narrow design of our model. We are well aware that our model only captures the most basic changes between 1996 and 2012 and that there might be other variables that could confound our results. However, it is extremely difficult to get data for dissolved municipalities. Therefore, the first implication of our study is that in order to evaluate the full effects of municipal consolidations, it is necessary to collect and provide data on the neighborhood level.

A second implication from our results is that the political discussion of municipal mergers should include a discussion of—often unintended—political effects of these profound reforms. In Ticino, as elsewhere, mergers are promoted to stimulate the political debate and to improve the functioning of the municipal public administration while also ensuring turnover in public offices. A decreasing turnout rate is an indicator of a weakening rather than a stimulation of political debate. Therefore, one should consider accompanying measures when planning large-scale local consolidation, such as geographically based seats in post-merger executive and legislative bodies, increased competences for neighborhood associations and so on.

These side effects might be even more crucial, as existing studies suggest that turnout is related to more substantive political outcomes (e.g. dynamics of policy making, policy outcomes, patterns of representation, etc.). Therefore, it is necessary for future studies to look more closely at short-term and long-term effects of municipal mergers on these more substantive issues. Further, in several countries the local political setting fulfills a wide range of functions beyond governing localities proper—for instance, as an initial setting for political socialization, a starting point for political careers (and thus a pool from which parties can recruit new members) and a playing field for direct-democratic campaigns and mobilization. Hence, comprehensive local government reforms might have effects on upper-level politics, which is a largely unexplored territory in political science (however, see Sellers 2002; Sellers et al. 2013).

References


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