Size and Participation in Norway

An analysis of the relationship between municipality size, political conflict and the level of political participation in Norwegian municipalities

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Foreword

The following thesis is part of the project “Size and local democracy in Norway”. This project is part of a larger European cooperation and the Norwegian part of the project is financed by the Norwegian Research Council. Project leader for the Norwegian and the international project is Lawrence Rose at the Department for Political Sciences of the University in Oslo.

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1. Introduction

Structural reforms of the municipal sector are common phenomena in most European countries, and they end mostly up with the creation of larger political units. The amalgamation of smaller municipalities is usually justified by functional arguments, such as the effective production of municipal services, while democratic aspects often are neglected. This is partly because the political decision-takers give priority to economic arguments, but also because the knowledge about the relationship between size and democracy is rather limited. Therefore, the research project “Size and local democracy in Norway”, which this thesis is a part of, tries to gather more knowledge about the relationship between size and democracy.

The basic question with regard to this issue is whether the size of a political unit influences the quality of a democratic system. Is there an ideal size for political units that ensure the best conditions for democracy? An answer to this question is certainly dependent on which conception of democracy we apply. Democracy, which generally means government by the people, can be defined in a number of ways (Myrvold 2001). The two most important forms of democracy are direct democracy and representative democracy. Direct democracy implies that the people can participate directly in the process of government, for instance by a referendum or by contacting a politician personally. The motivation behind the participation in forms of direct democracy is generally the wish to affect the outcome of decisions around particular political issues, which are personally important for the participant. When we talk of representative democracy, we refer to a system where people delegate their power to a representative by means of popular elections. Here, the outcome on a particular issue is not the primary motivation for participation; the participant engages in politics to affect political decisions that are important for the whole community.

With regard to the size of a political unit, it is a popular assumption that direct forms of democracy work best in smaller and less complex political units, where it is easier for the residents to have knowledge about political issues and the political actors. A representative system, on the other hand, is often thought of as related to larger political units. The larger a political unit, the larger is the distance between
citizen and government, and the stronger is the need for citizens to delegate power to the politicians.

In reality, we do not find political systems that are characterized by only one form of democracy. In Norwegian municipalities, the residents elect the representatives in the municipal council, but we find also elements of direct democracy: citizens may contact politicians or participate in political actions. When we accept the statement that the level of participation in general should be as high as possible, then the ideal size of a municipality is that size which corresponds with a maximum likelihood of participation, both directly and via the representative system. Nevertheless, it is reasonable to assume that we will not manage to identify an ideal size of a political unit; some forms of participation are maximized in larger political units, while other forms of participation are maximized in smaller units.

The basic question is therefore if there is a relationship between municipality size and participation in Norwegian municipalities at all. If this is the case, it is important to know more about this relationship. Is it strong or weak, positive or negative? And what is the mechanism that ties the size of a municipality together with the level of participation? These questions are, of course, very general and therefore not suited for empirical testing; they have to be specified further. Later in this chapter, we present the most important concepts of this work and specify the research questions further. However, before that, we demonstrate that an analysis of the relationship between size and participation is meaningful.

1.1 The relevance of size and participation

One can argue that the quality of a democratic system is not solely characterized by the act of political participation; other aspects might be interesting as well. However, there are arguments that imply a more detailed analysis of the relationship between size and participation. In this section, we present some of these arguments. Furthermore, we will also demonstrate that the public debate with regard to changes of the municipal structure in Norway not only emphasize functional aspects, but democratic aspects as well. Finally, we consider a selection of scientific works that focus on the relationship between size and democracy. These works show that the
issue of size and participation has already been discussed scientifically for a while. In sum, all these aspects - theoretical arguments, public debate, and empirical analyses – demonstrate the importance of an investigation of the relationship between size and democracy.

1.1.1 Theoretical arguments
The first argument that justifies an investigation of the relationship between size and participation can be summarized under the label “school of democracy” (Hansen et al. 2002; Vetter 2002). According to this line of thinking, local democracy is supposed to be less complex and easier to access for ordinary people. Because of these characteristics, local self-government supports a number of objectives that are in favour of democracy in general. In the first place, local democracy serves as a socializing institution; it is the base of recruitment for national politicians and teaches democratic values to the ordinary citizens. And secondly, local self-government gives important legitimizing support for the political system as a whole in an era of an increased alienation of the citizens from national and international politics (Vetter 2002: 3ff). This line of reasoning implies that participation has a value of its own. Because of this, it is important to investigate which characteristics of a municipality affect the individual participation in the local political system, in order to create an environment that supports citizen involvement and makes local self-government a real “school of democracy”. Municipality size is certainly of relevance in this context.

Another argument for analyzing the relationship between the number of residents in a municipality and political participation emphasizes the instrumental function of political participation. Political participation is, in this view, seen as an instrument that communicates the preferences of the population to the political decision-takers. According to this view of participation, it is important that all residents have equal access to the political area. However, one can assume that political participation, in general, is easier in smaller municipalities because the political system is less complex. This means that the participants need more social resources (such as education or income) to participate in the politics of larger municipalities than are required in the smaller municipalities. According to this reasoning, will residents that have a high amount of social resources available have easier access to the political
arena in larger municipalities than persons that have only a limited amount of resources. Consequently, the process of amalgamating smaller municipalities into larger units will result in a situation where the amount of resources determines whose voice is heard, and whose is ignored. Therefore, it is important to investigate the relationship between size and participation further and to uncover the connection between the distribution of individual resources, the likelihood of political participation, and municipality size.

1.1.2 Public debate in Norway
In Norway, as in other Western countries, structural changes of the municipalities have been in the focus of the public debate a number of times in the past decades (NOU 1974, 1986, 1989). Recently, the so-called Christiansen-committee analyzed the municipality (and county) structure around 1990 (NOU 1992). In this evaluation, the focus was not entirely on functional aspects of the municipal (and county) structure. Among other criteria, the relationship between municipality size and local democracy is explicitly mentioned as important in this context:

“The superior objective of a reform of the municipal- and county-division should be to create a structure that allows real local self-government within the framework of the national community by:
- a service production which is effective and which produces services that are practically available for the users,
- a development of society that gives rise to good patterns of development and that results in municipalities and counties that are capable of further development, and
- a living local democracy, which increases the possibility of the municipalities and counties to influence their own environment.”
(NOU 1992: 43; translated from Norwegian by the author)

With regard to the analysis of the consequences of reforms of the municipal division on a “living local democracy”, three factors are identified as being of special interest: political participation, individual attachment to the local municipality, and the ability of the municipality to influence its environment.

1.1.3 Previous research
The scientific interest in the issue of size and democracy is not a novelty. Already in 1967 Robert A. Dahl took up this issue in his presidential address at the Annual
Meeting of the American Political Science Association in 1967 (see Dahl 1967). Some years later, in 1973, he published, together with Edward R. Tufte, the book “Size and Democracy”, which is the first systematically and profoundly approach to the issue. They created a theoretical framework and formulated a number of hypotheses regarding the relationship between size and democracy. Unfortunately, their theoretical assumptions were not tested empirically to a larger degree. This was due to the fact that “limitations of data are often overwhelming” (Dahl & Tufte 1973: 28). However, their book constitutes a very inspiring collection of hypotheses concerning size and democracy and can be regarded as a major source of inspiration for this work. The most important arguments from this book will be presented in more detail in Chapter 3.

In the course of the years a number of empirical studies were published that tried to test some hypotheses regarding size and democracy. Already before the major work of Dahl & Tufte was published, Verba & Nie (1972) attempted to test the empirical validity of two competing models regarding size and participation in the American context. They categorized American municipalities into a number of community types, with regard to their size and its distance to a metropolitan centre (their degree of isolation). The “Mobilization Model” predicts a higher level of political participation in larger and more central municipalities. On the contrary, the “Decline-of-Community Model” predicts a “decline of participation as one moves from the smallness and intimacy or town or village to the massive impersonality of the city” (Verba & Nie 1972: 231). They concluded with the following: “There are some ambiguities, yet the overall pattern lends support to the decline-in-community model. Participation does indeed decline as communities grow, […]” (ibid: 242). But two limitations concerning this conclusion has to be pointed out: first, the relationship between community type and participation is not uniform for all modes of participation, and second, the degree of isolation seems to have an more important impact on the likelihood of participation than the size of a municipality.

In another, more recent, analysis of the relationship between size and participation in American municipalities, Oliver (2000) finds that the level of participation in general declines with increasing municipality size in metropolitan areas. This is true
for contacting local officials, attending organizational meetings or community board meetings, but only to a limited degree for voting in local elections. With regard to participation in elections, the general tendency is also a decline in participation with increased municipality size. However, in this case, there seems to be a slightly increase in the average participation in municipalities of medium size. The negative relationship between size and participation remains constant also after controlling for “other individual and city-level characteristics” (Oliver 2000: 366).

Bjørklund & Sørensen (1990) analyzed the relationship between size and political participation in Norway. They found that this relationship is ambiguous with regard to different forms of participation. In smaller municipalities, the likelihood of participation in local elections is slightly higher than in larger municipalities. In addition, are residents in smaller municipalities more likely to contact locally elected representatives and to be a member of a party organization. On the other hand, the average participation in political actions, like signing a petition or demonstrating, is higher in larger municipalities.

Rose (2002a) has carried out another empirical work on this subject. He analyzed the relationship between size and participation in three countries, but we will only present the results concerning Norway here. The bivariate relationship between size and five forms of participation is negative; therefore, it is generally less likely that the residents in larger municipalities participate in politics. However, the relationships are of different magnitudes: the association is strongest for contacting an elected representative and for attending a meeting regarding a local issue. It is also considerable for contacting a municipal civil servant, and lower, but still significant for participation in activities of an action group. With regard to the activity of signing a petition regarding a local issue, the association is no longer significant, indicating that there is no difference in the likelihood of participating in this form between municipalities of variable size. These effects of size on the likelihood of various forms of participation do not change significantly when controlling for a number of

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1 The results of their analysis is included into the Christiansen committee rapport (NOU 1992), mentioned earlier
individual variables. It is important to note that Rose did not investigate the relationship between size and the level of participation in local elections.

To sum up the previous research around the subject of size and participation, we get the impression that the likelihood of individual political participation tends to decrease when we move from smaller municipalities to larger ones. The only exceptions from this general rule are the participation in political actions and the participation in local elections, where the picture is inconclusive.

1.2 Research problem and central concepts
The previous section has given us enough reasons to investigate the relationship between municipality size and political participation further. Therefore, we will continue this work with a presentation of the most important concepts that will be used throughout this analysis. At the end of this section, we will be able to specify the research questions further.

1.2.1 The dimensions of size
Size is an ambiguous measure, and the size of a municipality can be measured on several dimensions (Dahl & Tufte 1973: 17ff). Certainly, the two most obvious measures are the area of a municipality and the number of residents within this area. Another possibility is to combine these two measures, in order to calculate, for instance, a municipality’s population density.

In Norway, it is problematic to compare municipalities according to their geographic area. Norway is topographically scattered and characterized by valleys, rocks, and a long coastline. Consequently, not the whole area of a municipality is suitable for settlement. Therefore, when using area as a measure of size, one has to decide whether to use the total area of a municipality or only the area suitable for settlements. In addition, when choosing the area that is suitable for settlements as a measure, it might be relevant to get some indication about the distribution of this area within the boundaries of the municipalities. Is it connected and large, or scattered in many small pieces? The same problems arise when population density is used. In this case, we have to decide if we are interested in the population density within the whole area of a municipality or only within the areas that are suitable for settlements; and
this might result in large differences. A good theoretical measurement of density, which combines geographic size, the distribution of the population within the municipality, and population size, would probably be the average distance between the private homes in a municipality – though it will not be so easy to establish that measure in reality.

Alternatively, one might also be interested in measures that function as substitute measures of size, like the economic structure, the character of social networks and the like (Rose 2002a: 3). Some of these measures are indeed relevant in the context of this work; although they are not regarded as measures of size but rather as covariates of municipality size, that have an impact on participation. This will be discussed in the next chapter.

Irrespective of the difficulties mentioned above, it is clear that the research problem must be decisive for which conceptualization of size a researcher applies in his work. Is a researcher, for instance, interested in the effect of municipality size on the interaction patterns between the residents, or the characteristic of social networks, a definition of size as population density is reasonable. Within the theoretical framework of this work, however, the number of residents is most relevant. The reasons for this will become clearer in the course of this work. Therefore, we define size as the number of registered residents within a municipality (per 01.01.2001).²

1.2.2 The cleavage structure in a municipality

In this work, we consider a municipality as being composed of various groups. A key assumption is in this respect that these groups have different interests on certain issues, and that they try to influence the outcome of local political processes in their favour. This conception of municipalities is nearly related to the work of political sociologist and their analysis of cleavages on the national level. Rae & Taylor (1970) define cleavages in this way:

“Cleavages are the criteria which divide the members of a community or subcommunity into groups, and the relevant cleavages are those which divide members into groups with important political differences

² In the remainder of this work, the term size refers always to the number of residents, if nothing else is mentioned.
at specific times and places.” (Rae & Taylor 1970: 1; cited in Lane & Ersson 1999: 41)

It is important to notice that a cleavage not necessarily will lead to conflict, and that a cleavage therefore not has to be visible in the political system. According to Lane & Ersson a cleavage can

“…lead to conflict, but a cleavage need not always be attended by conflict. A division of individuals, groups or organizations constitutes a cleavage if there is some probability of conflict.” (Lane & Ersson 1999: 41)

Therefore, cleavages can be differentiated into latent and manifest cleavages. A latent cleavage is a separation of the population which has the potential of a political conflict, but which is not realized and therefore has no consequence on the political arena. A manifest cleavage, however, is a separation of the population into groups that actually results in a conflict around political decisions. When there is a manifest cleavage, it is likely that the different groups along this cleavage are supporting different parties and that the cleavage therefore is transformed into the party system. A problem in this context is it to differentiate between a cleavage that is latent and a cleavage that is not existent, this means to decide whether a division of individuals that is not visible in the party system has some potential of conflict or not. Therefore, it is important that the classification of the population into groups along cleavages makes sense theoretically. Lane & Ersson maintain in this context:

“The identification of the cleavages to be studied depends upon theory or theoretical assumption. […] The choice of cleavages to be included in the analysis may be justified not on the basis of a typology or on the basis of an enumeration of types of cleavages found, but on the basis of theoretical arguments about interrelationships between cleavages and the other properties to be studied.” (Lane & Ersson 1999: 43-4)

Consequently, it is important to have a theoretical basis for the classification of the population into groups along a number of cleavages. In this work, this theoretical basis is the residents’ self-interest in the production of a particular set of public services by their home municipalities. Of course, this theoretical basis for the cleavage structure within a municipality is controversial, and there are a number of arguments against this method. This will be elaborated further in Chapter 3.
Another central term in this work is the concept of diversity. The diversity of a municipality is based on the municipalities’ cleavage structure, and in general, we can say that a municipality is more diverse the more subgroups there are in a municipality, and the more those subgroups approach each other in size. In Chapter 3, the concept of diversity is specified further and we argue in favour of the assumption that size is positively related to the level of diversity, which means that larger municipalities are assumed to be more diverse than smaller ones.

1.2.3 Political conflict
It is crucial at this stage of the work to have a clear idea of which mechanism ties municipality size and individual political participation together. For most readers it has become clear already that political conflict plays a central role here. Political conflict is defined as a disagreement around the outcome of the political process. Political conflict is conceptualized by characteristics of the party competition in the individual municipal councils. The detailed conceptualization of political conflict is discussed in Chapter 4.

The key assumption of the relationship between size and conflict is that larger (and therefore more diverse) municipalities are characterized by a higher level of political conflict. Further, it will be argued that a higher level of political conflict mobilizes inhabitants in a municipality to participate in local politics (Deutsch 1961).

1.2.4 Political participation
The understanding of political participation applied here is in accordance with a definition presented by Verba et al. (1995). They define political participation as an

"[…] activity that has the intend or effect of influencing government action – either directly by affecting the making or implementation of public policy or indirectly by influencing the selection of people who make those policies." (Verba et al. 1995: 38).

Of course, in the context of this work it is not national government action, but the action of local political authorities that are in the focus of the participants. It is important to point out, like Verba and his colleagues did, that the focus is on voluntary activity, this means not obligatory or paid political behavior.
As a consequence of the conceptualization of political conflict by party competition in the municipal council, we will focus on forms of participation that attempt to influence the decisions of the municipal council (as the highest political body of a municipality). This might be done indirectly, by participating in local elections that determine the composition of the municipal council. Or alternatively, directly by contacting the most important actors within the municipal council personally. The most important actors in the municipal council are the elected representatives and the local political party organizations.

Consequentially, three forms of political participation are considered as dependent variables in this work: participation in local elections, contacting elected representatives, and contacting a local political party.

1.2.5 Specification of the research hypothesis
At last, we have arrived at a point where we can specify the research problem further. The following three hypotheses summarize the research problem:

**Hypothesis 1:**
The larger a municipality, the more diverse is its population.

**Hypothesis 2:**
The larger and more diverse a municipality, the higher is the level of political conflict within this municipality.

**Hypothesis 3:**
The higher the level of conflict within a municipality, the higher is the likelihood of political participation among its residents. We suppose here that the political interest of the residents mediate the effect of conflict on participation.

In sum, these three hypotheses suggest a positive relationship between municipality size and the level of participation; the likelihood of political participation increases when we move from smaller to larger municipalities. This assumption is obviously not in accordance with findings in the empirical studies presented earlier. Nonetheless, the logic behind the three hypotheses is convincing, as will become clear in Chapter 3. However, when the analysis of our empirical material does not
support our assumption of a positive relationship between size and the level of participation, it is of interest to see which one of our three hypotheses cannot be validated.

1.3 The data material
We consider two levels of analysis in this work. One level of analysis is the structural or macro level. On this level, we use aggregated data to describe characteristics of the municipalities. Municipality size, the degree of diversity and the level of conflict are measured on this level of analysis. At this level of analysis, we use data from “The Commune Database” which is administered by the Norwegian Social Science Data Service (NSD). This database constitutes a collection of various statistics from different sources on the municipal level (however, all statistics employed here, are produced by Statistics Norway (SSB)).

These structural data were combined with data on the individual or micro level. On this level, we measure the degree of interest in politics, the actual participation in politics, and various control variables. The individual data were from a survey carried out within the project “Size and local democracy in Norway”. Responsible for this project is Lawrence Rose at the University of Oslo, Department of Political Science\(^3\). The sampling design for the “Size and local democracy in Norway”-survey was rather complicated. The selection of respondents was carried out in two stages. First, all Norwegian municipalities were stratified into eight strata according to their size.

\(^3\) Of course, either NSD or Lawrence Rose is responsible for the analysis or the interpretations of the data that are carried out in this work.
Table 1.1: The distribution of Norwegian municipalities by eight strata

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Residents</th>
<th>Number of municipalities in stratum</th>
<th>Number of municipalities in sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 – 2,500</td>
<td>129</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>2,501 – 5,000</td>
<td>117</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>5,001 – 7,500</td>
<td>61</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>7,501 – 10,000</td>
<td>28</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>10,001 – 15,000</td>
<td>38</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>15,001 – 25,000</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>25,001 – 50,000</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>50,000 –</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Σ</td>
<td>–</td>
<td>435</td>
<td>64</td>
</tr>
</tbody>
</table>

Thereafter, eight municipalities were selected from each stratum, which means that a total of 64 municipalities were in the survey. The stratification was necessary to achieve sufficient variation in the size of the municipalities in the sample. Table 1.1 outlines the characteristics of the eight strata. This division of municipalities into eight strata is also used in the forthcoming chapters to structure the presentation of the results of the data analysis. In the second stage of the sampling procedure, a number of inhabitants within each of the 64 municipalities were selected. The objective was to seek a sample of about 30 individuals in each municipality.

This sampling design allows us to analyze the effect of different structural conditions on the residents’ behavior. Unfortunately, the sample is not representative for the Norwegian population as a whole. There is a sampling bias in each step of the sampling procedure. In the first stage of the sampling process, smaller municipalities have a smaller probability to be selected into the sample than larger ones. In the second stage, on the other hand, the residents in smaller municipalities have a larger chance to be selected than the residents in larger municipalities. The data estimate therefore unbiased descriptive statistics for each municipality, but in order to estimate unbiased descriptive statistics for the whole Norwegian population we have to weight the individual respondents differently.

The methods used to gather information from these respondents was a combination of a telephone interview and a postal survey. Altogether, 3259 respondents were in the sample and 1624 of these answered both, the telephone and the postal part of the survey. After the deletion of respondents with too many missing answers, 1560 respondents were finally used in this analysis.
1.4 Plan of the book
In order to structure the quite complex relationship between municipality size and political participation, we will attempt to create a general framework of the relationship between these two variables in the next chapter. The hypotheses presented above will be placed within this framework, and variables that might have a confounding effect on the relationship between size and participation will be identified. In Chapter 3, we discuss the theoretical foundation of the research hypotheses in more detail.

Thereafter, in Chapter 4, we discuss the empirical measurement of our theoretical constructs. Then the actual empirical testing of the hypotheses follows in Chapter 5 and Chapter 6. In Chapter 5, we investigate the relationship between the variables measured on the structural level, while Chapter 6 combines the structural and individual level data by carrying out a multilevel analysis. Finally, we summarize our findings and draw our conclusions in Chapter 7.
2. Size and participation – some general observations

The hypotheses presented in the introductory chapter are only one imaginable connection between municipality size and political participation. One can think about a vast number of alternative hypotheses that link municipality size and political participation together. This variety of hypotheses can be illustrated by the two opposing hypotheses proposed by Verba & Nie (1972), which we have mentioned earlier. The objective of this chapter is it therefore to give a systematic presentation of the variety of possible connections between size and participation, and to present the most important factors that have to be considered in this context.

We will therefore start this chapter by discussing characteristics of municipalities that can be assumed to change with the number of residents. Thereafter, we will briefly discuss our approach on the explanation of individual action and attempt to identify the most important variables that influence the individual decision to participate in politics or not to participate. The characteristics of municipalities that change with municipality size, and the most important factors that influence the individual decision to participate in politics, are combined into a general framework of size and participation, which will be presented in section 2.1.3.

By placing our initial set of hypotheses within this framework we get a better idea of which additional variables might confound the effect of municipality size on political participation. The general framework is therefore a good instrument to identify potential control variables. At the end of this chapter, we were therefore able to specify the complete model of analysis that will be the subject of the analysis in the remainder of this work.

2.1 An approach on size and democracy

The assumption that size alone does not have any effect on the level of participation is central in this work. A number of other variables mediate the effect between size and the level of participation. Those variables either covariate with or are determined by the number of residents within a municipality. Together, these variables create
distinct contexts of participation in municipalities of different sizes, where the context of participation is a label for all circumstances that are significant for the individual decision to participate in politics. This means that the individuals who live in different municipalities, are confronted with a distinct set of opportunities and restraints with regard to participation, and this distinct set is assumed to be correlated with municipality size. In this way, a certain context makes participation more likely, while another context makes it less likely. This is also true for different forms of participation. A certain context makes the participation in some kinds of participatory acts more likely than in other forms of participation.

It is also reasonable to assume that some characteristics of the population correlate with the size of a municipality. However, within this conception of the relationship between size and participation, it is not assumed that the individual characteristics of a person are completely dependent on the municipal context. Other factors outside the context of participation are certainly relevant as well. Even if it is reasonable to claim that some kinds of relevant individual characteristics (like education or attitudinal variables) are correlated with the context of participation to some degree, some other characteristics (like preferences) might not be affected by the municipal context at all. The individuals act within the context of participation as independent actors, while some characteristics of the individuals correlate with this context.

Figure 2.1 outlines the assumed relationship. It is important to point out that the arrows in the figure do not indicate causal relationships but rather the existence of a
high degree of correlation. The four elements in Figure 2.1 are rather theoretical concepts at this stage of the work. Therefore, the following sections try to fill these concepts with empirical content.

2.1.1 The context of participation

When we talk about the context of participation, it is important to identify the main social and structural factors that are likely be correlated with unipucipality size. It is important that these factors in turn are relevant for the individual decision to participate in politics. Among all the possible differences between municipalities of distinct sizes, two factors seem to be of special importance here. These are the composition of the population with regard to various social characteristics and the characteristics of the political system within a municipality. In addition, a residual category is necessary that embraces factors that cannot be classified in the two categories mentioned. Consequently, three dimensions characterize the context of participation:

The social characteristics of the inhabitants in municipalities (such as the level of education or their income) are assumed to correspond with size. There might be a number of reasons for this situation, like for instance differences in the economic structure, or distinct education possibilities.

Second, the character of the political system is likely to vary in municipalities of different sizes. The complexity of the bureaucratic system, the distance between politicians and citizens, or the absolute size of the electorate, are examples for possible factors in this dimension.

Finally, other social and structural factors correspond with changes in municipality size. Here we can think of factors like the average distance between residents and the municipal centre, the probability that a resident works and lives in the same municipality, the economic structure of a municipality, or the character of the social interaction between the residents within a municipality.

Figure 2.2 illustrates the relationship between the size of a municipality and the context of participation.
Figure 2.2: The relationship between size and the context of participation

It is clear that size alone does not only have a direct effect on these three dimensions. The three dimensions are likely to be correlated with each other as well (which is indicated by the sprinkled arrows in the figure). Therefore, it is reasonable to assume that the effect of size on one dimension also might be indirect, mediated through one of the other dimensions (or another variable on the same dimension). An example for this is the assumption that larger municipalities are likely to have residents with higher education. The logic behind this assumption is that larger municipalities have a higher level of socioeconomic development than smaller municipalities (Dahl & Tufte 1974: 31ff). This means among other things that the economic structure of larger municipalities is largely characterized by industry and service production, while it is the agricultural sector that prevails in the smaller municipalities. With other words, is this a statement of a direct relationship between size and our dimension of “Other social and structural factors”. Nevertheless, this change of the economic structure when we move from smaller to larger municipalities, is likely to have an effect on the distribution of social characteristics among the population as well. A consequence for this might be that the population in larger municipalities has
a higher degree of education and because of this a higher average income than residents in smaller municipalities have.

2.1.2 Individual characteristics
Let us now consider the relevant individual characteristics. The objective with this section is it to identify the most important factors for explaining individual action in general, and individual political participation in particular. In order to achieve this, it is crucial to have an idea about the mechanisms that are at work when individuals decide to participate in politics, or rather decide not to do this. This is, however, a controversial issue because there are a number of conceptions about why humans act. In this work, we apply an approach that considers individuals as rational actors. In order to make this selection of a decision theory explicit, a brief discussion of the rational choice approach precedes the identification of the most important individual factors for political participation.

Individual decision theory
A basic assumption within this work is the belief that the individual decision to participate in politics is based on rational considerations concerning the benefits and costs of the act. This is the key assumption in the rational choice approach (Downs 1957; Riker & Ordeshook 1973). According to this approach, a person engages only in politics when the expected benefits of the engagement exceed its assumed costs. The benefits that an individual achieves from participating in politics are numerous. The most obvious benefit results from the possibility to influence a political decision in a way that it is in accordance with the participator’s self-interest. This is called a collective benefit because it is not possible to exclude any member of the political system from enjoying the political outcome that has been achieved by the participators. Therefore, it is most rational for an individual not to engage in politics, which means not to bear any of the costs, but to enjoy the benefits from the work of the others that have participated. It is therefore a paradox that such a large number of persons still participate in elections and other political acts, despite the logic of the rational choice approach. In the literature, this paradox is sometimes called for the “Paradox of Voting” (Downs 1957).
In order to solve the paradox and to give a reason for why individuals still engage in politics, a number of political scientists employ a wider comprehension of benefits. They assume that there are not only collective benefits, but also benefits that are connected directly to the participatory action. These benefits are special in the sense that the actor alone only can experience them; they are so called *selective* benefits (Riker & Ordeshook 1973; Verba et al. 1995; Wilson 1995). Verba et al. (1995) mention for instance three potential selective benefits that might be connected with the execution of a political act: *material benefits* such as enhancing career possibilities, *social gratifications* such as enjoying being together with other people, and *civic gratifications* such as doing the duty as a citizen (Verba et al. 1995: 111-112). These selective benefits are assumed so important for some participators, that they bear the costs of the act. In this way, selective benefits seem to resolve the paradox of participation.

However, there are still some disadvantages with this approach. One problem with this approach, despite of its theoretical plausibility, is that it is difficult to test the approach empirically. The supporters of the view state that individuals participate because the benefits exceeds the costs of participation, but which combination of selective and collective benefits exceeds, for instance, the cost of demonstrating one hour to prevent the implementation of a decision made by the municipal council? Is it enough with the social gratification of having a good time with friends combined with a collective benefit, which in this case is the possible prevention of the political decision? Or, because it was bad weather, we have also to consider the civic gratification of having done something about a decision that is perceived to be unjust? It is difficult to identify general guidelines about which gratifications or benefits are more important, and in which contexts this is true. However, without such a guideline a researcher has only to dig in the potential benefits of a person and is nearly guaranteed to find some selective benefits that justify the participation. Since the individual has participated, there must be more benefits than costs and one has only to find these benefits. Verba and his colleagues were aware of this point as well. They remarked that
“[a]ny attempt to base a rational actor explanation of political activity on motivations by expanding the range of types of allowable preferences results in a tautology” (Verba et al. 2000: 267).

Another objection to the use of selective benefits in a rational choice approach is that the focus of participation shifts from political to personal reasons. Previously, we defined political participation as an activity that has the intention to affect political decisions (see section 1.2.4). However, when the main reason for participation becomes the experience of selective benefits, the political dimension of the action becomes secondary. An individual is no longer attending a meeting of the municipal council with the aim of exerting pressure on the political decision-makers, but because this might promote his career in the municipality, by getting in contact with a number of influential persons in this way.

This illustrates that the basic logic behind the rational choice approach is not without problems, and there are a number of other objections (Almond 1991). Nevertheless, it must be the ultimate aim with a decision-theory to explain human action with only a limited number of variables. A theory has to simplify reality by emphasizing on a smaller number of variables and at the same time ignoring many other potentially important variables. In this respect, the rational choice approach accomplishes what it is supposed to do, by presenting the researcher to a smaller set of variables that give a quite intuitive explanation of when and how humans engage in political activities. However, irrespective of the specification of benefits chosen, a rational explanation of political activity should always dependent on a conception of benefits that have a political dimension. Therefore, the assumption that individuals try to influence political decisions to be in accordance with its self-interest should be a minimum requirement for the explanation of political participation.

One possible solution is it to ignore the problem with specifying the appropriate set of benefits, and to focus rather on the costs of participation and the resources needed to meet the costs. In this way, we leave the attempt of applying a general explanation theory, and use rather a pragmatic set of assumptions in order to explain political participation. Verba and his colleagues formulate the key assumption in this way:

“[…] they found that political activities vary in their resource requirements and that individuals vary in their resource endowments.
This variation across both acts and individuals provided opportunities for exploring who participates in what ways” (Verba et al. 2000: 265).

This approach to the explanation of participation can be labelled as resource-based explanation of participation (Verba et al. 1995, 2000; Rosenstone & Hansen 1993). Its basic assumption is that the people that have a large amount of those resources that are necessary to participate in a certain activity will be more likely to participate. For those persons are the costs of participation not so high (relatively spoken), and therefore, the benefits will easier exceed the costs. If we take the resource of money as an example, is it reasonable to assume that a person that earns many millions a year is more likely to donate some 100 000 to a political organization, than a person that only has an income of 200 000 a year. This is a quite plausible assumption. With this in mind, let us now proceed to identify the most important factors that affect the individual decision to participate in politics.

Important individual factors
The Civic Voluntarism model presented by Verba and his colleagues (1995) summarizes the most important factors that influence the decision to participate in politics, or not to participate. The model introduces three factors that are supposed to account for political participation.

“[…] one helpful way to understand the three factors is to invert the usual question and ask instead why people do not become political activists. Three answers come to mind: because they can’t; because they don’t want to; or because nobody asked. In other words, people may be inactive because they lack resources, because they lack psychological engagement with politics, or because they are outside of the recruitment networks that bring people to politics.” (Verba et al. 1995: 269, italics in the original)

Of these three factors, resources and engagement are more important than recruitment. Political participation might take place without recruitment, but the availability of resources and the existence of engagement is a necessary condition for political action.

Resources refer, as mentioned earlier, to inputs from the participant that are necessary to execute a certain form of political activity. For instance, does a donation of money require that the participant has money to its disposition. Verba et al. use a
pragmatic approach and emphasize three kinds of resources as relevant: time, money, and civic skills. They define the resource of civic skills as “[...] the communications and organizational abilities that allow citizens to use time and money effectively in political life” (Verba et al 1995: 304).

With the term psychological engagement, Verba et al. refer to a number of psychological predispositions that have been shown to be relevant for the explanation of political participation. Important to mention in this context are political attitudes, such as political interest, an individual’s sense of efficacy or the identification with a party. The individual’s sense of efficacy is in the literature often defined in two ways: the term internal efficacy refers to a person’s “ability to understand politics and to participate in politics” (Rosenstone & Hanse 1993: 15), while the term external efficacy means a person’s sense that his “political activities can influence what the government actually does” (Rosenstone & Hansen 1993: 15).

Further feelings of gratifications, which were mentioned above a one example of selective benefits, might also emanate from psychological factors. The personal commitment to civic values or the wish to implement a certain political decision were examples for this kind of psychological factors. In the opinion of the author, is it important to differentiate between psychological predispositions that might trigger personal gratification and other kinds of psychological engagement factors (which we will call political attitudes throughout this work). Of course, this is a differentiation, which is not always clear and might be difficult to apply in some instances.

In the context of this work, psychological predispositions that are the origin for feelings of gratifications are not relevant, for reasons mentioned earlier when we discussed the use of selective benefits in the rational choice approach. Nonetheless, are psychological factors important for the execution of political activities. Political attitudes, such as political interest or the sense of effectiveness might be important here. When a person is not interested in politics, this person will not participate in politics despite the availability of the necessary resources. In the opinion of the author, an argumentation, which is in line with the resource-based explanation of political participation mentioned earlier, might be true for political attitudes as well. It is reasonable to assume that different forms of participation vary with regard to which
political attitudes are required from the participant. Modes of participation that have an individual character and require a high amount of resources like money or time might attract persons with a high sense of political efficacy to a larger degree than other persons. The same might be true for political interest. Forms of political participation that aim to influence decisions of a more collective nature, such as voting, require participants that are generally interested in politics. On the other hand, for forms of participation that have a more particularized scope of outcome, meaning that the outcome only has personal consequences for the participant, political interest might not be relevant (Verba & Nie 1972: 54).

The participatory act of contacting politicians and parties is an ambiguous form of participation with regard to the scope of the outcome. Consequentially, the relevance of interest in politics is not clear. A resident in a municipality might contact a local politician in order to promote a personal interest, for instance to achieve a faster processing of a building permit. However, the resident might also contact a politician on behalf of the whole neighbourhood, for instance to achieve noise reduction measure along a major road that passes through the neighbourhood. In the first case, interest in politics is not a precondition for the participation because personal motives are the primary reason behind the action. In the latter case, on the other hand, interest in politics might be a precondition for the act of contacting the politician. Unfortunately, our data material does not allow us to distinguish between the scope of outcome that lies behind the contact of a resident with a party or a politician. In addition, according to data from the United States, is the collective outcome the most important reason for contacting. Verba et al. find that “[…] the subject of about one in five contacts at each level of government was a matter of particularized concern.” (Verba et al. 1995: 57). When we assume that the findings from the United States are representative for Norway, we can conclude that a resident’s interest in politics is relevant for our measure of contacting as well.

A major problem with political attitudes is the problem of causality. The direction of the causal effect is uncertain. Is the political attitude prior to the act of participation? Or is it the other way around; is the attitude a result of the political engagement? In order to find an answer to this problem, we need special data that
measure the character of a person’s political attitude before and after the engagement in politics. Since we do not have this type of data available, we solve this problem by explicitly stating the assumption that political attitudes are prior to the participatory activity.

The third factor mentioned by Verba et al. (1995) is recruitment networks. Rosenstone & Hansen (1993) consider this factor also under the label of political mobilization. They define mobilization as “[…] the process by which candidates, parties, activists, and groups induce people to participate” (Rosenstone & Hansen 1993: 25). These actors can mobilize people in two ways. Directly by contacting citizens personally and encourage them to participate, or indirectly through mutual associates (Rosenstone & Hansen 1993: 26). A general assumption, made by both Verbal and his colleagues and Rosenstone & Hansen, is that the recruiters act rational when they recruit people to politics. The rationality becomes evident in two ways: on which persons the recruiter target an attempt of recruitment, and when the recruiters attempt to recruit (the timing of the recruitment process) (Rosenstone & Hansen 1993).

With regard to the target group of an attempt of recruitment, it is reasonable to assume that recruiters contact persons that are most likely to say yes, and that are able to participate in politics in an effective way. Therefore, persons with a high degree of resources are most likely the targets for an attempt of recruitment. When we consider the timing of the recruitment process, it is clear that some situations make it easier to mobilize persons to politics. This might be a situation in which salient issues top the agenda, or when important decisions are pending. Another situation where mobilization is more likely to be successful is when outputs hang in the balance, and only a few more participators could make the difference (Rosenstone & Hansen 1993: 25 ff). Figure 2.3 summarizes the discussion about the most important factors that influence political participation.

Resources, political attitudes, and recruitment networks are relevant in this work as long as it is reasonable to assume that these individual factors vary with the size of a municipality. Consequently, since different forms of participation require the availability of distinct resources, it is reasonable to assume that not only the general
Figure 2.3: The relationship between individual factors and political participation

The level of participation might be different between municipalities of different size, but also the level of participation in distinct forms of participation.

A final point is it to emphasize that these three individual factors (resources, attitudes and recruitment) are likely to be related to each other (as Figure 2.3 indicates). The level of education, which is an important background variable in this context, can illustrate this. A high level of education is very likely to be positively related to the income and the degree of civil skills of a person. In addition to this, do persons with a longer education probably have a higher sense of efficacy and perhaps a higher interest in politics. Finally, persons that have a higher level of income and education are more “likely to be asked by institutions to take part in politics” (Verba et al. 1995: 376). Certainly, these relationships between resources, attitudes and recruitment is not necessarily dependent on a background variable that ties them together. It is clear, that a higher amount of civic skills alone might increase the subjective sense of effectiveness of a person purely because this person feels that she can argue and communicate requests to the political decision-makers.
2.1.3 A general framework of the relationship between size and participation

After having identified the most important elements of the context of participation and the most crucial individual factors, we are now able to set up a general framework. At this place, it is important to point out that this framework does not attempt to give a complete description of the relationship between size and participation. It is rather supposed to highlight the most crucial factors in this respect, in the eyes of the author. Figure 2.4 summarizes this attempt.

![Diagram](image)

**Figure 2.4: The general framework of the relationship between size and participation**

For reasons of simplicity, the interactions between the elements within the context of participation and between the individual factors are omitted. In addition, the relationship between the two boxes is, in reality, more complex as indicated by the one arrow. Theoretically, each structural variable might affect the individual characteristics among the residents within a municipality. However, some connections might be more likely than others might. The composition of the population within a municipality and the other structural variables are likely to be related with all three individual characteristics, while the characteristic of the political
system can be assumed to have an effect mainly on the political attitudes of the population.

This general framework is not only giving an overall view over the potential relationships between municipality size and individual political participation. It helps also to differentiate between the two levels of analysis that is typical for analyses that investigate the effect of structural factors on individual action. In this way, it forces the investigator to think explicitly about the mechanisms that transform structural variables into individual participation.

2.2 The analytical model
Let us now return to the set of hypotheses that have been introduced in the first chapter. All together, those hypotheses constitute what we, in the following, call the analytical model of this work. How do these hypotheses fit into the general framework outlined above?

The first hypothesis states an assumption about the size of a municipality and the composition of its residents with regard to particular social background variables – the larger a municipality, the more diverse composed is its population.

The second hypothesis assumes that larger and more diverse municipalities have a higher level of political conflict within the municipality than municipalities that are smaller or less diverse. The level of political conflict can be classified as a feature of the political system within our general framework. More precisely the assumption should be formulated in a way to make clear that size and diversity have its own effect on the level of conflict. Given the size of a municipality, an increase in the diversity of this municipality is supposed to increase the level of political conflict. Moreover, given the level of diversity within a municipality, an increase of its size is assumed to increase the level of conflict. The second hypothesis makes therefore two claims. First, that there is a direct relationship between size and the character of the political system. And second, that a relationship between two structural variables within the context of participation exists - between the composition of the population and the character of the political system.
The third hypothesis is again in two parts. The first part states an assumption about the effect of the character of the political system on individual characteristics: the higher the level of conflict, the more interested are the residents in local politics. The second part concludes the analytical chain by stating a supposition about the individual characteristics and the likelihood to participate in politics: the more interested a person is in politics, the more likely is it that this person is participating in politics.

These assumptions are presented in Figure 2.5, which takes the previous presentation of the general framework as a starting point in order to show the similarities between these two approaches.

It is important to point out that this work employs a conceptualization of political conflict as a structural variable. This might be a drawback, because structural measures of political conflict do not have to be decisive for the individual decision to participate. It is rather the degree of conflict that the individual resident perceives which might be decisive. These two conceptualizations of political conflict are entirely different. The individual perception of political conflict is dependent on a number of other factors, which might weaken or strengthen the experience of a
political conflict. Such factors can be the importance of the conflict issue to the individual resident or the character of the conflict issue. Conflicts around religious issues or discussions about values might be perceived as being more controversial than conflicts around the allocation of material resources or localization issues. A structural measure, however, does not measure these differences in the individual comprehension of a political conflict.

Actually, the relationship between the level of conflict and political interest is a relationship on the individual level. And the mechanisms that determine the individual perception of the level of political conflict, dependent on the diversity of the municipality, are those that link the structural and individual level together – the constitute the “micro-macro link”. Certainly, it would be complex to model that link, and due to limitations in our data material, it would not be possible to test these assumptions empirically. Therefore, the solution that has been chosen here – the conceptualization of political conflict as a structural variable – can be regarded as a rather large simplification compared to an “ideal” analytical model. Consequentially, it is important to have this characteristic in mind when drawing conclusions from the results of our data analysis.

2.2.1 The control variables

In order to complete the specification of the analytical model, it is important to consider potential control variables. This is necessary because of the variety of potential relationships that might exist between size and political participation. Therefore, in order to achieve a correct estimation of the direct relationship between size and participation we have to control this relationship for potential indirect effects between size and participation. The same should be done for all the other variables in the analytical model, but this would result in a statistical analysis that would be too complex. Consequentially, the focus here is on the relationship between size and participation.

Not every variable that is correlated with the size of a municipality has to be included into the statistical analysis as a control variable. Only those variables that are assumed to be correlated with both variables, the size of a municipality and the level of political participation, are of interest.
In the context of this work, the education level of the residents in a municipality seems to be of particular interest. As discussed earlier, can the average level of education be assumed to covariate with the size of a municipality? At the same time is the level of education expected to be related to a number of individual characteristics that, in turn, are supposed to have an effect on participation. The most important variables in this respect are the resource variables of income and civic skills. In addition, is the sense of political efficacy relevant here. Finally, the likelihood of being recruited can be assumed higher as well.

Figure 2.6: The control variables within our framework of analysis

However, other factors than the level of education might affect the likelihood for participation as well. Bjørklund & Sørensen (1990) point out that the municipal council is larger, relatively spoken, in smaller municipalities than in larger ones. This may result in a situation where a larger proportion of residents in smaller municipalities have experience with being an elected local representative, and that this might have an impact on the likelihood of participating in certain forms of participation (Bjørklund & Sørensen 1990: 40). To have experience from the municipal council must be regarded as particular significant for the political act of contacting elected representatives or a local party. This experience might affect the
individual sense of political efficacy, since the person knows how the system works, and who the appropriate person to contact is. On the other side is it reasonable to assume that the experience of being a member of the municipal council integrates this person in a social network where it is more likely to be recruited to political activity. Figure 2.6 outlines the fully specified model of analysis.

As we can see from the figure, the control variables that should be included into the analysis are: the level of education, household income, civic skills, two measurements of the sense of effectiveness, and the experience as a representative in the municipal council. All of these variables are measured on the individual level. There are certainly a number of other variables that would be important to be considered as control variables in this context. However, only those that are considered the most significant variables are included in the analysis, in order to limit the complexity of the statistical analysis. The selection of control variables is a subjective decision, and can obviously be the subject of discussion.
3. The analytical model – theoretical considerations

As we have seen previously, is the relationship between municipality size and political participation rather complex. Therefore, the main objective of this chapter is it to demonstrate the plausibility of the analytical model, which we have presented in more detail in the previous chapters. This will be done with the help of logical arguments and empirical findings. The most important questions, that we need to concentrate on, can be deduced directly from the hypotheses (presented in section 1.2.5), and can be expressed like that: Why should larger municipalities be more diverse? What lies behind the assumption that larger and/or more diverse municipalities have a higher level of political conflict? And finally, why is it reasonable to expect that municipalities with a higher level of conflict have residents that, on average, are more interested in politics and, in turn, participate more often?

In the attempt to answer these questions, we will often take the point of view of Dahl & Tufte (1973) as a starting point and adding further evidence to their line of thinking. We start this chapter with a discussion of the assumption that larger municipalities are more diverse. Thereafter, the relationship between size and diversity, on one side, and political conflict on the other side is considered. Here, it is important to identify the most important mechanisms that transfer a municipality’s size and diversity into political conflict. We will argue that a municipality’s group structure is the connection between size, diversity and conflict. Finally, we consider the determinants of participation. In this section, we will illustrate how we imagine that the group structure of a municipality, the level of conflict and the likelihood of participation are related to each other.

3.1 The relationship between size and diversity

In the course of this work, we apply a definition of diversity, which is originally from Dahl & Tufte (1973). They define the concept of diversity by two dimensions, and consider municipalities more diverse
“[...] (1) the greater the number of subsets into which the population is divided, or (2) the more nearly the subsets approach each other in size, or both. [...] Here, we propose to call a difference on either dimension a difference in categoric diversity.” (Dahl & Tufte 1973: 31; italics in the original)

The cleavage structure of a municipality can be used to illustrate the concept of diversity further. With regard to the first dimension – the number of subgroups – a municipality can be more diverse than another municipality in two ways: First, all other things being equal, a municipality that has a larger number of manifest cleavages can be considered as being more diverse than a municipality with fewer manifest cleavages. And second, all other things being equal, a municipality that has a larger number of subgroups along its manifest cleavages can be thought of as more diverse than a municipality with fewer subgroups. This means that a municipality that, for instance, is divided into four subgroups, is considered as less diverse when all subgroups are ordered along one cleavage, compared to a municipality where the subgroups are distributed between two cleavage lines. In addition, the relative size of the subgroups has to be considered as well – the second dimension of Dahl & Tufte’s definition. When all other things are equal, then those municipalities that consist of subgroups that approach each other in size to a larger degree are considered as more diverse.

The concept of diversity can be thought of as a scale, which ranges from the extreme point of maximal homogeneity to the other extreme point of maximal heterogeneity. When the population of a municipality only belongs to one group, we can talk of a situation with maximal homogeneity. The definition of a situation with maximal heterogeneity, on the other hand, is more difficult. A large number of cleavage lines with many subgroups that approach each other in size characterize a heterogeneous municipality. However, there is always a theoretical possibility that another municipality is more diverse. The diversity scale is, with other words, not limited at this end.

In the opinion of Dahl & Tufte, two kinds of categoric diversity are of especial interest: “cultural diversity (variation in language, religion, race, or region) and socioeconomic diversity (variation in occupation, education, income, wealth, and the
like)” (ibid.: 31; italics in the original). Dahl & Tufte continue with discussing the factors that determine the level of diversity in municipalities, and they identify size as an important factor that influences the level of diversity in a municipality. They claim that “[w]ithin countries, smaller communities tend to be relatively homogenous, larger communities relatively heterogeneous” (ibid.: 33). They give a number of reasons for why larger municipalities should be more diverse.

The first reason for the positive relationship between municipality size and the level of diversity is the socioeconomic development of a municipality. Dahl & Tufte mean that

“[t]he size of a community within a country is in turn related to its level of socioeconomic development: a small community is more likely to be oriented toward agriculture or to have a relatively simple economic structure, whereas a large city is more likely to be economically “advanced”.” (ibid.: 33)

Moreover, a municipality that has a higher level of socioeconomic development (which is related to factors like industrialization, urbanization, higher income, the decline of the agricultural sector, education and the like) is assumed to create specialized roles and organisations. This development results in a more diverse society.

However, not only the socioeconomic development leads to the creation of new roles and organizations. When a political unit increases in population size and area this often results in problems of communication and control within this unit. “[…] [T]he search for effective means of communication and control seems to produce a powerful tendency within any organization to break down into subunits as it grows in size” (ibid.: 36). Therefore, the following assumption seems plausible: “Other things being equal – particularly the socioeconomic level – the larger the population of a political system, the greater the number of organizations and subunits it will contain” (ibid.: 36). This increase in the number of subunits will certainly increase the diversity of a political system, because

“[e]very organization or subunit tends to develop its own interests or goals, along with leaders and other members willing to invest time, energy, and wit to achieve them. To this extend, organizations and subunits tend to become interest groups” (ibid.: 39).
Consequentially, larger political systems have to be broken down into smaller subunits, and this process increases the number of political relevant groups within the political system as a whole.

Dahl & Tuft give another argument that backs up under the assumption of a positive relationship between the number of interest groups and the size of a political unit. They assume that there is a “lower threshold of size below which it is unlikely that a separate interest group will be organized” (ibid.: 39). For instance, let us consider a minority group that is distributed equally over the whole country, and consists therefore of the same share of residents in all municipalities. In this case, it is clear that the absolute number of members in the minority group is higher in larger municipalities as it is in smaller municipalities. Further, this line of reasoning assumes that larger groups become institutionalized and politically organized more easily than smaller groups do. A certain number of members within one group are necessary in order to support institutions like newspapers or clubs, or to provide clear identity for the members of a minority group (Fischer 1982). The same is true for the foundation of political organizations, such as political parties or interest groups. The idea of positive relationship between size of a municipality and the level of diversity do we also find in the work of urban sociologists, and here most recently in the work of Fischer (1975, 1982, 1995) and his “Subcultural Theory of Urbanism”. Fischer supports the idea of a threshold, or critical mass, that a group must exceed in order to be capable to execute certain functions. Fischer points also to another mechanism that might reinforce the relationship between size and diversity. He points out that larger municipalities attract people from the districts (Fischer 1995: 545), and of those that move from the district to the centre in a country, it is likely that minority groups might be overrepresented. Therefore, it is reasonable to assume that minority groups are larger, in absolute and relative terms, in larger municipalities than they are in smaller municipalities. Consequentially, subgroups in larger municipalities are more likely to approach each other in size than subgroups in smaller municipalities.

Other scientists share the idea of a positive relationship between municipality size and the degree of diversity (see Black 1974). In their work, Fischer (1995) and Black (1974) refer to a number of empirical studies that support the assumption that larger
municipalities are more diverse than smaller municipalities. Although those studies only analyze the situation in the United States, there is no reason to believe that these ideas are not relevant in the Norwegian context as well.

3.2 Size, diversity and political conflict
In this section, we attempt to demonstrate that it is plausible that a municipality’s size and diversity are connected to the level of political conflict within a municipality. In order to do this, we try to identify the most important mechanism that transforms diversity and size into political conflict. We assume here that the size of a municipality is connected with the level of political conflict in two ways: On one hand, is it reasonable to assume that there is a direct connection between size and the level of political conflict; the larger a municipality, the larger the political conflict. On the other hand, do we assume that municipality size has an indirect effect on the level of political conflict via the degree of diversity within the municipality; the larger a municipality, the more diverse is the municipality, which again results in a higher level of political conflict. Figure 3.1 illustrates the relationship between these three variables.

![Figure 3.1: The relationship between size, diversity, and political conflict](image)

It is important to point out that size and diversity are assumed to have an independent effect on the level of conflict within a municipality; diversity is in this model not only a substitute measure for size. At the same time is it clear that we expect the level of diversity to be positively correlated with the size of a municipality. However, does correlation not mean that size determines the level of diversity. It is, for instance, reasonable to assume that two municipalities of identical sizes have different levels of diversity. In this case, we would expect that the municipality, which is more diverse,
to have a higher level of conflict. Let us now take a closer look on the mechanisms that are assumed to transform size and diversity into political conflict.

### 3.2.1 Diversity and political conflict

Our assumption with regard to the relationship between diversity and conflict is that municipalities that are more diverse are characterized by a higher level of political conflict. In the introductory chapter, we defined political conflict as disagreement around the outcome of political processes. Diversity is, on the other hand, a function of the number of politically relevant subgroups within a municipality and their relative size. We expect the members of the same subgroup to share the same interest with regard to the outcome of local political processes. Here, especially the provision of different municipal services is important. Because of this, we assume that each group has distinct demands toward local political decision-makers, and the more groups there are in a municipality, the larger is the amount of distinct demands that local politicians achieve from the residents in a municipality.

An usual assumption with regard to proportional election systems, where the voter casts its vote for a party list (and not a single candidate), is that the parties compete with each other by their election programs; the parties are assumed to produce an election program, which maximizes the number of voters (within the ideological range of the party). The individual voter is assumed to vote for the party that has the election program, which is most in accordance with the voters’ self-interest. This result logically from our supposition that individuals act rational: a rational individual tries to achieve some benefits by participating in politics, and this benefit is at least the implementation of a policy, which is in accordance with the participants’ self-interest. The result of this is that the structure of the group conflict in a municipality directly transfers into the party system. The character of the party competition within the municipal council is therefore a good indicator of the political conflict within a municipality. On the other side, we can object to this argumentation that the electoral system in Norwegian municipalities also have elements of a personal election. The residents are able to strike out individual candidates from the party lists, and replace them by another candidate on the ballot paper. Data from the “Size and local democracy in Norway”-survey shows that about one third of the population in
Norway use this kind of personal votes. However, despite these findings we can say that the election of party lists is still the most important element at a municipal election. Therefore, the logic of our argumentation is still relevant here.

A precondition for this assumption is, of course, that the citizens of a municipality perceive the municipal council as to be able to settle a conflict. This requires that the parties within the municipal council have the power and the authority to implement the preferences of the population. Of course, it is arguable whether this precondition is fulfilled or not, but it is certainly not completely unrealistic.

**Do members of the same group really have common interests?**

It seems that it is a rather strong simplification of reality to claim that members of the same group have common interests. We can also formulate this in another way and say that persons that share the same background variables have common interests. Is this a simplification of reality that is too strong, and what conceptions would be the alternative to this view? In the following, we will shortly discuss the drawbacks of this conception, outline some alternatives and see whether it is possible to use these alternatives in the framework of this analysis.

The main objection concerns the assumption that members of the same group share the same interests, which means that all members of the same group have the same party preference at local elections. A discussion of this assumption must, of course, also consider the number of manifest cleavage lines within a municipality. We will discuss that in a second, but for now, we assume that there is only one cleavage line that separates the groups in a municipality. In this special case, it is easy for the single group member to define her attachment to a group and therefore is the declared relationship between group structure and political conflict realistic. On the other side, even in the case of one cleavage, there might be some difficulties for one person to identify its group attachment.

Let us illustrate this point with an imaginable municipality, where only one cleavage separates the municipality with regard to age. Younger residents, in this municipality, might be in favour of investing more money into public nurseries and elementary schools, while the older residents are more interested in social services for the elderly. From the theoretical framework that we present here follows that the
elderly vote for a party that promises to prefer services for the elderly above services for children. The younger residents, on the other side, are expected to vote for a party that promise the opposite. However, is this a reasonable assumption? At this place, it can be relevant to introduce two different conceptions of self-interest: “objective self-interest” and “subjective self-interest” (Johansen 1996). The conception used in this work is that of an “objective self-interest”. This means that we ascribe persons with the same social background the same self-interest. The ascription of self-interest is purely based on objective criteria and therefore labelled “objective self-interest”. An example for this is that we assume that all elderly persons are interested in municipal services like homes for the elderly or the like. This ascription of interests is purely based on the fact that all those people are at the same age; we do not consider other factors. The problem with this conception is that there is no place for individual variation. A single background variable is simply not enough to describe a person’s situation of life. Not every younger resident, with a specific age, has children, and not every family with children is dependent on municipal services like nursery schools. In addition, a young family might share their home with the elder generation. In this way, the members of the young family are not only concerned about municipal services for children, but also about municipal services for seniors (Johansen 1996: 12).

There seems to be two solutions for this problem: First, we can use a combination of several socioeconomic background variables to express an individual’s self-interest. Within this approach, we could combine variables like age, number of persons living in the household, marital status and the like in order to achieve a more precise definition of a person’s “objective self-interest”. Unfortunately, there are several disadvantages with this approach. Again, there is the problem of individual variation, which is not resolved completely by considering a larger number of background variables. Some relevant variables will always be excluded from the analysis. Another problem is that this approach necessarily will result in a large number of subgroups, and that the model of analysis becomes very complex. If we consider two variables as relevant, each with two categories, the population will be separated into four groups. Adding a third variable, which has three categories,
increases the number of possible combinations to twelve, and so on. Therefore, a second solution seems to be better. This solution is based on what Johansen calls for “subjective self-interest” (Johansen 1996: 14). According to this idea, the self-interest should not be based on objective criteria, such as background variables, but on subjective ones, such as direct measures of self-interest. However, data of this kind are not available from our empiric material. Since it seems that we do not have a reasonable solution to this problem, we have necessarily to accept the concept of “objective self-interest”. Nevertheless, the shortcomings of this approach should be clear now. An argument in favour of using a conception of “objective self-interest”, is that it is an usual method of analyzing the relationship between the group conflict and the party systems in national politics (for an example see Knutsen 1989).

However, even when we accept the idea of “objective self-interest”, it is unclear what a person’s self-interest is in the case of several cleavages within a municipality. Several subgroups along different cleavage lines might be politically relevant within a municipality, and a resident might be member of more than only one group. Two situations are possible in this context: the cleavages might be overlapping or crosscutting. Overlapping cleavages means that the cleavage lines of several cleavages separates the population in identical groups. The lines were identical, or overlapping. A municipality with crosscutting cleavages, on the other hand, is characterized by a situation where the different cleavage lines separate the population in different groups. The cleavage lines are crossing each other.

In the case that the cleavage lines are overlapping, the residents in a municipality might not have any problem to identify the party that represents their interest best. On the other hand, when the cleavage lines are crosscutting, the members of several groups must decide which group attachment (and which self-interest) is the most important when voting for a party. Since a decision to vote for one party in the case of crosscutting cleavages means preferring one group attachment, while betraying the interests of the other groups, a person might experience crosscutting cleavages as unpleasant, and might avoid the critical decision between various group attachments by not voting at all.
Let us illustrate this by another imaginable municipality. In this municipality, two cleavages are politically important. These two are age (which we already have presented) and the division between religious and secular residents. In the case of overlapping cleavages, both cleavages divide the population into only two groups. The younger residents are more secular, while the older residents are more religiously active. Therefore when voting, nobody has to decide which interest (or group attachment) is the most important. The younger residents can vote for a party that has a secular program and gives municipal services for the younger population top priority. The older residents, on the other hand, are likely to find another party that is in agreement with their preferences, which means that the party is religious and supports municipal services for the elderly. Nevertheless, there might also appear a situation where these cleavage lines cross each others, dividing the municipality in more than only two groups. The younger residents might be partly religious and partly secular, and the same might be true for the older residents. In this case, the residents have to decide which interest is the most important one, when casting a vote; shall younger residents that are religious vote for a party that supports religious values or for a party that prefers municipal services for children above services for the elderly.

The problem for our theoretical framework is that, in a situation with crosscutting cleavages, it is not possible to deduce the preference for a certain party from a person’s group attachment unambiguously. We should in addition have information about the importance of a number of group attachments for an individual, before a relation between a person’s group attachment and a person’s party preference can be made. The only solution for this problem is, in my opinion, again to use the conception of “subjective self-interest”. However, this is, as we already have mentioned, not possible in this work. Therefore, the possible existence of mutual and crosscutting cleavages are another factor that limits the usefulness of the approach chosen here.

Relevant cleavages in Norwegian municipalities

We have also to consider which politically relevant (or manifest) cleavage lines we can expect to exist in Norwegian municipalities. In an attempt to outline a space of
local political conflicts, Skare (2000) applies two dimensions: the character of a conflict – national or local; and the substance of a conflict – sector priority or other activity.

**Figure 3.2: The space of local political conflicts as a function of two dimensions**

The differentiation with regard to the character of a conflict should be clear. Some cleavages within a municipality are clearly related to local issues, such as localization issues with regard to public buildings or the allocation of resources between the various municipal services. On the other side, there are some conflicts, which are the result of national cleavages. Here we can think of conflict issues like the privatization of municipal services or regulations concerning the sale of alcohol. However, not all national cleavages are important in this respect. Generally, four cleavages are supposed to be relevant in Norwegian national politics. In his empirical analysis of the Norwegian national party space, Knutsen (1989) shows that these four conflicts were a left-right dimension, a religious dimension separating religious activists from secular persons, a centre-periphery conflict, and a materialism-postmaterialism conflict. All of these cleavages can be assumed politically relevant in municipal politics as well, with the exception of the centre-periphery conflict. This conflict is more likely to polarise the population in municipalities in more central areas of Norway against the population in municipalities that are located more peripheral, and

Kilde: Skare (2000: 91; Figure 7)
constitutes therefore not a cleavage within a municipality. More recently, Knutsen (2001) finds support for the assumption that the importance of the classical left-right dimension weakens at the expense of new cleavages. Most important in this connection is a gender cleavage and a sector employment cleavage. Of these two “new” cleavages, it is only the sector employment conflict that can be assumed to be relevant within the framework of this analysis, since the gender distribution of municipalities probably not varies significantly. In sum, according to the empirical findings of Knutsen, four national cleavages can be assumed to be relevant in municipal politics as well. These four are: a left-right dimension (also called social class cleavage), a religious cleavage, a sector employment cleavage, and a materialism-postmaterialism cleavage.

The cleavages that are truly local cleavages are discussed in the following with regard to the second dimension of local political conflict, the substance of a conflict. Skare refers here to a differentiation introduced by Sørensen (1989). The term sector priority refers to the municipal task of allocating resources between the various municipal services, which range from public transportation, and cultural facilities to care for the elderly and services for the youngest. By other activity, Sørensen refers to municipal tasks like planning, organizational development and general administrative issues.

Of these municipal tasks, sector priority seems to be the most important within the context of this work, since it can be assumed that the issue of allocating resources between the various municipal services is very disputed and visible. This makes sector priority, in turn, a relevant factor when the individual voter has to decide which party to vote at local elections. In my opinion, the most important conflict arising from sector priority concerns the allocation of resources between services for children and young people against services for the elder generation. In this respect, the size of age groups within a municipality might be a relevant cleavage line (demographic cleavage). In addition, the family structure might also be important (family cleavage). Here, we should consider factors like the proportion of families that have children living at home or the share of single parents. In addition, there might be another conflict arising with regard to the allocation of resources between individual services,
Table 3.1: Seven relevant cleavage lines in the Norwegian local politics, divided by the character of the conflict

<table>
<thead>
<tr>
<th>National conflicts with relevance in local politics</th>
<th>Social class cleavage</th>
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<td>Religious cleavage</td>
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<td>Sector employment cleavage</td>
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<td>Materialism-postmaterialism cleavage</td>
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<tr>
<td>Purely local conflicts</td>
<td>Demographic cleavage</td>
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<td></td>
<td>Family cleavage</td>
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<td>Income cleavage</td>
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such as nursery schools or home help, and collective services, such as cultural and sport facilities. This kind of cleavage might separate households with a larger income from those that have a smaller income (income cleavage). Residents with a higher income might be willing to pay for their own individual services, while they rather are interested in a higher municipal expense level for collective services. Table 3.1 summarizes the discussion about which cleavages might be relevant in local politics in Norway.

3.2.2 Size and political conflict

There are two reasons to expect that the size of a municipality affects the level of political conflict within a municipality. For the first, we can assume that, all other factors being equal (especially the number of subgroups within a municipality), the subgroups have a higher number of members in larger municipalities than in smaller ones. This might affect the level of conflict because a larger group is likely to have a larger amount of resources – human and material – at their disposition. These resources can be used to make political disagreements more visible, by PR-campaigns or by political actions such as demonstrations or strikes. However, they can also be used to mobilize other residents. As a result, a larger subgroup might exert more pressure to the political decision-taker.

A second reason in favour of a positive relationship between size and political conflict is that there is more at stake in larger cities than in smaller towns. Larger municipalities are generally assumed more capable to implement the preferences of their residents, and therefore, political conflicts become more significant for the
actual political outcome. This might increase the level of political conflict as well. Dahl & Tufte (1973) refer to this as a municipality’s system capacity.

3.2.3 The determinants of political conflict – a summary

Let us now, shortly, sum up the discussion of how municipality size and diversity influence the level of political conflict. With regard to the level of diversity, we use a conception of “objective self-interest” to describe how a municipality’s group structure can be transformed into the party competition within a municipal council. The group structure is described as a system of cleavages, and we identified seven cleavage lines that are supposed to be relevant in the Norwegian context. Turning to the size of a municipality, we argued for two factors that connect municipality size with the level of political conflict: the amount of resources available and the fact that there is more at stake in larger municipalities.

We presented these arguments in order to explain an increased party competition in the municipal council of larger municipalities. This is only done because party competition is the conceptualization of political conflict in this work. However, it is clear that a disagreement around political outcomes in local politics also might take other forms in other political arenas. The arguments presented above are certainly also relevant to explain other phenomena such as the frequency and intensity of political discussions or the amount of disagreements in nomination processes.

3.3 Political participation and its determinants

In the previous section, we presented a number of arguments that make it likely to assume that the level of conflict within a municipality is dependent on the municipality’s size and diversity. The underlying assumption is that size and diversity determines the structure of subgroups within a municipality. Therefore, we take the group structure as a starting point and try to demonstrate how different kinds of group structure result in different levels of political conflict, which again lead to distinct levels of participation. However, before we continue with that task, we look on Dahl & Tufte’s (1973) assumption with regard to the relationship between size and participation.
3.3.1 Dahl & Tufte's assumption concerning size and participation

Dahl & Tufte (1973) draw an ambiguous picture of the relationship between size and participation. On one hand, they claim that the citizen’s sense of effectiveness is an important factor that varies with the size of a municipality. By sense of effectiveness they mean “[...] the chance, in the citizen’s view, that his action will make a significant difference in the outcome, that is, that he will be effective” (Dahl & Tufte 1973: 41). The larger the sense of effectiveness the higher is the incentive to participate in politics, other things being equal. A usual assumption with regard to the relationship between size and sense of effectiveness is that citizens in smaller municipalities feel more effective and that this feeling of effectiveness becomes weaker with increasing size of the political unit. Consequently, the level of participation is assumed to decrease with increasing municipality size.

However, on the other hand, Dahl & Tufte point towards another possible connection between size and participation. In their opinion, a second mechanism should be considered, which might result in a positive relationship between size and participation; this means that participation might be more likely in larger municipalities than in smaller ones. This line of thinking takes the diversity of a municipality as the starting point and is therefore more relevant here. The most important arguments from this part of Dahl & Tufte’s work are summarized in the following.

In short, they claim that

“[i]f increasing numbers seem to dilute the effectiveness of the average citizen, there is one way in which increasing numbers work to enhance his effectiveness: by increasing the chances of finding an ally.” (Dahl & Tufte 1974: 90)

Their arguments build on an assumption that we presented earlier: the supposition that a group of residents with the same interests needs to be of a certain size, achieve a critical mass, in order to, as Dahl & Tufte puts it, communicate, organize, and express its dissent to the majority view. They argue that (irrespective of the character of the minimum threshold, either an absolute or a relative size) it is always more likely that residents with a minority view become organized in larger municipalities than in smaller ones. In addition, are larger municipalities more likely to be more
diverse, which mean that there are a larger number of organizations in larger municipalities. This increases the possibility for the organized interests to create coalitions in order to pursue mutual benefits. The size of a municipality is therefore not only positively related to the “[…] chance that a dissenter find enough allies to pass the threshold for dissent”, but also to “[…] the likelihood of persistent and overt opposition to majority views […]” (ibid.: 91).

A consequence of the increased possibility to create a stable opposition in larger municipalities is that the level of political conflict increases.

“The small system, being more homogeneous, is […] likely to be more consensual; the larger system, being more heterogeneous, is […] likely to be more conflictual.” (ibid.: 91)

However, this picture has to be differentiated. Larger municipalities might be more conflictual, but the character of political conflict might vary between smaller and larger municipalities. In smaller municipalities, open conflicts are less frequent, but when a conflict first appears, it is likely to be more intense. The reason for this is that it is likely that everybody knows each other and each other’s opinion on a specific issue in smaller municipalities. In addition, it is not possible for residents in smaller municipalities to hide in anonymity, which is possible in larger municipalities. Therefore, the residents are forced to take a side in a conflict. Because of this, conflict in smaller municipalities involves the whole municipality, and may have elements of personal conflict among individuals in the group. Dahl & Tufte formulated this point like this:

“The small, homogeneous system is simply less “groupy”; group loyalties are correspondingly weaker, whereas overall solidarity is greater. Hence if group conflict is to be pressed, the stakes, both personal and collective, need to be relatively higher in the small system than in the large one.” (ibid.: 93)

Since group conflict in larger municipalities is more frequent and less costly for the individual, the “advantages of permanent, organized institutions for dealing with conflict are more obvious; hence group conflicts are likely to take on institutionalized forms” (ibid.: 94). Therefore, political conflict is not only more frequent in larger municipalities, it is also easier to observe because the conflict is institutionalized.
This again supports our assumption that the party competition is stronger in larger municipalities than in smaller ones.

However, there is another factor, which makes a positive relationship between size and participation more likely. Dahl & Tuft described two criteria, which should be satisfied by an ideal polity. Besides the possibility of the residents in a municipality to affect political decisions (this criteria was called citizen effectiveness), is it also important that a municipality has the possibility to implement the preferences of its citizens politically. This criteria was called system capacity (ibid.: 20). Generally, it is assumed that larger municipalities are more effective, and are probably more capable to transform the preferences of their residents into political decisions without interference from outside. Reasons for this might, for instance, be that larger municipalities have the advantage of a large scale production and may attract specialized working force more easily.

Both arguments presented here (the likelihood of finding an ally and system capacity) lead to the conclusion that the likelihood of participation is higher in larger municipalities than it is in smaller places. However, the different argumentations are relevant for different groups of residents. The argument concerning a municipality’s system capacity, on one hand, predicts that participation in general is higher in larger municipalities because the residents acknowledge that their participation really matters (to a larger degree as residents in smaller municipalities). On the other hand, is the argument concerning the likelihood of finding an ally only relevant for persons that have a minority view. In larger municipalities these persons perceive that they can exert pressure on the political decision-takers collectively, which increases the chance of getting a benefit from the participatory act. Therefore, minorities will participate to a larger extent in larger municipalities.

In sum, Dahl & Tuft draw an ambiguous picture of the relationship between size and participation. According to the argumentation with regard to the citizens feeling of effectiveness, the conditions for participation are better in smaller municipalities. On the other hand, however, there are other reasons that support an assumption that participation is higher in larger municipalities. Perhaps the ideal size of a
municipality with regard to the general level of participation is not at the extreme point of the size scale, but somewhere in between?

In the light of Dahl & Tufte’s numerous and ambiguous arguments with regard to the relationship between size and participation, this work attempts to test one possible connection between size and participation, while controlling for other possible factors. Therefore, we try to test the assumption concerning the relationship between size, conflict and participation, while we control for the effects of the residents feeling of political efficacy.

3.3.2 Size, conflict and participation

Dahl & Tufte are not the only political scientists that assume that conflict mobilizes individuals to participate in political activities (Deutsch 1961). Moreover, a number of empirical studies support the assumption that the level of political participation is higher in political units that are diverse, while less diverse political systems generally are characterized by a lower level of political participation (Oliver 1999, Weber 2000). In these studies, the authors hypothesize that the relationship between diversity and participation is mediated by political conflict (or competition): the more diverse a political unit, the higher is the level of political conflict, and, in turn, the more likely is political participation. Unfortunately, neither Deutsch nor Oliver or Weber give a theoretical argumentation for why political conflict mobilizes people to participate in politics. Therefore, the main objective in this section is it to demonstrate the validity of the assumption that conflict has a mobilizing effect.

Our starting point is that a municipality’s size and level of diversity determines the structure of subgroups within the municipality. The larger a municipality, the larger are the subgroups in absolute terms, given that all other factors are constant (and here especially the number of subgroups). However, at the same time, we expect the size of a municipality to be positively related to the level of diversity. Moreover, diversity has, as we already have pointed out, three dimensions: the number of cleavages in a municipality, the number of subgroups along a cleavage line and the relative size of the subgroups. Of course, the relationship between size and diversity is not deterministic but rather probabilistic, in such a way that not every increase in the size of a municipality always leads to an increased diversity. It is only probable, to a
certain degree that a larger municipality is more diverse as well. Therefore, it makes sense to introduce size, and more concrete the absolute size of the subgroups, as an own characteristic of the structure of subgroups within a municipality. Figure 3.3 illustrates this relationship.

![Diagram](Image)

**Figure 3.3: The relationship between size and diversity, the structure of subgroups, and the structure of political conflict within a municipality**

As Figure 3.3 shows, we can say that the general level of political conflict is a function of the *number of conflicts* within a municipality, and the *intensity of the conflicts*. When we consider how the group structure of a municipality affects the level of conflict, we can see from the figure that the number of conflicts is dependent on the number of manifest cleavage lines within a municipality. The intensity of the conflicts within a municipality, on the other side, is determined by the remaining three aspects of the group structure: the absolute size of the subgroups, the relative size of the subgroups and the number of subgroups along the cleavage lines. Despite the fact that we treat the four aspects of the group structure mainly as isolated effects, it is clear that they are interrelated with each other. Therefore the observations that we make in this section are only valid under the ceteris paribus assumption, which
means that we assume that all other factors are equal. In the following, we elaborate how the group structure affects the conflict structure in a municipality, and how this, in turn can be assumed to affect the likelihood of participation.

3.3.3 The number of conflicts within a municipality

With regard to the number of conflicts within a municipality, it is difficult to make any general assumptions about the effect of the number of conflicts on level of participation. The crucial question, which has to be clarified first, is whether the underlying cleavage lines in a municipality are crosscutting or overlapping. These features of the cleavage structure have we already discussed earlier. In a situation with crosscutting cleavages, each subgroup in a municipality is again divided by another active conflict line. This leads to a situation where it is difficult for the residents to make up their minds about which cleavage line is the most important, and on which side of the multiple conflicts they should engage in politics. It is therefore likely that the residents will not participate in politics at all. The more crosscutting cleavages there are in a municipality, the higher is the level of conflict because more cleavage lines imply a larger disagreement around the outcome of the political process. Therefore, in this situation an increased level of political conflict might result in a lower likelihood of participation.

On the other hand, in municipalities that are characterized by overlapping cleavages, we can expect the level of political participation to increase when the number of manifest cleavage lines grows, because the conflict embraces more than just one cleavage line. The contrast between the subgroups that are standing against each other is deepened, and the population has no problem to identify their group attachment and on which side of the conflict they stand. In this case, an increase in the level of conflict (which implies an increase in the number of cleavage lines) results in a higher likelihood of participation.

In reality, however, the situation with regard to the structure of cleavage lines within a municipality is more complex than described here. It is most likely that we will find a combination of crosscutting and overlapping cleavage lines, which makes it difficult to predict the outcome of an increase in the number of cleavage lines with regard to the level of participation. In addition, does our empirical material not allow
a measurement of the relationship between the different cleavage lines. This would require the measurement of the cleavage lines on the individual level, and not, as we conceptualize diversity, as a variable on the structural level. Therefore, the relationship between the number of cleavage lines and the level of participation is not considered further in the empirical analysis.

3.3.4 The intensity of the conflict

When the number of the cleavage lines is constant within a municipality, the level of conflict may increase because the conflict’s intensity gets larger. With intensity of a conflict, we mean the strength of a disagreement around political issues. Of course, a conflict is more intense when more people are engaged in the quarrel. In this way, an increased intensity of a conflict implies a higher level of participation. However, the intensity of a conflict can also refer to situations where strong feelings were involved or where strong parts are standing against each other. In this situation, an increased intensity of a conflict implies not automatically a higher level of participation. As already mentioned, the intensity of a conflict within a municipality is thought of as a function of three features of the group structure: the absolute size of the subgroups, the relative size of the subgroups and the number of subgroups along the individual cleavage lines.

The absolute size of groups within a municipality

When a municipality gets larger, we assume that the subgroups within the municipality increase in absolute size – given that the relative size of the subgroups remains the same. Previously, we described two main mechanisms that tie the absolute group size together with the intensity of a conflict: the resources available for the groups and the importance of the outcome of the conflict for the residents (system capacity). A higher amount of resources means that the subgroups can make the conflict more visible in the municipality. They are therefore able to mobilize passive members to take a stand and to participate in politics. With regard to the second mechanism – related to system capacity – it seems to be likely that the residents in municipalities with larger absolute subgroups might be willing to be mobilized, because they think that the participation makes a difference. The attempts
to recruit residents are therefore more likely to be successful in larger municipalities than in smaller ones. Therefore, we can assume that the likelihood for political participation is higher in municipalities that have larger subgroups (absolutely) than in municipalities with smaller subgroups.

The number of groups along a cleavage and their relative size
All other things being equal, we can expect that a larger number of groups along a cleavage line results in a higher level of conflict. There are more interests to consider in the process of political decision taking; ergo the disagreement around political issues is higher. However, the number of groups along a cleavage is probably only affecting the level of conflict marginally compared to the changes one can expect when the relative sizes of the subgroups change. In the case when there is only one large subgroup along a cleavage line which dominates over a larger number of other small subgroups, then the level of conflict can be expected to be rather low; even when the total number of subgroups is quite high. The dominating group is in this situation able to suppress every conflict from the beginning. One or two additional groups in this scenario will increase the level of conflict, but not to the same extent as when the sizes of the groups change (for instance that the dominating group becomes smaller and the other groups larger). On the other hand, in a situation where all subgroups along a cleavage line are approximately of the same size, we expect the level of conflict to be highest. However, also in this situation an increase in the number of groups will only increase the conflict to a much smaller extent. Therefore, to understand the level of political participation in a municipality it is much more important to consider the relative sizes of the subgroups along a cleavage line than the number of subgroups.

The crucial question is it now whether it is likely to suppose that the level of participation is higher when the subgroups along a cleavage line are of approximately the same size. In this context, two mechanisms seems to be relevant. One mechanism is an individual one, derived from rational calculations of the residents. The other is a mechanism of mobilization (or recruitment), which emanates mainly from the leaders of the respective groups.
Let us look at the *individual mechanism* first. We assume, that the individual members of a subgroup within a municipality share the same interests, and that these interests are the motive for participation. Therefore, in a situation where all the subgroups in a municipality are of approximately the same size, the participation of one individual person can be decisive, in a way that the group that represents the person’s interest achieves a majority position. This logic is suitable for many forms of political participation. In the case of participation in local elections, one vote can be the vote that brings a party or local list into a situation of relative or absolute majority. In addition, for contacting local politicians or local party organizations, this logic is relevant as well. When, for instance, a politician or a party try to identify their standpoint in a political conflict, and the outcome is expected to be close, a letter or telephone call from only a few citizens might be decisive for the manifestation of the parties or politicians policy. Therefore, we can expect the likelihood of participation to be higher in situations where the subgroups in a municipality are of the same size.

The preconditions for this prediction are that about the same share of members in every subgroup participate, and that the citizens in a municipality perceive the situation as being close.

The second *mechanism is of a collective nature*. This mechanism has its origin mainly in the leaders of the respective subgroups. In a situation where the subgroups in a municipality are of the same size, it is important becomes crucial for the various subgroups to mobilize as many members of the group as possible. In addition, as we have argued before, is a situation where political decisions hang in the balance the right moment to mobilize the residents in a municipality. The reason for this is that recruitment in this situation is more successful, just and simple because of what we have discussed above: the individual participants perceive the probability to make a difference when participating as quite high.

Nevertheless, the attempt to mobilize group members does not necessarily have to come from the leaders of a group. It is also possible that the ordinary members start the mobilization process from the bottom, for instance by organizing a petition or by starting a local action group.
An additional reason for an increased level of participation can be found in the competition between the groups in a situation where all groups are of the same size. The attempt of one group to mobilize its members will probably trigger other subgroups to attempt to mobilize members as well. This interaction is therefore likely to reinforce the mobilization process and lead to a high level of participation.

Therefore, we can conclude that the level of participation is high in municipalities that are divided into subgroups along a cleavage line that are of the same size. However, we can think of several other scenarios where the subgroups are not of the same size. Is it reasonable to assume that the level of participation will be lower in all these other cases?

First, we can think of a situation where there is one larger subgroup, which embraces around half of the population in a municipality, and a number of smaller subgroups. In this situation, it is quite clear that the first mechanism which we outlined previously (the individuals’ rational calculation) will result in a higher level of participation. The member of the largest subgroup is likely to perceive that there is a large probability that his or her participation will give the largest subgroup the absolute majority, and that it is quite likely that the participation will make a difference for whether the preferred outcome will be realized or not. However, on the other side, the members of the smaller subgroups might not participate in politics because they realize that the interest of the largest subgroup will be implemented anyway. Therefore, in this situation, the participation will not be as high as in a situation with competition between groups.

We have another situation when there is one large subgroup, which embraces a great majority of the population, and several other small subgroups. In this situation, the large subgroup does not need to mobilize its members, and the individual group members might feel that participation is not necessary in order to get its preferences fulfilled. It is quite certain that the large subgroup will get a majority position, irrespective of what the single group member does. Therefore, it seems reasonable that there will be a lower level of participation also in this situation.

Finally, we can think of a situation where there are two or more larger subgroups, which are of the same size, and several other small groups. In this situation, we have
a similar condition as if all groups would have been of same size. The individual
group members of the larger groups would feel that their participation might be
decisive for their group to get a relative majority. At the same time are the groups in
competition, which might reinforce participation by a mobilization process. Still, we
can assume that the general level of participation will be lower in this situation, than
in a situation where all groups are of the same size. This is a reasonable assumption
because the mobilization process does not embrace the whole population of the
municipality, but only the members of the larger subgroups, which compete with each
other.

Therefore, my conclusion is that the combination of an individual rational
calculation and a collective mobilization process results in the highest level of
participation in a situation where all groups in a municipality are of the same size. As
illustrated, do other potential situations probably not lead to a higher level of
participation.

3.3.5 The determinants of political participation – a summary

In this section, we tried to analyze the relationship between the size and diversity of a
municipality and the level of participation by focusing on the characteristics of the
group structure within a municipality. Municipalities that are more diverse are
assumed to be characterized by at least one of these features: they have a large
number of manifest cleavage lines, they have a larger number of subgroups along the
individual cleavage lines, or the subgroups along the cleavage lines approach each
other in size. The absolute size of the subgroups along a cleavage line (which means
the number of members) expresses changes in the size of a municipality. All these
features of the group structure affect the level of political conflict positively. In all
cases, the disagreement around political decisions is likely to be greater than in
municipalities that are smaller or less diverse. The group structure affects the political
conflict in two different ways: the number of cleavages in a municipality is assumed
to affect the disagreement around political decisions by influencing the number of
potential conflict issues, while the other three features of the group structure rather
affect the intensity of the conflict along a particular cleavage.
The consequences for the level of political participation are uncertain. The number of political conflicts has an ambiguous effect on the level of participation. Dependent of the relationship between the various cleavages – whether they are overlapping or crosscutting – the level of participation can be thought of as getting higher or lower the more cleavages there are in a municipality. The intensity of the conflicts, on the other hand, is likely to increase the level of participation.
4. Conceptualization of variables

After having concluded our theoretical discussion in the previous chapter, we turn now to the question of how to measure the variables that we presented there. In Chapter 3, we drew a quite complex picture of the structure of subgroups and conflicts, and their relationship to the level of participation, and it should be obvious that it is difficult to reproduce these patterns empirically. Because of the nature of our empirical material, we have to limit the scope of our empirical analysis with regard to the theoretical model. Especially the conceptualization of diversity and political conflict has been difficult. In the following, we will therefore present in which way we attempt to measure the various theoretical variables, and evaluate the consequences for the empirical testing of our theoretical model.

As already mentioned, we use data from two sources: data from “The Commune Database” are used to measure structural (or macro level) variables, which describe the context of participation in a municipality. Data from the “Size and local democracy in Norway”-survey, on the other hand, are used to measure individual (or micro level) variables, which describe the attributes of the individual residents within a municipality. We separate therefore the presentation of the conceptualization of the various variables into parts, according to the source of data. First, we discuss the measurement of the structural data and thereafter the measurement of the variables on the individual level of analysis.

4.1 The structural level variables

On this level of analysis, three sets of variables will be measured: municipality size, the municipalities’ level of diversity, and the degree of political conflict within a municipality.
4.1.1 Municipality size

The size of a municipality is conceptualized as the lognormal distribution\(^4\) of the number of residents at 01. January 2001. This variable is transformed by a logarithm because it seems reasonable to assume that a given difference in size has a larger effect on the level of political conflict for smaller municipalities than for larger ones. Behind the use of a linear size scale lies the assumption that a given change in the number of residence always has the same effect on the level of conflict irrespective of the size of the municipality. However, it is not hard to believe that a given difference of, for instance, 10 000 residents might have a larger effect on the amount of conflict in smaller than in larger municipalities. When we, for instance, compare a municipality of 1000 residents with a municipality of 11 000 residents, we should expect the level of conflict to change more than when we compare a municipality of 50 000 residents with a municipality that has 60 000 residents. By transforming the size scale logarithmically, we achieve this effect. A given difference in the number of residents places the municipalities farer away from each other at the lower end of the size scale, while the distance becomes smaller at the upper end of the size scale. A difference of 10 000 residents transforms into a distance of 1,04 on the logarithmic size scale when the size of a municipality increases from 1000 to 11 000. At the same time, this difference transforms into a distance of only 0,08 on the logarithmic size scale when the municipality size increases from 50 000 to 60 000 residents.

Other arguments imply the use of a logarithmic size scale as well. Municipality size varies, per definition, between zero and infinite and has, in addition, a standard deviation that is much larger than the average size\(^5\). This is a consequence of the skewed distribution of the size variable, with many small municipalities and a few large municipalities, where the difference between the smallest and the largest municipality is enormous. For variables with this characteristic, a normal distribution is not appropriate because this would imply the existence of negative values, which per definition are not existent (Taagepera 1999). Therefore, a lognormal distribution

\(^4\) With a lognormal distribution we mean a transformation by the logarithm at the base of ten

\(^5\) The average size of a municipality in Norway (pr. 01.01.2002) is 10 353, while the standard deviation is 29 680
transforms the skewed distributed size scale into a scale that can be assumed to be normally distributed, and that varies from minus infinite to plus infinite. Consequently, a lognormal transformed size scale complies better with the preconditions for a number of statistical methods of analysis (like the least square regression method) than a not transformed size scale does.

4.1.2 The level of diversity

The measurement of a municipality’s level of diversity requires special data. Diversity is, as we have outlined earlier, a function of the number of cleavage lines within a municipality, the number of the subgroups along these cleavage lines, and their relative size. Therefore, the data material should contain information that would make it possible to identify politically relevant cleavage lines, and that allow us, in addition, to locate the respondents along these cleavage lines. The data for this purpose have to be measured on the individual level. Unfortunately, our individual data do not give us this kind of information.

Therefore, we apply a more restricted approach to the problem. With respect to the number of politically relevant cleavages in Norwegian municipalities, we take the cleavages presented in Table 3.1 and assume that all of these seven cleavages are politically relevant to the same degree. However, our data allow only the measurement of five cleavages: the social class cleavage, the religious cleavage, the demographic cleavage, the family cleavage, and the income cleavage. We drop therefore the sector cleavage and the materialism-postmaterialism cleavage from our analysis.

We regard the number of subgroups along the cleavage lines as given. This means that the number of subgroups does not vary between the municipalities, but that we consider the same set of subgroups in each municipality. In some cases, such as the religious cleavage, the classification criteria of the population are rather obvious (for instance, members of state church, members of other denominations, and members of no religion). However, in other cases, such as the demographic cleavage that is measured on a continuous scale, the task of defining subgroups is more difficult. In these instances, a particular classification of the population into subgroups can have a significant effect on the measurement of diversity. Since we, in this context, lack a
theoretical justification for the classification of the population along the cleavage lines, we try to separate the population into subgroups that describes the distribution along that cleavage line as “objective” as possible. Therefore, we create a rather high number of subgroups that gives a rather detailed description of the distribution of the population along the cleavage line.

Based on the five cleavage lines, and the subgroups that we identify along these lines (we will discuss this in the following), we attempt to measure the relative size of the subgroups. In this way, one measure of diversity for each cleavage line will be calculated (two for the family cleavage). These measures of diversity will be calculated for each municipality in Norway.

In the following sections, we consider two problems with the measurement of diversity. The first problem is to decide which statistical measure to apply in order to measure the relative size of the subgroups along the cleavage lines; and the second problem relates to which data we should use to measure the different kinds of diversity.

The measurement of diversity

In the literature, we found two possible measurements of the level of diversity. Oliver (1999) applies an index of qualitative variation (IQV) to measure the degree of economic diversity in a number of American municipalities. This index compares the distribution of the population in a municipality with an ideal distribution in the case of total heterogeneity. It renders one when there is total heterogeneity (all groups in a municipality are of the same size) and zero when there is total homogeneity (all residents belong to the same group) (Oliver 1999: 188).6

Another measurement of diversity is applied by Mouritzen (1989). In his attempt to measure class heterogeneity he compares the actual proportion of the population in three social classes with the proportions in the case of total heterogeneity (33.3% at

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6 The IQV is calculated by the formula: $IQV = \frac{k(N^2 - \sum f^2)}{N^2(k-1)}$; where $k$ are the number of groups along a conflict line, $N$ are the number of residents in a municipality, and $f$ the frequencies in the various groups.
total heterogeneity, meaning that all three classes are of the same size). His measure of diversity is the sum of the absolute differences between the actual proportions and the ideal proportions (in the case of total heterogeneity). A high value on this measure indicates a lower degree of diversity and a lower measure indicates a high degree of diversity. A value of zero implies a situation of total heterogeneity, meaning that all groups are of the same size (Mouritzen 1989: 681f). In our statistical analysis, however, we will turn the scale of the diversity measure. Therefore implies a high value on the diversity measure a high degree of diversity and a low value on the measure implies a low degree of diversity.

The conceptualization of Mouritzen seems to be the measure that is more appropriate for two reasons: first, there was convincing evidence that both of these conceptualizations of diversity measure approximately the same size. There appeared to be a high correlation between the IQV and Mouritzen’s diversity measure on all cleavage lines examined in this analysis. And second, the conceptualization of Mouritzen is understood intuitively, while the IQV is based on a more complicated mathematical calculation.

The data used to measure different kinds of diversity

In order to measure the distribution of the residents within a municipality along the five cleavage lines we use data from different sources. These data have been collected at different points in time. Some data were collected recently, and we can therefore assume that they give an appropriate picture of the distribution of the population today, while other data were collected as far back as in 1980. In those cases, it must be evaluated how valid these data are to describe the characteristics of the population in the municipalities in the year 2001. Let us now consider the measures of diversity and evaluate the operational validity for each measure.

An indicator of class diversity measures the distribution of the population along the social class cleavage. The data, which we use here, were from 1980 and they have been collected by Statistics Norway in their Census (Folke- og Boligtelling – FoB).

7 The correlations between this two measures varies between 0.949 and 0.995 (Pearson’s r)
The Census included all registered residents in Norway pr. November 1, 1980. The basis for the calculation of the measure of class diversity is the classification of the population into occupational categories. On the background of this classification, the population was separated into three groups: persons working in the primary sector, persons working in the industrial sector, and persons working in the service sector.

There are two comments with regard to the validity of this measurement of class diversity for our research problem. First, we have to notice the long period of time that lies between data collection and this analysis. Therefore, it might be reasonable to assume that the data do not give an appropriate picture of the situation in Norwegian municipalities today. Although, we do not have any other data to evaluate the development of class diversity from 1980 until today, it seems reasonable to claim that the portion of the residents that are employed in the service sector has increased in the past two decades. A second comment concerns the number of subgroups which we use to classify the population. One could claim that three groups is a for crude classification scheme that ignores potential subgroups which have a distinct self-interest toward the political decision-makers. Erikson & Goldthorpe (1992) developed, for instance, a much more refined class schema, which mainly differentiates the class of non-manual workers into a number of additional classes. This might be especially relevant today, since the proportion of people working within the service sector is very large and embraces a great proportion of the population.

Notwithstanding these objections against the measurement of class diversity, we use this measure of class diversity in our analysis. The measurement of class diversity, as presented here, is the only possibility to measure the distribution of the population along the social class cleavage in all Norwegian municipalities. We have therefore the choice of applying a measurement with some drawbacks or not to measure class diversity at all. Moreover, since the social class cleavage is considered as one of the most important cleavages in the Norwegian national politics, it seems justified to use this measurement of class diversity.

With regard to the religious cleavage, we calculate a measure of religious diversity. In order to calculate this measure of diversity, we use the same data as to
calculate the indicator of class diversity – data from the Census 1980. The population of the municipalities were classified into three groups: members of the state church, members of other religious communities, and persons that are no member of any religious community (atheists).

There are objections against this classification of the population as well. For the first, is the specification of the number of subgroups not satisfying. It would probably be better to classify the population according to more subjective criteria of belief in a particular religion instead of a formal membership. This might be of special relevance for the members of the state church, where most Norwegian citizens are a member of, from birth. Here it is reasonable to assume that many members participate no longer active in religious processions, and do perhaps not believe in Christianity any more. Still they are members in the state church because of convenience and tradition. A more fruitful classification of the population along the religious cleavage should differentiate between active and passive members of religious communities and atheists (to which degree the passive members could be classified as atheists may be arguable). Another objection against the measurement of religious diversity might be that the data from 1980 gives not a valid description of the situation within municipalities in the year 2001. This is a reasonable argument, and we could ask further which changes are most likely to have happened since 1980. Table 4.1 might give us an answer to this question. The table describes the net development of the number of members in the state church from 1994 to 2000 (persons that join the state church minus persons that leave state church; only data for this period were available on the municipal level). The numbers are distributed among municipality size according to the classification of the municipalities into eight strata and the table shows the average net development within a municipality of the respective stratum. In addition, the table shows the relative development with regard to the population size pr. 01.01.2001.

For the period of 1994 to 2000, the data shows that there was a development in the direction of secularization, which was characterized by a development where more people left the state church than were joint it. What is striking is that there are differences between municipalities of different sizes with regard to this development;
Table 4.1: The net development of the membership* in state church in the period 1994 to 2000; averages for municipality size stratum (N = 354 municipalities)

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Absolute net development</th>
<th>Relative net development (in percent)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-7</td>
<td>-0,5</td>
<td>103</td>
</tr>
<tr>
<td>2</td>
<td>-21</td>
<td>-0,5</td>
<td>99</td>
</tr>
<tr>
<td>3</td>
<td>-35</td>
<td>-0,6</td>
<td>47</td>
</tr>
<tr>
<td>4</td>
<td>-57</td>
<td>-0,6</td>
<td>22</td>
</tr>
<tr>
<td>5</td>
<td>-82</td>
<td>-0,7</td>
<td>34</td>
</tr>
<tr>
<td>6</td>
<td>-131</td>
<td>-0,7</td>
<td>21</td>
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<tr>
<td>7</td>
<td>-250</td>
<td>-0,7</td>
<td>19</td>
</tr>
<tr>
<td>8</td>
<td>-805</td>
<td>-0,8</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>-65</td>
<td>-0,6</td>
<td>354</td>
</tr>
</tbody>
</table>

*Persons that join state church minus persons that leave state church

more people left the state church in larger municipalities than in smaller ones. Therefore, it seems likely that the proportion of residents within a municipality that are members of the state church is lower in 2001 as it was in 1980, and that the decrease of the members was stronger in the larger municipalities than in the smaller ones.

However, Table 4.1 shows also that the process of secularization goes slowly. Supposed that the development outlined in the table is representative for the whole period from 1980 to 2001, the decrease in the proportion of residents that are members in the state church was between 1,5 and 2,4 percentage points (dependent on the municipality size stratum). These changes are therefore not of a high magnitude. When we, in addition, consider that a overwhelming majority of Norwegians are members in the state church, then we can conclude that the difference between data collection and analysis is not a really threat against the validity of our measurement of religious diversity. With regard to the objections against the number of subgroups, the situation is similar as with regard to the measure of class diversity. We have the choice between using this measure or not to measure religious diversity at all.

Let us now focus on the demographic cleavage. An indicator of demographic diversity measures the distribution of the population along this cleavage line. The data we use here were from 1999 and are based on the Central Population Registry (Det Sentrale Folkeregister), which combines information from various municipal
registries. The population was divided into a total of nine groups; eight groups were based on 10-year cohorts (0 to 9 years, ..., 70 to 79 years), and a residual category was created for those that are older than 79 years. This classification of the population was chosen in order to get a rather objective measurement of the distribution of the population along the demographic cleavage. As we pointed out earlier, was this necessary because we lack a strong theoretical arguments to classify the population into another set of subgroups.

With regard to the family cleavage, we use two different indicators of diversity to measure the distribution of the population concerning the family structure. We consider two dimensions of a municipality’s family structure as important here: how many adults have the daily responsibility for the children in a family, and whether families have children living at home or not.

The first indicator of family diversity (called *family 1 diversity* in the following) measures to which degree the children in a municipality are divided into groups with one or two parents. The data, which we will use for this purpose, are from the Children’s statistic (Barnestatistikk) from 1999. This statistic is based on every unmarried child between 0 and 17 years and indicates whether these children live together with married or unmarried parents, single parents, or no parents at all. Based on this empirical material, we separate the children into two groups according to the number of parents they live together with. Children that had no parents at all were dropped from the analysis.

A second indicator of family diversity (labelled *family 2 diversity* in the following) measures to which extent the families in a municipality have children living at home or not. The data used here were from the Family statistic (Familiestatistikk) and are from 1997. Based on this data material, we divide the families into a group that has children (younger than 20 years) living at home, and families without children living at home.

Finally, an indicator of *income diversity* measures the distribution of the population with regard to their income. The data we use here were from 1992 and are based on the Taxation Statistic (Skattestatistikk) published by Statistics Norway. The backgrounds of the statistic are all assessments of taxes delivered for the year 1992.
As income indicator, the gross income (toppskattegrunnlag) of every resident within a municipality older than 13 years will be used. This variable embraces not only the income of employed residents or employees, but pensions of retired residents as well. The population is separated into eight income groups. The first group embraces those residents that did not have any income. Further, we classified those residents with an income into six groups with a range of 50,000 Norwegian Kroner (NOK) each. A final residual group was created that includes all residents that earn more than 300,000 NOK in 1992. In order to measure the degree of income diversity, we use a rather large number of subgroups as well, in order to describe the distribution of the population along the income cleavage as objective as possible (as in the case of demographic diversity).

With regard to the validity of this conceptualization for the research problem, one comment is necessary. The income measure that will be most appropriate in the context of this work would rather be the household income as the personal income of the residents within a municipality. However, these data were not available, and a measure that is based on the personal income is anyway better than not to measure the income diversity at all.

4.1.3 Political conflict

As already mentioned, do we conceptualize the level of political conflict as a variable that is measured on the structural level of analysis. In order to measure the level of political conflict, we take the party competition within the municipal council as the starting point. We assume that a high level of party competition indicates a higher degree of disagreement within the municipal council with regard to political decisions. Therefore, we use party competition as a substitute measure for the political conflict. The composition of the municipal council after the municipal election in 1999 is used as the data material in this connection.

We focus on two aspects of the party competition in order to get a measurement of the level of political conflict: the number of parties or local groups that are represented in the municipal council, and the degree to which these parties or groups approach each other in size. These aspects of the party competition are well known sizes from our discussion of the concept of diversity, and reflect our assumption that
the structure of subgroups within a municipality is mirrored in the municipal council. When calculating these measures, no distinction will be made between local groups or political parties that are represented in the municipal council. However, in the following, only the term party is used for reasons of simplicity. There are three possible conceptualizations of the level of conflict in this respect.

A first indicator of political conflict could be the number of parties that are represented in the municipal council, irrespective of the size of the delegation within the municipal council.

An indicator that compares the relative size of the different parties that are represented in the municipal council can be another measure of conflict. This measure takes the value of 1 when all parties are of the same size, and it approaches 0 when one party has a dominating position in the municipal council. In the special case when there is only one party represented in the municipal council, the measure is defined as being equal to 0.

A third measure combines the information of the former two indicators in one measure. The measure is the index of fractionalization presented by Rae (1971). This index takes the value of 0 in the case that there is one party that takes all seats in the municipal council and approximates 1 the more parties are represented, and the more these parties approximate each other in size. For instance, when two parties are represented in the municipal council, and these parties are of the same size, the index takes the value of 0.5. Are there three parties of the same size, the index becomes 0.67 and so on (more examples are in Appendix B).

In order to decide which of these three possible measures of political conflict to use further, we can look on the correlations of these measures with each other and with municipality size. Table 4.2 presents these correlation coefficients. When we look on the relationship between the conflict measures and municipality size the direction of the relationships were not consistent. The number of the parties increases with growing municipality size, while the measure of the relative size of the parties is

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8 The detailed formulas to calculate the indicator of the relative size of the parties and the index of fractionalization were in Appendix B.
negatively related with municipality size. With regard to these two aspects of party
competition, we cannot conclude that the level of political conflict increases in larger
municipalities. It seems that when a municipality increases in size, the number of
parties increases as well, but at the same is it more likely that one party (or a subset of
parties) has a dominating position. The index of fractionalization, as the third
measure of political conflict, appears to describe this contradiction to some degree.
The correlation between size and the index of fractionalization is positive but weaker
than the correlation between size and the number of parties. It seems that the
simultaneous consideration of the relative size resulted in a correction of the rather
strong relationship between the number of parties and municipality size.

The index of fractionalization appears therefore as a good measure of political
conflict that combines both aspects of party competition in which we are interested.
However, when we look on the relationship between the index of fractionalization
and the other two measures of conflict, we see that the index is much stronger related
to the number of parties than to the measurement of their relative size. This
contradicts to some degree our argumentation from the previous chapter, where we
pointed out that the relative size of the groups along a cleavage line is a more
important aspect for the level of conflict as the number of subgroups along a cleavage
line. Nevertheless, can the absolute number of parties be regarded as a measurement
of the number of subgroups along all manifest cleavage lines within a municipality.
This means that this measure embraces aspects of the number of subgroups along a
cleavage line, but also of the number of cleavage lines as well. Since we cannot
distinct between those two underlying determinants for the number of parties, without
considering the political platform of these parties, it seems reasonable to assign a

Table 4.1: Correlation matrix (Pearson’s R) of the three alternative measures of
political conflict and size

<table>
<thead>
<tr>
<th></th>
<th>Log size</th>
<th>Conflict 1</th>
<th>Conflict 2</th>
<th>Conflict 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log size</td>
<td>1</td>
<td>0.696</td>
<td>-0.313</td>
<td>0.435</td>
</tr>
<tr>
<td>Conflict 1</td>
<td>1</td>
<td>1</td>
<td>-0.288</td>
<td>0.741</td>
</tr>
<tr>
<td>Conflict 2</td>
<td></td>
<td>1</td>
<td>0.324</td>
<td></td>
</tr>
<tr>
<td>Conflict 3</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Conflict 1: Absolute number of parties
Conflict 2: Relative size of parties
Conflict 3: Index of fractionalization
higher weight to the number of parties than to their relative size when we combine these two measures into the index of fractionalization. Based on these considerations it seems appropriate to use the index of fractionalization as the only conceptualization of political conflict in the following analysis.

4.2 The individual level variables
On the individual level of analysis we measure three kinds of variables: the extent of political interest, the participation in political activities and the control variables. The exact wording of the questions in the survey and their coding is in Appendix A.

4.2.1 Political interest
Oliver (1999) considers, in his empirical investigation of the relationship between economic characteristics of American municipalities and political participation, also the political interest of the residents as well. He finds that structural characteristics of the municipalities affect the residents’ level of interest in local politics significantly, while the level of interest in national politics is mainly affected by individual variables. It is difficult to say whether this relationship is the same in Norwegian municipalities, but it seems to be reasonable. Consequently, we conceptualize political interest as interest in local politics.

4.2.2 Political participation
Already in the introductory chapter, we limited the scope of the analysis to embrace only three forms of political participation. These three forms are: voting in local elections, contacting locally elected officials, and contacting local parties.

With regard to the participation in local elections, there are actually three potential measurements included in the “Size and local democracy in Norway”-survey. One is asking about the general likelihood of voting in local elections, the second about the probability of casting a vote at the next election, and the third is asking about the actual participation at the last election in 1999. In connection with the analytical framework of this work, it seems to be most relevant to define participation in a local election as the probability to cast a vote if local elections would be held tomorrow. The reason for this is that we measure the conflict structure, which is assumed to be
the causal reason for the participation in local elections, by the composition of the municipal council after the election in 1999. Therefore, the conflict structure measured in this analysis is affecting the likelihood to participate in the next municipal election and neither the participation at the last election nor the general likelihood to participate in local elections is a good conceptualization of the likelihood to participate in local elections.

Table 4.3: Frequency distribution of the answers to the question: “Suppose elections for the municipal council were to be held tomorrow, how likely is it that you would cast a vote?” The frequency distribution is weighted.

<table>
<thead>
<tr>
<th>Likelihood of voting</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely not</td>
<td>65</td>
<td>4.1</td>
</tr>
<tr>
<td>Quite likely not</td>
<td>74</td>
<td>4.7</td>
</tr>
<tr>
<td>Quite likely</td>
<td>203</td>
<td>13.0</td>
</tr>
<tr>
<td>Definitely</td>
<td>1222</td>
<td>78.2</td>
</tr>
<tr>
<td>Total</td>
<td>1564</td>
<td>100</td>
</tr>
</tbody>
</table>

The answer categories of this variable are four categories ranging from “Definitely” to “Definitely not”. Table 4.3 summarizes the frequency distribution of the answers to this question. The most obvious feature with the frequency distribution in Table 4.3 is that there is a large difference between the actual participation in former local elections, and the expressed likelihood of participation in this survey. In the local election in 1999, the turnout was 60.4 percent. This is in a great contrast to the percentage of respondents that definitely will vote at the next election, which is 78.2 percent. Moreover, when we consider the proportion of respondents that state that they definitely or quite likely are going to vote, the turnout at the next election is estimated to be higher than 90%! Of course, it is difficult to say whether the rate of participation at the next election will reach nearly 80%. However, this is rather unlikely. Since the local election in 1963, there appears to be a clear tendency of decreasing turnout rates at local elections in Norway (Bjørklund 2002). It is therefore more likely that the turnout rate at the next election will decline rather than increase, and an increase of nearly 20 percentage points seems to be completely unrealistic.

The reason for this overestimation is probably an over reporting from the respondents. One reason for this can be that the respondents deliberately lie about their future intention of not voting at local elections because they want to comply
with social expectations. In an interview, the respondents will therefore not admit to the interviewer that they do not intend to vote. Another reason for the over reporting might be that the respondents really have the intention to vote, but since it is a long period of time until the next election, some respondents might change their minds. Another reason for the overestimation might be due to a sampling bias. It appears that persons with higher education were more likely to participate in the survey (Rose 2002b), and since education is an important factor in explaining participation in politics, it might be that the respondents in the survey are actually more likely to participate in local elections than the average population.

The consequences of this overestimation for our analysis depend on the causes for the overestimation. In the first case, an over report of the actual participation, the result of the analysis will be biased because respondents that not really have the intention to vote at the next election are treated as potential voters. In the latter case, a sampling bias, the result of the analysis is not biased, since the respondents answered correctly. On the other hand, the results might be not representative for the Norwegian population as a whole since the sample is biased. Unfortunately, it is not possible to ascertain which one of these two factors causes the overestimation. It is probably a combination of both factors. Consequentially, we do not know whether the result of our analysis is biased or rather unrepresentative for the whole population. Anyway, it is clear that the results have to be treated with caution.

The other two forms of participation, contacting politicians and contacting parties, are in the “Size and local democracy in Norway”-survey measured by a battery of questions which requests the respondents to indicate if they, in the last two years, have participated in thirteen different forms of political participation. Two of these questions ask about the respondents contact with elected municipal politicians and a local political party. The answer categories of these two measurements were a dichotomy, yes or no.

Also with regard to these variables, we can expect some forms of biases. The decision to comply with social expectations is probably not important since contacting politicians and parties is not a behaviour that is socially expected. However, the sampling bias can again result in an overestimation of the level of
participation. Finally, another source of error is relevant here – an error of recall. Since the questions measures participation in the last two years, it is possible that some persons have forgotten whether they have contacted politicians or parties in this period. This might result in an underestimation of the level of participation. Unfortunately, we do not have a more reliable alternative measure of the level of participation in these political acts and we are therefore dependent of the measures that we have presented here.

4.2.3 The control variables

In Chapter 2, we introduced six variables, which probably are correlated with municipality size and the level of participation simultaneously. Therefore, in order to achieve a correct estimation of the direct effect of municipality size on the level of participation, we have to include these six variables as control variables in our regression analysis. Unfortunately, the software that we are going to use in the analysis does not allow an inclusion of more than three control variables (this will be discussed further in Chapter 6), and we have therefore to limit the number of control variables. Consequently, we include the following three control variables into the analysis: the level of education and two measures of the resident’s sense of effectiveness.

In the survey “Size and local democracy in Norway” the level of education of the respondents were data from official registers. We can therefore assume that these data have a high degree of validity and reliability, although we cannot rule out registration errors. The level of education is measured on a four-point scale (see Appendix A).

We measure a respondent’s sense of effectiveness by two variables: the respondents’ internal efficacy and their external efficacy. The degree of internal efficacy is supposed to measure the individuals understanding of politics and their ability to participate. This is measured by an index that combines the answer on two questions, which ask about the respondents’ evaluation of her qualification to participate in politics and about the respondents understanding of municipal politics. The answers on these two questions were coded on four-point scales, and we constructed an additive index of internal efficacy with four categories from these questions.
External efficacy refers another dimension of efficacy. A person is supposed to have a high level of external efficacy when this person thinks that her political activities really can influence political processes. To measure this variable, we used a question in the survey that requests the respondents to state whether they feel that municipal politicians pay attention to the opinion of the residents. The answer to this variable is measured in four categories.
5. Analysis part one: structural level analysis

In the previous chapters, we have outlined the theoretical framework of this analysis and discussed the empirical measurements of all variables. All preparations for the data analysis were finished, and we can now start the analysis of our data. The data analysis is carried out in two parts. First, we consider the relationship between the variables on the structural level, and in the second part, we carry out a multilevel analysis, where we combine the structural and individual data.

In this part of the analysis, the tenability of our hypotheses concerning the relationship between the structural variables is in the focus. Therefore, the first two hypotheses that we introduced in the first chapter will be tested. The questions that we expect to get an answer to are the following: is there a positive relationship between municipality size and the level of diversity? And is the level of diversity and the size of a municipality related positively to the degree of political conflict within a municipality?

In order to throw light on these questions, data from all 435 municipalities in Norway will be analyzed. Consequently, the statistical parameters are not subject to errors due to the sampling methods, and levels of significance are not necessary to evaluate the accuracy of the statistical estimation (although they will be used in the regression analyses to estimate the significance of the various independent variables in explaining the variation of the dependent variable).

The analysis in this chapter is separated into two parts, according to the two hypotheses that we were testing. In the first part, we analyze the relationship between municipality size and the various measures of diversity. Thereafter, we include our measure of political conflict into the analysis, and investigate how municipality size and diversity affects the level of conflict.

5.1 The bivariate relationship between size and diversity

In order to get a first impression of the relationship between size and our six measures of diversity, Table 5.1 presents the bivariate correlation coefficients between these variables.
Table 5.1: Bivariate correlation coefficients (Pearson’s R) between municipality size and six measures of diversity

<table>
<thead>
<tr>
<th>Measure</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class diversity</td>
<td>-0.638</td>
</tr>
<tr>
<td>Religious diversity</td>
<td>0.330</td>
</tr>
<tr>
<td>Demographic diversity</td>
<td>-0.470</td>
</tr>
<tr>
<td>Family diversity 1: number of parents</td>
<td>0.276</td>
</tr>
<tr>
<td>Family diversity 2: Children living at home</td>
<td>0.042</td>
</tr>
<tr>
<td>Income diversity</td>
<td>0.704</td>
</tr>
</tbody>
</table>

As we can see, the relationship between size and diversity is ambiguous. The strength of the relationship varies between very weak values, such as for family 2 diversity (R = 0.042), and quite strong values, such as the relationship between size and income diversity (R = 0.704). Additionally, the direction of the relationship is variable as well: class and demographic diversity are negatively related to municipality size, while the other kinds of diversity are positively related to size. The data does therefore not support the general assumption that larger municipalities are more diverse than smaller ones. According to our data, larger municipalities are less diverse with regard to class and the age distribution than smaller municipalities are.

Nevertheless, correlation coefficients are very crude measures of relationships. Therefore, the association between size and the various forms of diversity is examined in more detail in order to understand which changes take place when we move from smaller municipalities to larger ones. To make the presentation of the data in this part of the analysis more evident, the presentation is based on the classification of municipalities in eight strata (see section 1.3).

Figure 5.1 illustrates the distribution of the population with regard to the class cleavage in the eight strata. From Table 5.1 we see that the correlation coefficient between class diversity and municipality size is -0.638, and the figure reveals the reason for this negative relationship; the proportion of persons working in non-manual professions becomes more and more dominating in larger municipalities. The share of residents with non-manual professions increases from 55% in Stratum 1 to 75% in Stratum 8. This increase is mirrored by a corresponding decrease in the percentage of people working in the primary sector. Their share of the population decreases from 22% in Stratum 1 to 2% in Stratum 8. At the same time, the portion of
Figure 5.1: Average distribution of the population within a municipality among three different groups of professions (in 1980); by municipality size strata

manual workers is rather constant throughout all strata, though the portion is slightly higher in municipalities of medium size.

Therefore, it is correct to maintain that the smaller municipalities are “more likely to be oriented toward agriculture or to have a relatively simple economic structure” (Dahl & Tufte 1973: 33). The proportion of residents working in the primary sector is indeed largest in the smallest municipalities, while the proportion of residents working in the non-manual sector is at its minimum in these municipalities. It appears that a development of transforming the economic structure from a traditional society to a service producing society has happened. This transformation process has also occurred in the smallest municipalities, but they have not come as far in this process as the larger municipalities have.

As mentioned earlier, we have to take into account that the group of persons working in non-manual professions is very diverse itself. A further distinction of this group into subgroups with would undoubtedly result in a more diverse composition of the population in the larger municipalities, and probably render the relationship between size and diversity in the opposite direction – i.e. larger municipalities would appear as more diverse than the smaller ones. However, since we are not able to classify the population in a more detailed class scheme with the data at hand, we can
only speculate about the consequences of a detailed class scheme for the relationship between size and class diversity.

With regard to religious diversity, Figure 5.2 shows that there are three reasons for the increase in diversity with growing municipality size. If we concentrate on the changes in the group size when we move from stratum 1 to stratum 8, we see that the portion of members in the state church decreases slightly but steadily. Additionally, the portion of members of other denominations increases slightly, and finally the proportion of atheists increases marginally as well. However, it is important to point out that the changes are of very low magnitude; the proportion of members of the state church declines by only six percentage points from 96% to 90%.

As in the case of class diversity, a different classification of the population might yield another result with regard to the relationship between religious diversity and size. We mentioned already earlier that the separation of the religious residents into active and passive members. Again, we can only speculate about the possible consequences of such a division into alternative subgroups. One possibility would be to collapse the passive members of the state church with the group of persons that are not members in any religious community. In this case, we can assume that the group
Table 5.2: Average distribution of the population within a municipality among nine age groups (in 1999); by municipality size strata (in percent)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>09</td>
<td>09</td>
<td>06</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>12</td>
<td>08</td>
<td>08</td>
<td>05</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>08</td>
<td>07</td>
<td>04</td>
<td>100</td>
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<tr>
<td>4</td>
<td>14</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>08</td>
<td>07</td>
<td>04</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>08</td>
<td>07</td>
<td>04</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>15</td>
<td>14</td>
<td>12</td>
<td>08</td>
<td>07</td>
<td>03</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
<td>12</td>
<td>14</td>
<td>15</td>
<td>14</td>
<td>12</td>
<td>08</td>
<td>08</td>
<td>04</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
<td>11</td>
<td>15</td>
<td>16</td>
<td>14</td>
<td>11</td>
<td>07</td>
<td>07</td>
<td>04</td>
<td>100</td>
</tr>
</tbody>
</table>

of atheists/passive members would be rather large. In addition, is it reasonable that this group would be larger in bigger municipalities than in smaller ones. However, the consequence of this alternative division of the population for the relationship between size and religious diversity is ambiguous. And certainly is the decision to collapse passive members of the state church and atheists into one group disputable.

For demographic diversity, the correlation coefficient between size and the degree of diversity is estimated to -0.470. This negative relationship implies that larger municipalities have a less diverse composition with regard to age than smaller municipalities. As we can see in Table 5.2, the smallest municipalities are characterized by a situation, which is close to our definition of total heterogeneity – all age groups are of approximately the same size. The only exceptions are the age groups of 60 years and older, which probably for biological reasons, are a bit smaller than the other age cohorts are.

With increasing municipality size, we see that the picture changes. The proportion of persons between 20 and 39 years increases somewhat. At the same time decreases the proportion of persons between 10 and 19 years and over 60 years slightly. The size of the other age cohorts is quite stable throughout the eight strata. Based on these data we can hypothesize whether a person’s life cycle gives a reasonable explanation for the pattern that we have found: beyond secondary education persons are likely to seek out larger municipalities – probably because of better education and job opportunities. Thereafter, when a family is founded and the career has reached a certain point, some persons return to their origin or simply move out of the city to some quiet suburb, to avoid a more hectic urban life.
Figure 5.3: Average proportion of children (younger than 18 years) within a municipality with one or two parents (in 1999); by municipality size stratum

With regard to the first indicator of family diversity, we estimated a correlation coefficient with municipality size of 0.276. The reason for the positive relationship is that the proportion of children with only one parent increases with growing municipality size (see Figure 5.3). In the smallest municipalities (stratum 1), 85% of all children live with two parents in the household, while only 80% of all children live with two parents in stratum 8.

For the second indicator of family diversity, the proportion of families with or without children living at home, the picture is different. We calculated a correlation coefficient with municipality size of 0.042, which suggests that there is nearly no relationship between municipality size and the composition of the population with regard to this measure. However, as Figure 5.4 reveals, the reason for this is that the relationship is curvilinear, not that there is no relationship between these two variables at all.

In the special case of two groups, a large difference between the proportions of the two groups indicates a lower degree of diversity, while a smaller difference means that the level of diversity is high. Considering this, we see from Figure 5.4 that the diversity is highest in the municipalities of medium size (stratum 4 and 5), while the diversity is lower at the extreme points of the municipality size scale (stratum 1 and 8). Nevertheless, it shows clearly from the figure, that the largest municipalities are
less diverse than the smallest municipalities – the percentage difference in stratum 1 is 20 percentage points, while the difference in stratum 8 is 26 percentage points. We can therefore characterize the relationship between municipality size and family diversity as a curvilinear relationship with an underlying negative tendency. These kinds of relationship are badly summarized by a Pearson’s R coefficient.

Finally, there is the measure of income diversity. The correlation between this diversity measure and municipality size is a high 0.705. Table 5.3 presents the distribution of the population among various income groups in 1992. As this table shows, the reason for the positive relationship between municipality size and income diversity is that the variation between the income groups is larger in the smaller municipalities than in the larger ones. In the smallest municipalities, the population is dominated by persons that have a cross yearly income of between 0 and 100 000 Norwegian Kroner (NOK). About 47% of the population are in this group. On the other hand, only 13% of the population in Stratum 1 have a yearly income of more than 200 000 NOK. However, the picture changes when we move to the larger municipalities. In Stratum 8, the different income groups are more equal in size. The proportion of residents that have an income of between 0 and 100 000 NOK is now only 33%, while 25% of all residents earn more than 200 000 NOK a year. The share
Table 5.3: Average distribution of the population within a municipality among eight income groups (in 1992); by municipality size strata (in percent)

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Yearly personal cross income in thousand Norwegian Kroner</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 - 50</td>
<td>50 - 100</td>
</tr>
<tr>
<td>1</td>
<td>09 19 28 16 14 08 03 02</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>10 18 25 16 15 09 03 03</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>11 17 24 16 16 09 04 03</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>11 17 22 15 15 10 05 04</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>12 16 21 15 16 10 05 05</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>12 16 20 15 16 11 05 06</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>12 15 21 15 16 11 05 05</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>13 14 19 15 15 11 06 08</td>
<td>100</td>
</tr>
</tbody>
</table>

of people earning between 100,000 and 200,000 NOK is relatively constant over all strata, whereas the proportion of residents without any income increases with growing municipality size.

5.1.1 Summary: the relationship between size and diversity

According to our first hypothesis, we assume that larger municipalities are more diverse than smaller municipalities are. In this section, we measured the level of diversity in each municipality by considering the distribution of the residents along cleavage lines that have been defined theoretically. However, this empirical material supports the hypothesis only partly. With regard to three of our six diversity measures, the relationship between size and diversity is positive; for two other measures of diversity, the relationship is negative (see Table 5.1). In addition, one measure of diversity is curvilinear related to size. The measurement of family 2 diversity indicates that municipalities of medium size are the most diverse municipalities with regard to this kind of diversity. Therefore, it is not possible to draw a clear conclusion with regard to the first hypothesis. The direction of the relationship between size and diversity is obviously dependent on which kind of diversity we consider.

It is important to remember that the definition of subgroups affect the measurement of diversity; another classification of the population into subgroups can change the relationship between size and diversity. This is especially true for the measures of class and religious diversity. Although we can only speculate about the consequences of an alternative classification of the population on the relationship to
municipality size, is it not likely to assume that the general pattern of the relationship between size and diversity changes in favour with our assumptions. There will still be variation in the direction of the relationship between size and diversity.

5.2 Size, diversity, and political conflict

Let us now consider our second hypothesis. In this hypothesis, we assumed that size and diversity is positively related to the level of political conflict. Therefore, we investigate to which degree the level of political conflict can be traced back to the size of a municipality and its level of diversity. We carry out this analysis in two parts: First, we concentrate on the bivariate relationship between the level of conflict on one side, and respectively municipality size and the level of diversity on the other side. This will give us information about the direction and the strength of the relationships. Thereafter, in the second part of the analysis, we apply multivariate methods. With this method, we can find out if the diversity measures have a direct effect on the level of political conflict, even when we control for the effect of size. If not, the diversity measures are only a substitute measure for size, and might be dropped from the further analysis.

5.2.1 The bivariate relationship

The bivariate relationship between municipality size and the level of conflict, which is measured by the index of fractionalization, is illustrated in the scatter plot in Figure 5.5. In addition to the 435 municipalities in Norway (which are indicated as dots or crosses), we have outlined two regression lines in the figure. One regression line is the result of an ordinary linear regression model, where size predicts the index of fractionalization (labelled linear function). The other regression line describes a curvilinear relationship between size and the index of fractionalization (labelled curvilinear function). This corresponds to a regression model with size and a quadratic size term as independent variables.

On first sight, the linear function seems to fit the data material fairly well; the smaller municipalities have generally smaller values on the index of fractionalization than the larger municipalities have. On the other side, it seems that the municipalities of medium size have the highest values on the index of fractionalization; this
indicates that the curvilinear function might summarize the distribution of the municipalities better than the linear function. In order to decide whether the linear function or the curvilinear function fits the data in Figure 5.5 better, we have to compare the results of the estimation of these two models. In the case that the curvilinear function fits the data better, we expect that the quadratic size term is significant, and that the amount of the explained variance increases considerably when we introduce the quadratic size term into the regression line.

It is not difficult to see from Table 5.4 that the curvilinear function fits the data better than the linear function. The quadratic size term is highly significant and due to its inclusion, the explained variance increases significantly (\( R^2 \) increases from 0.190 percent to 0.263 percent, an increase of about 40 percent)\(^9\). However, one may object that the curvilinear function fits better to the data because the data set contains a number of municipalities that take unusual values on the index of fractionalization, compared to other municipalities of about the same size (so called outliers). There are

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\(^9\) The level of significance is presented in the table as the p-value, which indicates exactly how unusual the observed result would be if \( H_0 \) (beta equal to zero) would be true (Kleinbaum et al. 1998: 26); a low p-value corresponds therefore with a high level of statistical significance of the estimated beta value, which means that beta is most likely unequal to zero.
Table 5.4: Results of the estimation of two regression models with the index of fractionalization as the dependent variable (N = 435)

<table>
<thead>
<tr>
<th></th>
<th>Linear function</th>
<th></th>
<th>Curvilinear function</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>p-value</td>
<td>Beta</td>
<td>p-value</td>
</tr>
<tr>
<td>Municipality size</td>
<td>0.435</td>
<td>&lt; 0.001</td>
<td>0.533</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(Municipality size)²</td>
<td>-</td>
<td>-</td>
<td>-0.288</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Explained variance – R²</td>
<td>0.190</td>
<td></td>
<td>0.263</td>
<td></td>
</tr>
</tbody>
</table>

six municipalities in the data set, three of the smallest municipalities and the three largest municipalities, that have lower values on the index of fractionalization as the linear function would predict (these municipalities are marked by crosses in Figure 5.5). These municipalities could be the cause for the curvilinear relationship, because they pull the average values of the index of fractionalization down at the ends of the size scale. In order to investigate this possibility, we re-estimate the curvilinear regression model without these six municipalities, and see whether the quadratic size term is still significant.

Table 5.5 presents the results of the re-estimation without the outliers, and reveals that the quadratic size term is still highly significant with a p-value of less than 0.001. However, and this is not surprising, does the curvilinear function in this case explain less of the variation of the index of fractionalization; only 20 percent of the variation is explained, and the increase of the explained variance due to the inclusion of the squared size term is now only about 17 percent. Nevertheless, the curvilinear function is significant even after the deletion of possible problematic municipalities. Consequently, we can conclude that, according to our empirical material, the level of political conflict is highest in municipalities of medium size.

Table 5.5: Results of the estimation of two regression models with the index of fractionalization as the dependent variable; without outliers (N = 429)

<table>
<thead>
<tr>
<th></th>
<th>Linear function</th>
<th></th>
<th>Curvilinear function</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>p-value</td>
<td>Beta</td>
<td>p-value</td>
</tr>
<tr>
<td>Municipality size</td>
<td>0.414</td>
<td>&lt; 0.001</td>
<td>0.405</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(Municipality size)²</td>
<td>-</td>
<td>-</td>
<td>-0.178</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Explained variance – R²</td>
<td>0.171</td>
<td></td>
<td>0.200</td>
<td></td>
</tr>
</tbody>
</table>
Table 5.6: Six bivariate regression analysis, with the index of fractionalization as the independent variable

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Beta</th>
<th>p-value</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class diversity</td>
<td>-0.269</td>
<td>&lt;0.001</td>
<td>0.072</td>
</tr>
<tr>
<td>Religious diversity</td>
<td>0.182</td>
<td>&lt;0.001</td>
<td>0.033</td>
</tr>
<tr>
<td>Demographic diversity</td>
<td>-0.346</td>
<td>&lt;0.001</td>
<td>0.120</td>
</tr>
<tr>
<td>Family 1 diversity</td>
<td>-0.034</td>
<td>0.48</td>
<td>0.001</td>
</tr>
<tr>
<td>Family 2 diversity</td>
<td>0.247</td>
<td>&lt;0.001</td>
<td>0.061</td>
</tr>
<tr>
<td>Income diversity</td>
<td>0.372</td>
<td>&lt;0.001</td>
<td>0.138</td>
</tr>
</tbody>
</table>

In order to get an impression about the relationship between political conflict and our six measures of diversity, we calculated six regression models. In each of these regression models, a different measure of diversity is the independent variable that explains the variation of the index of fractionalization. The results of this analysis are in Table 5.6.

It appears that all measures of diversity, with the exception of the measure of family 1 diversity, are significantly related to the index of fractionalization. However, the individual measures of diversity vary according to the amount of variation, which they explain of the dependent variable; R² varies between 0.001 and 0.138. No single measure of diversity has therefore the same explanatory power than the size variable alone. Still, the measures of diversity together might explain a considerable amount of variation of the index of fractionalization, but this depends on the correlation interaction between the various diversity measures. It is possible that the individual diversity measures explain about the same components of the variation of the index of fractionalization. In this case, the six diversity measures together explain not much more of the variation than the single measure of diversity that has the strongest explanatory power (income diversity). On the other hand, when the diversity measures do not interact with each other considerably, it is possible that each diversity measure explains a unique part of the variation of the independent variable. In this case, the diversity measures together might explain as much as the sum of the six R² values in Table 5.6. In the next section, where we apply multivariate methods, we will therefore see whether all diversity measures together explain considerably
more of the variation of the dependent variable than the measure of income diversity alone does.

With regard to the direction of the relationship between diversity and the level of conflict, the results of the analysis draw an ambiguous picture. Among the five measures of diversity that are significantly related to the index of fractionalization, two measures were negatively related to the index. These two measures were class diversity and demographic diversity. It is surprising that these measures of diversity also were negatively related to the size of a municipality (see Table 5.1). This means that size still has a positive indirect effect on the level of conflict, via class and demographic diversity; the larger a municipality, the less diverse is the municipality with regard to class and demography, and the higher is the level of conflict.

5.2.2 The multivariate relationship
Table 5.7 presents the results of two multivariate regression models. One regression model contains our six diversity measures as the independent variable (Model 5.1), while the other model includes size and the quadratic size term as additional independent variables (Model 5.2). The dependent variable in both models is the index of fractionalization.

When we compare the results of the estimation of Model 5.1 with the results in Table 5.6, we see that the explanatory power of Model 5.1 is higher than the explanatory power of the model with income diversity as the only independent variable. This is not unexpected, because the inclusion of several independent variables always increases the amount of explained variance. However, the $R^2$-values in Model 5.1 is still much lower than the sum of all $R^2$-values in Table 5.6. This indicates that our six diversity measures explain the same variance components of the dependent variable, to a large degree. The differences of the levels of significance between Table 5.6 and Model 5.1 support this conclusion. All six measures are less significant in Model 5.1. No measure of diversity is significant at 1 percent anymore, and the most significant measure of diversity (income diversity) has a p-value of 0.046. In addition to this measure, only class diversity and the measure of family 2 diversity are significant at 10 percent. Therefore, we can conclude that the measures of diversity interact rather strongly with each other in explaining the index of
fractionalization; the strong bivariate relationship between the diversity measures and political conflict disappears when we consider the diversity measures simultaneously. It seems that not all six measures of diversity are important to explain the level of conflict within a municipality; the most important forms of diversity are class diversity, the second form of family diversity and income diversity.

### Table 5.7: Results of the estimation of two regression models with the index of fractionalization as the dependent variable

<table>
<thead>
<tr>
<th></th>
<th>Model 5.1</th>
<th>Model 5.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>p-value</td>
</tr>
<tr>
<td>Municipality size</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>(Municipality size)^2</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Class diversity</td>
<td>-0,132** ***</td>
<td>0,064</td>
</tr>
<tr>
<td>Religious diversity</td>
<td>0,074</td>
<td>0,134</td>
</tr>
<tr>
<td>Demographic diversity</td>
<td>-0,071</td>
<td>0,386</td>
</tr>
<tr>
<td>Family 1 diversity</td>
<td>-0,072</td>
<td>0,188</td>
</tr>
<tr>
<td>Family 2 diversity</td>
<td>0,135***</td>
<td>0,051</td>
</tr>
<tr>
<td>Income diversity</td>
<td>0,163**</td>
<td>0,046</td>
</tr>
<tr>
<td>Explained variance – R^2</td>
<td>0,170</td>
<td></td>
</tr>
</tbody>
</table>

*…significant at 1%; **…significant at 5%; ***…significant at 10%

The next question is whether the pattern of the relationship between the various forms of diversity and political conflict, which we found in Model 5.1, consists after the inclusion of the size variables into the analysis. When we compare the estimation result of Model 5.1 with Model 5.2, we see that the changes are considerable. The inclusion of the size variables changes the significance of the diversity measures. Three measures become more significant, while the other three measures become less significant. This results in a situation where the three measures of diversity, which are significant when in Model 5.1 are no longer significant in Model 5.2. Furthermore, two other measures of diversity become significant when we include the size variables. The measures of family 1 diversity and religious diversity are significant on 1 percent and 10 percent, respectively, in Model 5.2. The reason for the increased significance of these two diversity measures is not entirely clear. However, in the
case of the measure of family 1 diversity, we might speculate that the indirect effect on conflict via municipality size has a different direction as the direct effect of the diversity measure on conflict. Therefore, the estimation of the bivariate effect on political conflict, without considering size at the same time, results in an underestimation of the effect, since this estimation includes also the indirect effect, which has a different direction. For religious diversity, there might be a similar effect with regard to the squared size term.

The direction of the two diversity measures that are statistically significant in Model 5.2 is ambiguous. We expect the level of diversity to be positively related to the level of conflict, but in reality, only the measure of religious diversity relates positively to the level of conflict. The measure of family 1 diversity, on the other hand relates negatively to the level of conflict. It is therefore difficult to draw a clear conclusion with regard to the direction of the relationship between diversity and conflict.

With regard to the changes in the explained variance, we see that the inclusion of the size terms increases $R^2$ considerably. When we compare the values of $R^2$ in Model 5.1 to those in Model 5.2, we find that $R^2$ has increased by nearly 81 percent. The regression model that contains only the diversity measures has a $R^2$ of 0.170, while the inclusion of the two size terms results in a $R^2$ of 0.309. It seems therefore that the size variable is by far more important to predict the level of political conflict than any single diversity measure. We can also put this the other way around, and compare the results from Table 5.4 with the results of Table 5.8. In Table 5.4, we see that size and the squared size term explain about 26% of the variation of the index of fractionalization. When we include the six diversity measures as well, $R^2$ increases (from 0.263 to 0.309), but only with about 17 percent. According to the changes in $R^2$, it appears that the diversity measures have only a limited importance to predict the index of fractionalization.

### 5.2.3 Summary: the relationship between size/diversity and conflict

In our second hypothesis, we assume that size and diversity were positive related to the level of political conflict, and that the direct effect of size on political conflict is significant, even when we control for the level of diversity, and vice versa. With
regard to size, the data material supports this assumption. Size has a rather strong effect on the level of political conflict within a municipality, and the introduction of the diversity variables into the analysis does not change this. Moreover, size is the most important single variable of all independent variables considered in this section, with regard to predict the level of political conflict. However, size appears to be curvilinear related to the level of conflict, with an underlying positive relationship. Within the theoretical framework of this analysis, it might be surprising that the size of a municipality is the most important variable to predict the level of conflict. Municipality size is supposed to affect the level of conflict only by the absolute size of the subgroups, and this is only one of four determinants of political conflict. However, municipality size might in this analysis also be a substitute measure of the number of subgroups within a municipality, which again can be assumed to be relevant to predict a municipality’s value on the index of fractionalization. Since we do not have a measure of the number of subgroups, and this variable at the same time is likely to be highly correlated with the size variable, it is reasonable to assume that an inclusion of the number of subgroups in the analysis would reduce the significance of size to predict the level of conflict.

Concerning a municipality’s level of diversity, the data material does only support our assumptions to a lesser degree. Although all diversity measures, with the exception of one, have a significant effect on the level of conflict when we consider the bivariate relationships, the level of significance drops when we consider all measures of diversity simultaneously in a regression model. This is probably because the measures of diversity are correlated with each other and the conflict variable simultaneously, which means that the various diversity measures explain identical parts of the variation of the conflict variable. As Table 5.7 reveals, only three of the six diversity measures were significant at 10 percent in the regression model that contains all diversity measures; and the level of significance of the three measures were rather low. The inclusion of the size variables into the regression model has two opposing effects on the level of significance of the diversity measures: three measures of diversity increase their level of significance, while the effect of the other three diversity measures become less significant. In sum, only two diversity measures have
a significant effect at a 10% and 1% level, respectively. The direction of the effect of these two diversity measures is ambiguous; one diversity measure relates positively to the conflict level and the other negative. Therefore, the assumption that diversity has a positive effect on the level of conflict gets only very limited support from the data.

The size of a municipality appears therefore to be the most important factor to predict the level of conflict within a municipality. However, one may object to this statement that our conceptualization – the index of fractionalization – weights the number of parties heavier than the relative size of the parties (we have discussed this in Chapter 4). One may agree to the assumption that the size of a municipality is stronger related to the number of parties (since size might be a substitute measure of the number of subgroups), while the diversity measures are stronger related to the relative size of the parties. In this case, it is not surprising that size is the most important variable to explain the index of fractionalization. However, the estimation of three regression models with the indicator of the relative size of parties as the dependent variable does not support that view (for the results of the analysis see Appendix C). Even in this case the size variable seems to be the most important single variable with regard to the amount of variance explained.

Therefore, it seems to be a reasonable conclusion from this part of the analysis, to say that the data does not support our assumptions with regard to the relationship between the diversity measures and the level of conflict. The diversity measures are not very important to explain conflict, and their effects do not follow the pattern that we expected. Since it seems difficult to find an alternative explanation for our results concerning the diversity measures, we exclude the measures of diversity from the further analysis.

5.3 Diversity and conflict: some remarks

The results concerning the relationship between diversity and political conflict can be interpreted in two ways. One possible interpretation can be that there is a strong relationship between a municipality’s group structure and the level of conflict, but that our conceptualizations of diversity and conflict could not measure this
relationship. It is clear that we had to make a number of reservations in order to be able to measure the diversity of a municipality; we assumed theoretically which cleavage lines could be significant for local politics and which subgroups are standing against each other along these cleavage lines. In addition, diversity was measured on the structural level. In this way, we cannot evaluate whether cleavage lines are overlapping or crosscutting. However, an more thoroughly analysis of the cleavage structure in Norwegian municipalities on the individual level requires a rather large sample of respondents in a great number of municipalities.

Moreover, a detailed measurement of the cleavage structure in Norwegian municipalities will perhaps not give another result, because there is also the possibility that the cleavage structure of a municipality is not relevant for the composition of the municipal council. It might be that party competition is not relevant in municipal politics. Skare (2000) gives a number of reasons for this, and mentions, for instance, institutional factors that imply that municipal politics can be characterized as consensual. In addition, he argues that the municipal cleavages do not correspond with the party cleavages. Consequently, it is possible that the residents within a municipality do not vote for local parties based on the attachment to municipal subgroups, but because of national party identifications or because of preferences for particular candidates. In this case, another conceptualization of political conflict would be more appropriate as well. A measurement of political conflict should not take the municipal council as a starting point. Because of its consensual character, the municipal council might cover over political conflicts that might be in municipalities. A conceptualization of political conflict as an individual variable might be more appropriate for this analysis.
6. Analysis part two: Multilevel analysis

In we consider variables from both levels of analysis simultaneously. The objective of this analysis is it to test the assumptions of our third hypothesis: Are residents in municipalities with a higher level of conflict more interested in local politics? And are residents that are more interested in politics, in turn, more likely to participate in politics? Finally, we consider the effect of municipality size as well. Following logically from our three hypotheses, we can deduce that residents in larger municipalities are more likely to participate in politics. Does our data support that view?

In order to answer these questions, we combine our data about the structural characteristics of the Norwegian municipalities with the individual data. As a result, the analysis is now restricted to the 64 municipalities that are included in the “Size and local democracy in Norway”-survey. For each of these 64 municipalities, our data material contains between 16 and 39 observations, which sums up to 1560 respondents. However, the analysis of these data requires special attention. Therefore, we discuss methodological concerns with regard to the data analysis and present the strategy of analysis, before we start the empirical analysis.

6.1 Methodological issues

Three characteristics of the data require further attention. These characteristics are: the nested structure of the data, the dichotomous distribution of the dependent variables, and the disproportional sampling design. In this section, we will briefly discuss the consequences of these properties for the data for the analysis in this chapter.

6.1.1 The nested data structure

The most important property of our data material is its nested structure. With nested structure, we refer to the sampling design that was carried out in two stages: First, a sample of 64 municipalities was drawn, and thereafter a sample of respondents within each of these municipalities was selected. With other words, we could say that the
respondents were nested within the 64 municipalities. When we use “ordinary”, statistical methods to analyze these data we have two alternatives, which both have its disadvantages: we could carry out the analysis on the municipal level, which means that we have to aggregate the individual data. This implies that we introduce the individual data in the analysis by calculating mean values for each municipality. In this way, do not use all information in the data because we ignore the variation of the individual data within the municipalities. Alternatively, we could disaggregate the data and carry out the analysis on the individual level. In this case, we have to assign the values of the variables measured on the municipal level to each respondent; those living in the same municipality would therefore have the same values. This method of data analysis “produces” a number of observations that are not statistically independent of each other, but that will be treated as statistically independent in the data analysis. Therefore, we break a fundamental condition of statistical inference, and the levels of significance are probably over-estimated. The relationship between variables appears as more significant as it is in reality. The disadvantages of these approaches are discussed in more detail in Hox (2002:3).

As an alternative to the analysis of the data on one level of analysis, we can apply special statistical techniques that incorporate the data from both levels of analysis simultaneously. The solution for this problem is therefore to apply, so called, methods of multilevel analysis. A number of textbooks were available that deal with this issue, such as Heck & Thomas (2000), Hox (2002), Kreft & De Leeuw (1998), Leyland & Goldstein (2001), or Snijders & Bosker (1999). These methods of multilevel modelling consider the nested data structure and estimate the regression coefficients and their levels of significance without bias. In addition, these methods allow regression coefficients to vary between the macro units (which are municipalities in our case). Within these models, we distinguish between variables with fixed effects, which are not supposed to vary between the macro units, and random effects, which are supposed to vary between the macro units. It can be either the intercept alone or a combination of the intercept and the slopes of some independent variables that are random effects. In the former case these models are called random intercept models and in the latter case random slope models.
In our analysis, we will work with random intercept models that allow the intercept to vary between the 64 municipalities in our sample. In this way, we can estimate a regression line for each municipality that has a distinct intercept, but is otherwise identical with the other regression lines. The degree of variation of the intercept (the so-called variance component) between these 64 municipalities is therefore an indication of the differences in the likelihood of participation between the municipalities. If the value of the random intercept is nearly or equal to zero, this implies that there are (nearly) no differences between the municipalities with regard to the outcome variable. The likelihood of participation is the same in all municipalities. On the other hand, the larger the variance component, the more different are the municipality with regard to the likelihood of participation.

6.1.2 Other considerations regarding the data analysis
Another feature of our data is that the dependent variables are dichotomous variables (coded 0 for no participation and 1 for participation). The analysis of this type of data with ordinary least square (OLS) violates some conditions for the application of this approach, and is likely to estimate erroneous standard deviations (Rice 2001). A logistic regression is therefore more appropriate to model data with binary dependent variables. Consequently, the analysis in this chapter applies multilevel logistic regression models to investigate the relationship between the numerous variables in this model.

However, the estimation of multilevel logistic regression models is rather complex, and only a few software programs can deal with it. In this analysis, we use a student version of HLM 5.04 to estimate the regression coefficients. Compared with other multilevel software, such as MLwiN, which was not available to the author at the time of analysis, the student version of HLM has a number of disadvantages.

For the first, there were restrictions to the number of variables that can be included into the analysis on each level of analysis. Therefore, it is not possible to estimate more than five effects on each level; and we have to restrict the number of variables on each level to four (since an intercept is estimated on each level as well). Because of this restriction, we cannot include more than three control variables into the analysis. Another drawback of HLM is that it is difficult to estimate the level of
significance of the random effects. We can easily estimate the level of significance of
the fixed effects using a t-test, whereas we need to calculate a more complex
deviance test to estimate the level of significance of the random effect (Snijders &
Bosker 1999: 220). HLM is actually supposed to estimate these kinds of deviance
statistics rather well by a Laplace approximation. However, because the student
version of HLM only includes a very brief manual, we do not carry out these tests in
order to avoid calculation errors and the statement of false levels of significance.
Consequently, the variance component of the random effect is presented without a
p-value.

A third disadvantage with the HLM is that it is not possible to include weights on
the individual level of analysis. This is especially important in the context of this
analysis because the data were collected in a way, which can make it necessary to
apply weights on the individual level (see section 1.3). On the other hand, we can
argue that when it is the objective of the analysis to examine causal models, as is the
case here, every respondent should have the same weight. In this context, however, is
it important to specify the model satisfactorily, which means that we include all
variables that are supposed to be correlated with the independent and dependent
variables at the same time. Because of the restrictions of the software, it is not
possible to include all variables that could be of interest here. On the other hand is it
rather unlikely that the ignorance of weights produce a bias that might alter the results
of the estimation completely. It is rather the case that we become a bias, which
changes the result to some degree. Of course, we cannot be sure about this, and we
have to accept this uncertainty, because the alternative to an estimation of the model
with HLM would probably result in biases, as well. In this case, we would break
other conditions of the statistical analysis.

6.2 Strategy of analysis
In order to test the hypotheses mentioned above, we employ a stepwise regression
analysis. Consequently, we estimate three multilevel regression models for every
dependent variable. The first model includes all independent variables, which is size,
conflict, interest and the control variables (Model 1). In the second regression model,
we drop size from the regression analysis (Model 2), while we exclude the conflict variable, in addition, in the final model (Model 3). Table 6.1 summarizes the strategy of analysis.

Table 6.1: The characteristics of the stepwise regression analysis in Chapter 6

<table>
<thead>
<tr>
<th></th>
<th>Size</th>
<th>Conflict</th>
<th>Interest</th>
<th>Control variables*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Model 2</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

* The control variables are: the level of education, the index of internal efficacy and the measure of external efficacy

The most important estimates for our concern are the strength and level of significance of the fixed effects (for size, conflict and interest, respectively) and the magnitude of the variance component of the random intercept. With regard to the hypotheses that we are going to test by the analysis, we expect the following changes of the fixed and random effects when we compare our three models:

1. In Model 1 we expect the fixed effect of size to be statistically significant and to have a positive direction. The fixed effects of political conflict and political interest, on the other hand, do not have to be statistically significant. In addition, we can see from Model 1 whether size is a very important factor that explains the differences in the likelihood of political participation between municipalities. When this is the case, we expect the variance component of the random intercept to be very close or equal to zero. The reason for this is that we control for the effect of size in Model 1, which means that the variance of the likelihood of participation between the municipalities actually can be interpreted as variance between municipalities of the same size. In the case, that size is the most important variable that accounts for the differences between the municipalities, the differences should disappear when size is included in the analysis.

2. We expect that the size of the fixed effect of political conflict increases when we compare Model 2 with Model 1. The fixed effect of political conflict should be positive and statistically significant in Model 2 and the variance component
of the random intercept might not increase, or increases only slightly compared to Model 1.

3. When we compare Model 3 with Model 2, we expect the fixed effect of interest to increase significantly. Political interest should have a statistically significant and positive effect on the likelihood of participation in Model 3. The variance component is now expected to be considerably larger as in Model 2. This expectation is reasonable, because we in Model 3 no longer control for the effect of any variable on the municipal level that could account for the differences between the municipalities.

6.3 Empirical analysis
Now it is time to confront the data with our expectations. In the following three sections, we estimate three models for each of our independent variable. We start with voting at local elections and continue thereafter with the participatory act of contacting local political parties, and consider, at last, the act of contacting local politicians.

6.3.1 Voting at local elections
The estimated likelihood of voting within the 64 municipalities in our sample varies between 0.74 and 0.97. In eleven municipalities, all respondents indicated that they are going to vote quite likely or definitively. Whether this variation is related to the size of the municipalities can we see from the estimates of the multilevel logistic regressions. The results of the three regression models are in Table 6.2.

When we look at the variance component of the random intercept in Model 1 and Model 2, we see that these estimates are clearly larger than zero. This means that the differences in the likelihood of participation in local elections are still there, even when we consider the size and the level political conflict in a municipality. However, at least the level of political conflict accounts for some of the variation between the municipalities, since the variance component of the random effect increases considerably when we remove the conflict variable (Model 3 compared to Model 2).

When we look on the estimates of the fixed effects in Model 1, our assumptions concerning the effect of size on the likelihood of participation are not supported. Size
Table 6.2: The results of the estimation of three multivariate logistic regression models with the likelihood of voting in local elections as the dependent variable (the fixed effects of the control variables are omitted)

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1.2758</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conflict</td>
<td>-4.0098</td>
<td>0.082</td>
</tr>
<tr>
<td>Size</td>
<td>0.1059</td>
<td>0.621</td>
</tr>
</tbody>
</table>

**Model 1**

**Model 2**

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1.2746</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conflict</td>
<td>-3.6246</td>
<td>0.054</td>
</tr>
</tbody>
</table>

**Model 3**

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1.2819</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conflict</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

does not have a significant effect on the likelihood of participation. On the other hand, the fixed effect of conflict is significant at 10% and interest in local politics is significant at a 1% level of significance. The effect of conflict becomes even more significant when we remove size from the regression in Model 2. This indicates that some of the effect of size on the likelihood of participation goes via political conflict, which is as expected. However, the direction of the effect of political conflict is surprising. The likelihood of participation is higher in municipalities with a lower level of conflict.

With regard to the fixed effect of the interest variable on the level of participation in local elections, we find a positive relationship, which is highly significant in all
three models. It is striking that the effect of political interest does not appear to chance when we control for the structural variables. Political interest seems to have an effect of the likelihood to vote which is independent of the size of a municipality and their level of conflict. In this respect, our assumptions are not supported.

Of course, the results of this analysis are probably biased because the variable that measures the likelihood of participation over-estimates the actual participation considerably. An alternative recoding of the original variable might be reasonable. The answer of the original variable about the expressed probability of participation in future local elections in the survey were coded in four categories, ranging from “Definitely not” to “Definitely” (see Appendix A). For the previous analysis, we coded the respondents that answered “Definitely” not and “Quite likely not” as “No participation”, and the respondents that answered “Quite likely” or “Definitely” as “Participation”. Now, we recode the answers in a way that only those persons that answered “Definitely” were coded as “Participation”, whereas the other answers were coded as “No participation”. In this way, we get a better picture of the likelihood of participation in local elections; although the variable still over-estimates the likelihood of participation considerably (see section 4.2.2). After the recoding of the dependent variable, the likelihood of participation between the 64 municipalities varies between 0.6 and 0.95, and there were no municipalities were all respondents indicated that they will definitely participate in elections. Let us take a look on the estimates of the re-estimation of the three regression models with the re-coded variable of participation in local elections. Table 6.3 presents the results.

The results of the re-estimation are surprising. Now, the structural variables seem to be not significant to explain the likelihood of participation at all. The fixed effects of size and the level of conflict are no longer significant at 10%. Moreover, the exclusion of the size variable in Model 2 does not change this picture; the effect of conflict becomes more significant, but not at a 10% level of significance. Surprisingly, the variance component of the random intercept is quite small in all three models, despite the fact that the structural variables are not significant. The variance component increases, indeed, when we remove the conflict variable from the analysis, but the variance component is still at a low level in Model 3 compared to the
Table 6.3: The results of the estimation of three multivariate logistic regression models with the (recoded) likelihood of voting in local elections as the dependent variable (the fixed effects of the control variables are omitted)

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>0,8980</td>
<td>&lt;0,001</td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>-2,0237</td>
<td>0,173</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0,0116</td>
<td>0,917</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept</td>
<td></td>
<td></td>
<td>0,0208</td>
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<th>Model 2</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
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<tbody>
<tr>
<td>Interest</td>
<td>0,8975</td>
<td>&lt;0,001</td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>-1,9893</td>
<td>0,120</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept</td>
<td></td>
<td></td>
<td>0,0204</td>
</tr>
</tbody>
</table>

<table>
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<th>Model 3</th>
<th>Fixed effect</th>
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<th>p-value</th>
</tr>
</thead>
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<tr>
<td>Interest</td>
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<td></td>
</tr>
<tr>
<td>Conflict</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept</td>
<td></td>
<td></td>
<td>0,0414</td>
</tr>
</tbody>
</table>

value of our first analysis (see Table 6.2). This might indicate that there are only small differences between the municipalities with regard to the likelihood of participation in elections. Consequently, the random intercept takes always a very low value irrespective of the independent variables that are included in the model. Municipality size and political conflict seems to be not relevant to explain the likelihood of participation. On the other hand, is the effect of political interest very significant. Moreover, the effect of political interest is the same in all three models, which indicates again that the degree of political interest is independent of the structural variables that we consider in this analysis.
To sum up the results of the analysis, we can say that the degree of interest in local politics is the most important variable that explains the participation in local elections. In addition, we saw that the effect of political interest on the likelihood of voting is independent of the level of political conflict within a municipality and the size of the municipality. Thus, interest in local politics is not a variable that mediates between the level of conflict and the likelihood of voting. This is true for both versions of the dependent variable. Both structural variables have a very weak effect on the likelihood of voting, but the level of conflict seems to be more relevant. However, the direction of the effect of the level of conflict is negative, which contradicts our assumptions.

It seems therefore that the data material does not support our hypotheses with regard to the effect of structural variables on the likelihood to participate in local elections. It is only the assumption that persons that are more interested in politics are more likely to vote in local elections, which is supported by the analysis.

6.3.2 Contacting local parties

With regard to our next dependent variable, contacting local parties, the estimated likelihoods of participation vary between 0.03 and 0.38 in our 64 municipalities. In five municipalities, no respondent indicated to have contacted a party at all. Table 6.4 presents the results of the estimation of the three multilevel logistic regression models.

In Model 1, we see that the variance component of the random intercept is almost zero. However, when we exclude the size variable (in Model 2), the variance component increases strongly, and is constant even when we exclude the conflict variable (in Model 3). This strongly indicates that size explains the variation between the municipalities with regard to the likelihood of contacting parties well. This interpretation is also supported by the fact that size has a highly significant effect in Model 1. However, the negative direction of the effect of size is surprising. Residents in smaller municipalities are more likely to contact parties than residents in larger municipalities are. This is the opposite of what we expected.

The effect of political conflict is not significant in Model 1, and does even become less significant when size is removed from the regression model. With regard to
Table 6.4: The results of the estimation of three multivariate logistic regression models with the likelihood of contacting a local party as the dependent variable (the fixed effects of the control variables are omitted)

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>Conflict</td>
<td>3,4148</td>
<td>0,109</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>-0,8143</td>
<td>0,001</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td>Variance component</td>
<td>0,0001</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Model 2</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1,1863</td>
<td>&lt;0,001</td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>0,6048</td>
<td>0,771</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td>Variance component</td>
<td>0,2074</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>Model 3</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1,1868</td>
<td>&lt;0,001</td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td>Variance component</td>
<td>0,2093</td>
<td></td>
</tr>
</tbody>
</table>

interest in local politics, we find a similar pattern as in the previous analysis with voting as the dependent variable. Interest has a positive effect on the likelihood of contacting parties, and this effect is highly significant in all three models. This indicates again that interest has an effect on the likelihood of participation that is independent of the structural variables.

In the case of contacting local parties as the dependent variable, we see that our assumptions find only limited support. Again, interest in local politics is among the variables that explain the likelihood of contacting significantly. Even the direction of the effect of interest is as expected – positive. However, it does not seem that interest is related to the structural variables; interest seems to have an independent effect on
Table 6.5: The results of the estimation of three multivariate logistic regression models with the likelihood of contacting a local politician as the dependent variable (the fixed effects of the control variables are omitted)

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
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</tr>
<tr>
<td>Conflict</td>
<td>1.4811</td>
<td>0.123</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>-1.0700</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td>Variance component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept</td>
<td>_a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 2</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
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<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>-2.0060</td>
<td>0.109</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td>Variance component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept</td>
<td>0.2060</td>
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</table>

<table>
<thead>
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<th>Model 3</th>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
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<td>Interest</td>
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<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Size</td>
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<td>-</td>
<td></td>
</tr>
<tr>
<td>Random effect</td>
<td>Variance component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept</td>
<td>0.2278</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a The random intercept was not possible to estimate for Model 1. This is probably because the random effect was not significantly different from zero

the dependent variable. With regard to the structural variables, we find that conflict is not a significant explanation variable. Size, on the other hand, has a significant effect, and accounts for the variation between the municipalities to a large degree. The effect of size on contacting local parties is, however, negative.

6.3.3 Contacting local politicians

Finally, we consider the participatory act of contacting local politicians as dependent variable. The likelihood of contacting politicians varies between 0.04 and 0.5 in the 64 municipalities in our data material. In no municipality, all respondents indicate
that they have not contacted a local politician. Table 6.5 presents the results of our multilevel analysis.

The pattern in Table 6.5 is almost identical to the results in Table 6.4, where we analyzed contacting local parties as dependent variable. Again, size has a highly significant effect on the likelihood of contacting politicians, which is negative. It appears at the same time that size accounts for the variation of the likelihood between the 64 municipalities. The effect of conflict is not significant in Model 1 and Model 2. At last, interest in local politics seems to have a highly significant and positive effect on the likelihood of contacting local politicians. This effect appears again to be independent of the structural variables.

### 6.4 Summary: the relationship between size and participation

It seems that the empirical material does not support our third hypothesis. The analysis in this chapter gives no indication of a positive relation between the level of conflict, the degree of political interest and the likelihood of participation. Instead of a causal relationship between these three variables, we find that the degree of political interest has a positive effect on all three forms of participation; and this effect is independent of the level of conflict. Moreover, does the level of conflict only affect the likelihood of participation for one political act, voting in local elections. The direction of this effect, however, is negative and therefore the opposite of what we had expected. Furthermore, when we recode the variable that measures participation in local elections, the effect of political conflict becomes insignificant.

Our assumptions with regard to size are not supported as well. With regard to voting in local elections, size does not have an effect on the likelihood of participation at all. On the other hand, size matters in the case of contacting politicians and contacting parties. However, the direction of the relationship is negative, and not positive as initially expected. In addition, size affects the likelihood of participation independent of the level of political conflict and the interest variable. With regard to the overall pattern of the relationship between size and our three forms of participation, we achieve very similar results as those of Bjørklund & Sørensen (1990) and Rose (2002a), which we presented in the introductory chapter.
7. Conclusion

Let us recapitulate the main findings of this work. In the introductory chapter, we asked whether size is related to the likelihood of participation. The answer to this question seems to depend on which form of participation we concentrate. The likelihood of participation in local elections does not appear to be related to municipality size; moreover, the likelihood of voting appears to vary only slightly between the municipalities. On the other hand, we find similar patterns of relationships between size and our two forms of contacting. The likelihood of contacting local parties and local politicians decreases with increasing municipality size; it is more likely that a resident in a smaller municipality takes contact with a party or a politician than a resident in a larger municipality. Consequently, there is evidence that municipality size has to be taken into consideration when the level of participation is analyzed. However, the direction of the relationship is not as expected. In the introductory chapter, we presented a set of three hypotheses that in sum predict that municipality size is positively related to the likelihood of participation. This prediction is not supported by our analysis, and the crucial question is which hypothesis among our set of three hypotheses cannot be validated.

With regard to our first hypothesis – the assumption that larger municipalities are more diverse than smaller municipalities – we could not draw any clear conclusion. The pattern of the relationship between size and diversity is mixed. Some measures of diversity were positively related to the size of a municipality, others were negatively related, and one measure of diversity is even curvilinear related to the size of a municipality.

The second hypothesis claims that larger and more diverse municipalities are characterized by a higher level of political conflict than smaller municipalities and municipalities that are less diverse. The data material supports the assumptions concerning the effect of size on the level of conflict. Size has a strong and positive effect on the level of conflict. However, there is some evidence that the relationship between size and political conflict is curvilinear, with an underlying positive
relationship. This means that the level of conflict is highest in the municipalities of medium size, whereas the level of conflict is lower at the ends of the size scale. Still, the level of conflict appears to be lower in the smallest municipalities as compared to the largest municipalities. With regard to diversity, our data material does not support the second hypothesis strongly. The explanatory power of the measures of diversity is rather restricted and the direction of their effects is ambiguous.

We can therefore conclude that the measures of diversity are not related to a municipality’s size and its level of conflict in the way as we expected. There seems to be no clear pattern of relationship between these three variables, and it is difficult to find an alternative explanation for the relationship between these three variables. Therefore, we excluded the measures of diversity from the further analysis. However, this does not mean that our assumption of a positive relationship between size and participation is not supported by the data. The empirical evidence weakens the assumption that size has an indirect, positive effect on the level of political conflict via diversity, but we have still evidence for a positive and curvilinear effect between size and the level of conflict. This would imply that the level of participation is highest in municipalities of medium size.

However, our third hypothesis does not get support from our empirical material. Political conflict appears to be unrelated to the level of political interest of the residents within a municipality and to the likelihood of participation of these residents. This is true for all forms of participation, with the exception of the first version of participating in local elections. However, in this case, the direction of the effect of political conflict is negative. Since the effect of political conflict becomes insignificant when we recode our election variable, it seems likely that the significant effect of political conflict is only a result of the biased measurement of participation in local elections. On the other hand, is the degree of political interest of the residents a very significant predictor of participation. This is true for all forms of participation that we consider in this analysis. However, the effect of the interest variable on the likelihood of participation is independent of municipality size or the level of conflict within a municipality. Figure 7.1 summarizes the findings of our analysis, and
Figure 7.1: Graphical review of the results of the analysis in this work

compares these findings to our initial assumptions that we presented in the introductory chapter.

Therefore, it appears that our third hypothesis is the weakest link in our causal chain; political conflict does not mobilize the residents in a municipality to engage in the three forms of participation that we studied here. The likelihood of participation is independent of the level of political conflict, and we have to find alternative mechanisms that explain the relationship between municipality size and the likelihood to contact local parties and politicians.

However, before we discuss the consequences of the results of this analysis for the relationship between size and participation, we discuss briefly, to which degree our methodological approach can have affected the results of the analysis.

7.1 Methodological interpretation
Two features are of special importance when we consider the effect of our methodological approach on the result of the analysis: the conceptualization of some of the most important variables and the features of the data analysis that we carried out.
7.1.1 Conceptualization of variables

In this context, we mentioned already the problems that were related to the measurement of a municipality’s diversity and its level of political conflict. With regard to the measurement of diversity, we measured only one out of three aspects of the group structure within a municipality that we considered as important. We measured the relative size of subgroups along a cleavage line, while we assumed that the number of cleavage lines within a municipality and the number of subgroups along these cleavage lines are constant throughout all municipalities. Further, we defined the number and the nature of the politically relevant (or manifest) cleavage lines theoretically and not empirically. This opens, of course, for the possibility that we considered cleavage lines as politically relevant, which in reality only are potential cleavage lines. By theoretical reasoning, we can only identify divisions of the population, which has some probability for conflict; and as we pointed out in the introductory chapter, does a cleavage line not always have to result in conflict among these subgroups of the population (see section 1.2.2). This might be the reason for the low explanatory power of our measures of diversity.

A solution for this problem is not possible with the data material that we used in this work. For a detailed analysis of the cleavage structure in Norwegian municipalities, we need a larger sample of residents in each municipality. Theoretically, it should then be possible to measure the individuals’ “subjective self-interest”, and to relate this measure of self-interest to the residents’ social background variables. The results of such an analysis can be the starting point of a new version of an analysis of the relationship between diversity and party competition.

The measurement of political conflict is ambiguous as well. Earlier we argued that the relationship between political conflict and political interest is the “micro-macro-link” in this analysis. We assume that the level of political conflict in a municipality affects the degree of interest in local politics, and that this, in turn, affects the likelihood of participation. However, we were not very satisfied with the empirical modelling of “this micro-macro-link” in our analysis. We measured political conflict on the municipal level of analysis, and the level of interest on the
individual level of analysis. This opens for speculations about how the residents in a municipality actually perceive the level of conflict within a municipality. As we mentioned, does a high level of political conflict, measured on the municipal level of analysis, not automatically imply that the residents in a municipality perceive the level of conflict as being high. In this way, it is unclear how to interpret the finding of no relationship between the level of political conflict in a municipality and the degree of political interest among the residents in this municipality. One possible interpretation can be that a high level of conflict does not increase the residents’ interest in politics. Another possible interpretation could be that there is no direct connection between the level of political conflict, measured as party competition on the municipal level of analysis, and the individual perception of the level of political conflict by the residents.

With our data material, we cannot determine which one of these two interpretations is correct. A possible solution for this problem can be the measurement of the residents’ perceived level of political conflict on the individual level. This individual measure can then be related to structural measures of conflict, and hopefully we will be able to detect a pattern of relationship between the structural and individual measures of conflict.

Finally, the measurement of participation in politics is problematic as well. In Chapter 4, we have already discussed the problems that are connected to the measurements of participation in local elections and contacting local political parties and politicians, and it is clear that the measurement bias can have an effect for the result of our analysis. Although there is reason to believe that there is a measurement bias for all three forms of participation, it is reasonable that the bias is strongest for participation in local elections. As a citizen in a municipality, the respondents might feel some kind of obligation to participate in local elections. Furthermore, the participation in local elections might be socially expected, and the residents feel pressured to cast a vote. In an interview situation, the respondents will therefore not admit that they do not participate in local elections. This argumentation is, however, not valid for the other forms of participation. It is not reasonable to assume that it is socially expected to contact local politicians or a local political party; here are
problems with regard to recall and the sampling bias more important. Therefore, the variable that measures the participation in local elections has probably the strongest bias of our three participation variables.

When we compare the measured frequency of participation in local elections with the actual turnout (see section 4.2.2), we see that the measurement bias is enormous. The magnitude of the measurement bias is otherwise of about the same size for the two alternative measurements of participation in local elections in the “Size and local democracy in Norway”-survey. It is therefore possible that the measurement bias of participation in local elections conceals real differences between the municipalities with regard to the likelihood of participation. This is a reasonable assumption because there is actually some evidence that the turnout in local elections is related to the size of a municipality. Bjørklund & Saglie (2000: 57) point out that the relationship between turnout rate and municipality size has changes in the past. Up to 1971, there was a positive relationship between size and the turnout rate; the turnout was higher in larger municipalities. However, this relationship altered in the period since 1971. The participation in local elections is now higher in smaller municipalities than in larger ones, and the local elections in 1999 strengthened the contrast between the smallest and the largest municipalities. However, it is difficult to point on a good solution for the measurement bias of the participation variables.

7.1.2 Data analysis

Although we applied rather sophisticated statistical methods, we could not account for all features of the data material in our analysis, in order to calculate unbiased estimators. In this context, the ignorance of the different sampling probabilities of the residents within different municipalities affects the result of the analysis. This problem can be avoided by the application of a weighted analysis, where the individual respondents attain weights according to their sampling probability. However, our statistical software did not allow the use of weights on the individual level.

Another problem with our data analysis is that we cannot ascertain the direction of the causal effect. This is especially relevant in the case of the relationship between a resident’s degree of political interest and a resident’s likelihood of participation. The
finding of a highly significant relationship between these two variables can therefore be interpreted in two ways: first, we might conclude that those people that are more interested in politics are also more likely to participate; the political attitude comes causally before the act of participation. But we might also conclude that participation comes causally before the political attitude; when a person participates in politics, she becomes more interested in politics. With our data, it is not possible to determine the direction of the causal effect. For this objective, we need a special kind of data, where the same respondents were asked several times about their political attitudes and their likelihood of participation, at different points in time.

To sum up the methodological interpretation, we can say that we have to be careful with the interpretations of the results of this analysis. The measurement and analysis of the analytical model is based on a number of presuppositions and simplifications, which can affect the result of the analysis. Unfortunately, it is not possible to say to which degree the results of this analysis were biased, and whether the levels of significance were over or under estimated. However, these presuppositions and simplifications were necessary in order to be able to carry out a test of our analytical model with the data available. Therefore, we should be careful when drawing conclusions, and consider this work only as a small part in a larger scientific process where other scientists approach the same problem with a different method and different data. Over time, we can see whether the results from different analysis are consistent, or not.

7.2 Substantial interpretation
At last, there is the possibility that the results of the analysis give a correct description of the situation in Norway. What does this mean for the relationship between size and democracy?

In the beginning, when we considered the general relationship between size and participation, we asked whether there is an ideal size of a municipality with regard to democracy. Based on this analysis, we can say that the likelihood of participation in the three forms of participation considered here is maximized in the smallest municipalities. However, the participation in these three forms of political activity is
only a small part of the democratic system in a municipality. We have certainly also to consider other forms of participation, such as the participation in political actions or the participation in political and non-political organizations. In addition, it is important to consider other aspects of democracy as well. For instance, is it interesting to investigate the relationship between municipality size and the responsiveness of the system; are local politicians in smaller municipalities more responsive to the residents’ opinion than politicians in larger municipalities are? Another interesting question relates to Dahl & Tufte’s concept of system capacity. Is it really the case that the participation in small municipalities is trivial, because small municipalities have not the possibility to implement their own policies without the interference of other actors? Only when we consider all democratic aspects together, we can draw a conclusion with regard to the ideal size of a municipality.

With regard to our assumptions concerning the mechanisms that tie municipality size and participation together, our analytical model did not get support from the empirical material. It is mainly the assumption that political conflict mobilizes residents to participate in politics that is not supported. The question is therefore which alternative connections between size and participation can be relevant to consider?

With regard to the participation in local elections, Hansen et al. (2002) might have an answer. In their article, they attempted to test three possible explanatory models of participation in local elections. The model that had the strongest explanatory power was a *communitarian model*. The line of thinking behind this model is that the residents within a municipality participate in elections because of altruistic motives. The interests of the community are considered as more important than the individuals’ self-interest, and the reason for the participation in local elections is therefore that the individual residents have a sense of obligation towards the community. It is most likely that we will find this type of understanding of society in local communities that are characterized by close and trustful relationships between the residents (Hansen et al. 2002: 52).

However, it is important to point out that Hansen and his colleagues only focused on characteristics of the municipalities as explanation factors; they carried out their
analysis on the municipal level. Therefore, the results of their analysis are relationships between variables on the municipal level, and cannot be used to draw conclusions about the individual residents’ motivation to participate in elections. However, their analysis gives an indication about which explanations should be considered in future analysis. Therefore, it might be fruitful, to complement an explanatory model of political participation in local elections with aspects of a communitarian model.

In this context, it would be interesting to investigate whether the conception of individuals as rational actors is a good model of reality. Perhaps another individual decision theory is more fruitful for the research around size and democracy. When it is the case that the residents in a municipality participate in local elections because they are closely integrated into a local community and feel an obligation towards community values, we could apply some kind of role theory as the individual decision theory. The main thought behind the role theory is that an individual acts on the background of expectations from groups that are close and important to the individual. The groups can apply positive and negative sanctions in order to encourage desired actions or to deter undesired actions of the individual (AG Soziologie 1993). In this way, the research focus will be no longer on the individual calculations with regard to the costs and benefits of an action, but on the social networks, that surrounds an individual, and the expectations of these social networks.

Furthermore, communitarian arguments are not necessarily restricted to explain participation in local elections alone; this line of thinking can be relevant for other forms of participation as well. However, for contacting local political parties or politicians, another potential explanation can link municipality size to the level of participation. We have already outlined in Chapter 3 that smaller municipalities have more representatives in the municipal council (relatively spoken) than larger municipalities have. Therefore, it is more likely that residents in smaller municipalities know local politicians personally, and that more residents (relatively spoken) have experience as representative in the municipal council. These features affect undoubtedly the likelihood of contacting politicians or parties. To know a politician personally makes it easier to contact the politician on a political issue.
Moreover, to have experience as a representative makes it easier to take contact with a politician or a party. It becomes also more likely that organizations recruit the person with experience as a local politician. In this way, the person with experience as a local politician can promote the interests of the organization, and contact a politician or a party on behalf of organizations.
Appendix A: Wording and coding of variables

Dependent variables

**Voting.** “Suppose elections for the municipal council were to be held tomorrow, how likely is it that you would cast a vote?” The responses were registered on a four point scale (1 = Definitely, 2 = Quite likely, 3 = Quite likely not, 4 = Definitely not), and were dichotomized by coding the first two answers into a Yes (=1) category and the latter two answers into a No (=0) category. The alternative classification (applied in Chapter 6) classifies only the respondents that were definitely sure about their participation into the Yes (=1) category. The respondents that answered one of the three other categories were coded as No (=0).

**Contacting local parties.** “Have you done any of the following activities in the last two years in an attempt to influence municipal authorities? … Contacted a party in the municipality?” (0 = No, 1 = Yes).

**Contacting local politicians.** “Have you done any of the following activities in the last two years in an attempt to influence municipal authorities? … Contacted a representative of the municipal council?” (0 = No, 1 = Yes).

Independent variables

**Municipality size.** Conceptualized as the logarithm at the base of 10 of municipality size; continuous variable

**Conflict level.** Conceptualized as the fractionalization index; continuous variable

**Interest in municipal politics.** “Sometimes the interest in politics of people varies according to different types of politics. How interested are you for instance in
municipal politics?” (0 = Not at all interested, 1 = Not very interested, 2 = Fairly interested, 3 = Very interested).

Control variables.

**Education.** Registry data. The highest formal education was coded into 4 categories: 0 = schooling not completed/Primary school, 1 = Lower secondary school, 2 = Upper secondary school, 3 = College or university/Postgraduate.

**External efficacy.** “To which degree do you mean that the mayor and the representatives in the municipal council usually pay attention to the opinions of the residents when they make decisions?” The answer categories were: not at all, very little, somewhat, quite a bit, and very much. The responses were recoded for the analysis, in a way that a strong believe in the responsiveness of the politicians indicated a high level of external efficacy. Five categories were created: 0 = Low level of external efficacy, … , 4 = High level of external efficacy.

**Internal efficacy index.** The degree of internal efficacy was measured as an additive index of the answers on the following two questions. The respondents were asked to indicate whether they agree strongly, agree somewhat, neither nor, disagree somewhat, disagree strongly with the following statements:

a. *I consider myself as being well qualified to participate in local politics.*

b. *I have a fairly good understanding of the most important issues which my municipality faces*

We summarized and recoded the answers on these questions in a way that a high agreement on these statements indicates a high level of internal efficacy. The five categories used in the analysis were: 0 = Low level of internal efficacy, … , 4 = High level of internal efficacy.
Appendix B: Calculation of conflict variables

The measure that compares the relative size of the parties in the municipal council is calculated by the formula

\[
D = \frac{\left( \frac{1}{k} \sum_{i=1}^{k} p_i^2 \right) - 1}{(k-1)},
\]

where \( k \) is the number of parties represented in the municipal council and \( p_i \) is the share of representatives that party \( i \) has in the municipal council. The formula in parentheses in the numerator calculates the effective number of parties, which varies between 1 and the actual number of parties \( k \). By subtracting 1 the numerator varies between 0 and \( (k-1) \). The division of this expression by \( (k-1) \) standardizes the measure irrespective of the number of parties in the municipal council.

The index of fractionalization (Rae 1971: 56) estimates the probability that two voters elect two different parties at a local election and is calculated by the formula

\[
F = 1 - \left( \sum_{i=1}^{k} p_i^2 \right).
\]

Table B.1 presents the value of the index of fractionalization in thirteen imaginable political systems.

<table>
<thead>
<tr>
<th>System</th>
<th>F-value</th>
<th>Share of representatives of party ( p_i ) in municipal council</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>B</td>
<td>0.18</td>
<td>0.9 0.1</td>
</tr>
<tr>
<td>C</td>
<td>0.32</td>
<td>0.8 0.2</td>
</tr>
<tr>
<td>D</td>
<td>0.48</td>
<td>0.6 0.4</td>
</tr>
<tr>
<td>E</td>
<td>0.5</td>
<td>0.5 0.5</td>
</tr>
<tr>
<td>F</td>
<td>0.58</td>
<td>0.5 0.4 0.1</td>
</tr>
<tr>
<td>G</td>
<td>0.62</td>
<td>0.5 0.3 0.2</td>
</tr>
<tr>
<td>H</td>
<td>0.64</td>
<td>0.4 0.4 0.2</td>
</tr>
<tr>
<td>I</td>
<td>0.67</td>
<td>0.33 0.33 0.33</td>
</tr>
<tr>
<td>J</td>
<td>0.70</td>
<td>0.4 0.3 0.2 0.1</td>
</tr>
<tr>
<td>K</td>
<td>0.75</td>
<td>0.25 0.25 0.25 0.25</td>
</tr>
<tr>
<td>L</td>
<td>0.80</td>
<td>0.2 0.2 0.2 0.2</td>
</tr>
<tr>
<td>M</td>
<td>0.875</td>
<td>0.125 0.125 0.125 0.125 0.125 0.125</td>
</tr>
</tbody>
</table>

Source: Rae 1971: 57; Table 3.1
Appendix C: Results of the regression analysis

Dependent variable is the measure that compares the relative size of the parties that are represented in the municipal council:

Table C.1: Results of the estimation of three regression models with the measurement that compares the relative sizes of the parties within the municipal council as the dependent variable

<table>
<thead>
<tr>
<th></th>
<th>Mod. 1</th>
<th>Mod. 2</th>
<th>Mod. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipality size</td>
<td>-0,292*</td>
<td>–</td>
<td>-0,358*</td>
</tr>
<tr>
<td>(Municipality size)^2</td>
<td>-0,062</td>
<td>–</td>
<td>-0,050</td>
</tr>
<tr>
<td>Class diversity</td>
<td>0,112</td>
<td>0,048</td>
<td></td>
</tr>
<tr>
<td>Religious diversity</td>
<td>0,050</td>
<td>0,061</td>
<td></td>
</tr>
<tr>
<td>Demographic diversity</td>
<td>–</td>
<td>-0,165**</td>
<td>-0,174**</td>
</tr>
<tr>
<td>Family diversity 1: Number of parents</td>
<td>-0,305*</td>
<td>-0,269*</td>
<td></td>
</tr>
<tr>
<td>Family diversity 2: Children living at home</td>
<td>-0,002</td>
<td>-0,067</td>
<td></td>
</tr>
<tr>
<td>Income diversity</td>
<td>-0,133</td>
<td>0,096</td>
<td></td>
</tr>
<tr>
<td>Explained variance – R^2</td>
<td>0,101</td>
<td>0,139</td>
<td>0,199</td>
</tr>
</tbody>
</table>

*...significant at 1%; **...significant at 5%; ***...significant at 10%
References


