Temporary Grant Programmes in Sweden and Central Government Tactics

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Abstract

The purpose of this paper is to study if the central government in Sweden distributes temporary grants among municipalities according to political objectives. Following previous empirical research, two main hypotheses are tested. The first suggests that the central government supports municipalities with many swing voters in order to influence voters. The second suggests that the central government provides benefits to groups that share its ideology and that provide political support. The empirical analysis is based on data from three election years: 1982, 1985, and 1988. Although the results indicate that socialist governments distribute temporary grants using political criteria, the results are ambiguous.

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1. Introduction

The distribution of grants among regions is an important issue in the literature on fiscal federalism. The traditional view is that intergovernmental grants are distributed among regions according to equity and efficiency objectives, which essentially means that the intergovernmental grant system is designed to achieve fiscal equality among regions and to internalise vertical and horizontal externalities. However, an alternative view is that the central government redistributes income among regions in order to buy votes and secure its re-election. This practice is often referred to as "pork barrel" politics or the public choice approach.

Some authors argue that the central government favours groups with many swing voters in order to win elections (Lindbeck and Weibull, 1987, Dixit and Londregan, 1995, 1996). Swing voters are relatively indifferent between political parties and it is assumed that their voting behaviour is likely to be affected by "pork barrel" politics. That is, they may abandon their political ideology in return for economic benefits. Although the swing voter hypothesis is intuitive, others have argued that the central government may be "taking care of their own": the government support groups who share their political ideology. Cox and McCubbins (1986) divide voters into three categories: support groups, swing voters and opponent groups. They argue that risk averse parties are more likely to benefit their supporters, risk neutral parties will benefit the swing voters, and opponent groups are not likely to be benefited at all. Cox and McCubbins argue that if the swing voter group is seen as a relatively risky investment by the incumbent government, the support group may be "over-invested".

Recently, a number of empirical papers have studied the swing voter hypothesis in connection to the distribution of intergovernmental grants.[1] Johansson (2002) tests the swing voter hypothesis using data on the general intergovernmental grant system in Sweden from 1981 through 1995. Johansson finds some evidence for the swing voter hypothesis. Dahlberg and Johansson (2002) analyse central government tactics in Sweden using data for a local investment

[1] This literature also relates to empirical studies that examines the New Deal spending in the U.S. (e.g., Wright, 1974, Andersson and Tollison, 1991, and Wallis, 1998). The New Deal spending was in effect during the great depression and supported state and local governments. Empirical studies have analysed if New Deal spending was distributed for political reasons or if the spending was based on socio-economic determinants.

programme aimed at achieving an ecological sustainable development. The results support the hypothesis that the central government favours municipalities with many swing voters. They do not find any support for the hypothesis that the central government supports municipalities sharing the same political ideology. Case (2001) studies the distribution of block grants in Albania and finds that politics influence the distribution of grants. Ward and John (1999) study the distribution of grants in the U.K. in 1994. They find that the central government favoured local authorities with many swing voters. Interestingly, Ward and John find that the central government supported "flagship authorities", local authorities that practised the incumbent party philosophy (Tory). Ward and John argue that these authorities are especially important if the conservatives are to win elections. However, they do not find any evidence that conservative authorities (other than the flagships) are favoured by the central government.

This paper studies factors that determine the distribution of temporary grants in Sweden and whether the distribution of temporary grants is characterised by central government´s objective to retain political power. The temporary grant programme is only distributed to municipalities that have applied for grants. One further purpose of this paper is therefore to study what factors determine the municipal decision to apply for temporary grants. The temporary grant programme we study is a supplementary tax equalisation grant that targets financially weak municipalities. Hereafter we refer to it as the temporary grant programme. This temporary grant programme has been distributed on a yearly basis between 1966 and 1992. The empirical analysis in this paper is based on data from three election years: 1982, 1985, and 1988.

Temporary grant programmes are particularly suitable for analysing strategies that central governments use to distribute funds. The reason is that temporary grant programmes are often separated from ordinary intergovernmental grant programmes, which require formulas intended to insure equity and efficiency goals.[2] Thus, it is difficult to use the general grant system to analyse government redistribution strategies, at least in the short run. However, we found that the criteria for distributing temporary grants are deliberately vague. The grant programme is discretionary to the incumbent government; i.e., the incumbent government handles the applications and is solely responsible for distributing the temporary grants. For the temporary grant programme we

[2] See, e.g., SOU 1991:98 for an description of the Swedish grant system.

studied, the Finance Committee Reports note the following: i) the purpose of the temporary grant programme is to complement weak points in the general grant system; ii) municipal applications for temporary grants are considered in each specific case by the Ministry of Finance; iii) and the general economic status in the municipality is the starting point of the decision made by the Ministry of Finance. Obviously, the criteria for distributing this temporary grant are very flexible. The flexibility of awarding temporary grants also raises the question whether the central government distributes temporary grants among regions according to political objectives.

This paper contributes to the existing empirical literature in at least three ways. First, although the study by Johansson (2002) is extensive, her analysis is based on the general grant system, which may be difficult to use as a tactical instrument for the central government since its distribution is prescribed by law. Second, in contrast to previous cross-section analysis (e.g., Ward and John, 1999, Dahlberg and Johansson, 2002), we have repeated observations that contain three election periods, two election periods with a socialist government and one election period with a conservative government. This makes it possible to study whether or not the hypotheses of tactically motivated distribution of temporary grants are applicable to all governments, and if the distribution of grants changes according to political ideology. In order to verify the hypotheses of vote purchasing behaviour, we would like to find similar results for all regimes. The fact that we observe different political regimes also gives us a better opportunity to separate political tactics from other factors determining the distribution of grants. Third, similar to the study by Dahlberg and Johansson (2002), the grant that we study is only distributed to municipalities that apply. A look at the data reveals that far from all municipalities have applied. About 45 per cent of the municipalities apply for temporary grants each year. We assume that municipalities weigh their chances of being awarded a grant with the cost of applying when deciding to apply. Thus, expectations about central government motivations may be revealed in the search behaviour.

The outline of the paper is as follows. In Section 2, we give a brief description of temporary grants in Sweden, and we present some descriptive statistics. Section 3 contains a discussion of theoretical models of vote purchasing behaviour and the hypotheses to be tested in the empirical analysis. In Section 4, we present our empirical model and our estimation strategy. The results are presented in Section 5. Section 6 presents concluding remarks.

2. Temporary grant programmes in Sweden

Intergovernmental grants are an important source of funds for municipalities in Sweden. It is the second largest revenue source and constitutes about 25 per cent of the total revenues. The local income tax, which is determined by municipal parliaments, is the largest revenue source. The municipalities also finance their services to some extent by charging user fees.

Large regional variations exist with respect to tax bases and socio-economic factors that affect the cost structure and the quality of local public services. An equal quality of public services among regions has been an important objective for the central government in Sweden. The general grant system has thus been designed in order to equalise differences between municipalities with respect to cost structures and local tax bases. Consequently, there are considerable regional differences in the distribution of grants. Municipalities located in the northern part of Sweden and sparsely populated municipalities in rural areas are the largest recipients. The intergovernmental grant system has been revised several times; the latest major reform was implemented in 1993, when the system changed from targeted grants to mainly general grants.

In addition to the general grant system, different temporary grant programmes have been designed in order to complement the general grant system. The temporary grant programme we studied operated from 1966 through 1992 and was intended for financially weak municipalities. The temporary grant was only distributed to municipalities that applied. Municipalities had to apply at the Ministry of Finance and each county administration delivered a statement to the Ministry of Finance about the applying municipalities. The county administrations supported the municipalities and their applications almost without exception.[3]

Several temporary grant programmes have been used during the years. Some of the grants target municipalities with high tax rates in order to avoid further increases of local income taxes.[4] Other temporary grants have been aimed at catastrophe reliefs, public transportations in sparsely populated areas, etc.[5] These programmes are excluded from the analysis in this study.

[3] The author has studied municipal decisions as well as statements from the county administrations. In a few cases, the county administrations rank the applying municipalities.

[4] This grant was designed as a negotiating process with the municipalities concerned.

[5] The construction of the temporary grant programmes may suggest that the central government considers political objectives when it designs the grant programme such as the grant programme implemented by the socialist government aimed at municipalities with high tax

2.1. The distribution of temporary grants

Data concerning municipal applications and central government decisions on the distribution of the temporary grant programme have been collected at the archives of the Swedish Government Offices. Data on municipal characteristics have been obtained from Statistics Sweden. Out of 284 municipalities, data have been collected for 267, 269, and 281 municipalities for the election years 1982, 1985, and 1988 respectively.[6] During the period we studied, we observed three election periods, one election period with a conservative central government (1979-1982) and two election periods with a socialist government (1982-1985, 1985-1988). Descriptive statistics are presented in Tables A1-A3 in the appendix.

Approximately 45 per cent of the municipalities have applied for temporary grants each year. Municipalities that apply for temporary grants usually have higher tax rates than non-applying municipalities. This is expected since financially weak municipalities are often compelled to have high tax rates. In addition, applying municipalities are less populated although they have larger land areas compared to non-applying municipalities. This observation may indicate that sparsely populated municipalities in rural areas are more likely to suffer from financial problems. The descriptive statistics clearly indicate that applying municipalities have lower net migration rate[7] and employment rates

rates. Socialist parties generally prefer more public expenditures than other parties and hence higher tax rates. Aronsson and Wikström (1996, 2000) found that socialist members in local parliaments in Sweden have a positive and significant effect on municipal expenditures. On the other hand, the conservative parties are often thought of as having stronger preferences for private alternatives and lower tax rates. The Committee Reports and Government bills support this statement to some extent. For example, in the Finance Committee Report (1985) budget proposals for temporary grant programmes are presented by the political parties. The conservative and liberal parties are opponents of the temporary grant programme aimed at municipalities with high tax rates, a grant program proposed by the social democrats. The Finance Committee Report also notes that the conservative and liberal parties suggest that the economic activity in the municipal sector should be reduced by mainly reducing grants available to municipalities. On the contrary, the socialist parties suggest increased grants in order to improve municipal services.

[6] In 1982 there was 279 municipalities. Five new municipalities were formed in 1983 due to break-ups. The municipalities affected by the break-ups have been excluded for 1982 and 1985. A small number of municipalities have also been excluded due to loss of data. The municipalities of Gotland, Gothenburg, and Malmö have also been excluded from the analysis since they provide health care, a service generally provided by the county councils.

[7] The net migration rate is defined as in-migration minus out-migration which is then divided by the number of inhabitants in the municipality.

than non-applying municipalities, which is expected since high net migration and employment rates are often found in financially sound regions. Thus, the data reveals that applying municipalities seem to be financially weaker than non-applying municipalities. This is also supported by the fact that applying municipalities usually received more per capita tax equalisation grants through the general grant system than non-applying municipalities.

When it comes to the political characteristics, municipalities that apply for temporary grants have a higher share of socialist voters. This pattern applies all election periods, including the first period with a conservative government (1982). The descriptive statistics are similar throughout the years, and the pattern described here applies to the three years that we studied.

As can be seen from Table A3 in the appendix, there is a large variation in application frequencies between counties. The share of municipalities applying for temporary grants is relatively high in the counties of Östergötland, Blekinge, Örebro, Västernorrland and Jämtland. Municipalities in these counties have relatively high tax rates and small tax bases compared to the national average; however, the counties of Gotland, Halland, and Kristianstad are characterised by very few applications throughout the years. Municipalities in these counties have relatively low tax rates.

Of the applying municipalities, 37 per cent received temporary grants. The temporary grants that we studied are relatively small compared to the ones distributed through the general grant system. Municipalities that receive temporary grants have, on average, received 106 SEK per capita as temporary grants. On average, municipalities that have received temporary grants, have received 1 170 SEK per capita as tax equalisation grants[8] and 2 585 SEK per capita as specific grants through the general grant system.

Municipalities receiving temporary grants have higher tax rates than non-granted municipalities. Socialist local parliaments generally have higher tax rates than conservative ones. Thus, it is no surprise that the share of socialist voters is slightly higher in municipalities that receive temporary grants. Net migration is also lower in municipalities that receive temporary grants. A negative migration rate is a serious problem especially for small municipalities since migration directly affects the tax base.

Considerable variation exists in the distribution of temporary grants among counties. For example, municipalities in the county of Jämtland, located in the

[8] Per capita grants-in-aid.

northern part of Sweden, have received temporary grants for all applications throughout the years. The municipalities in the county of Jämtland are sparsely populated. Interestingly, in the contiguous county of Västernorrland, only 13 per cent of the applications have been successful. Municipalities in the county of Västernorrland are characterised by similar problems; one could expect similar benefits to be distributed to this county. Another interesting observation is that municipalities in the county of Stockholm, the capital region of Sweden, are relatively successful in receiving temporary grants.

3. Theoretical framework

In this study, we follow previous empirical studies (e.g., Dahlberg and Johansson, 2002), and we test two main hypotheses concerning tactical redistribution. The first hypothesis suggests that the central government supports regions with many swing voters. This hypothesis follows from the work done by Dixit and Londregan (1995, 1996) and Lindbeck and Weibull (1987). The second hypothesis suggests that the central government favours its own supporters (Cox and McCubbins, 1986).

In the model presented by Dixit and Londregan (1996), two parties (political blocks) compete for votes in different groups (in our case municipalities).[9] The parties can differ in their political ideology and in their redistribution promises to the voters.

The voters have preferences over their own consumption and political ideology. Voters have preferences for one party over the other, and voters within a municipality are heterogeneous with respect to their political preferences and willingness to abandon their political ideology in return for grants, i.e., consumption opportunities.[10] The so called cut-point divides the voters into two groups, which favours one party over another. The strategy of the parties is to increase their vote share by redistribution promises, which moves the cut-point.

The following characteristics may influence vote purchasing behaviour by the central government in the model presented by Dixit and Londregan (1996):

- The incumbent government will support municipalities where the density

[9] Voters can be attached to a specific group for other reasons such as education, income level, profession, etc.

[10] In Dixit and Londregan's model, redistribution promises are aimed at the voters. In our empirical study, we observe grants allocated to the municipality, and the voters are supported indirectly.

at the cut-point is high: municipalities with many swing voters.

- Municipalities with low incomes are likely to be supported, not on equity reasons, but for the fact that the marginal utility of income is likely to be higher in low income groups.
- Population size in the municipalities is not expected to affect vote purchasing behaviour by the central government. A larger municipality is proportionally more expensive to buy than a smaller municipality.

Another model of vote purchasing strategies is presented by Cox and McCubbins (1986). Voters are divided into three categories. The first category is the support group, voters that vote for the party in question. The second category is the swing voter group. The third category is the opponent group, voters that vote for the other party. Cox and McCubbins argue that risk averse parties will invest in their support groups. Risk neutral parties, on the other hand, will support the swing voters. The opponent group is not likely to be supported at all. The strategy performed by risk averse governments is what Cox and McCubbins consider to be a stabilising strategy; that is, they protect the existing structure. Support to swing groups are viewed as a destabilising strategy. Cox and McCubbins argue that if swing groups are seen as a relatively risky investment, then the support groups may be "over-invested".

The outcome where risk averse parties benefit their support groups is not unique for the Cox and McCubbins model. In fact, Dixit and Londregan (1996) allow for the outcome predicted by Cox and McCubbins (1986) by assuming that each party may have some information advantage over the other party. As a consequence, parties may buy their support groups more easily.

In the empirical analysis, we tested the following hypotheses concerning central government tactics in the distribution of temporary grants:

- The central government distributes temporary grants to municipalities with a high share of swing voters.
- The central government distributes temporary grants to municipalities where they have strong support.

4. The empirical model and estimation strategy

In this section, we present our empirical models and our estimation strategy for analysing the decision to apply for temporary grants and the decision to accept

or reject the applications. The theoretical models discussed above only determine which political factors to consider in the empirical analysis. However, it is unlikely that the central government distributes temporary grants solely according to tactical objectives. From the Finance Committee Reports we know that the temporary grant programme is aimed at "financially weak" municipalities. After studying a number of applications each year, we have noticed that the applications are relatively similar throughout the years. The municipalities often refer to out-migration, high unemployment rates, demographic factors, small tax bases, etc. in their applications. If we do not control for socio-economic factors capturing financial weakness, the estimates of tactical redistribution may be biased. On the other hand, it may be a potential problem as well if we control for these factors because socio-economic and political characteristics may be correlated. However, since we have repeated observations that cover socialist as well as conservative governments, we are in a better position to separate such effects than in a single cross-section study.

The following explanatory variables are assumed to have an impact on the decision to apply for and the distribution of temporary grants:

Local policy variables ($q_{i,t}$):

The income tax rate in municipality i at time t ($taxr_{i,t}$), application for temporary grants by municipality i at time $t-1$ ($a_{i,t-1}$).

National policy variables ($z_{i,t}$):

The per capita tax equalisation grants received by municipality i at time t ($teg_{i,t}$), the per capita specific grants intended for operating costs received by municipality i at time t ($sg_{i,t}$), a dummy variable indicating if municipality i received temporary grants at time $t-1$ ($g_{i,t-1}$)[11].

Municipal characteristics ($x_{i,t}$):

The per capita tax base in municipality i at time t ($tb_{i,t}$), the share of population aged 0-15 in municipality i at time t ($age\,0{-}15_{i,t}$), the share of population aged 65 and above in municipality i at time t ($age\,65_{i,t}$), the population size in municipality i at time t ($pop_{i,t}$). The land area of the municipality (square kilometres) ($area_{i,t}$). The net migration rate in municipality i at time t ($mig_{i,t}$). The net migration rate is measured as in-migration minus out-migration which

[11] The variable $g_{i,t-1}$ may contain other temporary grants since we have not been able to separate the supplementary tax equalisation grant we studied from other temporary grants for the period $t-1$. Therefore, the variable $g_{i,t-1}$ may suffer from a measurement error.

is then divided by the number of inhabitants in the municipality. The share of the population aged 16-65 employed in municipality i at time t ($empl_{i,t}$).

Political variables:

In order to capture municipalities with a large share of swing voters, we follow previous research (Case, 2001, Johansson, 2002, Dahlberg and Johansson, 2002), and use the closeness in the latest election as a proxy for the cut-point density. The political system in Sweden has for a long time been characterised by two competing blocks - a socialist block and a conservative block.[12] Closeness is measured as the absolute value of the distance in vote shares in municipality i between the political blocks in the central election ($dbl_{i,t}$).[13] As pointed out by Johansson (2002), the validity of the variable depends on the assumptions of symmetric and single peaked preferences for political parties.[14] A small value of $dbl_{i,t}$ indicates that the latest election was close. The variable $dbl_{i,t}$ is assumed to have a negative impact on the probability of applying for and receiving temporary grants.

The variable $same_{i,t}$ measures the share of the voters in municipality i that voted for the incumbent government in the central election in the latest election. If the central government benefits its supporters, $same_{i,t}$ is expected to have a positive effect on the probability of receiving temporary grants. Likewise, if municipalities are expected to be granted by "their own" government, $same_{i,t}$ is expected to have a positive effect on the probability of applying for grants.

4.1. The municipal decision to apply

The fact that far from all municipalities apply for temporary grants should merit some attention. Each municipality is likely to evaluate its chances of

[12] We have divided the political parties into the following blocks: the socialist block consists of the Social Democrats and the Leftist Party; the conservative block consists of the Conservative Party, the Liberal Party, the Centre Party and the Christian Democratic Party.

[13] We have also used the absolute value of the distance between the largest political block and 50 per cent of the votes as a proxy for cut-point density (d50). Under the assumption of symmetric and single peaked preferences, the two variables d50 and dbl are equivalent.

[14] By using data for Swedish election studies, Johansson (2002) estimates the cut-point density by using factor analysis. Johansson (2002) finds no evidence for tactical redistribution when she uses the dbl variable. However, she finds support for the swing voter hypothesis when she uses the estimated cut-point density to capture the swing voters. Dahlberg and Johansson (2002) follow the same approach. In contrast to Johansson (2002), they find evidence for the swing voter hypothesis using the dbl variable as well as the estimated cut-point density.

receiving temporary grants and the cost of applying when it makes the decision to apply for temporary grants. As was mentioned previously, we know that the temporary grant programme is aimed at "financially weak" municipalities. We simply assume that the decision to apply is determined by the same factors that determine the distribution of temporary grants. Furthermore, we assume that the political factors discussed above may affect municipal search behaviour. If the central government distributes temporary grants on tactical grounds, it is reasonable to assume that this is anticipated by the municipalities when they make their decision to apply.

The municipal decision to apply for temporary grants is a simple yes/no decision since the municipalities do not apply for a specific amount of temporary grants.[15] Thus, the municipal decision to apply can be analysed by using a probit model. The following equation is assumed to describe the municipal decision to apply for temporary grants:

$$a_{i,t} = f(q_{i,t}, z_{i,t}, x_{i,t}, dbl_{i,t}, same_{i,t})$$

where $a_{i,t}$ indicates the municipal decision to apply in period t; $a_{i,t} = 1$ if municipality i applies, $a_{i,t} = 0$ otherwise. We have included municipal application in the previous period as a local policy variable because previous search behaviour may capture lower costs of searching for temporary grants. For example, searching for temporary grants may require investments in administrative routines that can reduce costs in future periods.

4.2. The distribution of temporary grants

Let us continue by discussing the incumbent government´s decision to distribute temporary grants. The decision is twofold. First, the central government must decide which municipalities to grant. Second, the central government must decide how much grants to distribute. In this paper we have chosen to focus on the binary choice, i.e. which municipalities are granted.[16] The distribution of temporary grants is assumed to be given by the following equation:

[15] The municipalities seldom apply for a specific amount of grant, and they often apply for a "generous grant", "highest possible grant", etc.

[16] We study whether or not a municipality receives temporary grants. However, the data also contain information about how much temporary grants the municipalities receive. In earlier versions of this paper, we also estimated different specifications of a Tobit model. The results from the Tobit specifications are similar to the ones presented in the Probit models. Following Dahlberg and Johansson (2002), we have performed LR tests in order to test if the Tobit model is a correct specification. It is possible that the decision to distribute grants

$$g_{i,t} = f(q_{i,t}, z_{i,t}, x_{i,t}, dbl_{i,t}, same_{i,t})$$

where $g_{i,t}$ indicates whether municipality i receives temporary grants or not in period t; $g_{i,t} = 1$ if municipality i receives temporary grants, $g_{i,t} = 0$ otherwise. Note that $g_{i,t} = 1$ is only observed if $a_{i,t} = 1$ is observed. Thus, we study what factors determine the distribution of grants given that the municipalities have applied. Since we are interested in whether political tactics matter in the distribution of temporary grants among applying municipalities, we focus only on the applying municipalities in the empirical analysis. This approach is in line with the study by Dahlberg and Johansson (2002).[17]

The variables controlling for financially weak municipalities merit some further comments. The variables that appear in both equations are expected to have the same impact in both equations; i.e., variables that are assumed to have a positive impact on the probability of receiving temporary grants are also assumed to have a positive impact on the probability of applying for temporary grants.

The temporary grant programme is intended mainly for municipalities with financial problems. Thus, we expect the per capita tax base to have a negative effect on the probability of receiving temporary grants. The probability of being granted may also be a decreasing function of income; higher income levels imply a lower marginal utility of consumption: that is, the central government may influence voters with low incomes more easily. The local tax rate is expected to have a positive effect on the probability of applying for and receiving temporary grants since municipalities with financial problems are likely to have high tax rates. The demographic variables represented by the share of population aged 0-15 and 65 and above may capture cost differences due to child-care, schools, and care of the elderly. The theories on vote purchasing behaviour discussed earlier predict that municipal size does not affect the central

is determined apart from the decision on how much grants to distribute (see, e.g., Cragg, 1971). For some of our Tobit specifications we rejected the null hypothesis. We have also used a Cragg model, however, the model does not seem to explain how much grants the municipalities receive. Therefore, similar to Dahlberg and Johansson (2002), we have chosen to focus on the binary choice in the empirical analysis.

[17] As pointed out by Dahlberg and Johansson (2002), if all municipalities are of interest, we have to correct for selection bias. However, this is not easily done due to identification problems. It is difficult to find variables that determine the decision to apply (selection equation) but does not affect the distribution of temporary grants.

government strategy since a large municipality is proportionally more expensive to buy than a small municipality. However, since the number of inhabitants in the municipality may affect the cost structure through economies of scale; small municipalities may be more likely to apply. On the other hand, larger municipalities may be in better position to apply because of administrative routines and a larger administrative capacity. Municipal land area may capture cost differences in public services such as public transportations. The net migration and employment rates are expected to have a negative effect on the probability of receiving temporary grants. A high net migration and employment rate are often found in growth regions and financially sound municipalities.

Since the temporary grant programme is expected to complement weak points in the general grant system, we have also estimated models where tax equalisation grants and specific grants distributed through the general grant system are included as explanatory variables.

4.3. The timing of the decision-making process

We have chosen to study the distribution of temporary grants for three election years: 1982, 1985, and 1988. Municipalities had to apply no later than March 31 the previous year; that is, we study municipal applications for the years 1981, 1984, and 1987. The central government decision on the distribution of temporary grants is made in the autumn. If the municipalities are granted, they receive the grants the following year, the election years.

Therefore, it is assumed that the decision to apply for temporary grants as well as the decision to distribute temporary grants is determined by factors for the same year as the decisions are made: 1981, 1984, and 1987. The local tax rate may introduce an endogeneity problem since grants received and the tax rate both appear in the budget constraint. Municipalities may also act strategically if they expect to be granted due to a high tax rate. In order to avoid the problem of endogeneity, the local tax rate has been lagged one year. However, it is important to note that we may still have an endogeneity problem if the tax rate is highly autocorrelated. In the empirical analysis we have also estimated the models without the tax rate. These results are commented in notes.

5. Results

Our empirical strategy is to first study the municipal decision to apply for temporary grants. We continue in Section 5.2 and study what factors determine the distribution of grants, using the pooled data set. Finally, the distribution of temporary grants for the different political regimes will be considered.

5.1. The decision to apply for temporary grants

Table 1 presents probit estimation results where the dependent variable is the municipal decision to apply or not apply for temporary grants. Three different specifications are presented in Table 1; the first column presents the estimation results for our "basic" model. The following specification in column two is an extension of our basic model where we control for per capita tax equalisation grants and specific grants distributed through the general grant system. In the third column we add temporary grants received in the previous period as an explanatory variable. Since this variable may suffer from a measurement error, we have presented this specification separately (see note 9).

The per capita tax base (tb) has a negative, although not significant effect on the probability of applying for grants. The local tax rate (taxr) has a positive impact on the municipal decision to apply. Municipalities with financial problems are likely to have high tax rates, and hence they are more likely to apply for temporary grants. The parameters for net migration (mig) and employment rate (empl) are both negative. The negative parameters are expected, municipalities with high out migration and low employment rates are likely to be financially weak.

Large municipalities with respect to population size (pop) are less likely to apply for temporary grants. This result may reflect the lost opportunity for small municipalities to exploit economies of scale in the provision of local public services. Thus, small municipalities may be in greater need for financial support. The land area of a municipality (area) has a positive although not significant impact on the decision to apply for temporary grants. These results indicate that small municipalities in rural areas are financially weak and consider themselves to be in need for compensation.

The demographic variables (age $0-15$ and age 65) have negative effects (although not significant) on the decision to apply. One explanation may be that the demographic structure is relatively easy to forecast. Thus, there is no

immediate financial need caused by the demographic structure.

None of the political variables (dbl and same) seem to have any impact on the municipal decision to apply for temporary grants.[18] Our interpretation of this result is that the municipalities do not expect to be granted on tactical grounds. The results indicate that we do not have a selection problem; that is, municipalities with a specific political characteristic are not more likely to apply for temporary grants. However, tactical considerations may be hidden in the other variables. For example, socialist local parliaments have on average higher tax rates.

Table 1: Probit estimation results,dependent variable is apply/not apply for temporary grants

	1		2		3	
Variable	Estimate	t-ratio	Estimate	t-ratio	Estimate	t-ratio
$tb_{i,t}$	-0.003	-0.89	-0.006	-1.62	-0.006	-1.72
$taxr_{i,t-1}$	0.404	5.48	0.413	5.47	0.392	5.13
$mig_{i,t}$	-26.09	-2.90	-26.51	-2.92	-23.75	-2.59
$empl_{i,r}$	-0.009	-1.62	-0.008	-1.32	-0.006	-0.98
$pop_{i,t}$	-0.007	-2.28	-0.009	-2.80	-0.008	-2.71
area	0.041	1.18	0.075	1.69	0.079	1.75
age $0\text{-}15_{i,t}$	-10.37	-1.85	-6.697	-1.11	-7.64	-1.25
age $65_{i,t}$	-6.05	-1.70	-2.615	-0.63	-2.87	-0.69
$same_{i,t}$	-0.351	-0.61	-0.442	-0.76	-0.521	-0.89
$dbl_{i,t}$	0.203	0.43	0.315	0.66	0.315	0.66
$a_{i,t-1}$	1.71	14.24	1.709	14.06	1.431	8.71
$teg_{i,t}$			-0.0003	-1.77	-0.0003	-1.79
$sg_{i,t}$			0.0002	1.19	0.0003	1.26
$g_{i,t-1}$					0.457	2.44
constant	-2.558	-0.98	-3.752	-1.36	-3.215	-1.15
Log lik	-310.25		-308.52		-305.56	
Pseudo-R^2	0.447		0.450		0.455	

Note: Data have been pooled. Nr obs=817. The pseudo R^2 is computed as a likelihood ratio index.

[18] We have also estimated the models with the political variables, dbl and same, included one at the time since they are likely to be correlated. The significance levels did not differ to any large extent from the ones presented here. This problem is also noted by Case (2001).

In the second column we have added per capita tax equalisation grants ($teg_{i,t}$) and per capita specific grants ($sg_{i,t}$) as explanatory variables. The tax equalisation grant distributed through the general grant system (teg) has a negative effect on the decision to apply (borderline significant at the 95 per cent level). The result indicates that municipalities that have been generously granted through the grant system do not expect to receive temporary grants. The statistical significance of the tax base parameter becomes stronger when we add the grant variables.[19] The negative parameter is expected, wealthy municipalities do not expect to be granted. We also see that the significance levels of the parameters for the demographic variables drop in the second column, which is reasonable since demographic variables are considered in the general grant system.

We have also included a dummy variable measuring if the municipality received temporary grants in the previous period ($g_{i,t-1}$). This variable has a positive effect on the probability of applying for temporary grants. One explanation is that the variable captures unobserved factors indicating financial needs. Another explanation is that the municipality has a positive experience of receiving temporary grants and expects to be granted again. None of the parameters for the political variables are affected in any dramatic way by the grant variables that we include.

5.2. The distribution of temporary grants

In Table 2, we present the estimation results for a probit model where the dependent variable is received/not received temporary grants (after application). We present three different specifications in Table 2 and the set of explanatory variables are the same as in the application equations except that $a_{i,t-1}$ is excluded.

The per capita tax base (tb) does not seem to affect the distribution of temporary grants. The parameter for tax rate (taxr) is positive and significant. Municipalities with financial problems are likely to have high tax rates, and apparently the central government has considered the local tax rate when distributing temporary grants. The net migration (mig) and employment rates (empl) have negative effects on the probability of receiving temporary grants. These results are expected, it seems reasonable that the incumbent government

[19] The tax equalisation grant is correlated with the other explanatory variables; the tax equalisation grant is partly a function of the tax base and the tax rate.

considers migration and employment rates when they distribute the temporary grants since these factors have a direct effect on the local tax base.

The results in the application equation indicate that small municipalities in rural areas are more likely to apply for grants. However, neither population size (pop) nor land area (area) have any impact on the probability of receiving grants. The demographic variables (age $0-15$ and age 65) do not affect the distribution of temporary grants.

Table 2: Probit estimation results, dependent variable is received/not received temporary grants ($g_{i,t}$)

	1		2		3	
Variable	Estimate	t-ratio	Estimate	t-ratio	Estimate	t-ratio
$tb_{i,t}$	0.001	0.29	-0.0002	-0.04	-0.001	-0.29
$taxr_{i,t-1}$	0.519	5.62	0.515	5.39	0.377	3.67
$mig_{i,t}$	-23.59	-2.08	-24.83	-2.16	-29.97	-2.44
$empl_{i,t}$	-0.017	-2.02	-0.018	-2.13	-0.017	-1.88
$pop_{i,t}$	-0.002	-0.64	-0.004	-0.94	-0.004	-0.91
$area_{i,t}$	-0.004	-0.21	-0.017	-0.61	-0.007	-0.25
age $0\text{-}15_{i,t}$	-4.575	-0.65	-2.203	-0.29	0.923	0.12
age $65_{i,t}$	-1.602	-0.39	1.018	0.21	2.962	0.58
$same_{i,t}$	0.783	1.06	0.704	0.94	0.556	0.70
$dbl_{i,t}$	-1.005	-1.68	-1.052	-1.74	-1.176	-1.80
$teg_{i,t}$			-0.00005	-0.02	-0.0001	-0.52
$sg_{i,t}$			0.0004	1.68	0.0004	1.41
$g_{i,t-1}$					1.167	6.60
constant	-7.171	-2.33	-8.717	-2.64	-7.649	-2.18
Log lik	-214.30		-212.67		-188.36	
Pseudo R^2	0.116		0.123		0.223	

Note: Data have been pooled. Nr obs=367. The pseudo R^2 is computed as a likelihood ratio index.

The parameters for political variables (dbl and same) have the expected signs, but none of them is significantly determined at the 95 per cent level. However, the parameter for dbl is significantly determined at the 90 per cent level and gives some support for the swing voter hypothesis. This result is in line with previous studies using Swedish data (Dahlberg and Johansson, 2002,

and Johansson, 2002).[20]

As can be seen in the second column, per capita tax equalisation grants and per capita specific grants do not affect the central government decision to distribute temporary grants. However, the dummy variable indicating whether the municipality received temporary grants in the previous period has a positive and significant effect on the probability of receiving temporary grants (third column). As in the application model, one explanation is that this variable captures some financial need.

5.3. The distribution of temporary grants: A comparison between the governments

One purpose of this paper is to study if the distribution of temporary grants differs between governments and political regimes and if the hypotheses of vote purchasing behaviour are applicable to the different governments. In this section we have estimated the same specifications as in the previous section for the separate election years. A likelihood ratio test rejected the null hypothesis of stable parameter estimates for the sub-periods. Table 3 presents the estimation results for the distribution of temporary grants for 1982 (conservative government).

In the previous section where data for all three years were used, we found that the local tax rate has a positive effect on the probability of receiving temporary grants. Since we know that socialist local parliaments generally choose higher tax rates than conservative local parliaments, we could argue that support to municipalities with high tax rates is indirect support for socialist voters. However, the estimation results clearly indicate that the conservative government also supports municipalities with high tax rates.[21] In fact, the parameter for the tax rate is the only one that is significantly determined at the 95 per cent level in our "basic model" for 1982. Thus, municipalities with

[20] When we exclude the tax rate from the equation, the performance of the model becomes less satisfactory. The significance levels of the political variables do not change. We have also estimated the models with the political variables dbl and same included one at the time since they are likely to be correlated. When we dropped the same variable from the specification in the third column, the t-value of the dbl parameter dropped to -1.59. We have also measured same as a dummy variable, taking the value one if the incumbent government had a political majority in the local government. This change in the empirical specification did not alter the results.

[21] We have also estimated the model with political variables interacted with the tax rate, but no significant effects were found.

high tax rates are supported due to their financial situation and not because of political concerns.[22]

There is no evidence of vote purchasing behaviour by the conservative government in 1982. As can be seen in the second column, the tax equalisation grants and specific grants do not affect the distribution of temporary grants. Temporary grants received in the previous period seem to be a robust determinant of the distribution of temporary grants, and the parameter is positive and significant also for 1982.[23]

Table 3: Probit estimation results, dependent variable is received/not received temporary grants 1982 (cons.)

	1		2		3	
Variable	Estimate	t-ratio	Estimate	t-ratio	Estimate	t-ratio
$tb_{i,t}$	-0.005	-0.56	0.010	0.72	0.007	0.46
$taxr_{i,t-1}$	0.623	4.09	0.537	3.24	0.462	2.72
$mig_{i,t}$	-10.05	-0.55	-17.06	-0.90	-23.32	-1.21
$empl_{i,t}$	0.013	0.18	0.062	0.82	0.043	0.55
$pop_{i,t}$	0.002	0.32	0.002	0.31	0.002	0.27
$area_{i,t}$	-0.032	-0.67	-0.0001	-1.66	-0.0001	-1.38
age $0\text{-}15_{i,t}$	1.341	0.10	6.710	0.45	2.40	0.16
age $65_{i,t}$	-1.510	-0.14	8.588	0.72	3.69	0.30
$same_{i,t}$	-0.892	-0.62	-0.633	-0.43	-0.149	-0.10
$dbl_{i,t}$	-0.539	-0.54	-0.518	-0.51	-0.779	-0.76
$teg_{i,t}$			0.001	1.44	0.0007	1.19
$sg_{i,t}$			0.0003	0.71	0.0003	0.62
$g_{i,t-1}$					0.667	2.43
constant	-9.418	-1.35	-19.05	-2.21	-14.56	-1.65
Log lik	-72.51		-70.56		-67.54	
Pseudo R^2	0.131		0.155		0.189	

Note: Nr obs=125. The pseudo R^2 is computed as a likelihood ratio index.

In Table 4, we present the estimation results for the distribution of temporary grants by the socialist government in 1985. The local tax rate has a

[22] If the tax rate is left out of the model, none of the parameters are significant.
[23] Including the political variables one at the time does not affect the results.

positive impact on the probability of receiving temporary grants as expected. There are indications of vote purchasing behaviour by the socialist government in 1985. The dbl parameter is negative and significant, which indicates that the socialist government favoured municipalities were the latest election was close, i.e. municipalities with a large share of swing voters. This result is consistent with previous studies on Swedish data (Dahlberg and Johansson, 2002, and Johansson, 2002).[24]

Table 4: Probit estimation results, dependent variable is received/not received temporary grants in 1985 (soc.)

	1		2		3	
Variable	Estimate	t-ratio	Estimate	t-ratio	Estimate	t-ratio
$tb_{i,t}$	0.014	1.35	0.014	1.21	0.020	1.60
$taxr_{i,t}$	0.366	2.25	0.373	2.27	0.231	1.27
$mig_{i,t}$	-37.49	-1.62	-41.19	-1.74	-41.69	-1.59
$empl_{i,t}$	-0.082	-1.31	-0.065	-0.87	-0.104	-1.29
$pop_{i,t}$	-0.002	-0.32	-0.004	-0.62	-0.004	-0.51
$area_{i,t}$	-0.013	-0.32	-0.024	-0.45	-0.015	-0.27
age $0\text{-}15_{i,t}$	–5.726	-0.38	-4.52	-0.28	9.128	0.52
age $65_{i,t}$	-2.013	-0.23	1.78	0.19	7.763	0.79
$same_{i,t}$	-0.418	-0.18	-1.10	-0.45	-2.326	-0.86
$dbl_{i,t}$	-2.472	-1.95	-2.39	-1.83	-1.454	-1.00
$teg_{i,t}$			0.00005	0.11	-0.00001	-0.03
$sg_{i,t}$			0.0006	1.30	0.0004	0.81
$g_{i,t-1}$					1.428	3.96
constant	-1.758	-0.25	-5.224	-0.68	-5.205	-0.64
Log lik	-72.27		-71.40		-61.64	
Pseudo R^2	0.121		0.132		0.251	

Note: Nr obs=123. The pseudo R^2 is computed as a likelihood ratio index.

When we add temporary grants received in the previous period as an ex-

[24] When we exclude the tax rate variable from the model, the significance level of the dbl parameter increases. In fact, the dbl parameter is the only significant one in that case. Furthermore, if the same variable is dropped from the model, the significance level of the dbl parameter increases. However, excluding the dbl variable does not change the result for the same variable.

planatory variable, the parameter for the local tax rate is not significant. This is somewhat surprising considering the fact that the tax rate parameter is significantly determined for all other specifications. Furthermore, the dbl variable is no longer significant.

Table 5 presents probit estimation results for the distribution of temporary grants by the socialist government in 1988. The parameter for the per capita tax base is negative, and the statistical significance of the parameter becomes stronger when we add the grant variables. As for the previous periods, municipalities with high tax rates are more likely to receive temporary grants.

Table 5: Probit estimation results, dependent variable is received/not received temporary grants in 1988 (soc.)

	1		2		3	
Variable	Estimate	t-ratio	Estimate	t-ratio	Estimate	t-ratio
$tb_{i,t}$	-0.031	-1.62	-0.041	-1.73	-0.064	-2.24
$taxr_{i,t-1}$	1.305	4.14	1.387	4.13	1.170	2.77
$mig_{i,t}$	5.736	0.19	4.355	0.14	-31.231	-0.79
$empl_{i,t}$	0.175	2.08	0.179	1.92	0.276	2.51
$pop_{i,t}$	-0.026	-1.74	-0.029	-1.79	-0.041	-1.65
$area_{i,t}$	0.048	1.05	0.072	0.99	0.069	0.91
age $0\text{-}15_{i,t}$	–53.062	-2.31	-48.983	-2.06	-40.397	-1.45
age $65_{i,t}$	-5.121	-0.44	-1.679	-0.14	1.120	0.08
$same_{i,t}$	7.555	1.99	7.363	1.91	8.348	1.99
$dbl_{i,t}$	-2.514	-1.11	-2.262	-0.99	-3.192	-1.25
$teg_{i,t}$			-0.0003	-0.57	-0.0008	-1.31
$mg_{i,t}$			0.0005	0.75	0.001	1.50
$g_{i,t-1}$					2.337	3.67
constant	-19.218	-1.91	-20.529	-1.85	-23.132	-1.80
Log lik	-46.09		-45.69		-35.60	
Pseudo R^2	0.399		0.404		0.535	

Note: Nr obs=119. The pseudo R^2 is computed as a likelihood ratio index.

A somewhat surprising result is that the employment rate has a positive effect on the probability of being granted in 1988. The parameter for the share of population aged 0-15 is negative and significant. Furthermore, the magnitude of the parameter is very large compared to Tables 2, 3, and 4.

There are also indications of vote purchasing by the socialist government in 1988. The parameter for same is positive and significant for the different specifications (borderline significant at the 95 per cent level in the second model). The result indicates that the socialist government awards grants to its supporters. This result has not been found in previous studies using Swedish data. The parameter for dbl is still negative although not significant.[25]

The parameter for temporary grants received in the previous period is also positive. None of the other grants seem to affect the distribution of temporary grants.

The results of the political variables are very interesting when we study the political regimes. Although we find support for the hypotheses that the central government distributes temporary grants according to tactical objectives, the results are not applicable to all governments. We only find vote purchasing behaviour by the socialist governments. Furthermore, the socialist government in 1985 supported the swing voter municipalities and the socialist government in 1988 awarded temporary grants to its supporters. Thus, our result is not consistent with the theoretical model presented by Dixit and Londregan, which suggests that the swing voters are likely to be supported by all governments independent of political ideology. Another interesting result is that the municipal decision to apply is not affected by political variables, which suggests that the municipalities do not expect to be granted because of political affiliations.

6. Conclusions

In this paper we have studied factors that determine the distribution of temporary grants in Swedish municipalities. We have also studied factors determining the municipal decision to apply for temporary grants. The main purpose of the paper is to test two hypotheses concerning tactical redistribution. The first suggests that the central government supports municipalities with a high share of swing voters and the second suggests that the central government benefits its supporters.

The results show that the local tax rate seems to have a strong positive impact on both the decision to apply for and the distribution of temporary

[25] Similar to 1985, if the tax rate is excluded the significance levels of the political variables are affected. In this case, the t-ratio for the same variable increases. When the political variables are included one at the time, the t-ratio of the same variable increases. However, the dbl parameter is not significant.

grants. Although we find some support for vote purchasing behaviour, the results are ambiguous. One important finding is that the results differ between different governments. More specifically, we find that the socialist government distributed temporary grants to municipalities with a high share of swing voters in 1985. Furthermore, in 1988 we find that the socialist government granted its supporters, i.e. municipalities with a high degree of socialist voters. However, we do not find any indication of vote purchasing behaviour by the conservative government in 1982. Thus, our results contradict the hypotheses presented by Dixit and Londregan, which suggests that municipalities with a high share of swing voters are always supported, irrespective of the political ideology of the central government. The results imply that one should be careful when drawing conclusions based on a single cross-section data. Another important result is that the municipal decision to apply for temporary grants does not seem to be influenced by political factors. One interpretation is that the municipalities do not expect to be awarded temporary grants for political reasons. This result does not support the vote purchasing hypotheses.

The temporary grant programme analysed in this study complements the general grant system. Several temporary grant programmes and other forms of compensation have also been allocated in the municipal sector, making the analysis of the distribution of grants in the municipal sector a relatively complex one. One interesting approach for future empirical research is to use the rules prescribed by law and calculate the amount of grants that should be allocated to the municipality through the general grant system. Then, the residual from what is actually allocated to the municipality should be analysed. The interaction between central and local parliaments should also be modelled and analysed.

Appendix

Table A1: Descriptive statistics, applied/not applied for temporary grants

Variable	Mean	Std. dev.	Min	Max
tb	253.06/260.77	27.1/45.2	187.5/184.8	344.0/641.2
taxr	16.78/15.71	0.87/1.03	14.25/10.4	19.6/18.3
mig	-0.0014/0.0026	0.007/0.007	-0.024/-0.025	0.026/0.032
empl	0.66/0.68	0.11/0.10	0.38/0.42	0.82/0.83
pop	22.7.1/31.5	21.5/57.2	3.0/4.3	119.2/663.2
area	2 159.8/914.7	3 472/1 104	18.8/8.8	19 447/7 886
age 0-15	0.20/0.21	0.02/0.03	0.14/0.13	0.30/0.34
age 65	0.19/0.17	0.04/0.04	0.05/0.05	0.27/0.27
teg	1 043.1/783.5	711.4/567.1	0/0	3 428.2/3 091.9
sg	2 555.6/2 440.1	408.6/395.0	1 150.4/1 596.5	3 871.7/3 849.7
ss	0.55/0.47	0.11/0.11	0.24/0.19	0.79/0.76
sc	0.44/0.52	0.11/0.11	0.19/0.23	0.75/0.79
same	0.53/0.50	0.12/0.11	0.24/0.20	0.79/0.79
dbl	0.20/0.18	0.15/0.14	0.003/0.005	0.60/0.60
nr obs	367/450			

Note: Data have been pooled. Variables are measured in SEK 1981. Population in thousands.

Table A2: Descriptive statistics, granted/not granted municipalities

Variable	Mean	Std. dev.	Min	Max
$g_{i,t}$	106.11/-	88.0/-	13.32/-	468.0/-
tb	252.5/253.4	28.6/26.3	190.8/187.4	334.8/344.0
taxr	17.2/16.5	0.80/0.81	15.4/14.2	19.6/18.3
mig	-0.002/-0.0005	0.007/0.007	-0.024/-0.021	0.020/0.022
empl	0.65/0.66	0.11/0.11	0.42/0.38	0.82/0.82
pop	21.1/23.6	21.3/21.6	3.0/3.8	119.2/118.8
area	2 856.7/1 905.6	3 759/3 270	33.6/18.8	18 144/19 447
age 0-15	0.19/0.20	0.02/0.02	0.14/0.15	0.30/0.27
age 65	0.19/0.18	0.05/0.04	0.05/0.06	0.27/0.25
teg	1 170.1/967.4	870.1/586.2	0/0	3 229.9/3 428.3
sg	2 585.6/2 537.8	372.1/428.6	1 807.7/1 150.4	3 465.6/3 871.7
ss	0.57/0.54	0.10/0.11	0.28/0.24	0.78/0.79
sc	0.41/0.45	0.10/0.11	0.21/0.19	0.71/0.75
same	0.54/0.53	0.12/0.12	0.29/0.24	0.78/0.79
dbl	0.20/0.20	0.15/0.14	0.001/0.0003	0.56/0.60
nr obs	137/230			

Note: Data have been pooled. Variables are measured in SEK 1981. Population in thousands.

Table A3: Number of municipalities, applied, granted (1982/1985/1988), percentage applied, percentage granted (all years)

County	Number of municipalities	Applied	Granted	percentage applied	percentage granted
Stockholm	25	7/7/7	5/5/0	28	48
Uppsala	6	4/4/3	0/0/1	61	9
Södermanland	7	4/4/4	2/2/0	57	25
Östergötland	13	9/10/9	4/3/1	72	29
Jönköping	11	6/6/4	1/3/0	48	25
Kronoberg	8	4/3/4	1/1/0	46	18
Kalmar	12	7/5/4	3/2/1	44	37
Gotland	1	0/0/0	0/0/0	-	-
Blekinge	5	3/4/5	0/2/3	80	42
Kristianstad	13	1/0/2	0/0/0	8	0
Malmöhus	20	5/4/4	2/2/0	22	31
Halland	6	0/1/0	0/0/0	5	0
Göteborg	15	5/3/4	3/2/1	27	50
Älvsborg	18	4/5/3	1/0/0	22	8
Skaraborg	17	6/3/1	1/1/1	20	30
Värmland	16	12/10/11	3/3/3	69	27
Örebro	11	5/11/11	3/4/5	82	44
Västmanland	11	4/5/4	3/2/3	39	61
Kopparberg	15	11/7/8	2/4/6	58	46
Gävleborg	10	3/3/1	1/0/1	23	29
Västernorrland	7	4/6/5	1/0/1	71	13
Jämtland	8	7/7/7	7/7/7	87	100
Västerbotten	15	6/6/11	2/3/6	51	48
Norrbotten	14	8/9/7	3/3/1	57	29

Note: The number of municipalities refers to the period 1983-1988. In 1982 there was 279 municipalities. Five new municipalities were formed in 1983 through municipal split-ups.

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