

# Kindergarten attendance and decision makers' political leaning

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## Difference-in-Differences evidence from German municipalities

### Abstract

In the absence of experimental settings causal effects of Early Childhood Education (ECE) are difficult to measure. Based on expanded data on German kindergarten attendance and applying a difference-in-differences identification strategy, we show that a change to a conservative majority in elections to the municipal council of an urban district significantly reduces Kindergarten attendance. This first stage result is new and for political reasons very important per se. Moreover, such variation in the political landscape can be considered as sufficiently exogenous and can therefore serve as valid instrument for estimating causal effects of Early Childhood Education.

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## 1. Introduction

Early Childhood Education (ECE) is one of the most important factors of educational production. Learning processes are easier at earlier stages of the life cycle and returns to investment in Human Capital diminish with age (Cunha and Heckman 2007). Skills of past periods remain productive for the attainment of current skills and it is difficult to catch up what you did not learn at an earlier stage in life.

Convincing empirical evidence on this finding is rare<sup>1</sup>. Especially in Europe where ECE is characterized by center-based care we lack experimental settings in this field to test the theoretical predictions. Some studies try to examine the impact of German Kindergarten attendance on the choice of the secondary school track and find a positive effect of ECE, especially for disadvantaged children (Landvoigt et al. 2007, Büchel et al 2003).

The major problem of studying effects of ECE is selection into treatment. There are many characteristics of households and individuals that drive both the probability of kindergarten attendance and future social and economic outcomes. Without random assignment we need quasi-experimental settings delivering an exogenous variation in ECE attendance.

We try to exploit regional variation in Kindergarten attendance due to the political majority of the municipal councils in Germany's urban districts (Kreisfreie Städte). By a difference-in-differences estimation we demonstrate that an electoral change to a conservative council in an urban district reduces Kindergarten attendance in this area up to 15%.

The result is new and for political reasons very important per se as it reveals the responsibility of policymakers to deliver a sufficient supply of ECE. This is especially important for disadvantaged children who need political or financial support to receive ECE. Moreover, for future research, this more exogenous variation could be used as valid instrument for estimating causal effects of Kindergarten attendance on several outcome variables like track choice, test scores or future earnings.

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<sup>1</sup> With the exception of several experiments that were conducted in the US and some quasi-experimental studies that try to show long-term effects of the famous Head Start Program that was introduced in the 1960s and provided preschool attention and other social services to disadvantaged children age three to five

## **2. Literature Overview**

The economic literature on the ECE issue is mainly characterized by studies that come from the US with a focus on the evaluation of targeted programs and experiments that have been launched since the 1960s. At that time, the federal government revealed the need of providing ECE services to disadvantage children from low-income families who were observed to perform worse in primary school than their well-off classmates.

The famous Head Start program, for example, started in 1965 and has served 22 million children from low-income families with the goal of improving their school readiness, social skills and health (Chang et al. 2007). The number of studies who evaluated the effects of this program is huge. Most of the studies report positive long term effects for the children who attend Head Start in terms of many dimensions like better school outcomes, higher earnings or better health (see for example Ludwig and Miller 2007 or Garces et al. 2002). There is also some evidence on short term effects of Head Start focusing on a change of parental practices due to Head Start and on the early cognitive and social outcomes of the children attending the program. The short term impact is much smaller but some positive effects for children enrolled in Head Start can also be shown (Puma et al. 2005).

The most convincing evidence on the effects of ECE stems from true experiments that were conducted during the 1960s, the 1970s and 1980s where disadvantaged children were randomly assigned to a treatment and control group and followed over several decades. Although differing slightly in the magnitude of the effects, the three most important studies - The High/Scope Perry Preschool Program (see Belfield et al. 2005), the Abecedarian Project (see Mass and Barnett 2002) and the Chicago Child-Parent Centers (see Reynolds 2000) - can all show considerable long term effects in terms of higher rates of high school completion and more years of completed education of the children in the treatment group. Moreover, the cost benefit analysis reveals that the economic returns of each program by far exceed the initial investments (Temple and Reynolds 2007).

Besides the evaluation of targeted programs and experiments, the evidence on how generalized kindergarten affects children's outcomes has also increased by the meantime. Most US-studies show a positive impact of attending kindergarten, even though the effects differ by duration and intensity of the attendance (see for example Loeb et al. 2007, Gormley et al. 2005).

European countries, and especially Germany, can not come up with the evaluation of targeted programs and experiments, simply because they do not exist and the ECE system is mainly based on universal services for all children independent of their background. The few German

studies dealing with the effects of ECE can show a positive association between kindergarten attendance and the probability of being enrolled in a higher school track in secondary school, particularly for disadvantaged children (Landvoigt et al. 2007, Büchel et al 2003).

### **3. The provision of Early Childhood Education in Germany**

This section gives a brief overview on the German system of ECE supply (in our case kindergarten supply). This is necessary to identify the relevant political level where policymakers in this area can be found.

There are large structural differences in the ECE supply between West and East Germany (the Former German Democratic Republic). Whereas the states that formed the Former German Democratic Republic always have been characterized by a full provision of ECE for all children between 1 and 6 years old, West Germany only had a supply for 70 % of all 3 through 6 year old children at the time of the reunification in 1989. Although this quote has increased during the 1990s and reached 88 % by 2002, differences between East and West Germany are still considerable. To avoid disturbances due to the clash of these different systems, we focus our study on West Germany.

The German structure in the field of ECE is very complex and a huge number of players on different levels participate in this process (Textor 1998). So, it is almost impossible to deliver a detailed overview and we can provide only the basic elements.

The German legislation on federal level passes only the laws which determine the basic features of kindergarten supply<sup>2</sup>, whereas the states and the municipalities prepare the overall budget which is assigned for ECE. So, the current costs of the kindergarten are covered by four different sources: the states, the municipalities, the providers of the services<sup>3</sup> and the fees of the parents. On average over all states, 75-80 % of the costs are covered by the states and the municipalities, 14 % by the fees of the parents and the rest by the providers. The small share covered by the providers is, however, even decreasing over the past years. Especially the churches, which represent by far the largest part of the responsible bodies, tend to back

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<sup>2</sup> The so-called "Rechtsanspruch" (1996) which should guarantee a slot in kindergarten from age 3 until school entry is, for example, a law that was passed by the federal state. However, the implementation of this law was the task of the states and the municipalities.

<sup>3</sup> Those can be the municipalities themselves, the churches or other social institutions.

out of the funding responsibility (see the country report for Germany of the OECD project *Starting Strong II* 2004).

However, these are average values and the share covered by the communities (between 30 % and 83 %) and by the parents (between 10 % and 20 %) differs considerably between states and different institutions. Especially parents' contribution is not uniformly regulated. In some states (for example North Rhine-Westphalia) fees are determined on state level, others have variation between and even within municipalities (for example Baden-Württemberg). Moreover, the scale of the fees between families with higher and lower income is not consistently assessed (see also the OECD Report 2004).

Within this very intransparent structure, the OECD report explicitly addresses the ongoing shift of responsibility towards the municipalities. States have tended to back out of their official role in the financing process. They rather forward the unrestricted funds to the municipalities which can freely decide about the use of this money. So, ECE policies are (irrespective of all other differences) finally a matter of priority of decision makers on municipal level and can become the playing field of the distribution of political power in the municipalities (see OECD Report, page 62).

The last statement is noteworthy as it reveals that the final decision making level in the German ECE system can be found on the municipal level and it is reasonable to focus on this level when considering differences in the ECE supply due to political leaning. What could be policies on municipal level that determine kindergarten attendance? In general, decision makers can lay a different focus on the importance of ECE which is revealed by different measures: One possibility is probably to influence the prices for ECE in terms of parents' fees. Decision makers could, for example, decide on very low fees. This is probably an incentive for very low-income, disadvantaged families (who are often not aware of the benefits of kindergarten for their children) to send their children in center-based care. A recently conducted study revealed considerable differences in Kindergarten fees among Germany's 100 biggest cities, possibly due to different priorities of decision makers. According to the facts described above, the study shows that neither the amount of parent's contribution nor the differentiation of the fees depending on the social status of the families is consistent among German cities. There are municipalities that have no fees at all, independent of the background of the children; others charge for ECE services but do not have any scale due to social aspects.

In the German state Hamburg a voucher system for slots in ECE was implemented. This system of giving earmarked financial support can help to bring children to kindergarten that

lack sufficient educational resources in their home and would otherwise not attend. Additionally, it increases competition between the providers of ECE and can therefore lead to a higher quality of the services (see Falck 2004 for an overview).

#### **4. Identification and Data**

German evidence on effects of ECE on economic and social outcome variables can only make use of observational data. Previous results mainly based on studies with the German Socioeconomic Panel (GSOEP) show that Kindergarten attendance is positively correlated with higher school tracks but it is difficult to find causal relationships. It is hard to show whether Kindergarten attendance is really the causal factor affecting the outcome variables. ECE attendance often is correlated with parental background, household income, ability and other characteristics. Controlling for household characteristics like income and parental background is mostly possible. But individual characteristics of the children (especially ability) remain a considerable factor determining Kindergarten attendance and can hardly be integrated in the regressions.

Therefore we try to find more exogenous variation in Kindergarten attendance that does not lead to biased estimates. As discussed in chapter 3, ECE supply is, to a large extent, determined on municipal level and a matter of political priorities of decision makers on this level. We assume that the political leaning on municipal level reflects this different view on ECE and the corresponding policies described above: Conservative decision makers are less likely to implement policies that favour an increase in kindergarten attendance and center based care. Moreover, Germany's notoriously indebted municipalities are always confronted with the trade-off between the provision of a broad range of local services and budget discipline. In this context, conservative majorities are less willing to accept a budget deficit to achieve their political goals compared to leftist governed municipalities.

The evidence on how political leaning on local level affects economic and political outcomes is small. One very recent study in the US tried to identify the effects of the political partisanship on local level with data from mayoral elections since 1950 (Ferreira and Gyourko 2009, forthcoming). They could not find any significant effects on outcomes like size of city government, the allocation of public spending or on crime rates on local level. However, they argue that they could imagine that political parties "may have different views of other aspects of the local public environment (e.g. schools)" and that it would be desirable to expand research on these dimensions.

Actually, we explicitly consider education policies on municipal level.

To test our assumption, we use the German Socioeconomic Panel (GSOEP). This longitudinal dataset contains very detailed information on a representative sample of households since 1984. In particular, we have information on children's Kindergarten attendance from the questionnaire that is answered by the head of the household which can be combined with a multitude of household characteristics like household income, educational background of the parents and employment status of the mother. The longitudinal structure of the data allows us to observe several cohorts of 3-6 year old children from 1985-2006.

Fortunately, we can make use of a special dataset of the GSOEP which provides detailed information about the counties the households live in. Normally, German counties consist of several municipalities and they are responsible for the provision of specific public services, for example in the transport sector. Some counties, however, are not a union of several smaller municipalities, but consist only of one urban district which is called "Kreisfreie Stadt". They have the same status than a German county, but they are, at the same time, charged with the provision of services that are normally assigned to a municipality. So, they are also responsible for the supply of kindergarten. Germany's urban districts mainly coincide with the cities that have a population of more than 50.000 inhabitants but there are also some smaller ones which have this status (mainly in Bavaria and Rhineland-Palatinate, see the list in the Appendix). In this special case, we can not only identify the county households live in, but also the urban districts.

Moreover, we have a dataset that delivers exact information about the distribution of seats in the municipal councils of Germany's urban districts (Kreisfreie Städte) by different parties since 1984. This information stems from the Statistical Yearbook of German municipalities (Statistisches Jahrbuch Deutscher Gemeinden) that provides the seat composition for all German communities with more than 10.000 inhabitants. Considering the elections of the municipal councils in Germany (which take place all four or five years, depending on the different states), we can also observe changes in the seat distribution after elections. Pooling this dataset with information about kindergarten attendance and other important covariates from the GSOEP, we can observe whether the children live in an urban district with a mainly conservative or leftist council. To our best knowledge, the combination of these two datasets is new and links information of ECE attendance to Germany's regional political landscape.

As conservative and leftist governed regions and municipalities differ systematically according to unobservable characteristics that influence Kindergarten attendance, we can not simply estimate the difference in Kindergarten attendance between leftist and conservative

governed municipalities by OLS or a Probit model. Although there is no clear structure of supporters of conservative and leftist parties, voters of Germany's conservative parties can, predominantly, still be found within the middle-class with higher family backgrounds than the predominantly working-class voters of the leftist parties. As family background of children is probably one crucial predictor of kindergarten attendance, it would not be possible to disentangle the impact of family background and political leaning on our outcome variable.

Therefore, we exploit the times series character of our dataset and look whether an electoral change in the composition of the municipal council from a leftist to a conservative majority (and vice versa) coincides with a change in ECE attendance of the children living in these urban districts. A difference-in-differences approach allows us to compare the share of children in Kindergarten before and after an election on municipal level between urban districts that experience a change in the political majority of their council and urban districts without this change. Using this method, we can eliminate time-invariant unobservable characteristics of German municipalities which are correlated with both the political leaning of decision makers and Kindergarten attendance.

We estimate the following difference-in-differences model:

$$y = \beta_0 + \delta_0 dB + \beta_1 d2 + \delta_1 d2 * dB + \beta_2 X + u \quad (1)$$

$y$  is a dummy indicating whether a child is in Kindergarten or not,  $dB$  is a dummy stating whether the child is in the Treatment or the Control group. Treatment is defined by "living in a municipal district that experienced a change in the political majority of the council".  $d2$  is a dummy indicating whether the child is observed before (i.e. one year before the election with a change or in the year of the election) or after the election (i.e. three or four years after an election with a change)<sup>4</sup>. The main parameter of interest is the interaction term  $d2 * B$  which can be interpreted as the causal effect of the political leaning on Kindergarten attendance.  $X$  is a vector of other covariates that affect Kindergarten attendance and also includes time dummies. We have a difference-in-differences model with multiple treatments. All elections on municipal level between 1985 and 2006 which led to a change in the political majority of the council are treatments. Similarly, "before" and "after" treatment covers several time periods. We collapse all "before" and "after" time periods so that we have two cross sections. In spite of the panel structure of our dataset, we include only different children before and

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<sup>4</sup> We chose these "before" and "after" periods as we assume that any measures taken by policymakers in a municipality in terms of ECE policy need some years to be implemented and to show some effects.



after treatment as we assume that Kindergarten attendance is very persistent over time. So we can avoid serially correlated dependent variables, a typical problem of difference-in-differences estimates (Bertrand et al. 2004).

## 5. Results

Our sample consists of several cohorts of children between 3-6 years old living in Germany's urban districts (see the list of Germany's urban districts that are used in our analysis in the appendix). Although these urban districts have the status of a German county, they are responsible for the tasks usually assigned to a German municipality, for example the supply of kindergarten. As already mentioned, we only use children from West-German urban districts as in East Germany county borders changed very often and ECE supply is still characterized by politics of the former German Democratic Republic. We identify a change in the political leaning if the majority of the seats go from councilors of CDU, FDP (conservative parties) to councilors of SPD and Grüne (leftist parties) or vice versa<sup>5</sup>. As we can not observe the political leaning of small regional parties, we only include those urban districts where the seats of these parties could not influence the majority of one of the big blocks (see also the Appendix for a detailed description). Moreover, we concentrate on the changes from a leftist to a conservative majority in the council<sup>6</sup>. Our sample consists of 106 children living in the 29 urban districts that experienced an electoral change to a conservative majority (treatment group) between 1985 and 2004 and 1946 children in all other urban districts (control group). The sample size of treatment and control group over time is illustrated in Figure 1. The appendix provides an overview of the urban districts that experienced a change from a (by majority) leftist council to a (by majority) conservative council and shows the exact seat composition before and after these elections.

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<sup>5</sup> In some municipalities we find councilors of Republikaner and in Hamburg councilors of the Schill - Partei. We ranked their seats among the conservative block. Seats of the PDS and the party of the Dansih minority group in Schleswig Holstein were numbered among the leftist block.

<sup>6</sup> We did the same analysis for changes to a leftist majority without yielding significant results (probably due to less changes to a leftist majority and therefore only very few observations in the treatment group).

**Figure 1: Treatment Dates and the respective Sample Sizes over Time. ‘Elect.’ indicates the year of an election on municipal level with a change to a conservative majority in the municipal council of the Urban District.**

				Elect.				Elect.	Elect.		Elect.			Elect.		Elect.		Elect.				
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006		
Treatm. Group	after					4	2				1	5		15		16	16	3		1	63	
	before	3				6	2	2	4			11	4	7	6							43
Control Group	after					179	49			50	42	47	34	158		87	64	40	48	62	860	
	before	191	63			173	49	46	79	50		33	30	152	69	85	66					1086
																						2052

Table 1 presents sample means of relevant covariates. We included the parents’ highest school degree and household income as indicators of the family background of the children. The employment status of the mother is also an important factor that could determine Kindergarten attendance. For mothers working full-time it is more or less necessary to send their children to Kindergarten, whereas mothers who are at home could prefer to care their children at home. Moreover, kindergarten attendance in Germany differs systematically with the age of the children. The share of children attending Kindergarten is much higher at the age of five or six, i.e. in the two years before primary school starts. So we it is important to control for the age composition of our samples before and after treatment.

Obviously, time trends in the control group are fairly similar in the relevant observables before and after treatment. In the treatment group, the composition is somewhat different between the periods, certainly due to the small sample size within this group. However, as we control for these covariates there should be no bias in the results that can be attributed to the different composition of the before and after samples.

**Table 1: Sample Means of relevant Covariates (in %)**

	<b>Treatment Group</b>		<b>Control Group</b>	
	Before	After	Before	After
<b>Mothers' Education</b>				
Hauptschule	17.8	13.2	28	26.3
Realschule	31.1	27.9	21.7	24.3
Fachhochschulreife	0	4.4	4.3	4.6
Abitur	22.2	44.1	20.5	23.8
Other Degree	20	5.9	18.3	15.5
Without Degree	8.9	4.4	7.2	5.5
In Education	0	0	0	0
<b>Fathers' Education</b>				
Hauptschule	26.7	23.5	32.9	33.5
Realschule	11.1	16.2	16.5	15.9
Fachhochschulreife	15.6	8.8	6.9	8.7
Abitur	15.6	39.7	19.3	22.7
Other Degree	24.4	8.8	19.1	15.2
Without Degree	6.7	2.9	5.1	3.9
In Education	0	0	0.2	0
<b>Age</b>				
3	64.4	63.2	60.2	63.3
4	20	14.7	15.7	16.5
5	13.3	13.2	13.4	12.6
6	2.2	8.8	10.8	7.5
<b>Mother's Employment Status</b>				
Maternity Leave	8.9	5.9	3	4.8
Full-Time	8.9	10.3	11.9	11.3
Part-Time	26.7	29.4	18.5	19.8
In Education	0	0	0.5	0.3
Sporadically Employed	4.4	5.9	2.3	5.4
Not working	42.2	48.5	58.4	54.6

Table 2 presents results of probit and OLS estimations of equation (1).

**Table 2: Difference-in-Differences Estimation**

	Probit Estimation	OLS-Regression
Change to a Conservative Majority (difference-in-differences estimator)	-0.153 (0.071)**	-0.185 (0.087)**
Treatment-Dummy	0.106 (0.061)*	0.104 (0.056)**
Before/After-Dummy	0.01 (0.004)*	0.01 (0.004)
Mother with Abitur	0.106*** (0.035)	0.109*** (0.035)
Mother not working	-0.183** (0.085)	-0.193** (0.087)
Mother working sporadically	-0.164*** (0.054)	-0.197*** (0.068)
Household Income	-0.00002 (0.0008)	-0.000002 (0.00001)
Constant		1.005*** (0.096)
Observations	2052	2052
(Pseudo) R-squared	0.292	0.351

Dependent Variable: Dummy Variable whether child attends Kindergarten or not. All regressions include age-dummies and a full set of time-dummies. White heteroskedasticity-consistent standard errors in parenthesis, clustered at the district-level. The Probit Estimation reports average marginal effects. Significance levels: \*\*\* 1%, \*\* 5%, \* 10%.

Higher education of the parents has a significant positive effect on the probability of Kindergarten attendance: Children with a mother that passed the Abitur (Germany's highest secondary school degree) have a higher probability to be in Kindergarten than children with mothers who only visited Hauptschule (our reference category and the lowest secondary school degree in Germany). The fact that the mother does not work full-time has a negative effect (with full-time employment as reference category), whereas household income does not seem to be a predictor of ECE attendance. We were particularly interested in the difference-in-differences estimator showing the influence of the political leaning on ECE supply. Both the linear OLS regression and the probit regression show a significant negative influence of changes to a conservative majority in the municipal council on Kindergarten attendance. However, the probit estimation (with average marginal effects) is our model of choice: Living in an urban district with a conservative majority reduces an individuals' probability of attending kindergarten by 15 % on average. This result corroborates our assumption that conservative platforms have not been so sensitive to the cognitive and social importance of ECE for children during our period of interest. The fact, that the share of children attending kindergarten is quite higher in municipalities which are governed by conservative parties, simply reflects the different population characteristics compared to leftist governed municipalities (for example higher education of the parents and/or higher income). The pure

(conservative) policy effect, however, has a negative impact on the kindergarten attendance. We are aware that there is probably only a local compliance of kindergarten attendance with a policy change to a conservative majority. Most families won't decide about ECE attendance of their children subject to the consequences of a new policy in this area (for example higher fees). They will send their children to kindergarten anyway. Those who will probably comply are low-income families who need incentives by policy makers (low fees or other attractive features) to bring their children to kindergarten. So, in a second stage regression, treatment effects could probably only be shown for the disadvantaged children.

This, on the one hand, limits the validity of our study, on the other hand we know from other research that ECE is explicitly important for the group of disadvantaged children. So we could contribute to this literature with some German evidence.

## **6. Conclusion**

In our analysis we try to identify the influence of the political leaning of policymakers in Germany's urban districts on the kindergarten attendance in these areas.

We find that an electoral change from a leftist to a conservative governed urban district significantly reduces a child's probability of attending kindergarten. A shift of the seats from a majority of leftist parties to a majority of conservative parties coincides with a reduction of Kindergarten attendance. This result is interesting per se as it reveals the responsibility of policymakers to provide sufficient supply. Although the share of children between 3 and 6 years old who attend kindergarten is quite high, there are still children who do not take part in the ECE system. And these are mostly the children who, at the same time, do not get any stimulation at home in early childhood. So, improvements are especially important for disadvantaged children who do not have the respective household background or individual characteristics facilitating ECE attendance. Early cognitive and social stimulation is crucial for the future development and therefore, from an equity point of view, all children should benefit from it. One could imagine several supply-side drivers that could stimulate demand of these groups of children and it is a question of further research in this field to identify the politics that improve Kindergarten attendance. The ongoing considerable differences between the fees to be paid in Germany's municipalities for kindergarten attendance reveal one starting point that could help to open this black box.

More important, our regressions deliver a first stage estimation yielding more exogenous variation in ECE attendance that is not due to other covariates that both influence kindergarten attendance and economic and social outcomes (for example family background). From the US literature we know the considerable positive effects of ECE both for short and long term economic and social outcomes. Previous studies presenting effects of German kindergarten attendance had to deal with the problem of biased estimates. Using the variation in kindergarten attendance that is due to different political leaning of the decision makers, can limit this problem and can help to identify the causal relationship between kindergarten attendance and economic and social benefits. Therefore, in the long run with a larger time series of data, this first stage result can be used as valid instrument to study the effects of Kindergarten attendance on outcome variables like track choice, test scores or future earnings.

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## Appendix

### West-German Urban Districts by federal states

Schleswig-Holstein	Hamburg	Niedersachsen	Bremen	Nordrhein-Westfalen	Hessen	Rheinland-Pfalz	Baden-Württemberg	Bayern	Saarland	Berlin
Flensburg	Hamburg	Braunschweig	Bremen	Düsseldorf	Darmstadt	Koblenz	Stuttgart	Ingolstadt	Saarbrücken	Berlin
Kiel		Salzgitter	Bremerhaven	Duisburg	Frankfurt am Main	Trier	Heilbronn	München		
Lübeck		Wolfsburg		Essen	Offenbach am Main	Frankenthal	Baden-Baden	Rosenheim		
Neumünster		Delmenhorst		Krefeld	Wiesbaden	Kaiserslautern	Karlsruhe	Landshut		
		Emden		Mönchengladbach	Kassel	Landau i. d. Pfalz	Heidelberg	Passau		
		Oldenburg		Mülheim a. d. Ruhr		Ludwigshafen	Mannheim	Straubing		
		Osnabrück		Oberhausen		Mainz	Pforzheim	Amberg		
		Wilhelmshaven		Remscheid		Neustadt a. d. Weinstraße	Freiburg	Regensburg		
				Solingen		Pirmasens	Ulm	Weiden i. d. Oberpfalz		
				Wuppertal		Speyer		Bamberg		
				Aachen		Worms		Bayreuth		
				Bonn		Zweibrücken		Coburg		
				Köln				Hof		
				Leverkusen				Ansbach		
				Bottrop				Erlangen		
				Gelsenkirchen				Fürth		

Münster

Bielefeld

Bochum

Dortmund

Hagen

Hamm

Herne

Nürnberg

Schwabach

Aschaffenburg

Schweinfurt

Würzburg

Augsburg

Kaufbeuren

Kempten

Memmingen

**West-German Urban Districts with a change from a leftist to a conservative majority in the municipal council**

	Election Date						
	1989	1993	1994	1996	1999	2001	2003
Lübeck, Hansestadt, Kreisfreie Stadt							X
Neumünster, Kreisfreie Stadt							X
Hamburg						X	
Osnabrück, Kreisfreie Stadt				X			
Düsseldorf, Kreisfreie Stadt	X				X		
Essen, Kreisfreie Stadt					X		
Krefeld, Kreisfreie Stadt			X				
Remscheid, Kreisfreie Stadt					X		
Solingen, Kreisfreie Stadt					X		
Wuppertal, Kreisfreie Stadt					X		
Aachen, Kreisfreie Stadt					X		
Bonn, Kreisfreie Stadt					X		
Köln, Kreisfreie Stadt					X		
Leverkusen, Kreisfreie Stadt					X		
Münster, Kreisfreie Stadt					X		
Hagen, Kreisfreie Stadt					X		
Hamm, Kreisfreie Stadt					X		
Kassel, Kreisfreie Stadt		X					
Koblenz, Kreisfreie Stadt					X		
Frankenthal (Pfalz), Kreisfreie Stadt					X		
Kaiserslautern, Kreisfreie Stadt					X		
Mainz, Kreisfreie Stadt			X				
Neustadt an der Weinstraße, Kreisfreie Stadt			X				
Pirmasens, Kreisfreie Stadt					X		
Speyer, Kreisfreie Stadt					X		
Mannheim, Universitätsstadt, Kreisfreie Stadt					X		
Erlangen, Kreisfreie Stadt				X			
Nürnberg, Kreisfreie Stadt				X			
Schweinfurt, Kreisfreie Stadt				X			

## Change of the Seat Composition in the 29 urban districts with a change to a conservative majority in the municipal council

Urban District and year of election	Seat Composition before the electoral change						Leftist Surplus	Seat Composition after the electoral change						Conservative Surplus
	Conservative Block			Leftist Block				Conservative Block			Leftist Block			
	CDU/CSU	FDP	Extreme Right	SPD	Green Parties	Freie Wählergruppe		CDU/CSU	FDP	Extreme Right	SPD	Green Parties	PDS	
<b>1989</b>														
Düsseldorf	37	4		44	8		11	32	5	5	33	8		1
<b>1993</b>														
Kassel	21	5		36	9		19	28	6		22	11		1
<b>1994</b>														
Krefeld	26	3		25	5		1	30			23	6		1
Mainz	21	5		26	7		7	25	5		21	7		2
Neustadt	16	2		16	4	5	2	19	1		14	3	5	3
<b>1996</b>														
Osnabrück	21	3		21	6		3	22	6		21	2		5
Erlangen	20	3	1	21	4	1	1	23	2		18	4	2	3
Nürnberg	26	2	4	32	6		6	33	1		25	9		0*
Schweinfurt	16	1	2	23	2		6	21	1		16	2		4
<b>1999</b>														
Düsseldorf	35			37	11		13	40	4		29	6	2	7
Essen	30			44	9		23	40	2		29	7	2	4
Remscheid	23	3		29	4		7	27	3		19	2	3	9
Solingen	25	4		25	5		1	29	4		17	4		12
Wuppertal	29			30	8		9	31	3		25	4	2	3
Aachen	29			23	7		1	29	3		19	6	1	6
Bonn	31			26	10		5	33	4		18	7	1	11
Köln	33			42	16		25	43	4		29	15	2	1
Leverkusen	24			24	6	5	6	27	2		17	4	8	8
Münster	32			23	12		3	36	3		17	8	1	13
Hagen	23			31	5		13	27	3		23	3		4
Hamm	26			26	4	3	4	29	1		21	3	3	6
Koblenz	24	2		23	5	2	2	30	2		20	3	1	9
Frankenthal	15	1		18	3	5	5	22			17	2	3	3
Kaiserslautern	20	3		22	5	4	4	27	2		20	3		6
Pirmasens	14			19	4	7	9	22	1		16	2	3	5
Speyer	17	2		17	4	3	2	19	2	2	13	4	4	6
Mannheim	18	1		18	6	1	5	23	1		17	3	4	4
<b>2001</b>														
Hamburg	46			54	21		29	33	6	25	46	11		7
<b>2003</b>														
Lübeck	22			23	3	1	4	27	2		17	4		8
Neumünster	14			24	2	3	12	20	2		18	3		1

„Leftist Surplus” is the seat surplus of the leftist block before the elections, “conservative surplus” is the seat surplus of the conservative block after the election. Green Parties: Die Grünen, Grüne Wählergruppe, ÖDP. Extreme Right: Republikaner, Schill Partei (only in Hamburg). The “Freie Wählergruppe”, which does not act on a specific ideology, is considered as neutral (which is actually only an important assumption when the seats of these parties could be crucial for the formation of a majority).

\* In Nürnberg there is no conservative surplus after the election in 1996, however there was a change of from a socio-democratic to a conservative mayor in the same year and we consider this as a change to a conservative majority.