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Political representation of geographical units in amalgamated municipalities

Introduction

The municipal amalgamations are a constant factor of subnational reforms. Amalgamation can be easily seen as the electoral reform, which increases the borders and population of the electoral district. However, to its inherent effects belong also the demographic change and the loss of powers of representatives from the formerly independent jurisdictions. While all representatives lose the power in comparison to the previous status quo (as they cannot longer independently decide about distribution of public goods touching their unit), especially the smaller and peripheral units lose more than bigger and central units, because the chance that they can influence the decision-making process on behalf of their jurisdiction is lower.

Political effects of municipal amalgamations have been studied mostly at the aggregate level of whole amalgamated municipalities. The aggregate level, however, cannot reveal the possibly various effects of amalgamation on inhabitants of different units. Descending to the level of individual units shows that some units can be advantaged while others can be disadvantaged. Increasing relative size of the unit influences the chance to be represented. The centrality of the unit defines the symbolic position of the unit, accessibility of political information and location of public goods. Geographical under-representation or even the absence of representation can be a problem for the quality of local democracy. It is therefore important to find out if this threat is real.

This paper deals with the effect of amalgamation on the political behavior of geographical units in amalgamated municipalities in the Czech Republic. The research question is: how do various features of units in amalgamated municipalities (characteristics of community, centrality) influence the descriptive geographical representation of units in amalgamated municipalities?

Economic and political effects of amalgamation are usually studied only on the level of the whole amalgamated municipality. Therefore, we know very little about the distribution of its results into the smaller geographical units (former independent jurisdictions). Opposing

(usually small) units traditionally complain that they become disadvantaged due to the amalgamation. They lose the right to dominate the decision-making process regarding their interests because the representative body of the amalgamated municipality is composed of the representatives of all units in the municipality.

The paper is structured as follows: in the theoretical part, the concept of geographical representation in local governance is shortly introduced, and the political effects of amalgamation on the level of whole municipality, as well as on individual geographical units, are discussed. The hypotheses concerning the effects of relative size and central/peripheral divide on the representation of units are then formulated. Because the analysis uses the data of Czech amalgamated municipalities, the third chapter describes main elements of the system of municipal governance in the Czech Republic. It is important to note that the forced amalgamation took place in the era of communism, therefore, the paper is focused on long-term effects of amalgamation. The empirical part of the paper tests the hypotheses on data containing three electoral periods (2006, 2010, 2014). Multilevel binomial logit regression is used for the analysis. The last chapter summarizes the results and formulates conclusions about the long-term effects of amalgamation on representation of geographical units in Czech amalgamated municipalities.

Descriptive representation in local government

The concept of political representation defines the relation between the representative and the represented, with the representative holding the authority to perform actions that incorporate the agreement of those who are represented (Rao 1998: 20). Two interrelated dimensions of representation are usually studied: the descriptive dimension concerns the question of whose interests do legislators represent – to who are they *standing for* in Pitkin's terms. The substantive dimension asks how the citizens are represented, i.e. how do they *acting for* their community (Pitkin 1967). From the descriptive point of view, the ideal representative body shall mirror the politically relevant characteristics of the represented community (Pitkin 1972: 60-91). To the politically relevant characteristics are traditionally counted the race (Karnig, Welsch 1990), class (Manza, Brooks 2008), or gender (Bratton, Ray 2002, Mansbridge 1999). To ensure the substantive representation of a community, the representative body shall reflect the interests of the community in its decisions. The descriptive representation does not guarantee the substantive acting of representatives. However, according to Pitkin, “we tend to assume that people's characteristics are a guide to the actions they will take.” (Pitkin 1967:

89) *Standing for* representation is thus theoretically expected to result in *acting for* representation. Also in practical politics, the descriptive representation of some characteristics leads to the expectation that the represented group will bring a different set of attitudes and interests into the process of decision-making. For example, increasing number of women in the politics increases the expectation that the everyday life, especially for women, will change (Bratton, Ray 2002). Study of descriptive representation is therefore reasoned by the assumption of the substantive representation of the community by the representatives.

Geographical representation defines the group of represented territorially. The represented group are the citizens living on some territory, which is a part of a bigger area. In national politics, the geographical representation of historical regions or electoral constituencies is often studied. The interests of the geographically defined group belong to earliest historically recognized interests and are considered as a relevant basis for political representation (Bengtsson, Wass 2011). People living on the same distinct territory are expected to have common interests, cultural identities and community perspectives to be represented as “communities of interest”. Local representatives seem to be “best equipped to represent these perspectives in so far as they are ‘one of them’ and share their defining experiences (for instance, their ‘rural-ness, their ‘northern-ness’, their sense of isolation, caused by their distance from centres of decision-making and so on)” (Brito Vieira, Runciman 2008: 117-118).

Representatives of the territorial area are thus considered to be the speakers of their geographical unit (Valen et al. 2010). Local representatives are expected to be in contact with citizens of their units and to belong to the same social community as their voters (Manin 1997: 202-203). They are thus expected to defend the interests of people in their geographical unit. If geographical representation is not institutionally guaranteed, some geographical territories can be represented unequally, and so, they can suffer from the inability to reflect their interests in the representative body. The descriptive geographical representation is usually studied at the national level. Representation of geographical communities is, however, important also at the local level where the politicians and citizens are the closest. Especially in the amalgamated municipalities, where more geographical communities coexist, the problem of unequal geographical representation can be very salient.

The process of amalgamation means the mergers of unitary municipalities into one bigger municipality. Generally, the process can be understood as the electoral reform, which increases the absolute number of voters, candidates, and the number of elected offices (Saarimaa, Tukiainen 2016: 32). The process is, however, much more complicated and its

long-term political consequences are not broadly discussed. Yamada (2016) suggests that amalgamation means not only the change of the population size but also the change of the demographic composition of the municipality. The amalgamation apparently cannot immediately erase the geographical identities of formerly unitary jurisdictions. The political consequence of the amalgamation is the decrease of power of all units. In the non-amalgamated municipality, the representatives used to decide independently about the whole pool of problems touching the interest of their jurisdiction. In the amalgamated municipality, the representatives must share the competencies with representatives from other units. According to Olson's (1969) principle of fiscal equivalence, the ideal institutional setting of government should ensure the "congruence between the geographical scopes of government actions and their financing". However, the decision-making process in amalgamated municipalities rarely reflects the geographically defined interests and breaks the principle of equivalence. The institutional setting often results in so-called centralized municipality. Centralized municipality concentrates all competencies in the provision of public goods and services at the central level of local government. Decisions on a number of public goods provision are taken and implemented by one municipal council, which is elected in one election. The geographic communities thus can be ignored in the division of public goods (Michelsen et al. 2014) and even disadvantaged in the distribution of negative decisions.

A lot of decisions, which are taken by the municipal representative body in the centralized municipality can, however, have the biggest impact on only one community – positively or negatively. Assume the case of decision about the location of a new swimming pool. The benefit of the swimming pool goes primarily to the community where it will be located (citizens living closely will use it), while the costs go from the common money of the entire municipality, also from the communities which have smaller or no benefit from it. Alternatively, when the municipality needs to cancel some school, the negative effect goes primarily to the touched community (parents must ensure alternative transport of their children to other parts of the municipality). The decision, however, is taken by the whole municipality representatives, and the affected community has no special veto right to defend itself.

The political competition in the amalgamated municipality thus can be understood as the struggle for dominance above other communities to ensure benefits into their own local community. If the guarantee of representation of the community institutionally lacks, the political power of citizens living in more populated units increases and the risk that smaller geographical units are not represented in decision-making body deciding about their unique

interests is high (Michelsen et al. 2014). Under-representation of the unit or even absence of representation very probably leads to the disadvantage of the unit in the distribution of public goods, and to dissatisfaction with the functioning of local democracy in amalgamated municipality. Citizens and representatives of non-amalgamated municipalities recognize this danger very well. Small municipalities often oppose to amalgamations (Dur, Staal 2008; Spicer 2005) and the representatives vote for amalgamation only if their representation in amalgamated municipality is highly probable (Hyytinen et al. 2014). Acceptance of amalgamation is more probable if the unit can have decisive power in amalgamated representative body (Miyazaki 2014).

Not only the size of the individual unit but also the composition of units in the municipality plays its rule the thinking of citizens. It makes the difference when the large municipality (greater than 50% of future municipality) merges with a couple of very small units, and when similar sized units consolidate (Jakobsen, Kjaer 2016; Bönish, Michelsen, Geys 2015). In the first case, small units can be easily dominated by the biggest unit while in the second case, coalitions of units can cooperate to reach their common (for example rural/urban) goals.

Besides the change in powers of the formerly unitary jurisdictions, the merger establishes the new center and periphery of the amalgamated municipality. The determination of the central unit can follow the size, geographical or historical importance of the unit. In the Czech context, the center is defined symbolically by the location of the local office. The center of the municipality usually holds the financial and cultural activities (Jakobsen, Kjaer 2016, Saarimaa, Tukiainen 2016, Swianiewicz 2010). The inhabitants of peripheral units are thus not only geographically, but also symbolically distant from the political, economic and cultural life of the municipality. To participate in it, they must express greater motivation than the inhabitants of the central unit. Usually, (but not necessarily) is the central unit the biggest one in the municipality. The inhabitants of peripheral units thus can feel being dominated twice: by their symbolical disadvantage, and by their size.

Hypotheses

Descriptive geographical representation of units can be understood as the result of local candidates running for office, added by the electoral support of people from their unit. Without the existence of local candidates, the representation of the unit is not possible. On the side of voters, voters are expected to perceive the unit-based identity as the most important characteristics, according to which they decide to cast their vote. Not only the sufficient

electoral support in the unit but also voting for local candidates is important. In this chapter, I suppose that candidates and voters in geographical units of amalgamated municipalities react on the characteristics of their units within the municipality. They can be motivated or de-motivated to three kinds of political participation: the running for candidacy, electoral turnout, and voting for local candidates (it must be noted that only the citizens, who decide to vote can vote for the candidates of their geographical unit). The arguments about the effects of amalgamation on geographical representation thus must incorporate the thinking about possible effects on 1) the decision to run for office in the unit, 2) the effect on voter turnout in the unit, and 3) the effect on voting for local candidates. Because it is relatively easy to put an own list of candidates I do not take into consideration the effect of party nomination process.

1. The effect of community of geographical unit on representation in an amalgamated municipality

There are several characteristics of community, which can affect the representation arose from the community. Following the key findings in literature on participation, the most important factors are size, stability and homogeneity of community. In this study, the crucial one is size. In the centralized municipalities, where the representation of geographical units is not institutionally guaranteed, the relative size of the unit determines the power of the unit in the decision-making body of the whole municipality. Under proportional representation system, the unit of 100 inhabitants has bigger chance to elect its candidates to the local council, when the municipality size is 200 inhabitants than when the size is 10 000 inhabitants. The simple fact influences the motivation of candidates and voters.

Running for office: Saarimaa and Tukiainen (2016) showed the example of Finish amalgamation that immediately after the amalgamation decreased the overall number of candidates due to a limited number of candidates on the candidate lists. Jacobsen and Kjaer (2016) presented the optimistic point of view. According to them, immediately after the amalgamation, the fear of small units from the domination of the biggest unit leads to mobilization of candidates. Contrary, the biggest unit does not perceive the fear and does not mobilize to candidacy. In the case of Danish elections, the over-representation of the periphery composed of the smallest units was found. However, the authors note that the mobilizing effect of the disadvantaged periphery decreases in time. Voda et al. (2017) bring the pessimistic view on candidacy in disadvantaged units, which however is in line with

Jacobsen and Kjaer. Following the argumentation of Lawless (2012), the authors expect that when the community perceives itself as a disadvantaged minority, the motivation to run for office minimizes. Additionally, the final decision from the (smaller) pool of potential candidates is limited by the relative size, too. The decision to run for office is likely when the expected benefit from candidacy is bigger than costs (Black 1972). Thus, the increase in relative size shall increase the chance of candidacy. The study of units in Czech municipalities confirmed the expectation: increase of relative size of the unit increases the relative number of candidates in the unit.

Electoral turnout: The optimistic argument of Jakobsen and Kjaer (2016) was presented also to electoral turnout. Kraaykamp et al. (2001) found a clear negative relationship between the size of the whole municipality and the electoral turnout in Dutch municipalities. Similarly, Horiuchi et al. (2015) found a significant decrease of turnout in municipalities with the history of amalgamation. Looking at the lower level, fear of being dominated shall lead to the bigger electoral turnout in small units. The empirical evidence about disappearing effect in time was, however, applied also to the electoral turnout. So, how does the effect look like in long-term perspective? Hajnal and Lewis (2003) found that the decrease of power of representatives leads to decrease in voter turnout. The problem of weakening power should be especially present in small units, because of the smaller chance to reach the representation. Contrary, the power of big units is increasing, because their power increases – their representatives can decide not only about their unit but also about the other units in amalgamated municipality. Thus, there should be motivating effect of an increase in the relative size of the unit. Bönisch et al. (2015) showed in the case of German municipalities that electoral turnout in the whole municipality decreases with the increase of the size of the biggest unit (meaning a decrease of a chance of small units for representation). Thus, the increase of size does increase the electoral turnout in the geographical unit.

Voting for local candidates: Over-representation of disadvantaged units was explained by Jakobsen and Kjaer as the result of coordination of votes for local candidates. Bigger units, however, do not challenge such a threat and are not motivated to vote according to local interests. Contrary to this expectation, Saarimaa and Tukiainen (2012) found out at the Finish case that while local representation is important, voters are not willing to cross party lines in order to guarantee local representation. Thus, the evidence on this question is mixed.

To sum up: the increase in relative size of the unit is expected to lead to increasing in the number of candidates and the electoral turnout in the unit, and there is the unclear effect of size on the vote for local candidates. However, the effect of voting for local candidates is

strongly tied with the offer of local candidates. So, the effect of relative size is expected to be positive. Thus:

H1: The increase in the relative size of the geographical unit in amalgamated municipality does increase the representation of the unit in the local council.

Besides the size, there are other characteristics of community which can affect the representation of the unit in local government. These aspects are especially stability and homogeneity of society. Some authors also claim that concentration of population is important but in the analysed case, it is hardly possible to get valid measure.

Running for office: More “coherent” communities can more easily force people to candidacy. According to Cohen (1982) cohesion of community increases group solidarity and thus also ‘social pressure’. Therefore, political participation including candidacy should increase with higher degree of socio-economic, racial or ethnic homogeneity.

Electoral turnout: The effect of stability and homogeneity on electoral turnout is well documented. According to Geys (2006) population stability can be expected to increase turnout rates for three reasons: *Firstly, a stable population increases feelings of identification and group solidarity (Hoffman-Martinot, 1994; Ashworth et al., 2002) and thereby ‘social pressure’ towards voting. Secondly, residing in the same area for longer periods of time tends to improve ones knowledge of local issues and candidates. This in turn decreases ones information costs of voting (Filer et al., 1993). Finally, higher (out)-migration may indicate higher non-voting as potential voters might live elsewhere in the near future and are unaffected by local policy.*

Voting for local candidates: As Cancela and Geys (2016) point out stability and homogeneity of population in area increase the chance that people know the local candidates. Based on theory of “friends and neighbours” effect (see Taylor and Johnston 1979) and especially on argument of Gimpel et al. (2008) about role of personal knowledge, these characteristics of community should help candidates based in these units to get more votes.

H2: Stability and homogeneity of population of unit within amalgamated municipality does increase the representation of the unit in the local council

2. The effect of the central unit in an amalgamated municipality

Apart from the characteristics of population of community, another factors can play important role in representation of the unit. In this paper, we focus on the role of centrality. We use two ways how to distinguish between center and periphery within the municipality. Firstly, the centre can be defined symbolically. In the Czech Republic, the location of the local office defines the central unit. The local office organizes civil services, the mayor seats here and the public meetings of the local council take place here. The definition of the central office has direct and indirect effects on the inhabitants of peripheral units, who can feel disadvantaged. The feeling of disadvantage can have similar consequences as the feeling of being dominated by size. Firstly, the inhabitants of the central unit are closer to the location of meetings of the local council. They have the smallest costs of achieving political information (for example, by visiting the meetings, seeing representatives). Inhabitants of peripheral units have bigger costs to achieve the same amount of political information. Due to that, they can suffer from the feeling of alienation from municipal politics, the definition of the center can additionally increase the animosities among neighboring units (as was the case of Czech municipalities – Bernard, Kostelecký, 2010: 46-47).

Secondly, centre can be defined by location of communal services. The administrative offices of the municipality and the local services are usually located in the same unit. The biggest benefit from the services is thus assigned to the inhabitants of the central unit because they are the closest to them. The necessity to cover the distance to achieve local services, such as school, social services etc. can strengthen the feeling of disadvantage in the inhabitants of peripheral units. However, there is one problematic aspect of the centre defined on this base. Distribution of services within amalgamated municipality is often (ZDROJE) seen as the result of amalgamation. Therefore we should be aware that such analysis tells us whether the outcomes of amalgamations in different dimensions are related, but the centrum/periphery relations can be hardly seen the causal cause of degree of representation in unit.

Running for office: The symbolic and economic circumstances are expected to create the perception of being marginalized in the peripheral units. As Lawless (2012) states, when feeling marginalized, members of units are less likely to create the environment for candidacy. In the units, where more local services are located, their inhabitants have the biggest benefit from them. Thus, in these units is more at stake in comparison to units, where no service or only some are distributed. Moreover, where the services are present, people are more aware about performance of municipality. We thus can expect that the benefit does

mobilize to the political participation (of candidates and voters) leading to the better representation of the units where local units are distributed.

On the contrary, lack of services can mobilize candidates and voters in effort to improve situation in their unit and thus it can lead into higher degree of participation both in terms of candidacy and voting.

Electoral turnout: Additionally, costs for political information are bigger for the inhabitants of peripheral units, which can influence their motivation to vote. Furthermore, the inhabitants of peripheral units can perceive the power of their representatives smaller. Feeling of loss of power leads to decrease in electoral turnout (Hajnal, Lewis 2003). Thus, the peripheral location is expected to depress electoral turnout.

Some authors expect that the increase in the size of the population should motivate citizens to participation through their diversity and community organizations, which take part in mobilization (Denters et al. 2014: 19-22). This expectation is, however, minor in the discussions and the model of the decline of community is confirmed more often (the model expects that citizens participate more in small municipalities because small and cohesive communities create a greater perception of solidarity and social control – Larsen 2002; Oliver 2000).

Voting for local candidates: Intuitively, the people in the central unit probably feel the differences between the center and periphery less than the inhabitants of the periphery. Because they do not feel disadvantaged (local services are close to them, and the local office does symbolize the center of the whole municipality), they can easier accept the identity with the whole municipality. Therefore, they do not need to vote for local candidates as much as inhabitants of peripheral unit.

To sum up: candidacy and electoral turnout should be increased in central units in comparison to peripheral units. Voting for local candidates is expected to have the opposite effect. The positive effect of size has, however, more arguments.

H3: The (symbolically) peripheral unit will be under-represented in comparison to the central unit.

H4: More local services distributed into the unit, bigger the representation of the unit in the election.

The Czech system of municipalities belongs to the most territorially fragmented systems in Europe (Swianiewicz 2014). The municipality is the basic unit of territorial self-government in the Czech Republic. The settlement unit is the smallest geographical unit, from which the municipalities consist. The population of unit usually shares the local identity because of the historical establishment of the community. Due to the decrease of population size in rural areas, the number of settlement units decreased from 16 thousand inhabitants in 1990s to 14 thousand inhabitants in 2005.

Historical organization of local governments in the Czech Republic maintained a high number of relatively small municipalities with strong local powers. In the communist period, the trend of forced amalgamation started to decrease the number of municipalities. The process led to perishing of a lot of municipalities and settlement units, their local identity “dissolved” into amalgamated municipalities, and individual names of parts of municipalities disappeared. The process of forced amalgamation provoked the movement of localism – emphasizing the importance of representation of local interests. After 1989, the spontaneous splits of amalgamated municipalities started – due to the separation of municipalities from bigger ones, the number of municipalities increased significantly (Illner 2003). The spontaneous splits were limited legislatively 2000. The voluntary mergers are very rare – this fact is explained by the strong local identity and the experience with the former disadvantage of small municipalities in amalgamated municipalities in the allocation of finances (Bernard, Kostelecký 2012: 46-47).

Amalgamated municipalities are composed of more than one settlement unit. Amalgamated municipalities are a minority (one-third) of the number of Czech municipalities.¹ Settlement units usually have the legal status of the part of the municipality. The municipality is entitled to create, consolidate or divide its parts, but this happens rarely. Self-government of the amalgamated municipality is executed by the municipal council, which is elected once in four years by the citizens of the whole municipality. The number of elected representatives is determined by the Council itself, however, it reflects the population size of the municipality. Settlement units do not possess own self-government. Decisions, even those touching the interests of a single unit, are made by the entire municipal council.

The representation of the inhabitants of the individual settlement units is not guaranteed by the electoral law. Therefore, it is possible that interests of inhabitants of some settlement unit will not be represented in the municipal council. The proportional representation electoral

¹ From 6251 municipalities 2505 are composed from more than one settlement unit.

system with the partially tied lists of candidates is used. From five to 70 mandates are distributed, dependent on the population size of the municipality. Registered political parties and movements can nominate candidates. Independent candidates, as well as their associations, can run for office. Because voters may prefer to support candidates from their settlement unit, lists of settlement units' candidates can emerge as well. The voter has as many votes as the number of mandates distributed in the municipality. Voters can a) vote for one list of candidates; b) select one list of candidates and individual candidates from other lists c) vote for individual

candidates from multiple lists. The system does not enable cumulation of votes. All votes are simultaneously considered as votes for parties as well as preferential votes. The mandates are distributed firstly to whole parties according to the total votes gained by their candidates, using the d'Hondt divisor. There is a 5% threshold. The effect of preferential votes is limited by the rule that to move in the candidate list into the first place the candidate must gain at least 10% of preferential votes more than the mean of the candidate list is.

The municipal council elects the executive body (the board of councilors) and the mayor from its members. The board is responsible for the independent competencies of the municipality. The mayor represents the municipality. Everyday administrative activities of the municipality are proceeded by the local office, which is managed by the mayor. In the amalgamated municipalities, the location of the local office makes the settlement unit the center of the municipality. One local office in amalgamated municipality administers 4,3 settlement units on average. Distribution of settlement units according to their type is showed in Table 1.

Table 1: Frequency of local communities in amalgamated municipalities according to their size and organizational type in 2014

Size	Central unit	Peripheral unit
< 50	70	3524
51 - 100	177	1847
101 - 250	618	1543
251 - 500	582	518
501 -1000	474	220
1001 - 1250	101	47
1251 -1500	72	31
1501 - 2000	77	30
2001 - 5000	214	73
5001 - 10 000	72	43
> 10 001	54	16
Total	2511	7892

Data and methods

Dataset

The dataset made for analysis is based on several sources. From the nomenclature of the parts of municipalities in the RUIAN database of the Czech Office for Surveying, Mapping and Cadastre (ČÚZK) was received the information about settlement units recognized by the state authority. Because the presence of two electoral arenas can lead to lower interest in candidacy in one of them, statutory cities, which elect unitary whole-city councils simultaneously with multiple city-district-based local councils, were excluded from the dataset. For this reason, our analysis deals only with municipalities with only one level of local elections. Therefore, the data covers only municipalities with less than 150 000 inhabitants. The number of units in a municipality was assigned to every settlement unit. Settlement units in municipalities containing two or more units were assigned to the category of amalgamated municipalities. Municipalities including just one settlement unit were assigned to the category of non-amalgamated municipalities. Due to the research questions, only the settlement units within amalgamated municipalities were further analyzed.

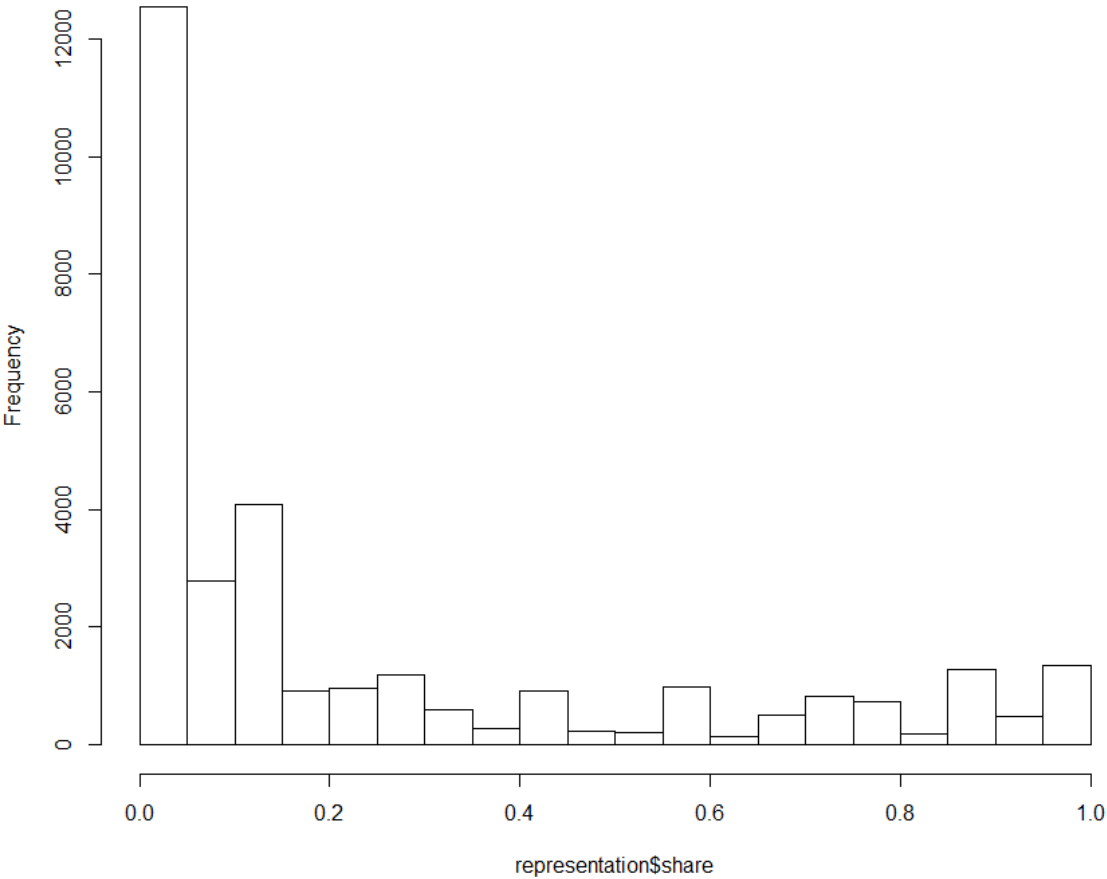
Every settlement unit was assigned with the information about the number of representatives from the open data of the Czech Statistical Office on 2006, 2010 and 2010 local elections. This data includes names of candidates with the information about unit where the candidate lives and also information whether candidates obtain mandate or not. Data defining independent variables were added to the dataset. Addresses of local offices were obtained from the “Electronic server of local authorities” (ePusa), and through the linking of addresses of local offices to appropriate units, we were able to determine central versus peripheral units. Data comprising socioeconomic characteristics of the population of settlement unit came from the Population and Housing Census (2011).

Dependent variable

The unit of analysis is the settlement unit, i.e. the smallest geographical unit with the shared local identity in the amalgamated municipality. All variables are related to this level. The dependent variable is the proportion of councilors living in the settlement unit on the absolute number of councilors in the municipal council. The number of councilors varies from 5 to 45 according to the size of the municipality. The distribution of dependent variable has a very specific form which is not very suitable for most methods of statistical analysis. The most value is zero, about one-third of all cases has this value. Low values up to 15 % occur

relatively often too. Higher proportions are rather rare and there are further several peaks in distribution.

Figure 1: Distribution of variable “share of mandates”



Independent variables

The relative size of the unit in the amalgamated municipality is measured as the proportion of electors living in the unit comparing to the number of electors living in the whole amalgamated municipality. The increase in the relative size is expected to increase the proportion of the elected councilors from the settlement unit.

Type of settlement unit consists of two categories: central unit, which is defined by the location of the local office, and a peripheral unit which does not possess the local office in its territory. The central unit is expected to increase the proportion of councilors, in comparison to the peripheral unit.

Control variables

Control variables include the absolute size of the settlement unit, time and the individual sociodemographic characteristics of the population in settlement units, aggregated at the level of the unit. The list of control variables is adapted to be meaningful for application to the Czech Republic. Following the huge number of studies concerning the effect of population size on political participation, I expect that the increase in the absolute size of the settlement unit weakens the homogeneity of the population and social control motivating to political participation (Denters et al. 2014, Frandsen 2002). We thus expect that increase in the absolute size of settlement unit population decreases the representation of the unit.

The population of settlement units is operationalized as a logged continuous variable. The logged term is used because of nonlinearity effect of population size and because it fits the data better. This approach is also in line with a lot of studies in political science using population as an independent variable on numerous levels including municipalities (e.g. Blais, Dobrzynska 1998; Boix 1999; Reitan et al. 2014).

Analysis

Method

To test the hypotheses, the binomial logistic regression is used. This method is widely used in the case of analysis with dependent variable with values 0 or 1. However, the method can be suitable also in the case when the dependent variable is a proportion between 0 and 1, as it is in the case of this paper. The usage of the method in this setting has several problems. The first one is connected to the substantial interpretation of regression coefficients. The exposed coefficients indicate the difference of chance that the dependent variable will have value 1 compared to the reference category. However, in this case, we are more interested in the change of proportion of representatives than in the odds ratios. Therefore, we will present the table with coefficients only to show the direction of effects of variables whereas the substantive meaning of results will be presented with charts using fitted values of models.

Results

Table 1 presents the results of the analysis. Firstly, separated models for each hypothesis are computed. Secondly, the full model with all variables is run. The coefficients of both “individual” and full model indicate that the proportion of representatives in settlement unit

on the total number of representatives in municipality strongly reflects the relative size of the unit (the share of the unit on the total population of municipality). This result supports our first hypothesis that the increase in the relative size of the geographical unit in amalgamated municipality does to increase the representation of the unit in the local council.

This factor is the most powerful one, but other variables have still at least some effect. In the case of stability of society, the results are rather mixed. Number of commuters in community rather increases the share of mandates although reversed relationship was expected. The reason of such result can be different meaning of this variable in Czech conditions. It can be seen rather as indication of economic activity of inhabitants than measure of stability of community. In the case of the variable “native” (people born in municipality), the effect is in different direction in individual model than in full model. It means that we can see strengthening of representation with increase of native inhabitants only when we control for centrality and size of the unit.

Regarding the third and fourth hypothesis, coefficients indicate the difference in representation between central and peripheral units, when central ones have higher share of mandates. However, the effect seems strong in individual model (model 2), but it is because interdependency with size, when the bigger units are more often seat of council and services. Therefore, in the full model, effects of measures of centrality are rather weak. Nevertheless, the direction of effect supports our third and fourth hypothesis that the peripheral unit should be under-represented in comparison to the central unit and it applies both for periphery without services and without office.

Furthermore, the proportion of representatives also increases with increase in the absolute population of the unit. This result is different than one expects. We have no strong assumptions about the effect of absolute size, but we expect that smaller units may be more mobilized because of stronger “social control” and also that voters in smaller in units can more easily coordinate their voting behavior in an attempt to be represented in council than voters in bigger units. As the difference between the first and second model indicates, it is partially a reflection of characteristics of units and municipalities not controlled in the model. However, the effect remains positive (although weaker) even when these factors are controlled. It can also be the reflection of localization of partisan organizations, which can be settled more often in bigger units. However, we have no option how to test such an effect.

Table 2. Results of logistic regression

	model 1			model 2			model 3			model 4		
	expB	SE	sig	expB	SE	sig	expB	SE	sig	expB	SE	sig
(Intercept)	0.02	0.02	***	0.01	0.01	***	0.26	0.06	***	0.01	0.05	***
Size												
logPopulation_unit	1.10	0.00	***							1.14	0.01	***
relative_size	618.38	0.02	***							407.45	0.04	***
Centrality												
Services				2.95	0.02	***				1.18	0.02	***
central_unit				18.08	0.02	***				1.04	0.02	.
Community												
Native							0.54	0.08	***	1.16	0.06	**
Unemployment							0.34	0.14	***	0.75	0.10	**
Commuters							5.42	0.07	***	4.67	0.05	***
Entrepreneurs							0.11	0.14	***	2.19	0.09	***
Year												
2010										1.00	0.01	
2014										1.00	0.01	

Conclusion

The paper deals with the geographical representation of units in amalgamated municipalities in the Czech Republic. In the theoretical part, the concept of geographical representation was presented, and the hypotheses concerning the effects of the mergers on some types of units in amalgamated municipalities were formulated. The analysis enabled to confirm all four hypotheses (although some of them only partially). Thus, the representation of the unit increases with the increase of the relative size of the unit, and as well, the central units (units with seat of local office and local services) are better represented in the representative body than the peripheral units. Also the units with more stable population are able to gain better representation. Furthermore, we found that the absolute size of the unit and the composition of the amalgamated municipality has its impact on the representation of units.

The findings clearly confirm the complaints of some municipalities before the amalgamations and show that the problem of loss of power is unequally present in amalgamated municipalities. The suffer of amalgamation bear the disadvantaged units – the small and

peripheral ones. As we suppose, their geographical under-representation can easily lead to their substantive under-representation, which can mirror in the decreasing satisfaction with local democracy. The paper shows that in the long-term perspective, the disadvantaged units are not mobilized, but rather demobilized to political action. This seems to be a real problem of municipal amalgamations resulting in centralized municipalities.

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