

Decentralization of German municipalities and life satisfaction

Annette Illy*

Summary

During the last few decades, Europe – and in particular Germany – have been experiencing a wave of amalgamations among local units, leading to larger and more centralized counties and municipalities. The main goals of this process are to reduce costs and increase efficiency. While some research has been conducted on the latter, no studies to date have analyzed the impact on satisfaction of the inhabitants although this aspect has major policy implications. Municipalities – already faced with an ageing and shrinking population – might face additional outmigration if people are less satisfied. Furthermore, satisfaction also has an impact on other important economic aspects.

The literature on life satisfaction is usually concerned with individual determinants. Some analyses explicitly deal with institutions at the sub-national level and decentralization of the federation but not with local institutions. This study aims to reveal the impact of decentralized local institutions on individual satisfaction and other variables related to the satisfaction with local government.

To do so, data from Germany are used. Since Germany has a wide variety of institutional settings at the local government level, it is possible to identify the effects of decentralized vs. centralized settings. The results indicate that the municipality type has an influence on satisfaction and suggest a more comprehensive view on institutional reform at the local level.

Keywords: satisfaction, decentralization, local institutions

JEL Codes: H11, H40, I31

* Martin-Luther-University Halle-Wittenberg, Chair for Econometrics, Große Steinstr. 73, 06108 Halle (Saale), Germany, phone: 0049-345-5523388, fax: 0049-345-5527191, annette.illy@wiwi.uni-halle.de

1. Introduction

During the last decades, Europe has experienced a wave of amalgamations among counties and municipalities leading to larger and more centralized units. The first wave in Germany took place in the 1960s and 1970s in West Germany, with a second wave following since shortly after the reunification in East Germany. Two major forms of amalgamations are observed: larger units are formed either by true amalgamations in which several municipalities together form a new independent municipality; for example, small local governments in the vicinity of large cities are incorporated in those. The alternative is the formation of some kind of municipal association of several independent municipalities that delegate some tasks to a common administration, which leads to decentralized entities on the municipal level.

The goals of these amalgamations are mainly a reduction of costs and higher efficiency (Fox and Gurley 2006, Steinecke 2010) although the shrinking population in rural areas also poses a problem that higher level governments hope to resolve (Sachsen o. J.). While there is some research on these issues (c.f. Bönisch et al. 2011), no studies so far have analyzed the impact on satisfaction of the inhabitants in general and satisfaction with the municipality government and the goods and services provided by it in particular although this aspect has major policy implications. First, municipalities – already faced with an ageing and shrinking population – might face additional outmigration if people are less satisfied. Besides, involvement in the municipality might decrease (Rosenfeld et al. 2007). Second, while satisfaction or well-being can be a goal itself, it also has an impact on other important economic aspects such as worker productivity (Diener & Seligman 2004; Helliwell 2003).

From theory one would expect that people in decentralized municipalities are more satisfied with their local government and the goods and services provided by it. Information costs are lower at lower government levels and the preferences of the citizens can better and more easily be matched. Moreover, control will be easier in the smaller decentralized entities.

The literature on life satisfaction is usually concerned with individual determinants and country-level macroeconomic variables. A few analyses explicitly deal with institutions at the sub-national level (or other sub-national macroeconomic factors) (e.g. Frey and Stutzer 2000) or decentralization (Bjørnskov et al. 2008b; Diaz-Serrano & Rodríguez-Pose 2012) but not with local institutions.

This study aims to reveal the impact of decentralized local institutions on individual satisfaction in general and satisfaction with local government. An additional advantage compared to cross-country analyses is that the impact of institutions can be examined within in one country where the national setting and the cultural background is the same.

Satisfaction is one aspect of the so-called “subjective well-being” (SWB). Together with happiness it is one the most used concepts in this strand of literature. Numerous studies have shown that its validity is high, being a reliable and consistent proxy for subjective well-being (cf. Diener et al. 1999; Frey & Stutzer 2002). We find that local institutions do matter. People in decentralized settings, however, tend to be less satisfied and identify less with their municipality than in centralized settings.

The paper is structured as follows. In section 2 a short overview of the existing literature on satisfaction is presented. Section 3 introduces the German federal system, focusing on the municipality types. The theoretical relation between decentralization on the municipal level and satisfaction is discussed in section 4, concluding with the hypotheses to be tested. Data and method are explained in section 5 before the results are presented in section 6. Finally, section 7 concludes and discusses further research perspectives.

2. Literature review

There is vast literature on the determinants of life satisfaction. Good overviews can be found e.g. in Diener et al. (1999), Frey & Stutzer (2002), Di Tella & MacCulloch (2006), and Dolan et al. (2008). For a long time, the focus was on individual characteristics and situation, especially income and

unemployment (R. Winkelmann 2009; Boes & R. Winkelmann 2009; L. Winkelmann & R. Winkelmann 1998; Knies 2010; Lucas et al. 2004; Ferrer-i-Carbonell 2005; Clark 2003; Clark & Oswald 1994) but also marital status or age (Blanchflower & Oswald 2004; Stutzer & Frey 2006). In a cross-section setting income is generally found to have a positive but decreasing effect on subjective well-being. Many studies also point to the importance of relative income in contrast to absolute income. Unemployment consistently decreases satisfaction. Marriage has a positive influence and the relationship between age and satisfaction is usually u-shaped.

Especially in the recent decade, more and more studies have incorporated macroeconomic variables like unemployment rate and GDP per capita, usually on the national level in cross-country analyses (e.g. Helliwell 2003; Bjørnskov et al. 2008a; Stanca 2010; Graham & Pettinato 2001; Rodríguez-Pose & Maslauskaitė 2011). But increasingly, the national level is substituted with subnational levels, e.g. Chadi (2011) analyzing German states, Pittau et al. (2010) with a focus on the NUTS1 regions of Europe, Okulicz-Kozaryn (2012) using the NUTS2 regions in West Europe, Wassmer et al. (2009) analyzing US states and localities, and M. Hooghe & Vanhoutte (2011) studying Belgian communities). Some German studies even focus on neighborhood effects, e.g. Knies (2010) and Dittman & Goebel (2010).

While incorporating macroeconomic and other country variables, researchers have also started to examine the impact of institutions on well-being. Helliwell (2003) and more detailed Helliwell & Huang (2008) find that the quality of government positively influences satisfaction in a cross-country analysis. In the study of Bjørnskov et al. (2008a) a bicameral political system exerts a positive influence on satisfaction. (Dorn et al. (2007) and Owen et al. (2008) both find positive effects of democracy on well-being in cross-country studies.

One strand of literature analyzes the effect of direct democracy (and partly communal autonomy) in Swiss cantons, starting with Frey & Stutzer (2000). While they find a positive effect on life satisfaction, later studies by Dorn et al. (2008) and Stadelmann-Steffen & Vatter (2011) come to the opposite conclusion. In the first study, the inclusion of the individuals' mother tongue leads to the

insignificance of the direct democracy variable. Stadelmann-Steffen & Vatter (2011) find a positive procedural effect of direct democracy on satisfaction with democracy but no direct effect of direct democracy on life satisfaction.

The study that is most closely related to ours is by Bjørnskov et al. (2008b) who measure the impact of political and fiscal decentralization in the German states on life satisfaction. Political decentralization is measured with constitutional specifications granting legislative rights to sub-national levels and the share of non-central government employment spending. Both exert no significant influence in contrast to financial decentralization in terms of the share of transfers to sub-national governments in total sub-national revenues.

Diaz-Serrano & Rodríguez-Pose (2012) also focus on the relation between decentralization and life satisfaction and other satisfaction measures like satisfaction with government and democracy. Using data from the European Social Survey and additional regional variables, they find that both fiscal and political decentralization as measured by the Regional Authority Index (L. Hooghe et al. 2008) influence satisfaction.

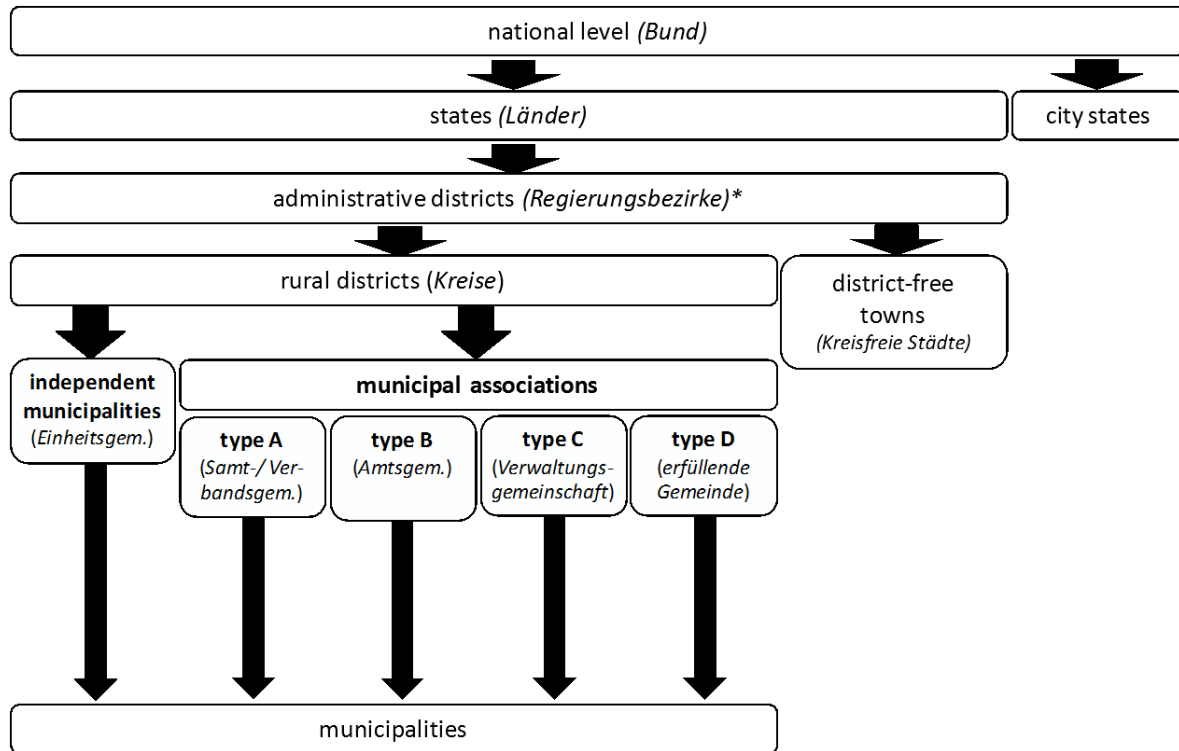
Finally, Voigt & Blume (2012) show on an aggregate level in a cross-country analysis that happiness is influenced by several aspects of decentralization, e.g. the sub-national share of expenditures and unconditional transfers from the national to lower governments.

3. Institutional background of German municipalities

Germany has several administrative and governmental levels. Below the national level are sixteen states, three of which are city states (Berlin, Hamburg, Bremen). These will be excluded in the following analysis because their organization differs from the other states. Seven states are subdivided into administrative districts, serving purely administrative purposes without a separate government. The next government level is rural districts. Most municipalities are part of a district

(district-affiliated municipalities) but some large cities have a special status as district-free towns, meaning that they are not part of a rural district and thus carry out both municipal and county tasks.

Figure 1: Institutional structure of Germany



* This level does not exist in all states.

Source: author's illustration

The basis of the German federalist system is formed by the municipalities. Many of them, however, are part of different types of municipal associations (c.f. Bogner 2007). They all have in common that they form a second government level on the municipal level and carry out certain municipal tasks on behalf of their member municipalities. In this way, the member municipalities maintain their autonomy but together reach the size necessary for adequate fulfillment of certain municipal tasks. Municipal associations are thus a form of decentralization on the municipal level.

Type A municipal associations have the strongest associational level. Both the municipal and the associational government are elected directly by the inhabitants entitled to vote. Furthermore, they have their own income; they receive money from the municipal financial equalization. Their tasks are not only administration but also a wide range of services of general interest, e.g. construction and

maintenance of welfare centers, nursing homes, and sports facilities, fire protection, water supply, and sewage disposal.

Type B, C, and D associations are quite similar. In contrast to type A associations, the associational government is not directly elected but consists of the mayors and other members of the municipal councils. The main tasks of these associations are administration for and consultation of the member municipalities. They are also responsible for certain other tasks, e.g. town planning, and municipalities can voluntarily transfer additional tasks. The main difference between type B associations on the one hand and type C and D associations on the other hand is that type B associations get their main income from the municipal financial equalization. Type C and D associations have to rely on contributions and compensations from their member municipalities. While for type C associations a joint administration office is set up, in type D associations one of the member municipalities (usually the largest) provides its administration facilities. The mayor of this municipality providing the administration usually is also chairman of the municipal association.¹

Municipalities that are not part of municipal associations are called independent municipalities. They have just one layer of government.

Table 1: Overview of types of municipal associations

Municipal associations	States
Type A (Samt-/Verbandsgemeinden)	Lower Saxony/Rhineland-Palatinate
Type B (Amtsgemeinden)	Schleswig-Holstein, Brandenburg, Mecklenburg-West Pomerania
Type C (Verwaltungsgemeinschaft*)	Bavaria, Baden-Württemberg, Saxony, Lower-Saxony, Thuringia
Type D (Verwaltungsgemeinschaft mit erfüllender Gemeinde*)	Baden-Württemberg, Saxony, Lower-Saxony, Thuringia

* names differ among the states

Source: author's compilation

¹ Each state has its own municipal law defining the arrangement of the municipal associations. Minor differences exist in legal details and names.

4. Decentralization and satisfaction

The aim of this paper is to analyze the relationship between decentralization on the municipal level and satisfaction of the inhabitants. Before presenting the empirical evidence, the expected results are formulated.

There are several reasons why satisfaction with local government and the services provided by it might differ between different municipality types. It is important, however, that all of them require a comparison between municipalities of similar size (that is independent municipalities and municipal associations) to be meaningful.

The main concern of the citizens is whether local goods and services closely match their preferences. Lower government levels can better fulfill this task (Frey & Eichenberger 1999). In general, information costs are lower for lower levels of government and lower in smaller entities. Therefore municipal associations that are of similar size as independent municipalities have an advantage. Their lower government levels are smaller and closer to the citizens. Comparing the different types of associations, types B, C, and D might make decisions closer to the preferences of their citizens as more tasks remain at the municipal compared to the associational level. Type A associations delegate more competences to the associational level. Since this is directly elected, type A associations are nevertheless expected to perform better in this respect than independent municipalities.

A second argument concerns information asymmetries. Principal-agent relationships exist between the voters and the municipal council. As the agents are better informed than the principal they have an incentive to promote prestigious projects to gain votes. Again, citizens' control will be easier in several smaller municipalities of a municipal association than in independent municipalities (Diaz-Serrano & Rodríguez-Pose 2012). Moreover, the associational level's government is controlled by several municipality governments so that an additional restraint is installed in municipal associations.

Closely connected to this issue is one of the main instruments that citizens have, their 'voice' (Hirschman 1970). The influence of each citizen's vote is higher in smaller entities that exist in municipal associations. Assuming heterogeneous preferences, frustration costs will be lower in decentralized than in centralized municipalities (Pennock 1959).² Since in type A associations both government levels are elected directly, voters have the highest influence in that type. The legitimization of these municipal associations is highest.

The second instrument of citizens is 'exit' (Hirschman 1970). If there are many small and decentralized municipalities compared to few large centralized ones, interjurisdictional competition will work better as information and migration costs are lower. Moreover, the Tiebout model of voting with the feet which will lead to a better match of local services and citizens' preferences also requires a large number of communities (Tiebout 1956).

Finally, municipal associations have the advantage that the possibilities for voluntary activities in the local government are higher, leading to increased acceptance of and identification with the municipality (Rosenfeld et al. 2007).

The previous considerations lead to the following hypotheses:

Hypothesis 1:

People in decentralized municipal settings, that is living in municipalities that form municipal associations, are more satisfied with the local government and the services provided than people living in independent municipalities.

Hypothesis 2:

There is no difference in satisfaction with local government and the services provided between citizens of the different types of municipal associations.

² A similar argument can actually be constructed for the matching of local goods and services to the citizens' preferences.

5. Data and method

In this section the data used for analyzing the impact of local institutions on satisfaction are presented and the methodology is explained. Due to the fact that there is no dataset available containing all the information that would be necessary to test the research hypotheses directly, several proxies of the variable of interest are presented to find evidence in favor of the hypotheses.

5.1 Data

The analysis is based on data from the German Socio-Economic Panel (SOEP) for 2009 and 2001. This is a longitudinal household survey containing data on the municipal level which is carried out every year among about 20,000 adults in Germany (Wagner et al. 2007). Data on the municipality type as well as economic indicators on the county state level are taken from the Federal Statistical Office. The sample is restricted to people not living in city states since these combine several government levels.

Three different dependent variables are used in this study to find evidence for the hypotheses stated in chapter 4 since no variable focuses directly on that issue. The first one is overall life satisfaction. In the SOEP, respondents are asked about how satisfied they are with their life in general. In the literature on subjective well-being, this is the main measure of SWB. As satisfaction with the local government is a part of general satisfaction, it is a good proxy. Two other variables are more closely connected to the municipal aspect of this study and can also be subsumed under the subjective well-being analysis. These are how strong identification is with the municipality and satisfaction with the local supply of goods and services. Both variables should be highly correlated with how satisfied people are with local government/local administration but nevertheless they measure different aspects of the concept in question; especially the last variable might be more related to private good provision.

Table 2: Variable description

Variable	Description
<i>Independent variables</i>	
life satisfaction	life satisfaction, categories 0 to 10, 10=very satisfied
identification with municipality	identification with municipality, categories 1 to 4, 4=very strong identification
satisfaction with local goods and services	satisfaction with local goods and services, categories 0 to 10, 10=very satisfied
<i>Explanatory variables</i>	
<i>Individual variables</i>	
sex	1=female, 0=male
age	age in years
age ²	age squared
foreign	1=no German citizenship, 0=German citizenship
neurotic	neuroticism
extravert	extraversion
conscientious	conscientiousness
open	openness to experiences
agreeable	agreeableness
years_education	years of education
employment status	base group: full-time work
selfemployed	1=self-employed, 0=otherwise
part_time	1=part-time work, 0=otherwise
student	1=student, 0=otherwise
retired	1=retired, 0=otherwise
housewife	1=housewife/-man, 0=otherwise
unemployed	1=unemployed, 0=otherwise
other_non_empl	1=other non-employment status, 0=otherwise
income	Log of equalized household income (according to OECD modified scale ³)
family status	base group: married
single	1=single, 0=otherwise
divorced	1=divorced, 0=otherwise
widowed	1=widowed, 0=otherwise
separated	1=separated, 0=otherwise
children	1=children living in household, 0=otherwise
bad_health	1=bad health, 0=good health
<i>Municipal and regional variables</i>	
East	1=living in East Germany, 0=living in West Germany
size of town	base group: up to 5,000 inhabitants
town_small	living in municipality with 5,000 to 20,000 inhabitants
town_med	living in municipality with 20,000 to 100,000 inhabitants
town_large	living in municipality with more than 100,000 inhabitants
GDP	GDP of the rural district in 2009 per capita
unempl	unemployment rate in the rural district in 2009 (%)
mun_type	base group: share of inhabitants in independent municipalities
type_A1	1=type A1 municipalities (Samtgemeinde), 0=otherwise
type_A2	1=type A2 municipalities (Verbandsgemeinde), 0=otherwise
type_B	1=type B municipalities (Amtsgemeinde), 0=otherwise
type_C	1=type C municipalities (Verwaltungsgemeinschaft), 0=otherwise
type_D	1=type D municipalities (Verwaltungsgemeinschaft mit erfüllender Gemeinde), 0=otherwise

Source: author's compilation

³ (OECD o. J.)

The two satisfaction variables are measured on an 11-point scale of which only the endpoints are verbalized. Identification with the municipality is measured on a 4-point scale of which all answer categories are verbalized.

The independent variables on the individual level are chosen according to the literature (c.f. the overview in Dolan et al. 2008). They include sex, age, years of education, employment status, income, family status, children, and health. Details can be found in table 2.

Table 3: Descriptive statistics

Variable	N	Mean	Std. Dev.	Min	Max
life satisfaction	16782	6.964	1.763	0	10
identification with municipality	16783	3.101	0.760	1	4
satisfaction with local goods	11469	6.436	2.629	0	10
sex	16783	0.520	0.500	0	1
age	16783	50.667	16.919	17	100
foreign	16783	0.053	0.225	0	1
income	16783	7.355	0.505	4.094	9.999
years_education	16783	12.255	2.696	7	18
selfemployed	16783	0.061	0.240	0	1
part_time	16783	0.109	0.311	0	1
student	16783	0.044	0.206	0	1
retired	16783	0.272	0.445	0	1
housewife	16783	0.062	0.242	0	1
unemployed	16783	0.052	0.222	0	1
other_non_empl	16783	0.047	0.212	0	1
single	16783	0.207	0.405	0	1
divorced	16783	0.085	0.278	0	1
widowed	16783	0.069	0.254	0	1
separated	16783	0.018	0.132	0	1
children	16783	0.276	0.447	0	1
bad_health	16783	0.180	0.384	0	1
open	16783	-0.040	1.425	-6.785	5.210
conscientious	16783	0.028	1.359	-7.931	2.656
extravert	16783	-0.022	1.318	-4.481	3.455
neurotic	16783	0.016	1.310	-3.657	3.881
agreeable	16783	0.005	1.273	-5.702	3.036
type_A1	16783	0.015	0.122	0	1
type_A2	16783	0.026	0.160	0	1
type_B	16783	0.032	0.176	0	1
type_C	16783	0.069	0.254	0	1
type_D	16783	0.078	0.269	0	1
GDP	16783	28085.440	11261.390	13226	83624
unempl	16783	8.344	3.556	2.2	18.3
town_small	16783	0.286	0.452	0	1
town_med	16783	0.298	0.457	0	1
town_large	16783	0.244	0.429	0	1
East	16783	0.249	0.432	0	1

Source: author's calculation

An important aspect of individual determinants is the personality. It has been shown that these time-invariant factors are essential for explaining satisfaction when panel data are not available

(Ferrer-i-Carbonell & Frijters 2004). Here measures of the “Big Five” personality traits (Goldberg 1990) are used, i.e. openness, conscientiousness, extraversion, agreeableness, and neuroticism. They are derived from self-reports of the respondents to 15 questions using a factor analysis with orthogonal varimax rotation.

In addition, two other variables, GDP and the unemployment rate, describing the rural are taken into account.⁴ They are also based on the literature (e.g. Bjørnskov et al. 2008a; Helliwell 2003) but in contrast to many other studies they are not national values. Finally, the size of the municipality is considered.

Due to missing values, quite a few observations have to be excluded. Many of them are due to missing income data. Controlling for those missing values did not have an influence on the results.

Descriptive statistics of all variables can be found in table 3.

5.2 Method

An ordered probit model is estimated. Often it is assumed that the endogenous variables of subjective well-being are cardinal and therefore OLS is applied. Ferrer-i-Carbonell & Frijters (2004) have shown that this makes little difference. In this study the ordered probit seems more appropriate at least for the dependent variable that is scaled from one to four. Nevertheless, OLS results are remarkably similar in terms of sign and significance of the coefficients. Robust standard errors are calculated taking into account the correlation within municipalities (Moulton 1990).

Ferrer-i-Carbonell & Frijters (2004) also show that results are much more sensitive to the choice between cross-section and estimation methods allowing for fixed effects. They argue that fixed effects to account for time-invariant unobservables or personality traits should be included. This strategy is followed here.

⁴ Since data availability precludes the inclusion of municipal GDP, both variables are measured on the district level.

As Diener & Seligman (2004) and many others point out, the causal direction between many of the explanatory variables and subjective well-being is not clear. Instrumenting for all these variables, however, is not possible. In the case of the institutions studied here, it seems unreasonable to assume that they are endogenous. Most municipalities in West Germany have not changed their type or territory for decades. The recent reforms in East Germany were pushed by higher level governments to save costs and increase efficiency. Inhabitants usually had no impact on the reform and even if amalgamations were voluntarily agreed to, this was usually to prevent forced changes. All recent reforms set a minimum number of inhabitants for remaining an independent municipality.

6. Results and discussion

Results for the ordered probit estimation for all three dependent variables are reported in table 4. The first two models are best comparable with the previously mentioned literature on subjective well-being. Regarding the municipality types, I find in model I that satisfaction is significantly lower in type C and D associations than in independent municipalities. For the other association types, no significant difference from independent municipalities is found. Once the dummy for East Germany is included, however, even these two significant effects also vanish (model II). Thus, with regard to life satisfaction, the first hypothesis has to be rejected. In addition, Wald tests show that the coefficients for the different types are not the same so that hypothesis 2 is rejected.

In the regression with identification with the municipality as dependent variable (model III), people living in type A2, B, and D associations report significantly lower scores than in independent municipalities. Again, the parameters estimated for the different types are not the same.

For model IV with satisfaction with local goods and services, a significantly negative coefficient is found for type B associations. Thus, people in this type of municipal association are less satisfied with the supply of goods and services in their town.

Table 4: Regression results

	life satisfaction 2009		life satisfaction 2009 with dummy East Germany		identification with municipality 2009		satisfaction with local goods and services 2001	
	(I)		(II)		(III)		(IV)	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
sex	0.108 ***	0.019	0.111 ***	0.019	-0.029	0.019	-0.011	0.019
age	-0.037 ***	0.004	-0.036 ***	0.004	0.010 **	0.004	0.000	0.006
age ²	0.000 ***	0.000	0.000 ***	0.000	0.000	0.000	0.000	0.000
foreign	0.005	0.050	-0.009	0.050	-0.460 ***	0.044	0.057	0.060
income	0.325 ***	0.024	0.313 ***	0.024	0.088 ***	0.027	-0.015	0.038
years_education	0.008 **	0.004	0.011 ***	0.004	-0.035 ***	0.004	-0.007	0.005
selfemployed	-0.075 **	0.036	-0.076 **	0.036	-0.090 **	0.039	0.065	0.052
part_time	0.008	0.030	0.002	0.030	-0.003	0.032	-0.035	0.036
student	0.129 ***	0.047	0.126 ***	0.047	-0.090 *	0.053	-0.088 *	0.053
retired	0.100 ***	0.035	0.101 ***	0.035	-0.010	0.037	0.040	0.043
housewife	0.126 ***	0.039	0.109 ***	0.039	-0.093 **	0.044	-0.037	0.039
unemployed	-0.337 ***	0.047	-0.338 ***	0.047	-0.214 ***	0.046	-0.013	0.046
other_non_emp	-0.009	0.042	-0.019	0.042	0.007	0.043	0.075	0.057
single	-0.210 ***	0.033	-0.204 ***	0.033	-0.061 *	0.034	0.064	0.040
divorced	-0.221 ***	0.034	-0.222 ***	0.034	-0.248 ***	0.035	0.068	0.043
widowed	-0.198 ***	0.039	-0.202 ***	0.039	0.073 *	0.040	-0.056	0.052
separated	-0.438 ***	0.065	-0.445 ***	0.065	-0.260 ***	0.072	0.160 *	0.087
children	0.071 ***	0.026	0.066 **	0.026	0.048 *	0.029	-0.025	0.033
bad_health	-0.784 ***	0.025	-0.788 ***	0.025	-0.143 ***	0.025	-0.147 ***	0.031
open	0.073 ***	0.007	0.071 ***	0.007	0.000	0.008	-0.001	0.011
conscientious	0.048 ***	0.008	0.047 ***	0.008	0.021 ***	0.008	0.037 ***	0.010
extravert	0.045 ***	0.007	0.045 ***	0.007	0.062 ***	0.008	-0.003	0.009
neurotic	-0.189 ***	0.007	-0.188 ***	0.007	-0.002	0.008	-0.029 ***	0.009
agreeable	0.089 ***	0.008	0.090 ***	0.008	0.057 ***	0.008	0.066 ***	0.010
type_A1	-0.009	0.094	-0.085	0.095	0.080	0.102	0.091	0.192
type_A2	-0.017	0.067	-0.053	0.067	-0.217 ***	0.072	0.152	0.116
type_B	-0.003	0.072	-0.017	0.070	-0.128 *	0.067	-0.174 *	0.105
type_C	-0.092 *	0.047	-0.072	0.047	-0.022	0.054	-0.039	0.114
type_D	-0.078 **	0.039	-0.036	0.040	-0.091 *	0.051	-0.047	0.066
GDP	0.000	0.000	0.000 *	0.000	0.000 **	0.000	0.000	0.000
unempl	-0.023 ***	0.003	0.000	0.005	-0.010 *	0.006	-0.003	0.008
town_small	-0.024	0.039	-0.049	0.039	-0.069	0.045	0.469 ***	0.081
town_med	0.003	0.042	-0.050	0.042	-0.138 ***	0.049	0.719 ***	0.084
town_large	0.118 **	0.051	0.031	0.050	-0.025	0.057	0.888 ***	0.087
East			-0.255 ***	0.043	0.149 ***	0.049	-0.058	0.084
/cut1	-1.964		-1.953	0.214	-1.656	0.229	-1.410	0.338
/cut2	-1.610		-1.599	0.207	-0.558	0.228	-1.179	0.341
/cut3	-1.143		-1.132	0.205	0.850	0.228	-0.911	0.340
/cut4	-0.667		-0.655	0.203			-0.640	0.339
/cut5	-0.299		-0.287	0.204			-0.448	0.339
/cut6	0.377		0.390	0.205			-0.093	0.337
/cut7	0.812		0.825	0.205			0.205	0.336
/cut8	1.488		1.503	0.205			0.622	0.336
/cut9	2.535		2.552	0.206			1.321	0.335
/cut10	3.272		3.292	0.208			1.836	0.334
N	16782		16782		16783		11469	
Pseudo R ²	0.078		0.079		0.029		0.029	

Notes:

ordered probit estimation with standard errors adjusted for 2334 clusters (municipalities) (1689 clusters in model IV)

***, **, and * indicate significance at the 1%, 5%, and 10% significance level, respectively.

Source: author's calculation

All in all, the findings regarding the effect of municipality types are unexpected and contradict the hypotheses in chapter 4. The evidence found here implies that people in centralized municipalities are equally or even more satisfied than people in more decentralized municipalities. The findings are also very robust to sample restrictions (e.g. small municipalities in terms of population, municipalities with similar population density, with and without district-free towns) and different sets of control variables.

However, one has to keep in mind that the dependent variables are all proxies for satisfaction with the local government and the public goods and services provided. Satisfaction is a very broad concept, encompassing satisfaction with local government but also many other aspects of life which might be valued more highly. Identification with the municipality is more closely related to the municipality aspect of the research question. . However, even if someone is satisfied with local government, he might not identify himself strongly with the municipality he is living in. An example could be a person that recently moved and still identifies more strongly with the previous municipality. Some people might not find this concept important at all and therefore report low identification. Another problem with that question is that it is not clear which municipal level it refers to. The last variable, satisfaction with local goods and services, is probably interpreted by the respondents as referring to the availability of goods in the town, that is the number and range of stores. Thus, the dependent variables are possibly not quite adequate measures for the topic in question.

The other determinants that are significant in the satisfaction equation mostly support previous findings. There is a u-shaped effect of age; thus younger and older people are more satisfied with life. Personality is an important factor in explaining satisfaction. All five traits are significant with the expected signs. Both income and years of education have a significantly positive effect. Most of the employment variables are also significant: Students, pensioners and housewives on average report higher satisfaction while unemployed are much less satisfied than fully employed people. As in

previous studies, singles, divorced, widowed, and separated people are less satisfied compared to the base group married people. Bad health also has a strong negative effect.

Turning to the regional variables, the dummy for East Germany is significantly negative. Thus people in East Germany report lower happiness scores than in West Germany. This is in line with results from e.g. Bjørnskov et al. (2008a) and Helliwell (2003) for Eastern European countries. People living in large cities are more satisfied than those in very small ones but this effect is only found if I do not control for East Germany. The same holds for the negative effect of the unemployment rate in the district. It is a bit surprising that this effect also vanishes once East Germany is controlled for although this might be the result of higher unemployment rates in the Eastern part of Germany. GDP per capita in the district is positive but the effect is very small.

The determinants of identification with the municipality are relatively similar to those of the satisfaction model. Satisfaction with local goods and services, however, is obviously mainly driven by other factors than those in the model; only a few variables are significant here. The results for the municipality size – much higher satisfaction the larger the municipality – supports the view that this dependent variable is more about private goods provision.

7. Conclusion

The trend in Germany and other European countries to larger and more centralized municipalities is still continuing. However, no study so far has analyzed its effects on the satisfaction of the citizens. Therefore, using ordered probit models, the impact of different municipality types on different measures for the satisfaction with local government and the goods and services provided is estimated for Germany. The satisfaction literature is extended by considering a low regional level and incorporating new institutional aspects.

We show that the municipality type does have an influence on satisfaction. In particular, people living in certain types of municipal associations report lower satisfaction and identification with the

municipality. Thus, there is evidence that the trend towards centralization of municipal structures increases overall satisfaction and thus well-being of the country. Future municipality reforms therefore should take into account not only direct cost and efficiency effects.

Nevertheless, further research is necessary to determine the effects of the different municipality types. In that respect, a panel analysis should provide some more insights. It would also be interesting to analyze which aspects of the municipality types lead to the observed results.

Also the problem of endogeneity of several explanatory variables has to be kept in mind. Future research should try to identify instruments that can be used to account for endogeneity in the satisfaction analysis.

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