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Working Paper

Citizens' support for inter-municipal cooperation: Evidence from a survey in the German state of Hesse

MAGKS Joint Discussion Paper Series in Economics, No. 43-2016

Provided in Cooperation with:

Faculty of Business Administration and Economics, University of Marburg

Suggested Citation: Bergholz, Christian; Bischoff, Ivo (2016) : Citizens' support for inter-municipal cooperation: Evidence from a survey in the German state of Hesse, MAGKS Joint Discussion Paper Series in Economics, No. 43-2016, Philipps-University Marburg, School of Business and Economics, Marburg

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MAGKS



**Joint Discussion Paper
Series in Economics**

by the Universities of
Aachen · Gießen · Göttingen
Kassel · Marburg · Siegen

ISSN 1867-3678

No. 43-2016

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This paper can be downloaded from
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Citizens' support for inter-municipal cooperation: evidence from a survey in the German state of Hesse[♠]

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This version: December 15, 2016

Abstract

Inter-municipal cooperation (IMC) is promoted as a way in which small, fiscally weak municipalities can cope with intensified interregional competition and demographic change. We provide first evidence on citizens' support for IMC using survey data from rural Germany. We cover different fields of public services and find the support for IMC to be lower for services where IMC implies intensified interaction with citizens from neighboring municipalities. The main research question asks whether citizens' support for IMC is larger in municipalities that can – by the logic of normative theory – expect higher net benefits from IMC. The answer is largely negative: While support for IMC decreases in the travel-time to neighboring municipalities, we do not find the support for IMC to be higher among citizens in small and/or fiscally weak municipalities, nor do we find the availability of suitable partners to matter. At the same time, citizens' policy preferences strongly depend on individual-level factors. Believing that IMC reduces citizens' influence and control reduces the support for IMC substantially. Trust in local politicians and a high degree of emotional attachment to the home municipality reduce citizens' support for IMC.

JEL: H77, D72

Key words: fiscal federalism, inter-municipal cooperation, voter preferences, survey, Germany

[♠]An earlier version of this paper was published as MAGKS Discussion paper 23-2015 (Citizens' preferences for inter-municipal cooperation in rural areas: Evidence from a survey in three Hessian counties.)

1. Introduction

In recent years, local and regional authorities have become increasingly interested in the topic of inter-municipal cooperation (IMC). IMC is regarded a way by which small, fiscally weak municipalities can cope with intensified interregional competition (e.g., Hulst and van Munfort, 2007; Gjertsen, 2014). Normative theory suggests that IMC generates economies of scale and scope and thereby help these municipalities to ease the fiscal pressure and regain budgetary room for manoeuvre (e.g., Miceli, 1993; Alesina et al., 2004; Andrew and Hawkins, 2012). The need to ease fiscal pressure is particularly large in rural areas where municipalities have to deal with the consequences of demographic change and a general decline in population.

By its main objectives, IMC is related to the local sector reforms many European regions went through in the second half of the 20th century. In the 1950s - 1970s, thousands of municipalities in various – mostly rural – European regions were amalgamated. The primary aim of these reforms was to create viable units that have the capacity to keep up with the increasing requirements for local public service quality. In most cases, the reforms were initiated by state or federal governments and evoked massive resistance among citizens in the affected municipalities (e.g., Hanes and Wikström, 2012; Hanes et al., 2012). Nowadays, many countries and regions encourage voluntary mergers of municipalities (e.g. Saarimaa and Tukiainen 2014; Blesse and Baskaran 2016). However, mergers are just as far-reaching as non-voluntary amalgamations: Joint provision is not restricted to those public goods and services where economies of scale and scope are large. Instead, the economies of scale and scope come at the price of having to live with compromises in all other fields of municipal policy. Therefore, municipal mergers – like non-voluntary amalgamations – evoke massive resistance among citizens (e.g., Weese, 2013, Tanguay and Wihry, 2008).

This is where IMC comes in. Under IMC, cooperation is limited to the production of certain public services while municipal autonomy in other fields remains untouched. This argument leads public administration scholars and politicians to conclude that citizens' resistance against IMC will be much lower than the resistance against top-down regional reforms or voluntary mergers (e.g. Heinz, 2007; Gjertsen, 2014). So far, however, citizens' preferences regarding IMC have not been analyzed systematically. The current paper delivers evidence to help closing this gap. We use data from a survey with 1400 respondent citizens from 59 municipalities in the German state of Hesse. The municipalities are located in three peripheral and economically weak counties threatened by population decline. The survey asks subjects whether they want their municipality to cooperate in different fields of government activity where economies of scale and/or scope are feasible. The survey data is combined with data from official sources informing us about the municipality the respondents live in (e.g., its population size, fiscal situation, distance to neighboring municipalities). Based on this combined data set, we address the following questions: 1) Is citizens' support for IMC larger in municipalities that can – by the logic of normative theory – expect higher net benefits from IMC? 2) How do citizens' individual characteristics and beliefs shape their support for IMC?

Our results can be summarized as follows: Regarding the first question, the answer is largely negative. We find citizens to account for easily available information that is salient privately. This applies to the increased travel costs when municipalities provide public services jointly. Furthermore, support for IMC is lower in small municipalities that have substantially larger neighbors. Beyond that, we find municipal-level factors to be irrelevant. In particular, support for IMC is not higher in small and fiscally weak municipalities, nor do we find the availability of suitable cooperation partners to matter. Instead, policy preferences are primarily driven by individual characteristics. Most importantly, subjects who expect IMC to reduce citizens' political influence are more likely to oppose IMC. Support is higher among citizens who

assess the current service quality as low and/or assess the financial perspectives of the home-municipality as negative. Subjects who are emotionally attached to their home municipality are less supportive of IMC. The same holds for subjects whose trust in the local government is high.

The paper proceeds as follows. Section 2 reviews the relevant literature. The institutional background is presented in section 3. Data and the main hypothesis are presented in section 4. Section 5 lays out the empirical model and introduces the variables before section 6 reports the results. Section 7 discusses the results and points the policy implications of our research.

2. Review of literature

The term IMC refers to the voluntary cooperation between otherwise independent municipalities in fulfilling their obligatory or voluntary tasks and providing public services (e.g., Blaeschke, 2014; Lintz, 2015). Depending on the tasks and services, IMC may be motivated by regional spillovers or by economies of scale and scope (e.g., Miceli, 1993; Alesina et al., 2004; Blaeschke, 2014). In this paper, we emphasize tasks and services where municipalities cooperate to generate economies of scale and scope. Especially small municipalities can generate substantial economies of scale when cooperating with other municipalities (e.g., Miceli, 1993; Alesina et al., 2004; Andrew and Hawkins, 2012). Furthermore, fiscally weak municipalities lack the means to provide an attractive bundle of public services and thus gain more from IMC than fiscally strong municipalities (e.g., Steiner, 2003; Blaeschke, 2014). However, the economies of scale and scope from IMC come at a cost: Large groups of citizens encompass a wider range of tastes and preferences for public services. The more the population in a certain municipality differs from the population in its neighboring municipality with respect to their policy preferences, the lower are the net benefits from IMC. Empirical studies on IMC generally use

differences in the characteristics of the municipal population to approximate differences in preferences (e.g., Alesina et al., 2004; Andrew, 2009; Andrew and Hawkins, 2012; Blaeschke, 2014; Bel and Warner, 2015). Accordingly, the net benefits from IMC are larger the more similar the cooperating municipalities are in the characteristics of their population (e.g. with respect to average income) Finally, the net benefits from IMC decline in the transaction costs involved in negotiating, implementing and controlling IMC-contracts entail substantial transaction costs. Other things equal, these transaction costs are lower the more similar the partners are (e.g., Feiock and Scholz, 2010).¹

This paper tests whether the above arguments from normative theory play a role in shaping citizens' policy preferences regarding IMC. Are citizens from small and fiscally weak municipalities more supportive of IMC than citizens from larger and/or fiscally strong municipalities? Does the availability of suitable cooperation partners increase citizens' support for IMC?

We are not aware of a large-scale empirical study on the factors that drive citizens' view on IMC directly. However, the study by Tanguay and Wihry (2008) is related to this issue. They

¹ A number of authors have analyzed the degree to which the emergence of IMC follows the suggestions of normative theory. The results are in line with normative theory when it comes to population size, fiscal stress and expected transaction costs (see Blaeschke, 2014; Bel and Warner, 2015 for a review). Regarding the similarities in population characteristics, some authors find similarity in municipal size (e.g., Lee et al., 2012), median income (e.g., Feiock et al., 2009) and fiscal capacity (e.g., LeRoux and Carr, 2007; Kwon and Feiock, 2010) to increase the probability that municipalities cooperate. On the other hand, there are numerous studies that find little or no support for the impact of similarity (e.g., Bel and Warner, 2015). A related strand of literature builds on essentially the same trade-off and show that heterogeneity within a certain region drives the number and size of municipalities or school districts (e.g., Nelson, 1990, Alesina and Spoloare, 1997; Alesina et al., 2004).

analyze data from referenda on municipal mergers in Quebec (Canada) in 2004. After the central government has forced a large number of municipalities to merge, some municipalities were given the chance to vote on a rollback of the merger. The authors use the share of voters voting in favor of a rollback as dependent variable. The most important independent variable is taken from publications of the provincial government. In these publications, the provincial governments informed citizens about the estimated change in municipal expenditures per capita and in tax liability per capita that is expected to go along with the merger. Tanguay and Wihry (2008) find the share of votes in favor of rollbacks to rise in the expected change in expenditures per capita but fall in the expected tax liability. In addition, vote-shares rise in the income differences between the municipalities to be merged.

3. Institutional background

The municipalities in Germany in general and the German state of Hesse in particular provide important public services like local roads, business parks, cultural infrastructure and pre-school childcare and account for approximately one quarter of overall government expenditures. Supra-ordinate governments set minimum standards for the essential public services but municipalities are left with substantial autonomy in their decisions. This autonomy also exists when it comes to setting local business and land tax rates, though municipalities largely rely on state grants and vertical tax sharing (e.g., Zimmermann, 2009; Bischoff and Krabel, 2016). A directly elected mayor is head of the municipal administration. The mayor is responsible to a local council and needs its approval for major decisions including the budget, local tax rates or formal IMC-arrangements.

[Table 1 about here]

In this paper, our regional focus rests on three peripheral counties in the German state of Hesse (Landkreis Kassel, Werra-Meißner-Kreis and Odenwaldkreis). The total population in

these counties adds up to approximately 435,000 living in 60 municipalities. The average disposable income per capita amounts to 19,370 € while the overall average in the state of Hesse is 20,452 (e.g., Bischoff et al., 2014). The municipalities differ in size with the largest having more than 27,000 inhabitants and the smallest one having less than 700 inhabitants (see table 1). In the period between 2009 and 2013, total population decreased by 2.9 percent. Only 6 municipalities grew in this period while 14 municipalities witnessed a decline by more than 5 percent. In the same period of time, the overall population in the state of Hesse grew (e.g., Bischoff et al., 2014). The municipalities also differ substantially in their fiscal capacity. The debt per capita varies between 112 € and 5,119 € and tax revenues per capita cover the span of 315 € to 2,229 €. The average debt per capita (1,197 €) exceeds the overall average in Hesse by almost 10 percent while the average amount of tax revenues per capita (630 €) falls short of the Hessian average by more than 30 percent (e.g., Bischoff et al., 2014). On average, the regular expenditures (excluding investments) exceed regular revenues (excluding capital gains) by 2.6 percent, again with considerable variation across municipalities. These figures show that most municipalities in the three counties are threatened by demographic change and suffer from fiscal pressure – though to considerably different extent.

4. Data and hypotheses

In summer 2013, we conducted an online survey among citizens from all 60 municipalities in the three counties. We chose 30,000 citizens at random and invited them by personalized letter to participate in the online-survey. The questionnaire starts by asking participants to assess the quality of local services in their home municipality and state their expectations regarding its financial perspectives. The second section asks for subjects' policy preferences for IMC and for their expectation regarding the impact of IMC on democratic control. Later sections elicit subjects' political beliefs and personal characteristics.

[Table 2 about here]

The survey elicits citizens' policy preferences on IMC in four different fields of government activity: 1) childcare facilities, 2) infrastructure for private households (such as community centers, sports facilities), 3) road maintenance and winter services, and 4) internal administration (registration office, regulatory agency, public construction authorities) and. Table 2 presents the precise question we used for childcare facilities. Analogous questions are used for the other fields. These fields were chosen for a number of reasons. First, all four fields require significant amounts of public resources and they all bear the potential of generating economies of scale and scope through IMC. Second, the existing evidence suggests that IMC is vividly debated especially in these fields (e.g., Rosenfeld et al., 2016). Third, the state agency founded to foster IMC in Hesse names these fields to be of particular relevance. Finally, the four services differ in the degree to which IMC is visible for the citizens. In field (3) road maintenance and winters services as well as (4) internal administration, IMC goes relatively unnoticed by the citizens. This is entirely different for IMC in fields (1) childcare services and (2) infrastructure for private households. Here, the place of service provision is likely to change for some citizens and the interaction with citizens from other municipalities is intensified through IMC. Alesina et al. (2004) argue that citizens prefer to interact with their peers and thus witness losses in utility from IMC if this increases the probability of having to interact with people outside their peer group. Thus, citizens' support for IMC in the latter two fields is expected to be lower (e.g., Norris, 2001; Alesina et al., 2004).²

²

In the terminology of the regional governance literature, childcare and household-related infrastructure are often referred to as lifestyle amenities, road maintenance and winter services belongs to the systems maintenance services and internal administration may be called "political" (see e.g. Norris, 2001).

The main purpose of this paper is to explain why some citizens support a close cooperation in the different fields named above while other citizens oppose close IMC. In particular, we are interested in answering the following two questions:

- 1) Is citizens' support for IMC larger in municipalities that can – by the logic of normative theory – expect higher net benefits from IMC?
- 2) How do citizens' individual characteristics and beliefs shape their support for IMC?

With respect to question 1, the literature in section 2 leads to the following hypotheses:

H1 (municipal size):

Citizens' support for IMC decreases in the population size of their home municipality.

H2 (fiscal pressure):

Citizens' support for IMC increases in the fiscal pressure of their home municipality.

H3 (availability of similar partners):

The more similar the neighboring municipalities are to the citizens' home municipality with respect to their residents' preferences for public services, the more likely the citizens are to support IMC.

Though not stressed in the literature reviewed above, it seems reasonable to argue that the costs of IMC increase in the travelling distance between municipality m and its potential cooperation partners. This leads to hypothesis H4:

H4 (travel distance):

The closer the neighboring municipalities are, the more likely citizens are to support IMC.

The rational voter hypothesis predicts that citizens do not undergo the effort of collecting the information necessary to develop a sophisticated picture of the pros and cons of policies. Instead, they are likely to rely on information collected en passant (e.g. Caplan, 2008; Bischoff

and Siemers, 2013). In the case of IMC, some characteristics of the home municipalities (e.g. its fiscal capacity) and especially the characteristics of the neighboring municipalities are difficult to assess *en passant*. On the other hand, factors like municipal size or travel distance to neighboring municipalities are easy to observe and their importance for the costs or benefits of IMC is evident. Similarly, voters are likely to have a rough idea of the degree to which the population in their home municipality is similar to that of its neighbors. The regressions below will show to what extent the rational voter hypothesis applies in the context of IMC.

Turning to the second question, the existing studies tells us that citizens' trust in political institutions is crucial for citizens' support for reforms (Rodrik, 1996; Heinemann and Tanz, 2008). In the context of IMC, political representatives have substantial leeway when negotiating IMC contracts with representatives of other municipalities. Citizens who trust their government may be more likely to support IMC because they do not expect delegates to use this leeway opportunistically. This leads to hypothesis H5:

H5 (trust in local politicians facilitates IMC):

Citizens are more likely to support IMC if their trust in local politicians is high.

On the other hand, one may argue that citizens who trust local politicians are more likely to oppose IMC because they are reluctant to see their trusted government share political power with other agents. Thus, the alternative hypothesis H5a reads:

H5a (trust in local politicians hampers IMC):

Citizens are less likely to support IMC if their trust in local politicians is high.

Our final hypothesis deals with the possible impact of IMC on citizens' local identity. German citizens often feel strongly attached to their home municipality. Local cohesion is intensified by the rivalry to sports teams from neighboring municipalities and by the active role of local

clubs (“Vereine”) for social life in rural Germany. We expect citizens who are strongly attached to their home municipality to fear a loss in local identity from IMC:

H6 (emotional attachment to home municipality):

Citizens who strongly attached to their home municipality are less likely to support IMC.

5. Empirical model and covariates

In total 1,381 persons from 59 municipalities completed the questionnaire. This provides us with an average of more than 20 respondents per municipality. The response-rate differs across municipalities. Male and more educated subjects are over-represented as are individuals with residential property. Thus, our survey data is not fully representative of the population underlying the sample. To control for this, we include dummy variables for all characteristics for which representativeness is not given. In fact, we controlled for important factors that are usually not even elicited in this kind of survey. Through this wide range of individual-level variables, we take care of the main concerns regarding the use of non-representative surveys (e.g. Solon et al., 2013). Following Solon et al. (2013), the battery of independent variables ensure that our estimates regarding the impact of individual- and municipal-level factors are reliable. At the same time, we do not claim that support rates for IMC reported in table 3 are fully representative of the Hessian population. As further sensitivity analysis, we run weighted regression using a Poisson-model (e.g., Elliot, 1991 together with Cameron and Trivedi, 2009). Their results are qualitatively identical to the results of the unweighted panel-regressions reported below.

[Table 3 about here]

Table 3 summarizes subjects’ answer on the central question whether their home municipality should cooperate in providing different public services (for the question, see table 2). Some 35 percent of the respondents support close cooperation in field (1) and (2) where IMC

implies interaction with citizens from neighboring municipalities. The support for close IMC ranges around 60 percent for the other two services.³ This difference is in line with the argument put forth by Alesina et al. (2004): Citizens are more skeptical about IMC if it implies intensified interaction with citizens from other municipalities.

Below, we run multiple regressions to explain inter-municipal and interpersonal differences in citizens' support for IMC and thereby test the hypothesis stated above. The following covariates are used.

a) municipal-level covariates

We introduce the population size (*POP*) of the respondents' home municipality to test Hypothesis H1. We expect the support for IMC to decrease in population size. Two variables are used to capture the fiscal situation (hypothesis H2): debt per capita (*DEBT*), the ratio of running expenditures over regular revenues (*EXP/REV*) - both calculated as averages over the period 2009 – 2013 (see table 1). We expect the support for IMC to decrease in both variables. To test hypothesis H3, we have to capture the degree of similarity in citizens' preferences between subjects' home municipalities and their potential cooperation partners. We follow the existing literature and use the similarity in population characteristics to capture the similarity in policy preferences (see section 2). The more neighboring municipalities with similar population characteristics there are, the higher the net benefits from IMC – other things equal. As differences in per capita income are extremely low, we concentrate on the degree of similarity in age composition.⁴ The variable *NUM_SIM_CHILDREN* counts the number of municipalities

³ The correlation between subjects' answers across fields is moderate.

⁴ Indicators on the ethnic composition as often used in US studies (e.g. Feiock et al., 2009) are not available for Germany. And even if they were, a normative interpretation of their performance seems inappropriate

where share of children below the age of 15 deviates from that in municipality *m* by less than 5 percent. On average, 63 percent of the neighboring municipalities qualify for this criterion. We introduce the *AVERAGE_TRAVEL_TIME* from municipality *m* to their direct neighbors (according to Google maps) to accommodate hypothesis H4. Travel time is an indicator for the additional costs that citizens have to bear when consuming public services produced jointly with other municipalities. The larger the travel time, the higher these additional costs and thus the less likely subjects are to support IMC.

A number of municipal-level control variables are used. These variables account for the characteristics of potential cooperation partners. Given that IMC in Germany is largely restricted to direct neighbors (e.g., Blaeschke, 2014, Rosenfeld et al., 2016), we concentrate on the characteristics of the municipalities directly adjacent to the citizens home municipality. We introduce two variables to control for expected political transaction costs of IMC. First, we control for the number of direct neighbors to the respondent's home municipality. Feiock et al. (2009) argue that search costs rise in the number of neighbors. Second, the variable *SAME_MAYORS_PARTY* counts the number of neighboring municipalities whose mayor is supported by the same political party as the mayor in the respondent's home municipality. We account for the fiscal situation and population size of the neighboring municipalities by introducing the median value of the corresponding indicator among the directly neighboring municipalities. These so-called spatial lag indicators are named *SL_MED_POP*, *SL_MED_DEBT*, *SL_MED_EXP/REV*. We also account for the notion that citizens' prefer to stay among their

to us. The available data only informs about the share of inhabitants without German passport. This group is internally heterogeneous and so is the group of citizens with German passport. This information is used in the variable *NUM_SIM_NONGERMAN* – though we believe that a normative interpretation is equally inappropriate.

peers (e.g., Alesina et al., 2004). The variable *NUM_SIM_NONGERMAN* captures the number of direct neighbors whose share in non-German population differs by less than 20 percent from the share in municipality *m*. On average, 46 percent of the neighboring municipalities qualify for this. A special dummy-variable *BORDERING_KS* marks all municipalities that border the city of Kassel (ca. 200.000 inhabitants).

b) individual-level covariates

To accommodate hypothesis H5 and H5a, we ask subjects for their trust in local politicians. The dummy variable *TRUST_LOCAL_GOV* takes on the value 1 if respondents have much trust or very much trust in local politicians, otherwise 0. Hypothesis H6 states that the support for IMC depends on the degree to which respondents feel emotionally attached to their home municipality. We expect attachment to be higher among citizens born in the current place of residence. The variable *BORN_IN_RESIDENCE* takes on the value 1 if the respondent is born in residence, otherwise 0. Similarly, emotional attachment is likely to be stronger among citizens who are active members of local sports clubs, cultural initiatives, the local fire brigade etc. Variable *ACTIVE* is 1 for active people (0 else). We expect active citizens and citizens born in their current residence to be less supportive of IMC than non-active subjects or subjects born elsewhere.

We introduce a number of individual-level control variables. We control for subjects' beliefs regarding the impact of IMC on citizen's political influence and democratic control (e.g., Dafflon, 2012; Gjertsen, 2014). We ask subjects whether they expect IMC to go along with a loss in control and influence for the citizens. A dummy variable is constructed (*IMC_REDUCE_INFLUENCE*), taking on the value 1 if the answer is affirmative, 0 else. Subjects' who fear a loss in citizens' control and influence are expected to be more skeptical about IMC. Similarly, citizens' support for IMC may depend on their expectation concerning the financial perspectives of their home municipality: The more negative their expectations are, the more likely

citizens are to support IMC. We elicit subjects' expectations and construct a dummy variable that takes on the value 1 if subjects expect the financial capacity of their home municipality to decline, 0 else (*MUNICIPAL_PERFORMANCE_DECLINE*). Furthermore, the participants of our survey are asked for their assessment of the services in all four fields of interest. A dummy variable *S_BAD* is created for every service. It takes on the value 1 if subjects assess the quality of service *s* as bad (0 else). We control for respondents' sex using a *FEMALE*-dummy, for their status as parents of juvenile children using a *PARENTS*-dummy and for their age (*AGE*). The dummy-variable *COMMUTER* is 1 for all subjects whose way to work, school or university exceeds the median distance of 6 km reported in the survey (0 else). The variable *HIGH_EDU* takes on the value 1 for subjects who have a high-school diploma and 0 for all others. The dummy variable *INFORMS_REG_NP* is 1 for subjects who consults a local newspaper on a daily basis (0 else). We introduce a dummy variable *RESIDENTIAL_PROPERTY* that is 1 for all subjects living in a self-owned house or flat (0 else) and we control for per capita household income reported by the respondents (*HH_INCOME_PC*). Finally, we control whether subjects believe that their municipality already cooperates with other municipalities in public service provision. Almost 50 percent of all citizens report that they do not know. We introduced dummy variables for those who believe that their home municipality cooperates and for those who believe that it does not.

6. Results

In the regressions reported below, we use a logit panel approach:

$$IMC_{if} = f(X_{if}, Z_m)$$

Our dependent variables *IMC_{is}* takes on the value 1 if subject *i* supports close cooperation in field *f* (0 else). Matrix *X_{if}* contains individual-level covariates and matrix *Z_m* contains covariates characterizing subjects' home municipality. Table 4 reports the average marginal effects (resp.

average discrete probability effects of our discrete variables) obtained in our regressions. Standard errors are clustered on respondents' level.

The baseline specification in column 1 includes all variables described above and covers subjects' answers to all four fields of government activities. It also includes county fixed effects and field fixed effects. We find insignificant coefficients for population size, fiscal variables and the variable *NUM_SIM_CHILDREN* capturing similarity between the population of municipality *m* and its direct neighbors. Thus, hypothesis H1 to H3 are not supported. The average travel time to the neighboring municipality (*AV_TRAVEL_TIME*) is significant. This support hypothesis H4. All other municipal-level variables are insignificant. On individual level, we find trust in the local politicians to make respondents more reluctant to support IMC. This is in line with hypothesis H5a (and contradicts H5). Next, respondents who are active in their home municipality are less likely to support IMC (*ACTIVE*). This result supports hypothesis H6. Among the control variables, *IMC_REDUCE_INFLUENCE* is highly significant and shows the expected negative sign. Also, citizens who expect a decline of the home municipalities' economic performance (*MUNICIPAL_PERFORMANCE_DECLINE*) are more likely to prefer IMC than others whereas citizens' assessment of current service quality as bad (*S_BAD*) has a significantly positive influence. *HIGH_EDU*, *HH_INCOME_PC* and *AGE* are significantly positive. All other variables are insignificant.

In model 2, we focus on fields (1) and (2) where IMC implies close interaction with citizens from the cooperating municipalities. The results are largely identical. Similarly, the main results hold if the analysis focusses on fields (3) and (4) where IMC goes largely unnoticed by the citizens (column 3).

Looking at the size of the effects, *IMC_REDUCE_INFLUENCE* has the largest influence by far. Subjects who fear that IMC reduces citizens' control and influence are less likely to

support IMC by 32 percentage points. The variables *S_BAD* and *MUNICIPAL_PERFORMANCE_DECLINE* yield a marginal effect of approximately 10 and 13 percentage points respectively. Subjects with high-school education have a probability of supporting IMC that is about 10 percentage points higher than that of subjects with less school education. The probability of supporting IMC in contact services is 10 percentage points lower for parents. All other marginal effects are well below 10 percentage points.

One might argue that the individual-level belief *MUNICIPAL_PERFORMANCE_DECLINE* covers up the impact of the important municipal characteristics. To accommodate this concern, we drop *MUNICIPAL_PERFORMANCE_DECLINE* and redo the regression of model 1 (see column 4). The performance of all independent variables remains unchanged. In particular, we do not observe significant coefficient estimators for the covariates capturing fiscal stress (*DEBT*, *EXP/REV*), nor for other municipal-level variables that were insignificant before.

Given the prominent role of population size in normative theory, we are puzzled by its insignificance in all models. To investigate this aspect further, we introduce an additional model that accommodate an argument put forth by Brasington (1999). In his study on school district mergers in the United States⁵, he finds that small districts often merge with large districts while symmetric mergers are less frequent. He proposes the following rationale for this pattern: Small districts can benefit massively from the economies of scale and scope from merging. The benefits are especially large when merging with a large district. These benefits are likely to outweigh the costs from increased heterogeneity in preferences within the merged district. Citizens in large districts are likely to keep control over the major decisions even in the merged district. They may thus not object to merge with a smaller school district even if additional economies

⁵ School districts are single-purpose governments that decide about all major issues on primary and secondary public education (e.g., Mullin, 2007).

of scale and scope are moderate. Citizens in medium-sized districts are more reluctant to merge school districts because merging means bearing the costs from increased heterogeneity without gaining much in exchange (Brasington, 1999). To account for this argument, we construct two variables. *SMALL_LARGE_NEIGHBORS* counts the number of large neighbors (pop. > 10,000) for municipality *m* – provided the latter is small (pop. < 5,000). It is zero for all municipalities that are not small or do not have large neighbors. Similarly, *LARGE_SMALL_NEIGHBORS* captures the number of small neighbors of large municipalities. 18 percent are classified as small municipalities with one or more large neighbors and 25 percent are classified as large municipalities with one or more small neighbors. The argument of Brasington (1999) suggests that both variables yield positive coefficient estimators. We redo model 1 by introducing these variables while dropping the two population-related variables used in the earlier models to avoid collinearity (column 5). Unlike Brasington predicted, we find *LARGE_SMALL_NEIGHBORS* to be insignificant and, more importantly, *SMALL_LARGE_NEIGHBORS* to be significantly negative. This suggests that citizens do not follow the rationale put forth by Brasington (1999). Instead, it suggests that the fear to be dominated by a large cooperation partner is weighted higher than the prospects of possible economies of scale and scope especially in child-care and household-related infrastructure.

Finally, we rerun the baseline model using a subsample that contains only those subjects who consult regional newspapers daily (column 6). The main idea behind this step is to test whether more municipal-level variables become significant once the sample is reduced to the better-informed. The answer is negative. *ACTIVE* and *HH_INCOME_PC* become insignificant while all other variables' performance is unchanged. Like the baseline model, we run all the additional regressions (column 4-6) also separately for fields (1) + (2) and field (3) + (4) respectively. The results are qualitatively the same and presented in the supplementary material.

Next to the regressions reported above, we run a large number of sensitivity analyses to test the stability of our results. First, we rerun the first three models with municipal fixed effects to account for possibly omitted municipal-level factors and test the stability of the results obtained for the individual-level variables. Their performance is qualitatively identical to their performance in the baseline model. Second, we introduce additional indicators for the fiscal situation. The results do not change. We also run weighted regressions using to account for the overrepresentation certain groups of individuals in our survey even though the recent paper by Solon et al., (2013) suggest that our regressions presented above take care of this problem through its numerous control variables. Again, the sensitivity analyses yield qualitatively the same results. Details on the analyses and their results are presented in the supplementary material (available upon request).

7. Concluding remarks

The topic IMC is on the agenda of many local and supra-ordinate governments. Like many public administration scholars, they see IMC as an important element in a strategy to help small and fiscally weak municipalities to cope with demographic change and intensified inter-regional competition. A lack of public support for IMC is regarded to be one major obstacle against a more widespread application of IMC. So far, little is known about citizens' view on IMC. In the current paper, we use data from a survey in 59 German municipalities to provide first evidence on this issue. It focusses on two questions: 1) Is citizens' support for IMC larger in municipalities that can – by the logic of normative theory – expect higher net benefits from IMC? 2) How do citizens' individual characteristics and beliefs shape their support for IMC?

Regarding the first question, we find support for IMC to be lower in municipalities with a large average travel-time to its neighbors. This indicates that citizens' are aware of the costs of IMC. Fiscal stress in the home municipality is not found to promote the acceptance for IMC. Further-

more, citizens' policy preferences are not found to depend on the availability of suitable partners – i.e. neighboring municipalities that are similar to municipality *m* with respect to local government composition or age composition. Citizens in small municipalities with large neighbors are more skeptical about IMC. This suggests that they see primarily the danger of being dominated by the large cooperation partner rather than the potential benefits from IMC as suggested by Brasington (1999). This interpretation is supported by a side-result of the survey underlying our study: Subjects were asked: “If your home municipality had decided to cooperate with other municipalities, which of the following constellations of partners would you prefer?” a) “cooperate with one municipality similar to ours”, b) “... two or more municipalities similar to ours” and c) “stop producing the service by ourselves and purchase it from the nearby town”. Less than 10 percent of the participants chose option c) – even among citizens from small municipalities only.

The performance of municipal-level factors is partially in line with the prediction of the rationally uninformed voter (e.g., Caplan, 2008, Bischoff and Siemers, 2013). Subjects account for the travel time to the neighboring municipalities and citizens in small municipalities also account for the existence of a larger municipality nearby. This information is easily available and salient in their private life – e.g. because it is directly related to the availability of shopping opportunities. The insignificant municipal-level variables are less easy to pick up *en passant* and less salient for citizens' private life. This conclusion does not change if we introduce weights to account for possible mis-representations in our sample, nor does it change if we reduce the sample only to those citizens reading regional newspapers on a daily basis. Even these better-informed citizens do not account for fiscal capacity or the availability of suitable partners.

Regarding the second question, we find a number of individual-level factors to drive citizens' policy preferences for IMC. Support is substantially higher among citizens who assess

the quality of public services as bad and/or expect their municipality to be threatened by a decline in fiscal capacity. Citizens who are active in local initiatives or clubs and whose emotional attachment to their home municipality are strong are more reluctant to support IMC. While trust in politicians usually facilitates reforms, this does not seem to be true in the context of IMC. Here, citizens who trust their local government are less likely to support IMC – presumably because they do not want to see this government share political power with other persons and institutions. The factor with the largest marginal effect (resp. discrete probability effect) by far is the expectation that citizens will lose influence and control when municipalities cooperate. Subjects holding this belief are by 30 percentage points less likely to support IMC.

Our study suffers from a number of limitations. First, the usual caveats regarding survey data apply: Answers are hypothetical and may not be perfect predictors of subjects' behavior in local ballots or initiatives on IMC. On the other hand, survey data has the advantage that we can combine the policy preference regarding IMC with many personal characteristics and thus learn something about their individual-level drivers. Our study shows that this provides valuable insights that analyzing data from ballots cannot bring. Second, we analyze citizens' policy preferences in rural areas and selected fields of municipal activity only. We concentrate on fields where the predominant argument pro IMC are economies of scale and scope. In other fields of local government activities – e.g. public transportation or promotion of tourism – the predominant argument is the internalization of spillovers. In these latter fields, the game-theoretical logic of IMC is somewhat different because municipalities outside the IMC-arrangements can free ride. Therefore, it is not clear whether the results obtained here can be generalized to fields where spillovers motivate IMC. This remains an interesting question for future research.

Despite these limitations, there are important lessons to learn from our analysis. First, voters seem to understand that the need for IMC is higher in municipalities facing negative

financial perspectives (see the performance of *MUNICIPAL_PERFORMANCE_DECLINE*). However, citizens' subjective assessment of their home municipality's perspective is only loosely related to the development of the corresponding indicators in the years prior to the survey. Given this loose relationship, governments in municipalities with declining population and/or severe fiscal stress cannot automatically expect their citizens to be more supportive of IMC.

Second, citizens are very concerned about giving up political power and local autonomy. This conclusion is supported by the performance of *IMC_REDUCE_INFLUENCE* and *TRUST_LOCAL_GOV*. Governments who want to engage in IMC have to meet the concern of citizens fearing to lose influence and control. To this end, informal handshake-deals are not the type of arrangement that seems suitable. Instead, IMC should be reached in a transparent political process, settled in formalized agreements and run in governance structures that maintain transparency and accountability.

Third, there is massive resistance among citizens of small municipalities to outsourcing public service production to large neighboring municipalities nearby. *SMALL_LARGE_NEIGHBORS* and the side-result on the preferred structure of partners support this conclusion. This is bad news for those regional planners who intend to meet the challenge of demographic change by empowering medium-sized towns in rural areas at the expense of their small neighboring municipalities. It is similarly bad news for those who want to meet these challenges in a step of centralization that transfers tasks to the county level. Our results predict massive political resistance among citizens for both steps.

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Table 1: Descriptive statistics on municipalities in the sample

Municipal characteristic	Mean	Std. Dev.	Min	Max
Seat-share of free voter associations	0.144	0.206	0	1
Seat-share of leftwing parties	0.539	0.156	0	1
Population (in thousand)	7.1961	5.1862	0.644	27.417
Debt per capita	1197.1	907.3	112	5119.4
Own tax revenues per capita	630.7	317.7	315.3	2228.7
Rate of population growth (%)	-2.92	2.47	-9.30	3.67
Ratio of running expenditures / regular revenues	1.03	0.10	0.79	1.39

Table 2: Survey question generating our dependent variable

What do you think? How intensively should your municipality cooperate with other municipalities?

a) In running childcare facilities, my municipality should

- ☐ run childcare facilities jointly.
- ☐ cooperate only loosely (coordinate services and help out occasionally).
- ☐ not cooperate at all.
- ☐ don't know

Table 3: Frequency of policy preference among respondents (in percent)[#]

Stated preference	Field f			
	(1) Childcare	(2) Infrastruc- ture for private households	(3) Road maintenance, winter services	(4) Internal administration
Cooperate closely	36.5	46.2	60.4	46.2
Cooperate loosely	56.1	43.6	35.0	37.0
No cooperation	5.4	7.3	3.8	13.4
Don't know	2.0	3.0	0.8	3.4

[#] calculated without weights. Weight-corrected statistics do not differ significantly.

Table 4: Panel logit regression models (marginal effects)

Variables	(1)		(2)		(3)		(4)		(5)		(6)	
	ME	Std. Err.	ME	Std. Err.	ME	Std. Err.	ME	Std. Err.	ME	Std. Err.	ME	Std. Err.
<i>BORN_IN_RESIDENCE</i>	0.0117	0.0297	-0.0127	0.0377	0.0501	0.0365	0.0158	0.03	0.011	0.0295	-0.0135	0.0371
<i>ACTIVE</i>	-0.0996***	0.0307	-0.1093***	0.0387	-0.0938**	0.0364	-0.0968***	0.0311	-0.0963***	0.0306	-0.089**	0.0402
<i>RESIDENTAL_PROPERTY</i>	0.0307	0.036	0.0336	0.0441	0.0248	0.0458	0.0378	0.0363	0.0314	0.0359	0.0517	0.0528
<i>S_BAD</i>	0.1133***	0.0232	0.129***	0.0392	0.1261***	0.0303	0.1182***	0.0234	0.1125***	0.0231	0.119***	0.029
<i>TRUST_LOCAL_GOV</i>	-0.0915***	0.0278	-0.1007***	0.0346	-0.0848**	0.0349	-0.1115***	0.0277	-0.0873***	0.0275	-0.0996***	0.0341
<i>IMC_REDUCE_INFLUENCE</i>	-0.3261***	0.0267	-0.266***	0.0312	-0.4147***	0.0378	-0.3354***	0.0267	-0.3224***	0.0266	-0.31***	0.0331
<i>MUNICIPAL_PERFORMANCE_DECLINE</i>	0.1006***	0.0279	0.0754**	0.035	0.1431***	0.0353			0.1021***	0.0274	0.1428***	0.0359
<i>FEMALE</i>	0.0001	0.0288	-0.0569	0.0362	0.0505	0.0366	0.0043	0.0293	-0.0013	0.0286	0.0193	0.0368
<i>AGE</i>	0.0018	0.0012	0.0019	0.0015	0.0017	0.0015	0.0019	0.0012	0.0019	0.0012	0.0016	0.0016
<i>HIGH_EDU</i>	0.0789***	0.0268	0.0577	0.0336	0.1084***	0.0336	0.0786***	0.0272	0.077***	0.0265	0.0926***	0.0332
<i>ASSUMES_COOPERATION</i>	0.0062	0.029	-0.0049	0.0366	0.0231	0.0355	0.0037	0.0297	0.0119	0.029	0.0157	0.0378
<i>ASSUMES_NO_COOPERATION</i>	0.0755	0.0603	0.0313	0.0735	0.1312*	0.0668	0.0857	0.0604	0.0757	0.06	0.1015	0.0781
<i>INFORMS_REG_NP</i>	-0.0127	0.0302	-0.0226	0.0383	-0.0064	0.0366	-0.01	0.0308	-0.011	0.03		
<i>COMMUTER</i>	-0.0137	0.0309	0.0067	0.0383	-0.0397	0.0376	-0.0056	0.0312	-0.0104	0.0306	0.0315	0.0384
<i>PARENTS</i>	0.0023	0.0344	-0.0259	0.0439	0.036	0.0429	0.0016	0.0352	-0.001	0.034	0.0118	0.0445
<i>HH_INCOME_PC</i>	0.0001**	0.0001	0.0001*	0.0001	0.0001**	0.0001	0.0001**	0.0001	0.0001**	0.0001	0.0001	0.0001
<i>DEBT</i>	0.0029	0.02	0.0072	0.0247	-0.0043	0.0254	0.0003	0.0205	0.0163	0.019	0.0144	0.0258
<i>EXP/REV</i>	0.183	0.1669	0.4187**	0.2064	-0.037	0.198	0.2808*	0.1697	0.0934	0.1563	-0.0342	0.2033
<i>SL_MED_DEBT</i>	-0.0235	0.0312	-0.0795*	0.0405	0.04	0.0441	-0.0253	0.0319	-0.0255	0.0302	-0.033	0.0371
<i>SL_MED_EXP/REV</i>	0.3255	0.3459	0.4345	0.4286	0.2732	0.4173	0.4139	0.3432	0.2295	0.3356	0.0795	0.4507
<i>POP</i>	0.0016	0.0033	0.0052	0.0041	-0.0009	0.0041	0.0016	0.0033			0.0042	0.0043
<i>SL_MED_POP</i>	-0.0112	0.0066	-0.0202**	0.0083	-0.0026	0.0079	-0.0143**	0.0066			0.0002	0.009
<i>SMALL_LARGE_NEIGHBORS</i>									-0.0421***	0.0155		
<i>LARGE_SMALL_NEIGHBORS</i>									0.0248*	0.0143		
<i>NUM_SIM_CHILDREN</i>	-0.0017	0.0113	-0.0061	0.0139499	0.0023	0.014	-0.0019	0.0114	-0.0036	0.0113	0.0134	0.014
<i>SAME_MAYORS_PARTY</i>	-0.0086	0.009	-0.0055	0.0110176	-0.0111	0.0108	-0.0071	0.0091	-0.0085	0.0087	-0.0061	0.0115
<i>NUMBER_NEIGHBORS</i>	0.0131	0.012	0.0238	0.0148415	0.0018	0.0146	0.0148	0.0122	0.0203	0.0123	0.0065	0.0153
<i>AVERAGE_TRAVEL_TIME</i>	-0.0095**	0.0046	-0.0098	0.0059919	-0.0091	0.0059	-0.0096**	0.0046	-0.0095**	0.0043	-0.0102*	0.0056
<i>NUM_SIM_NONGERMAN</i>	-0.0103	0.0216	-0.011	0.0271323	-0.0097	0.0268	-0.0148	0.022	-0.0228	0.0218	-0.0248	0.0271
<i>BORDERING_KS</i>	-0.09	0.0433	-0.0545	0.0529796	-0.1236**	0.0563	-0.1043**	0.0434	-0.1066***	0.0387	-0.095*	0.0532
County Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Field Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Wald χ^2	329.08***		129.75***		156.57***		315.34***		339.58***		240.28***	
Observations	3744		1869		1875		3755		3744		2689	
Groups	946		946		946		949		946		679	