Paper prepared for the 16th Annual Conference of The International Society for New Institutional Economics

Very preliminary version – Please do not quote
Paper will be substantially updated until ISNIE

# The Common Pool Problem in Municipal Amalgamation

## Evidence from a German State

Benedikt Fritz*

Abstract

This paper tries to shed some light on the politico economic mechanisms leading to a weakening of the fiscal situation of municipalities after amalgamations. Using a large panel of German municipalities who carried out a huge wave of amalgamations in the first half of the 1970s it tests whether the common pool problem affects the fiscal stance of the municipalities. After testing for the existence of a common pool we additionally test, if the overuse of this common pool depends on the number of municipalities participating and their size relative the municipality they are incorporated to. Several robustness tests, e.g. if the results hold for different size classes of municipalities, are performed.

Keywords: law of 1/n, common pool, municipal amalgamation, public debt
JEL code: C23, H11, H72

* Dipl. Vw. Benedikt Fritz
Walter Eucken Institut
Goethestr. 10
79100 Freiburg
Email: fritz@walter-eucken-institut.de

*Introduction*

The fiscal effects of municipal amalgamations have been widely discussed in several contributions recently. Most studies did not find the politically proposed economies scale (a recent exception is Reingewertz 2011) in the production of local public goods but found a weakening of the fiscal situation of the amalgamated municipalities (e.g. Fritz 2011, Bish 2001). A possible explanation for these effects may be found in a fiscal commons problem probably inherent in municipal amalgamations. The fiscal commons theory, based on the pioneering working of Tullock (1959) and Buchanan and Tullock (1962), explains the overuse of fiscal resources when spending is targeted to a specific group while financing, i.e. taxation, is spread over the whole population. In a seminal paper Weingast, Shepsle and Johnsen (1981) formalised these consideration for legislative decision making. If b(x) are the benefits of spending a unit x for the constituents of a country and c(x) are the costs of spending a unit x the efficient spending level will then be b'(x)=c'(x). However, this consideration changes, if the country is divided in several districts and each district makes its spending decisions autonomously. When n describes the number of districts, the constituents of each district now only have to pay the fraction 1/n and the efficient spending level refers to b'(x)=(1/n)c'(x). Since the marginal cost of spending decreases with n spending is an increasing function of n (Persson and Tabellini 2000). Instead of decentralized decision making the same will also result if district representatives logroll in the legislature (Weingast et al. 1981). Empirical studies mainly confirm the theoretical predictions of the, in the aftermath of Weingast et al. 1981 then labeled, law of 1/n. In two consecutive studies covering nearly the whole 20$^{th}$ century Gilligan and Matsusaka (1995, 2001) found strong evidence for the law of 1/n in American states. According to their estimates an additional legislator leads to an increase in per capita expenditure of about 10$. Interestingly only an influence of upper chamber size is detected. The size of lower chamber seems not to matter. In contrast Bradbury and Crain (2001), by applying panel analysis to a set of democratic countries in the 1970s and 1980s, find a positive influence of legislature size in the upper and lower house on expenditure. The influence of the upper size is, however, sensitive to the formulation of the dependent variable. Measuring expenditure in per capita terms instead of percent of GDP, the influence of the upper house vanishes. Nevertheless an estimation of the interaction between upper and lower house, by performing additional regressions including unicameral systems, a dampening effect of upper houses can be shown.

Although the discussed theoretical and empirical literature so far rest on the assumption of district targeted spending this does not generally to be the case. In a study of

154 counties in Georgia/USA Bradbury and Stephenson (2003) found evidence for a 1/n effect even in counties electing their board members on an “at large” system, with no direct geographical representation, of a 4.4% increase in per capita expenditure. They therefore conclude that since representatives face re-election by some kind of specific constituency the 1/n effect prevails (Bradbury and Stephenson (2003). Baqir (2002) confirms these results by using an instrumental variable approach to study the 1/n effect in US city governments. He finds an elasticity of government size of 0.11 with respect to the number of districts. Legislators elected by an “at large” system do not dampen this effect, while “strong” mayors do (Baqir 2002).

Another way to estimate the impact of the fiscal commons problem was applied by DelRossi and Inman (1999) by making use of the Water Resources Development Act of 1986 which changed the cost sharing mechanism for local public goods dramatically. They found price elasticities of demand ranging from -0.81 to -2.55 depending on the type of good which lowered overall project spending by about 38%, when the local cost burden increases.

Although there exists strong evidence in favour of the law of 1/n some researchers doubt its universal applicability. Primo and Snyder (2008) extend the model of Weingast et al. (1981) in several ways by introducing local public goods, congestion, deadweight costs of taxation and partial cost sharing. The impact on spending changes when local (public) goods are only partly financed by the central government and also depends on congestion and the publicness of the good provided. Additionally, since the number of districts influences project selection, due to logrolling opportunities, and the number of chosen projects, its influence on total spending is theoretically ambiguous. Positive as well as negative effects of legislature size appear possible. Pettersson-Lidblom (2012) in a recent paper finds evidence for such an effect. Examining the influence of local council size on total spending in Finish and Swedish municipalities by applying sharp and fuzzy regression discontinuity designs respectively, he found a lowering effect of council size. This effect is attributed to an agency problem inherent in local government. As bureaucracies normally implement projects, which since the pioneering work of Niskanen (1971) are assumed to be budget maximizers, better monitoring through politicians, which is an increasing function of their number, can decrease the spending level (Petterssen-Lidblom 2012).

The evidence discussed so far focused on the effects in jurisdiction without any variance in size over time, i.e. only exploiting variation between jurisdictions. By investigating the effects of municipal amalgamations also variation in the same jurisdiction can be exploited. Recent evidence by Hinnerich (2009) and Johrdahl and Liang (2010) shows

the existence of fiscal commons problems through amalgamations. In studying the first wave of amalgamations in Sweden in 1952 Jordahl and Liang (2010), by implementing a difference in difference strategy and using the four years between announcement and enforcement as treatment period, show free riding behaviour of participating municipalities at the expense of their future partners by increasing debt levels. The law of 1/n, measured by the ratio of the new municipality divided by the old municipalities population, was not affirmed, i.e. the number of persons one could free ride on was irrelevant. Hinnerich (2009) by investigating the supplementary reforms in Sweden from 1969 to 1974 also finds significant free riding effects in an unbalanced panel, where incentives to free ride are determined by the local marginal cost of borrowing. A study of more recently performed amalgamations in Denmark by Blom-Hansen (2009) also confirms the existence of free riding.

Since the studies discussed so far do not give a clear cut answer of when the "law of 1/n" should be expected its existence remains an empirical question. This study therefore contributes to the literature by investigating an additional natural experiment. As the source of the fiscal effects can be clearly attributed to the time after the reform was implemented (Fritz 2012) some light can be shed on the question if there exists a common pool problem even after an amalgamation reform took place and which form it exactly takes.

To answer these questions the remainder of the paper is organized as follows. Section 2 gives an overview of the history of the amalgamation reform and the institutional context it was embedded. In section 3 data and empirical strategy applied are discussed. Section 4 provides the results and discusses their robustness due to different specifications. The last section concludes.

*Institutional and Historical Synopsis*

Before we discuss the data and empirical strategy used we give some hints about the context of our investigation by providing a short overview about the institutional context framing the behaviour of German municipalities and the historical developments leading to the amalgamations, which are the reason of our investigation.

The governmental structure of Germany consists of three layers, federal, state and local level. The state level consists of 16 independent, three city and 13 territorial, states. While in city states local government is inseparable from the state level, territorial states have an additional local government level. Although these levels act formally independent financing is mainly characterized by a concentration of revenue collection on the federal level and a subsequent redistribution through an allocation formula to the lower level

governments.[1] Sole exceptions are local business and property taxes. While the tax base for both is uniformly defined by the central government, every municipality can decide upon their rates independently. These taxes account for roughly one fifth of municipal revenue. Redistributed federal taxes (15%), unconditional grants (38%), fees (9%) and other revenues (18%) account for the remaining.[2] [3] The expenditure side of the budget is mainly characterised by the provision of local public goods, such as infrastructure and education. The degree of freedom local governments have to decide on expenditure is also limited, since lots of functions and goods to be provided are determined by federal and state law. Given this institutional background, especially the large and even growing number of tasks allocated to the lowest government level posed the question, if municipalities, given their size structure at the beginning of the 1960s (Table 1), are able to fulfil these functions.

Therefore a discussion about the merits of municipal amalgamation in Germany started. It can be dated back to the 45th meeting of the German Lawyer Association (Deutscher Juristentag) in 1964 in Karlsruhe. There several participants demanded a reform of the administrative structure of municipalities (Deutscher Juristentag 1964). Because most municipalities in Germany at the beginning of the 1960s had a rather small size – where those with a maximum size of 5,000 inhabitants made up about 95% of all municipalities (Thieme and Prillwitz 1981, pp 39) – and with only little administrative staff, it was questioned if they can cope with the new and rising demand for administrative planning. This view was especially put forward by Frido Wagener in his seminal work on the "new construction of administration" (Neubau der Verwaltung), where he calculated the optimal administrative size of about 67 local government functions (Wagener 1969, pp 482). By that calculation the optimal size for small communities was about 7,000 inhabitants (pp 483), and thereby much bigger than the average size of municipalities in Baden-Württemberg, where more than 92% had a size smaller than that and about 66% a maximum size of 2,000 inhabitants (Schimanke 1978, pp. 125) which is, in Wageners view (Wagener 1969, pp 470), the absolute minimum for all government functions.

In the state of Baden-Wuerttemberg this discussion was additionally supplemented by various expert commissions, were the so called "Dichtel Commission" focused on aspects of effective administrative structures in municipalities and the "Reschke Commission" on aspects of higher level administrative functions (Thieme and Prillwitz 1981, pp 114–5). Both

[1] While revenue sharing was only introduced in 1967, it was already executed when the bulk of amalgamations took place
[2] Values calculated for 2010
[3] For a discussion of the local tax system in Germany and possible roads to reform see: Feld and Fritz 2012

commissions agreed on the need for bigger local administrations (Reschke 1970). Therefore the government of Baden-Wuerttemberg started the process of large scale municipal amalgamation (Mattenklodt 1981, pp 165).

The legal conditions have been laid down in 1968 with the "law too strengthen the administrative capacity of small municipalities" (Gesetz zur Stärkung der Verwaltungskraft kleinerer Gemeinden, FAG 1968). It determined the way municipalities have to organize their amalgamation and how the new political body has to be formed. With the "law to end up the rearrangement of municipalities" (Gesetz zum Abschluss der Neurodnung der Gemeinden) of July 9th 1974 the amalgamation process was terminated to end by January 1st 1975.

In the end the amalgamation process led to a significant reduction in the number of municipalities from 3379 down to 1111 (Table 1). Thereby amalgamating 2925 into 657 municipalities, whereby the number of participating communes ranged from two to up to 19, and leaving 454 communes unchanged. Especially the very small communes with less than 2000 inhabitants, which made up nearly 76% of the communes in 1968, diminished to about 26% in 1975. Nevertheless the bulk of communes (77,5%) remained under the regular size of 8000 inhabitants (Landesarchivdirektion Baden-Württemberg1975).

– Table 1 about here –

*Data and Empirical Strategy*

Before we present the results, the data used and the empirical strategy will be described. Given this vast change in local government structure we now try to investigate its fiscal effects using the empirical methodology discussed above. Thereby, to allow for a comparison with previous studies, we focus on debt and expenditure as the relevant outcome variables. To avoid problems accompanied with stock variables which often behave rather sluggish, we use the change of debt in every year. Both dependent variables thus describe the effects of political decisions made in the respective year with only minor influence of preceding years. Fiscal effects of amalgamations should therefore materialise quite fast and be detectable by econometric investigation.[4]

We employ a panel analysis of municipalities in the German State of Baden-Wuerttemberg, comprising data on the amalgamated as well as on the non-amalgamated municipalities from 1964 to 1988. The data is aggregated to the size of the municipalities in

[4] In another paper (Fritz 2011) we used debt level as dependent variable and also detected a significant effect of of amalgamations on debt using the same panel.

1979, i.e. after the completion of the amalgamations.[5] Data source is the Office of Statistics (Statistisches Landesamt) of the State of Baden-Wuerttemberg.

The time span was chosen in order to catch all effects probably at work in an amalgamation. As the process got momentum with the meeting of the German Lawyer Association in 1964 mechanisms at work in the anticipation of amalgamation are possible since then. Due to restrictions in the availability of data an earlier starting point for the time series is not possible. It ends in 1988 and can therefore considered to be long enough to catch effects probably at work only after some time but also abstains from possible influences brought about by the German reunification in 1990.

To get comparable units of investigation we exclude one municipality free area (Gemeindefreies Gebiet), two municipalities who performed the amalgamation only after 1975[6] and restrict the panel to those municipalities who belong to a county, thereby reducing the number of observations in the cross section from 1111 to 1099.[7] County free municipalities (Kreisfreie Städte) perform additional tasks compared to normal ones and are generally much bigger. Including them could thus bias the results.[8]

Nevertheless, due to the still large size of the panel and the location of the observations in one political unit – the state of Baden-Wuerttemberg – it is reasonable to think, that the setting is a good laboratory to study institutional change[9] by means of the quasi natural experiment of amalgamation.

As can be seen from the description of the process leading to the amalgamations the experiment is not random. A reliable counterfactual is thus not directly available. Possible and observable substitutes are the variables of the municipality before the treatment. However the substitutes can suffer from time specific effects unrelated to the treatment, thereby biasing the estimation. Other aspirants are variables for the time after the treatment from municipalities the treatment was never applied to. Assuming both groups of municipalities are following the same trend time specific effects are no longer kind of a problem. Unfortunately, since the treatment is not purely randomly assigned, there might exist some group specific heterogeneity also biasing the estimates. As shown above, the DD estimator can account for these problems, as long as both can be expected to follow the same time trend. Both groups

[5] Unfortunately data on single municipalities before the amalgamation are not available.
[6] Staig amalgamated in 1976 and Eigeltingen in 1977.
[7] Excluded are Baden-Baden, Freiburg im Breisgau, Heidelberg, Heilbronn, Karlsruhe, Mannheim, Pforzheim, Stuttgart and Ulm.
[8] Including them does not have a significant influence on the results.
[9] A good setting for analysing institutions or their change is given, if the effect is separable from other influences, see: Acemoglu 2005.

consist of municipalities in the state of Baden Württemberg, so assuming this assumption holds seems to be appropriate. We therefore estimate models of the following form

$$y_{it} = \beta_0 + \beta_1 part + \beta_2 post + \beta_3 amal + \varepsilon_{it}$$

where $y_{it}$ denotes the variable of interest in municipality i at time t [debt (change_debt) and expenditure (exp_cap)]. The variable part is binary and has a value of 1 if the municipality participates in the amalgamation and 0 otherwise. Variable post is also binary and its value is 1 if t ≥ 1975, i.e. the amalgamation process has come to an end, and switches to 0 if t < 1975. The interaction variable *amal* has a value of 1 if the municipality amalgamated and t ≥ 1975. Otherwise its value is 0. Because we are interested in the effects of amalgamation on the fiscal variables the parameter of interest is than $\beta_3$. $\varepsilon_{it}$ is a normally distributed error term.

By adding additional covariates to the regression the danger of biased estimates can be reduced even further. To account more for the time series characteristic of the panel we also estimate some fixed effects models, with year and country fixed effects, of the following form

$$y_{it} = \alpha_i + \omega_t + \beta_3 amal + \beta_4 X_{it} + \varepsilon_{it}$$

where $\alpha_i$ denotes country fixed effects, $\omega_t$ year fixed effects and the vector $X_{it}$ contains a set of covariates. The variables *part* and *post* are suppressed because of perfect collinearity with the fixed effects. Since the *amal* variable only accounts for the existence of fiscal effects, i.e. the existence of a common pool, we additionally add a variable *com* comprising the number of municipalities participating in the respective amalgamation, thereby accounting for the 1/n effect.

Covariates included are unconditional grants, percentage of population older than 65, fraction of in-commuters, income per head and populations density. Unconditional grants ($grant_{it}$), which are given to the municipality by higher order levels of government so that they have enough resources to fulfill their obligations, make up a large part of the revenues. Although the expected effect is not quite clear. On the one hand they could foster expenditure by weakening the budget constraint. On the other hand they could be used to reduce public debt (see Boadway and Shah 2007). The demographic situation may also have some influence, as older people may demand more public goods, e.g. theaters or recreation centers, than those of working age. Therefore we ad $old_{it}$, the percentage of inhabitants older than 65 and expect a positive sign. Just alike the percentage of in-commuters ($comu_{it}$) may lead to higher per capita spending. Since a lot of public goods are complementary to economic production, income taxes are mostly paid in the municipality of residence. The variables $inco_{it}$ ($loginco_{it}$) and $dens_{it}$ account for Wagner's and Brecht's Law. While Wagner's Law suggests, that a richer

community tends to demand a higher level of public goods,[10] Brecht's Law attributes this to higher population density.[11] As data on disposable income is not available for this time period we use the local revenue from the federal income tax[12] as a proxy for Wagner's Law.[13] For Brecht's Law we use inhabitants per are. Last but not least we also include the number of inhabitants ($inh_{it}$) and its squared form ($sqr\_inh_{it}$) to account for influences of the population size and to check if their exists some non-linearity in the data.

*Common Pool and the law of 1/n*

The basic results are presented in tables 2 and 3 respectively. Here we focus on the fixed effects estimation and suppress values for the year dummies for convenience.[14] To be able to compare the influence of the different proposed mechanisms we follow the approach of Johrdahl and Liang (2010) and estimate different regression for the common pool effect in general by only including the *amal* variable (columns 1 and 4), its specific form as 1/n effect by including *com* (columns 2 and 5) and an overall effect by including both variables in the final regressions (columns 3 and 6). When we look at the influence of municipal amalgamations the results are consistent over different specifications but regarding the chang_debt variable rather surprising. The addition of several control variables (columns 4-6) do not change the relevant results compared to the plain regressions (columns 1-3). Estimating only the common pool effect shows a positive influence of amalgamation on the change of debt. Its influence, however, is not significant. Surprisingly size and significance change dramatically when we add several control variables, showing a positive and significant influence and therefore the existence of a common pool. The estimates for the law of 1/n remain small and insignificant also when we add the controls. Estimating the general model even changes sign but it stays insignificant, indicating the absence of a separate 1/n effect, which is in accordance of previous findings of Jordahl and Liang (2010). The existence of a common pool is affirmed, since the *amal* variable shows a positive sign and is significant at the 5 per cent level. However, with a value on average of about 0.056 the adjusted R-squared is rather small. Although this is in accordance with previous research it shows little

[10] for an investigation of Wagners Law see: Peacock and Scott (2000)
[11] for an investigation of Brechts Law fort he German States see: Büttner et al. (2004)
[12] since 1970 an additional revenue for municipalities was created by redistributing 14% and since 1980 15% of the federal income tax, whereby the redistribution is equivalent to the income of the citizens of the respective community, see: Bundesministerium der Finanzen (2009)
[13] As these kind of revenue only starts on 1970 we calculate the values from 1964 until 1969 by the change of inhabitants, implicitly assuming, that the income distribution stayed the some over that period
[14] OLS and year dummy estimates can be obtained from the author on request.

explanatory power of amalgamation in the case of per capita change of debt. This may be due to the fact, that the values of the dependent variable are not strictly positive.

– Table 2 about here –

We therefore now turn to a variable which is always strictly positive, expenditure per capita. As displayed in table 3 the explanatory power, with an R-squared of nearly 0.8 on average, is much higher. The existence of a common pool is strongly approved. *Amal* is highly significant and shows a positive sign. The same is true for the law of 1/n. Both results are robust to the addition of several control variables. When we include both measures in one regression only the law of 1/n measure remains significant. The common pool measure turns insignificant, or significant at the 10 per cent level when controls are included, but shrinks tremendously. Since the law of 1/n is strongly approved this is not surprising. While *amal* only measures the pure existence of a common pool *com* shows how this is done. Additional municipalities therefore lead to more exploitation of the common pool.

– Table 3 about here –

*Conclusion*

In this paper we investigated the transmission mechanisms through which amalgamations influence the fiscal stance of municipalities. We therefore tested the theory of fiscal common pools created by amalgamation by employing a difference in difference strategy, We added a dummy *amal* to account for the common pool. Additionally we also tested for the law of 1/n by including a variable containing the number of municipalities which participated in the amalgamation. In the case of change of per capita debt the evidence is rather mixed and not quite conclusive. While the existence of a law of 1/n can be clearly rejected, a common pool seems to exist. But due to the very low R-squared the explanatory power is altogether rather small. For expenditure per capita the results are more convincing. The law of 1/n measure is highly significant throughout. When both, common pool and law of 1/n measures are included, the common pool measure shrinks but stays significant at the 10 per cent level, indicating that a common pool exists but expenditure is more influenced by additional participating municipalities.

The paper is, for now, far from complete. Additional specifications investigating the law of 1/n in more detail, regarding the representation mechanism in municipalities in Baden

Wuerttemberg, and a series of robustness test will be executed until ISNIE and uploaded as soon as completed.

Table 1
Size range in 1968 and 1975

| Size | 1968 | | 1975 | | Reduction | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| <1000 | 1803 | 53.4 | 100 | 9.0 | -1703 | -94.4 |
| 1.000-2.000 | 750 | 22.4 | 189 | 17.0 | -561 | -74.8 |
| 2.000-5.000 | 543 | 16.1 | 405 | 36.4 | -138 | -25.4 |
| 5.000-8.000 | 122 | 3.6 | 168 | 15.1 | +46 | +37.7 |
| 8.000-10.000 | 46 | 1.4 | 64 | 5.8 | +18 | +39.1 |
| 10.000-20.000 | 69 | 2.0 | 105 | 9.5 | +36 | +52.2 |
| 20.000-50.000 | 32 | 0.9 | 57 | 5.1 | +25 | +78.1 |
| 50.000-100.000 | 9 | 0.3 | 16 | 1.4 | +7 | +77.8 |
| >100.000 | 5 | 0.1 | 7 | 0.6 | +2 | +40.0 |
| Sum | 3379 | 100.0 | 1111 | 100.0 | -2268 | -67,1 |

Source: Landesarchivdirektion Baden-Württemberg (1975), p. 14

Table 2
Fixed Effects Model – Dep. Variable: Change of Debt per Capita

| | com. pool | law of 1/n | general | com. pool | law of 1/n | general |
|---|---|---|---|---|---|---|
| | b/t | b/t | b/t | b/t | b/t | b/t |
| amal | 8.924 | | 17.958** | 17.490*** | | 22.238** |
| | (1.470) | | (2.039) | (2.711) | | (2.492) |
| com | | 0.089 | -2.043 | | 1.391 | -1.126 |
| | | (0.089) | (-1.416) | | (1.315) | (-0.770) |
| grant | | | | 0.007 | 0.009 | 0.008 |
| | | | | (0.280) | (0.361) | (0.319) |
| old | | | | -463.195*** | -442.880*** | -457.108*** |
| | | | | (-3.205) | (-3.062) | (-3.158) |
| comu | | | | -81.410* | -84.818* | -81.799* |
| | | | | (-1.702) | (-1.773) | (-1.710) |
| inco | | | | 0.055 | 0.053 | 0.054 |
| | | | | (1.134) | (1.091) | (1.127) |
| dens | | | | 9.590 | 6.923 | 9.032 |
| | | | | (1.392) | (1.006) | (1.303) |
| inh | | | | -26.731*** | -24.733*** | -26.512*** |
| | | | | (-5.110) | (-4.765) | (-5.061) |
| sqr_inh | | | | 0.068 | 0.055 | 0.070 |
| | | | | (1.420) | (1.151) | (1.445) |
| constant | -331.999*** | -332.000*** | -331.969*** | 185.901*** | 185.798*** | 184.873*** |
| | (-44.572) | (-44.570) | (-44.568) | (4.604) | (4.599) | (4.576) |
| Adj. $R^2$ | 0.054 | 0.053 | 0.054 | 0.057 | 0.057 | 0.057 |
| N | 2.7e+04 | 2.7e+04 | 2.7e+04 | 2.7e+04 | 2.7e+04 | 2.7e+04 |
| * p<0.10, ** p<0.05, *** p<0.01 | | | | | | |

Table 3
Fixed Effects Model – Dep. Variable: Expenditure per Capita

| | com. pool | law of 1/n | general | com. pool | law of 1/n | general |
|---|---|---|---|---|---|---|
| | b/t | b/t | b/t | b/t | b/t | b/t |
| amal | 114.439*** | | 26.286 | 112.510*** | | 31.811* |
| | (9.129) | | (1.444) | (8.611) | | (1.760) |
| com | | 23.060*** | 19.931*** | | 22.748*** | 19.138*** |
| | | (11.222) | (6.674) | | (10.621) | (6.453) |
| grant | | | | -0.207*** | -0.222*** | -0.224*** |
| | | | | (-4.050) | (-4.351) | (-4.379) |
| old | | | | 1541.862*** | 1462.376*** | 1441.342*** |
| | | | | (5.349) | (5.074) | (4.997) |
| comu | | | | 2211.691*** | 2213.399*** | 2217.681*** |
| | | | | (23.632) | (23.674) | (23.713) |
| inco | | | | 0.782*** | 0.785*** | 0.787*** |
| | | | | (8.012) | (8.055) | (8.077) |
| dens | | | | -109.611*** | -102.959*** | -99.987*** |
| | | | | (-7.832) | (-7.373) | (-7.109) |
| inh | | | | -3.911 | -5.222 | -7.761 |
| | | | | (-0.368) | (-0.496) | (-0.730) |
| sqr_inh | | | | 0.340*** | 0.299*** | 0.320*** |
| | | | | (3.472) | (3.072) | (3.263) |
| constant | 2399.611*** | 2399.611*** | 2399.611*** | 2591.950*** | 2610.425*** | 2609.452*** |
| | (156.790) | (156.916) | (156.919) | (31.937) | (32.171) | (32.160) |
| Adj. $R^2$ | 0.790 | 0.790 | 0.790 | 0.798 | 0.799 | 0.799 |
| N | 2.7e+04 | 2.7e+04 | 2.7e+04 | 2.7e+04 | 2.7e+04 | 2.7e+04 |
| * p<0.10, ** p<0.05, *** p<0.01 | | | | | | |

*References*


Acemoglu, Daron (2005), Constitutions, Politics, and Economics: A Review Essay on Persson and Tabellini's The Economic Effects of Constitutions, in: Journal of Economic Literature XLIII, p. 1025-1048.

Baqir, Reza (2002), Districting and government overspending, in: Journal of Political Economy 110, p. 1318-1354.

Bish, Robert L. (2001), Local Government Amalgamations, Discredited Nineteenth-Century Ideals Alive in the Twenty-First, C.D. Howe Institute Commentary No. 150.

Blom-Hansen, Jens (2010), Municipal Amalgamations and Common Pool Problems: The Danish Local Government Reform in 2007, in: Scandinavian Political Studies 33, p. 51-73.

Boadway, Robin W. and Anwar Shah (2007), Intergovernmental fiscal transfers: principles and practices, Washington, D.C.: World Bank.

Bradbury, John Charles and Frank Stephenson (2003), Local government structure and public expenditures, in: Public Choice 115, p. 185-198.

Bradbury, John Charles and W. Mark Crain (2001), Legislative organization and government spending: cross-country evidence, in: Journal of Public Economics 82, p. 309-325.

Brecht, Arnold (1932), Internationaler Vergleich der öffentlichen Ausgaben, in: Holborn, Hajo (ed.), Vorträge des Carnegie-Lehrstuhls für Aussenpolitik und Geschichte an der Deutschen Hochschule für Politik, Heft 2.

Buchanan, James M. and Gordon Tullock (1962), The Calculus of Consent: Logical Foundations of Constitutional Democracy, Ann Arbor: The University of Michigan Press.

Bundesministerium der Finanzen (2009), BMF Dokumentation, Der Gemeindeanteil an der Einkommensteuer in der Gemeindefinanzreform.

Büttner, Thiess, Robert Schwager and Dan Stegarescu (2004), Agglomeration, Population Size, and the Cost of Providing Public Services: An Empirical Analysis for German States, in: Public Finance and Management 4, p. 496-520.

DelRossi, Alison F. and Robert P. Inman (1999), Changing the price of pork: the impact of local cost sharing on legislators' demands for distributive public goods, in: Journal of Public Economics 71, p. 247-273.

Deutscher Juristentag 1964, Verhandlungen des 45. Deutschen Juristentages Band I (Gutachten) und Band II (Sitzungsberichte), Karlsruhe.

Fritz, Benedikt (2011), Fiscal Effects of Municipal Amalgamation, Walter Eucken Institut, Mimeo.

Fritz, Benedikt (2012), Free Riding vs Common Pool, What determines Fiscal Effects of Municipal Amalgamation, Walter Eucken Institut, Mimeo.

Gesetz zum Abschluss der Neuordnung der Gemeinden (1974), Besonderes Gemeindereformgesetz, in: Gesetzblatt für Baden-Württemberg 12, p. 248-261.

Gesetz zur Änderung des Gesetzes über den kommunalen Finanzausgleichs (1972), Gesetzblatt für Baden-Württemberg 7, p. 100-102.

Gesetz zur Stärkung der Verwaltungskraft kleinerer Gemeinden (1968), in: Gesetzblatt für Baden-Württemberg 8, p. 114-117.

Gilligan, Thomas W. and John G. Matsusaka (1995), Deviations from constituent interests: the role of legislative structure and political parties in the states, in: Economic Inquiry 33, p. 383-401.

Gilligan, Thomas W. and John G. Matsusaka (2001), Fiscal policy, legislature size, and political parties: evidence from state and local governments in the first half of the 20th century, in: National Tax Journal 54, p. 57-82.

Hinnerich, Björn T. (2009), Do merging local governments free-ride on their counterparts when facing boundary reform? in: Journal of Public Economics 93, p. 721-728.

Jordahl, Henrik and Che-Yuan Liang (2010), Merged Municipalities, higher debt: on free-riding and the common pool problem in politics, in: Public Choice 143, p. 157-172.

Landesarchivdirektion Baden-Württemberg (1975), Das Land Baden-Württemberg, Amtliche Beschreibung nach Kreisen und Gemeinden, Band II Die Gemeinden vor und nach der Gebietsreform, Landeskundlich-statistische Grunddaten, Stuttgart: W. Kohlhammer.

Mattenklodt, Herbert-Fritz (1981), Territoriale Gliederung – Gemeiden und Kreise vor und nach der Gebietsreform, in: Püttner, Günther (ed.), Handbuch der kommunalen Wissenschaft und Praxis, Berlin: Springer, p. 154-182.

Niskanen, William A. (1971), Bureaucracy and representative government, Chicago: Aldine Atherton.

Peacock, Alan and Alex Scott (2000), The Curious Attraction of Wagner's Law, in: Public Choice 102(1/2), p. 1-17.

Pettersson-Lidblom, Per (2012), Does the size of the legislature affect the size of government? Evidence from two natural experiments, in: Journal of Public Economics 96, p. 269-278.

Primo, David M. and James M. Snyder (2008). Distributive politics and the law of 1/n, in: Journal of Politics 70, 477–486.

Reingewertz, Yaniv (2011), Do Municipal Amalgamations Work? Evidence from Municipalities in Israel, Hebrew University.

Reschke, Hans (1970), Gutachten zur Kreisreform, Gemeinsames Gutachten der Kommission für die Reform der Staatlichen Verwaltung Baden-Württemberg und der Kommission für Fragen der Kommunalen Verwaltungsreform Baden-Württemberg, Stuttgart: Hergert.

Schimanke, Dieter 1978, Verwaltungsreform Baden-Württemberg, Verwaltungsinnovation als politisch-administrativer Prozess, Berlin: Duncker&Humbolt.

Staatsministerium Baden-Wuerttemberg (1972), Gemeindereform, in: Dokumentation über die Verwaltungsreform in Baden-Württemberg, Stuttgart: Kohlhammer, p. 524-586.

Statistisches Landesamt Baden-Wuerttemberg, Struktur- und Regionaldatenbank.

Thieme, W. and G. Prillwitz 1981, Durchführung und Ergebnis der kommunalen Gebietsreform, Nomos: Baden-Baden.

Tullock, Gordon (1959), Problems of Majority Voting, in: Journal of Political Economy 67, p. 571-579.

Wagener, Frido 1969, Neubau der Verwaltung, Gliederung der öffentlichen Aufgaben und ihrer Träger nach Effektivität und Integrationswert, Duncker&Humbolt: Berlin.

Weingast, Barry R., Kenneth A. Shepsle and Christopher Johnsen (1981), The political economy of benefits and costs: a neoclassical approach to politics, in: Journal of Political Economy 89, p. 642-664.