

**Municipal preferences for state imposed amalgamations: An empirical study based on
the 1952 municipal reform in Sweden**

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Abstract

This paper concerns municipal preferences for state imposed municipal amalgamations. The main purpose of the paper is to study what factors that can explain municipal acceptance or objection of a state imposed amalgamation decision. The empirical analysis is based on the extensive municipal reform in Sweden in 1952. As much as 66 percent of the newly formed municipalities had at least one municipality that objected to the new organisation. The results indicate that the size of the municipality is of importance; small and large municipalities are most likely to accept the amalgamation decision. Furthermore, the relative municipal size affects the probability of accepting the amalgamation decision and equally sized municipalities are less likely to amalgamate on a voluntary basis. We also find that interjurisdictional co-operation prior to the reform has a positive effect on the municipal decision to accept the new municipal structure.

JEL classification: H4, H11, H73, H77, R50

Keywords: Local government structure; municipal amalgamations; heterogeneous preferences

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1. Introduction

The restructuring of administrative borders in the local government sector is partly determined by an evolutionary process, and partly by a revolutionary process through structural reforms (see Boyne and Cole, 1998). In the post-war era, several nations have implemented extensive municipal reforms that have reduced the number of municipalities. Structural reforms are generally state imposed and local government amalgamations are often associated with a conflict between local and national interests.

From the theoretical side, the formation of political and fiscal unions has received increasing interest in the literature on fiscal federalism (see e.g. Alesina and Spolaore, 1997, Bolton and Roland, 1997, Ellingsen, 1998). Alesina *et al.* (1995) summarizes some of the key mechanisms that determine the size of political and fiscal unions. The most general argument in favour of larger jurisdictions is realisation of scale economies in the provision of public goods. A more concentrated horizontal structure is also more likely to internalise inter-jurisdictional externalities. These two arguments relate to efficiency in the provision of public goods. According to Alesina *et al.*, a further argument is that redistribution may have a public good dimension; in this perspective a decentralised government structure may provide too little redistribution. The optimal government structure is generally seen as a trade off between these arguments on the one hand and the efficiency gain from providing public goods consistent with local preferences on the other hand.

The empirical literature has not presented so much knowledge about what factors determine successful amalgamations and furthermore, what are the pre-requisites for reaching voluntary agreements in the process of consolidating governments? Previous empirical studies have foremost been concerned with the determinants of the number of jurisdictions within a given area (see e.g., Kenny and Schmidt, 1994, Nelson, 1997, Martines-Vasquez *et al.*, 1997, Fisher and Wassmer, 1998, and Alesina *et al.*, 2004). A few studies have analysed determinants of consolidation by comparing characteristics in the separate units and the newly formed entity. Brasington (1999) studied school district consolidation in the U.S. He found that small and large districts were most likely to merge while medium sized districts did not tend to merge. One explanation is that medium sized districts were not able to realise scale economies to such extent that the loss of control was

compensated for. Brasington (2003, 2004) have provided more insights into the formation of school districts, e.g. the importance of racial and income differences, and size effects. While Brasington (1999) impose restrictions on the parameters in a bivariate probit, meaning that he cannot separate the effects for small and large municipalities, Brasington (2004) found that large jurisdictions are more likely to consolidate while small jurisdictions do not want to consolidate with large jurisdictions. A further contribution is Gordon and Knight (2006) that study school district formation while allowing for spatial interdependence between districts, i.e. in contrast to Brasington (1999, 2003, 2004) they also take into consideration that a merger also affects the choice set for neighbouring municipalities. A related topic is the break-up of entities; Brink (2003) studied the break-ups of municipalities in Sweden for the period 1977-1999. Brink analysed the decision of the median voter in the seceding municipal part. She tested three hypotheses; the first stated that differences in tax bases affect the vote for secession. The second hypothesis is that secession is associated with an efficiency loss due to smaller population. The third hypothesis concerns political preferences. Brink found that municipal parts that had high income compared to the other municipal part were more likely to vote for secession. A shortcoming with Brinks study is that the empirical analysis is based on only 24 observations.

The main purpose of this paper is to study municipal preferences for amalgamations. This is done by studying the municipalities' statements in a nation-wide municipal reform, i.e. the municipalities' acceptance or objection of the state imposed amalgamation decision. The empirical analysis is based on the 1952 municipal reform in Sweden. The main purpose of the reform was to amalgamate municipalities so they reached a critical size of 2 000 inhabitants. The 1952 reform reduced the number of municipalities from 2 498 to 1 037. Although municipalities did not have a veto, they were given the opportunity to comment the amalgamation decision from the national government, 66 percent of the newly formed municipalities had at least one municipality that objected to the amalgamation plan.

One problem in empirical studies of local government consolidation, or co-operation, is that the different amalgamation alternatives the local governments faces are not known. In order to identify local government preferences for an observed amalgamation one also need to observe the

alternatives that are feasible. To avoid this problem Brasington (1999) assumed that only two districts could consolidate at a time, and preceded by constructing potential pair wise constellations and estimated bivariate probit models. This approach may be complicated when three or more municipalities or districts can amalgamate at a time since the number of potential constellations grows very fast. Another problem is that preferences for amalgamations is not directly observed, it is merely assumed that consolidation reflects local preferences and not some unobserved factors, e.g. insistence from other jurisdictions. In this paper we are able to directly observe municipal opinions for a state imposed amalgamation decision. Thus, in contrast to previous studies we do not have to identify all possible amalgamation alternatives. As far as we know, this is also the first study that is able to actually observe local government opinions in a state imposed local government reform.¹ Thus, we explore amalgamations in general and not only consolidation within a specific area, e.g. school districts. A further contribution of the paper is that the empirical analysis is based on an extensive data set that contains municipal characteristics that have not been examined in earlier literature, e.g. political composition in local governments, industry structures, and more subtle differences between municipalities such as historical bindings and local church communities. These factors may reflect differences in preferences for public goods and can therefore be obstacles for voluntary amalgamations. A further contribution is that we examine the importance of municipal co-operation prior to the consolidation such as municipal unions.

The paper is organised as follows. In section two a brief background description of the municipal reform is presented. Section three contains the empirical model. Data description and descriptive statistics are presented in section four and the results are presented in section five. Section six concludes.

2. The 1952 municipal reform in Sweden

The 1952 reform must be looked at with the development of the society in mind, especially if one wants to understand the formation of local governments more generally and not only this historical

¹ See Wångmar (2003) for an extensive analysis of the 1952 reform from a historical and political perspective.

example. In the 19th century the agriculture sector was dominating, in 1870 as much as 70 percent of the population was occupied in the agriculture sector, only 15 percent was occupied in the manufacturing sector. The industry structure was however in the beginning of a rapid transformation; in 1930 the agriculture sector and the manufacturing sector were about the same size with respect to the number of people occupied in the sectors. The industrial breakthrough went hand in hand with an economic development and a very strong urbanisation process. The urbanisation process increased the number of small municipalities, especially in the rural areas. The share of the municipalities with less than 500 inhabitants was 16 percent in 1910; in 1930 the share had increased to 19 percent. In 1949 the share was as high as 25 percent (Thunborg, 1950).

The economic development also enabled a development of the welfare systems, e.g. education, health services, and social services. During the time period that preceded the reform, the social democratic government expanded the public services in connection to a decentralisation of responsibilities to the municipalities. As a result, public services and spending increased dramatically at the local level. In real terms, expenditures in the municipal sector were five times higher in 1950 compared to 1915 (see, e.g. Wångmar, 2003).

All together, the rapid depopulation of rural areas and the growth of the public sector necessitated an extensive municipal reform in order to fulfil local and regional welfare commitments. One opposing argument was that the extensive intergovernmental co-operation that had emerged could replace the reform. In 1951, 1 300 municipal unions provided different municipal services.² Although the municipal unions may have exploited scale economies, they were not considered as a long-term solution by the national government. One line of argument was that a local government structure where municipal unions (special districts) provide specific services will result in many overlapping governments, and as a consequence, political decisions may be more fragmented, and it might be difficult for the inhabitants to monitor the political process. SOU (1945:38) also stated that a large number of overlapping governments would be likely to result in much higher expenditures.

² In 1952, the number of municipal unions were reduced from 1 300 to 173 due to the reform.

In 1945, an official report presented a general policy for the 1952 municipal reform (1945:38). The reform policy was manifested by two objectives. The main objective of the reform was to amalgamate municipalities in a way that they had at least 2 000 inhabitants. A second complementary criteria was that the new municipalities should have tax base of at least 800 000 SEK.³ Concerning expenditure and income patterns for the time period of the reform, education was the largest item among the operating costs (approximately 25 percent of the total operating costs). Social service and sanitary services were also relatively large items (approximately 10 percent of total costs). The local income tax was the main revenue source (approximately 50-60 percent). State grants were the second largest revenue source; grants were mainly distributed as matching grants and the primary school was the dominant item (see *Kommunernas Finanser*).

Municipal amalgamations were not voluntary meaning that the county councils were responsible for working out the amalgamation proposal and His Majesty made the final decision concerning the municipal structure. The amalgamation process started in 1946 when the county administrations made the first investigations concerning the new municipal structure. Geographical circumstances were important restrictions for the implementation of the reform; e.g. several municipalities that constituted an island were not affected by the reform. Large land areas and the infrastructure were also considered when the new municipal borders were settled. The official report also pointed out that the natural affinity between municipalities was an important to consider when forming the new municipal structure. Interjurisdictional co-operation (municipal unions) but also other administrative borders such as common parishes and hundreds were seen as starting points for the settlement of the new borders. This means that the final proposal had considered several municipal characteristics, both the characteristics of the old municipality and the structure of the new municipality as well as differences, or similarities, between the amalgamating parts.

Since the reform was very extensive, the legitimacy of the democratic process required that the municipalities were given some influence on the planning process of the new municipal structure. Representatives from the municipalities were thus given opportunities to comment drafts of

³ A tax base of 800 000 SEK corresponds to approximately 12 500 000 SEK measured in 2002 money value.

the amalgamation proposal that were presented by the county administrations. Although one can argue that obstacles to amalgamations that could be identified prior to the reform had been considered, there was still strong resistance to the final amalgamation decision presented in 1950. Wångmar (2003) states that the municipal structure was practically determined early in the planning process and that the municipalities did not affect the amalgamation process to any large extent. The validity of the analysis in this paper hinges on to what extent the municipalities reveal their preferences when they commented on the final amalgamation decision. Since a government resolution stated that municipalities did not have a veto concerning the final decision, one might question that municipalities revealed their true preferences. However, if the municipalities have been involved in a long planning process and it is stated that the county councils should consider local preferences, it seems reasonable that the municipalities revealed their preferences in the statement, maybe as a final attempt to change the amalgamation plan.

3. Empirical strategy

In this section we present our empirical strategy for analysing municipal preferences for the final amalgamation decision made by his Majesty in 1950. Municipalities expressed their views on the final decision in three different ways; they either accepted or object the amalgamation plan, furthermore, some municipalities objected to the decision and suggested an alternative constellation. However, our documentation of the reform does not reveal exactly what the alternative proposal consisted of. This means that we can only study the first and the second alternative. The reason for excluding the third alternative is that we do not know the alternative amalgamation proposal from the municipalities meaning that we are not able to study their preferences.

To clarify this, assume that a representative individual in each municipality makes the decision to accept or object to the amalgamation decision. The representative individual has utility $u(a)$ from amalgamation, utility $u(na)$ if the municipality remains intact by the reform (non-amalgamated) and utility $u(alt)$ if the municipality amalgamate according to the alternative. In the first case we know that $u(a) > u(na)$; although it might be the case that $u(a) > u(alt) > u(na)$, the preferences are possible to identify. In the second case we know that $u(na) > u(a)$. Like the former

case, we can not exclude the possibility that $u(na) > u(alt) > u(a)$; however, the preferences are also possible to identify in this case. In the third case we know that $u(alt) > u(a)$. Since we do not have information on the alternative amalgamation suggested by the municipality we cannot identify the preferences in this case. The lack of information means that we do not know if the municipality has responded “yes, but we would like an alternative amalgamation”, that is, $u(alt) > u(a) > u(na)$, or if the municipality responded “no, but we would like an alternative amalgamation”, $u(alt) > u(na) > u(a)$.

The municipal decision to accept or object to the amalgamation proposal is analysed by estimating the following logit model

$$Y_i = Y_i(M_i, Z_j, D_i)$$

where Y_i represents the municipal preferences for the amalgamation decision, i.e. amalgamation into the new entity j . Y_i takes the value one if the municipality accepts the amalgamation proposal, zero otherwise. It is assumed that the municipal preferences for amalgamations are determined by three categories of variables represented by the vectors M_i , Z_j , and D_i . The first category, M_i , is municipal characteristics of municipality i prior to the reform. The municipal decision is also assumed to depend on the characteristics of the new entity (the municipality j) which is represented by the vector Z_j . Finally, the municipal statement on the amalgamation proposal is dependent on its own characteristics in relation to the other municipalities forming the new entity. These variables describing the relation to the other municipalities are represented by the vector D_i . For some variables in D_i each municipality is assumed to consider the other municipalities (in the municipality j) as a unity.

The following variables are included in M_i :

The variables included in M_i are assumed to reflect municipal characteristics prior to the reform that may determine preferences for amalgamation or remaining independent. One of the main arguments in favour of amalgamations is realisation of scale economies. Small municipalities may gain significantly from scale economies while larger municipalities may gain less. Population size in municipality i

(pop_i) is therefore expected to have a negative effect on the probability of accepting the amalgamation proposal. An argument that has been put forth in previous studies (e.g. Brasington, 2004) is that when a municipality reach some critical size it is large enough to remain in control in case of consolidation and still realise some scale economies. Population size squared (pop_sq_i) is therefore expected to have a positive effect on the decision to amalgamate.

Autonomy is assumed to be a normal good, which implies that mean income (inc_i) is expected to have a negative effect on the probability of accepting an amalgamation. Since geographical circumstances were important in the reform, the land area of the municipality is included in the regression. The land area of the municipality ($area_i$) may be a restriction since geographic distance may have a deterrent impact of local public services. A political variable is included, indicating whether the socialist parties, conservative parties or other parties had a majority in the local parliament (soc_i , $cons_i$, $other_i$). In the estimations, municipalities with socialist majority in the local parliament are the reference group. At the national level there was some differences between parties; the Socialist Democratic Party implemented the 1952 reform and the conservative parties argued that the reform was too extensive. If the decision to accept the amalgamation proposal has a political dimension, the effect is expected to be captured by the political dummy variable.

Dummy variables indicating the industry structure of the municipality are included and four categories are specified. The first consists of municipalities where more than 75 percent of the working population was occupied within agriculture ($>75_i$). The second category is municipalities where 50-75 percent was employed in the agriculture sector ($50-75_i$), the third category is municipalities where less than 50 percent was employed in the agriculture sector ($<50_i$). The fourth category is municipalities where more that 67 percent of the population was living in urban areas ($urban_i$). This latter category only indirectly captures the industry structure. Three additional dummy variables describe the municipal structure: rural municipalities ($rural_i$), cities ($city_i$), and boroughs ($borough_i$).⁴ In the regression model, rural municipalities are used as the reference group. The

⁴ The municipal type (rural, type, and borough) is an administrative definition and to some extent the municipal categories had different commitments concerning the provision of public services. Therefore we include this

variables capturing municipal structures may capture expectations of future local development, e.g. migration patterns, economic development, and the need for amalgamations. Regional (county) dummy variables are included in order to control for unobserved county specific factors; the county of Stockholm (the capital of Sweden) is the reference group. The variable *union_i* indicates whether municipality *i* was a member of at least one municipal union (special district); the members of this union did not need to coincide with the municipalities that formed the new entity.⁵ The *union* variable is included to control for co-operation experiences in general and not co-operation among the amalgamating municipalities.

The following variables are included in Z:

The variables in the *Z* vector describe different characteristics of the new entity. A dummy variable indicating whether the municipalities in the new formation co-operated in a municipal union prior to the reform (*union_j*) is included. Two additional variables describe previous connections between the municipalities that formed the new entity. The first indicates if the municipalities constituted a common parish (*parish_j*) and the second indicates if the municipalities constituted a common hundred (*hundred_j*).⁶ These three variables (*union*, *parish*, and *hundred*) are included to control for previous co-operation experiences and local affinity, among the municipalities in the new municipality, and how they affect the decision to accept the amalgamation proposal.

The number of municipalities forming the new municipality (*nr_mun_j*) may control for the possibility to realise scale economies. One might also expect that a large number of municipalities

administrative definition as well as the variable describing industry structure. The correlation between *city* and *urban* is 0.57 and the correlation between *rural* and *>75* (more than 75 percent occupied in the agricultural sector) is 0.14.

⁵ At this point in time, the most common municipal unions provided police services, rescue services and schooling.

⁶ The parish is a local church community. The hundred is an old administrative unit (a part of the county). However, there were no formal administrative responsibilities associated with the hundred at the time of the reform.

may reduce the probability that municipalities agree on different matters, which can have a negative effect on the decision to accept the proposal. The land area of the new municipality ($area_j$) is expected to have a negative effect on the decision to accept the amalgamation proposal.

The following variables are included in D:

The share of the population in the new municipality, that is residing in municipality i in 1949 (pop_share_i), is included to control for the relative power of the municipality. A high share is expected to have a positive effect on the willingness to amalgamate since it indicates that the municipality will have a strong position in the new municipality. A measure of mean income difference (inc_diff_i) is constructed as the differences between mean income in municipality i , and the mean income of the other municipalities in the new constellation. A representative individual may interpret income differences as an indication of a higher tax burden after an amalgamation. The income difference is therefore expected to have a negative effect on the willingness to amalgamate; a wealthy municipality is expected to dislike amalgamation with less wealthy municipalities. A variable is also constructed for the political composition ($same_pol_i$). The variable takes the value one if all municipalities in the new formation had the same political majority, zero otherwise. Differences in industry structures ($same_ind_i$) are captured by a dummy variable equal to one if all municipalities had the same industry structure, zero otherwise. In the same way, a dummy variable is constructed for difference in municipal type (city, borough, rural). The variable is equal to one if the municipalities were of equal type, zero otherwise ($same_type_i$). The three *same* variables are included to control for similarities, or differences, between municipalities and their impact on the willingness to amalgamate. We have no a priori assumption of how these differences affect the municipal decision to accept the amalgamation proposal. These variables may capture differences in preferences for local public goods, which in turn may have a negative effect on the probability of accepting the amalgamation proposal. These differences may also indicate that municipalities make strategic considerations, e.g. amalgamation of two rural municipalities may induce competition as well as increasing the vulnerability to exogenous regional shocks.

4. Data

Data has been collected from Statistical yearbooks (Kommunernas finanser and Årsbok för Sveriges kommuner) and Thunborg (1950). Data concerning municipal statements have been collected at archives in the municipalities and county councils. In 1951, the number of municipalities amounted to 2 498. Out of the 2045 municipalities that were affected by the reform, 53 municipalities have been excluded due to missing data, which leaves us with a total sample of 1992 municipalities. 1251 municipalities accepted the state imposed amalgamation proposal and 795 rejected the proposal; out of these 795 municipalities, 553 municipalities suggested an alternative formation of the new municipality.

Descriptive statistics are presented in table A1 (appendix) for two categories of municipal responses; the first category is municipalities accepting the amalgamation decision and the other category are municipalities rejecting the decision. Some patterns can be found in the descriptive statistics. Municipalities accepting the proposal were on average smaller with respect to the number of inhabitants that is reasonable since small municipalities were more vulnerable than larger municipalities. The total land area is larger for municipalities that rejected the proposal. Membership in a municipal union also seems to matter for the municipal decision; participation in a municipal union is on average higher in municipalities accepting the proposal. A striking difference between municipalities accepting and rejecting the proposal is the income difference; municipalities rejecting the proposal are wealthier than the other municipalities forming the new municipality.

5. Results

The amalgamated municipalities were highly heterogeneous. A relatively high share of the newly formed municipalities consisted of municipalities that were small in size prior to the reform. However, large municipalities were also affected by the reform; the largest municipality in the sample had 83 279 inhabitants in 1949. These large municipalities were generally amalgamated with smaller neighbouring municipalities. Thus, the large municipalities were likely to be affected by the reform due to their location and not because they had small tax bases. There are good reasons to believe that different municipal types experienced the reform in quite different ways. Thus, in addition to the

estimation result for the complete sample, we also present estimation results for a restricted sample. Since the reform mainly aimed at amalgamating municipalities in a way that they should have at least 2000 inhabitants, one interesting sample is municipalities with a population size exceeding 2000 inhabitants in 1949. There was no immediate need for these municipalities to amalgamate and several of these municipalities were forced to amalgamate with smaller municipalities. This sample consists of 231 municipalities. The share of municipalities rejecting the proposal was relatively large in this sample, 37.6 per cent resisted the reform, which should be compared to 16.5 per cent among the total number of amalgamated municipalities. The estimation results for the logit model are presented in table 1.

Let us start by discussing the estimation results for the full sample. The first variables concern municipal specific characteristics and their impact on the decision to reject or accept the amalgamation proposal. The size of the municipality, measured as the number of inhabitants, has a negative impact on the probability of accepting the amalgamation proposal. However, the relationship is non-linear; the parameter for squared population is positive indicating that larger municipalities are more willing to amalgamate. One interpretation of the result is that small municipalities benefit from realisation of scale economies; medium sized municipalities on the other hand may have less scale economies to exploit and the loss of control may outweigh the benefits. Large municipalities have no, or only marginal, scale economies to exploit, but they do not lose control from amalgamation with a small municipality. The parameter estimates indicate that the critical size is approximately 12,000 inhabitants.

Table 1 Logit estimation results, dependent variable is municipal acceptance or rejection of amalgamation proposal

Variable	Full sample		> 2000 inhabitants	
	Estimate	t-value	Estimate	t-value
<i>Constant</i>	-0.454	-0.331	-8.809	-2.289
<i>Pop_i</i>	-0.002	-6.155	-0.4E-03	-1.918
<i>Pop_sq</i>	0.2E-06	5.112	0.8E-08	0.810
<i>Inc_i</i>	0.7E-03	1.691	0.001	1.026
<i>Area_i</i>	-0.1E-04	-1.285	0.2E-04	0.737
<i>Cons_i</i>	-0.639	-2.485	-0.801	-1.434
<i>Other_i</i>	-0.783	-2.727	-0.896	-1.227
<i>50-75_i</i>	-0.752	-2.983	1.095	1.396
<i><50_i</i>	-1.209	-3.387	1.066	1.185
<i>Urban_i</i>	-2.201	-3.803	1.199	0.951
<i>Union_i</i>	0.688	3.221	0.360	0.740
<i>City_i</i>	0.851	0.861	2.623	1.172
<i>Borough_i</i>	-0.800	-0.900	-2.262	-1.228
<i>Nr munic_j</i>	0.777	6.640	1.136	3.768
<i>Area_j</i>	0.1E-03	0.264	-0.001	-0.702
<i>Union_j</i>	-0.500	-1.623	-0.952	-1.225
<i>Parish_j</i>	0.720	3.181	0.626	1.326
<i>Hundred_j</i>	-0.680	-1.404	0.045	0.040
<i>Pop share_i</i>	4.833	5.044	9.500	3.956
<i>Inc diff_i</i>	-0.4E-03	-1.055	-0.002	-2.026
<i>Same_pol_i</i>	0.014	0.070	0.594	1.408
<i>Same_ind_i</i>	-0.214	-0.922	0.350	0.652
<i>Same_type_i</i>	-0.920	-1.855	-1.430	-0.995
<i>Pseudo R²</i>	0.310		0.381	
<i>Nr. obs.</i>	1 415		231	

Note: Dummy variables for counties are not presented

in the table. *Pseudo R²* is computed as a likelihood ratio index.

The mean income in the municipality has a positive impact on the municipal decision to accept the amalgamation proposal, although the parameter is not significantly determined at the 95 per cent level. One explanation may be that municipalities with a low tax base receive high state grants and expects to receive high grants if they can remain unaffected by the reform (we do not have data on state grants dispensed). Municipalities that did not amalgamate also received very high state grants after the 1952 reform compared to amalgamated municipalities (see Hanes, 2003). The parameter for land area is negative but not significantly determined at the 95 per cent level. Political variables seem to have impact on the municipal willingness to amalgamate. Municipalities with a socialist majority in the local parliament are more positive to amalgamations than conservative and “other” local governments. This result may reflect the fact that the conservative parties to some extent opposed the expansion of the local government sector and the 1952 municipal reform. It is also clear that the industry structure is of importance; municipalities with a high share of the population employed in the agriculture sector are more likely to accept the amalgamation proposal than those with a lower share. This is likely to capture expectations of future economic development in the municipality and the need for amalgamations. The negative effect increases when the share of the agriculture sector decreases. If a municipality participated in a municipal union, the probability of acceptance is higher. Note that the members of the municipal union do not need to coincide with the members of the newly formed municipality. Whether the municipality is a city or borough does not have a significant effect on the decision to accept the proposal.

The next parameters in the table are concerned with the characteristics of the new municipality. The number of old municipalities amalgamating into the new unit has a positive and strongly significant effect on the probability of accepting the proposal. One interpretation is that amalgamation of many municipalities indicates that the newly formed municipality is able to realise scale economies to a larger extent than an amalgamation of few municipalities. The land area of the new municipality does not affect the decision to accept or reject the proposal. We have included three variables that indicate co-operation or administrative relations prior to the reform. The first variable is whether the municipalities have co-operated together in a municipal union prior to the reform. The parameter is negative but not significantly determined at the 95 per cent level. At a first glance this

results seems to contradict the finding that co-operation in a union, with other members than the amalgamating partners, has a positive effect on the probability of accepting the proposal. One interpretation of the result is that municipalities consider co-operation to be important, however, some municipal unions may not have worked well. If the new municipality coincides with the borders of an old parish, the probability of acceptance is higher. The parishes are old administrative borders for the church and may indicate that there is some natural affinity between municipalities. If the new municipality is an old hundred does not seem to affect the decision. One explanation is that the hundred is a much larger administrative unit compared to the parish. Furthermore, the hundred is an administrative unit which is less associated with local traditions and culture compared to the parish.

The final parameters concern differences between municipalities. The parameter for population share is positive and significant. Thus, a municipality is more likely to accept a proposal if the other municipalities are relatively small. This result indicates that the relative power in the new constellation is an important variable; municipalities are willing to amalgamate as long as they do not lose leverage in the new municipality. Income differences, political differences or differences in industry structure do not seem to affect the decision to accept or reject the proposal. However, if municipalities are of the same type (rural, city, borough) this seems to have a negative effect on the decision to accept the proposal.

Let us continue with the results for the restricted sample; i.e. municipalities with more than 2000 inhabitants prior to the reform. According to the reform policy, these municipalities were in no immediate need of amalgamation; however, they were often forced to amalgamated with smaller neighbouring municipalities. Few parameters are significantly determined for this sample compared to the full sample; however, the model predicts acceptance better for the restricted sample. The number of inhabitants has a negative effect on the municipal decision. However, there is no evidence of a non-linear effect in population for this sample. Furthermore, the number of municipalities in the new formation has a positive and significant effect. The effect of relative size of the municipality is still positive and significantly determined. Finally, the negative effect of income difference is significantly determined for the restricted sample, indicating that wealthier municipalities do not want to amalgamate with less wealthy municipalities.

6. Discussion

In this paper we study municipal preferences for a state imposed local government reform. The empirical analysis is based on the extensive 1952 municipal reform in Sweden that reduced the number of municipalities from 2,498 to 1,037. There was a strong resistance at the local level, as much as 66 percent of the newly formed municipalities had at least one municipality that rejected the final amalgamation proposal by the county administrations. However, municipalities had no veto power.

The results indicate that the probability of accepting the amalgamation proposal decreases with municipal size, i.e. small municipalities are more likely to accept the proposal. However, the relationship is non-linear; at a critical size the probability of accepting the proposal increases with municipal size. One explanation is that small municipalities may realise significant scale economies through amalgamations. For medium sized municipalities the loss of control in an amalgamation may not be outweighed by the positive effect since they are less likely to realise scale economies. When a municipality reaches a critical size, it is likely to remain in control over public good provision even if they amalgamate and they may still realise some scale economies. These results contradicts Brasington (2004), who found that large school districts are willing to consolidate while small districts do not want to consolidate with large districts. There may be several explanations to the diverse results. While Brasington (2004) analysed consolidation of districts providing a specific service, the present study concerns a nationwide municipal reform that was implemented in connection to an extensive growth of the public sector. As a consequence, several municipalities were far too small in order to fulfil the welfare commitments that were determined by the national government. Other factors that might explain preferences of small governments may be differences in vertical integration, e.g. to what extent are local governments granted and do they expect to be granted if they remain in autonomy?

Another robust result is that the relative size of the municipality has a positive effect on the municipal decision to accept the proposal. The result indicates that it is important for the municipalities to remain leverage in the new municipality, which is consistent with the population effect discussed above. We also find that co-operation prior to the reform, but also other common

administrative borders such as parishes, may have a positive effect on the decision to accept the proposal. Political factors also seemed to affect the municipal opinions. Municipalities with socialist majority were more likely to accept the proposal compared to municipalities with conservative parliaments. However, political differences between municipalities do not seem to matter for the decision to accept the proposal.

Since the main objective of the reform was that municipalities should have a minimum of 2,000 inhabitants, we have also analysed municipal statements for municipalities that were larger than the critical size prior to the reform. There was no immediate need for these municipalities to amalgamate. The municipal size, and relative municipal size, is still important for explaining the municipal statement. Furthermore, the income difference is found to have a negative effect in this sample, meaning that wealthier municipalities do not want to amalgamate with less wealthy municipalities.

Although the empirical analysis is based on a reform that was implemented more than 50 years ago, the results may be valid for the present discussion concerning the formation of governments since the processes behind unification are likely to be similar. Although the present analysis must be seen in the light of the historical context, similar environmental circumstances can be identified today; e.g. the depopulation of rural areas that can be seen in several countries combined with welfare commitments that to some extent are determined by the national government. A striking feature of the results is the relationship between size, and relative size, and the willingness to amalgamate. Amalgamation processes are generally driven by a desire to realise scale economies which implies that localisation of public services are likely to be a critical issue, e.g. schools, fire stations, and libraries. Thus, amalgamations are often associated with a competition of the location of public services. Since the spatial distribution of public services may be important for migration decisions as well as for firm locations, the competition concerning public service locations may have a strong impact on the willingness to amalgamate. There may be a fear of an unbalanced development within the municipality. This problem is evident in sparsely populated areas. The dilemma described here is less likely to be a source of conflict when a small municipality amalgamates with a much larger municipality. However, when equally sized municipalities amalgamate, the bargaining of different

localities might be a severe obstacle for reaching voluntary agreements. The dilemma for equally sized units to reach voluntary agreements may also be seen in the light of the recent contributions within the field of new economic geography (see, e.g. Krugman, 1998). A general conclusion from the new economic geography is that an equilibrium with equally sized regions is unstable; a small change may lead to core-periphery pattern with one expanding, wealthy, region and one shrinking region. In the context of municipal amalgamations, one might argue that the location of public services can be the “trigger” of an unbalanced development, especially in sparsely populated areas.

Appendix

Table A1: Descriptive statistics for municipalities, accepting / rejecting the amalgamation decision in 1951

Variable	mean	St dev	min	max
<i>Pop_i</i>	1237 / 2031	3135 / 1352	69 / 257	83279 / 12505
<i>Inc_i</i>	1803 / 1764	378 / 363	914 / 915	4514 / 3027
<i>Area_i</i>	6860 / 15460	13115 / 23756	45 / 138	252060 / 213150
<i>Soc_i</i>	0.24 / 0.31	0.43 / 0.46		
<i>Cons_i</i>	0.55 / 0.47	0.50 / 0.50		
<i>Other_i</i>	0.21 / 0.22	0.40 / 0.42		
<i>>75_i</i>	0.42 / 0.19	0.49 / 0.39		
<i>50-75_i</i>	0.40 / 0.47	0.49 / 0.50		
<i><50_i</i>	0.13 / 0.24	0.34 / 0.43		
<i>Urban_i</i>	0.45 / 0.92	0.21 / 0.29		
<i>Union_i</i>	0.75 / 0.44	0.43 / 0.50		
<i>City_i</i>	0.018 / 0.012	0.14 / 0.11		
<i>Borough_i</i>	0.007 / 0.04	0.09 / 0.19		
<i>Nr munic_j</i>	4.71 / 2.71	2.87 / 0.98	2 / 2	18 / 7
<i>Area_j</i>	238 / 361	283 / 422	22 / 34	3084 / 2899
<i>Union_j</i>	0.12 / 0.11	0.32 / 0.31		
<i>Parish_j</i>	0.20 / 0.25	0.40 / 0.43		
<i>Hundred_j</i>	0.035 / 0.50	0.18 / 0.22		
<i>Pop share_i</i>	0.28 / 0.44	0.22 / 0.20	0.005 / 0.06	0.99 / 0.88
<i>Inc diff_i</i>	-9.58 / 40.1	345 / 387	-1318 / -1169	2998 / 1319
<i>Same_pol_i</i>	0.30 / 0.42	0.46 / 0.49		
<i>Same_ind_i</i>	0.12 / 0.28	0.33 / 0.45		
<i>Same_type_i</i>	0.91 / 0.91	0.29 / 0.28		
<i>N obs</i>	1211 / 239			

References

Alesina, A., Perotti, R. and Spolaore, E., 1995. Together or separately? Issues on the costs and benefits of political and fiscal unions. *European Economic Review* 39, 751-758.

Alesina, A. and Spolaore, E., 1997. On the Number and Size of Nations. *Quarterly Journal of Economics* 112, 1027-1056.

Alesina, A., Baqir, R. and Hoxby, C. (2004) Political Jurisdictions in Heterogenous Communities. *Journal of Political Economy* 112, 348-396.

Bolton, P. and Roland, G., 1997. The Breakup of Nations: A Political Economy Analysis. *Quarterly Journal of Economics* 112, 1058-1090.

Boyne, G.A., 1992. Local Government Structure and Performance: Lessons From America? *Public Administration* 70, 333-357.

Brasington, D.M., 1999. Joint provision of Public Goods: The Consolidation of School Districts. *Journal of Public Economics* 73, 373-393.

Brasington, D.M. (2003) Snobbery, Racism, or Mutual Distaste: What Promotes and Hinders Cooperation in Local Public Good Provision? *The Review of Economics and Statistics* 85, 874-883.

Brasington, D.M. (2003) Size and School District Consolidation: Do Opposites Attract? *Economica* 70, 673-690.

Brink, A., 2002. The Break-Up of Municipalities - Voting Behaviour in Local Referenda. *Economics of Governance*, 2, 119-35.

Dowding, K. and John, P., 1994. Tiebout: A Survey of the Empirical Literature. *Urban Studies* 31, 767-797.

Ellingsen, T., 1998. Externalities vs Internalities: A Model of Political Integration. *Journal of Public Economics* 68, 251-268.

Fisher, R.C. and Wassmer, R.W., 1998. Economic Influences on the Structure of Local Government in U.S. Metropolitan Areas. *Journal of Urban Economics* 43, 444-471.

Gordon, N. and Knight, B. (2006) The Causes of Political Integration: An Application to School Districts. NBER Working Paper Series No. 12047.

Hanes, N., 2003. Amalgamation Impacts on Local Public Expenditures in Sweden. Working paper. Department of Economics, Umeå University.

Krugman, P (1998) What's New About the New Economic Geography? *Oxford Review of Economic Policy* 14, 7-17.

Martinez-Vasques, J., Rider, M. and Walker, M.B., 1997. Race and the Structure of School Districts in the United States. *Journal of Urban Economics* 41, 281-300.

Nelson, M.A., 1997. Decentralisation of the Subnational Public Sector: An Empirical Analysis of the Determinants of Local Government Structure in Metropolitan Areas in the U.S. *Southern Economic Journal* 57, 443-457.

SOU 1945:38. Riktlinjer för en revision av rikets indelning i borgerliga primärkommuner. Stockholm: Ivar Haeggströms Boktryckeri AB.

SOU 1961:9. Principer för en ny Kommunindelning. Stockholm: K.L. Beckmans Boktryckeri.

Statistics Sweden. Kommunernas Finanser 1951, 1953 and 1959. Stockholm: P.A Norstedt & Söner.

Statistics Sweden. Kommunernas Årsbok 1951, 1953 and 1959. Stockholm: P.A Norstedt & Söner.

Thunborg, F., 1950. Den Nya Kommunindelningen i Text, Statistik och Kartor. Stockholm: P.A Norstedt & Söner.

Wångmar, E., 2003. Från sockenkommun till storkommun. Dissertation, Växjö University Press.