

Figures and tables to:

Markets and Municipalities

A study of the behaviour of the Danish municipalities

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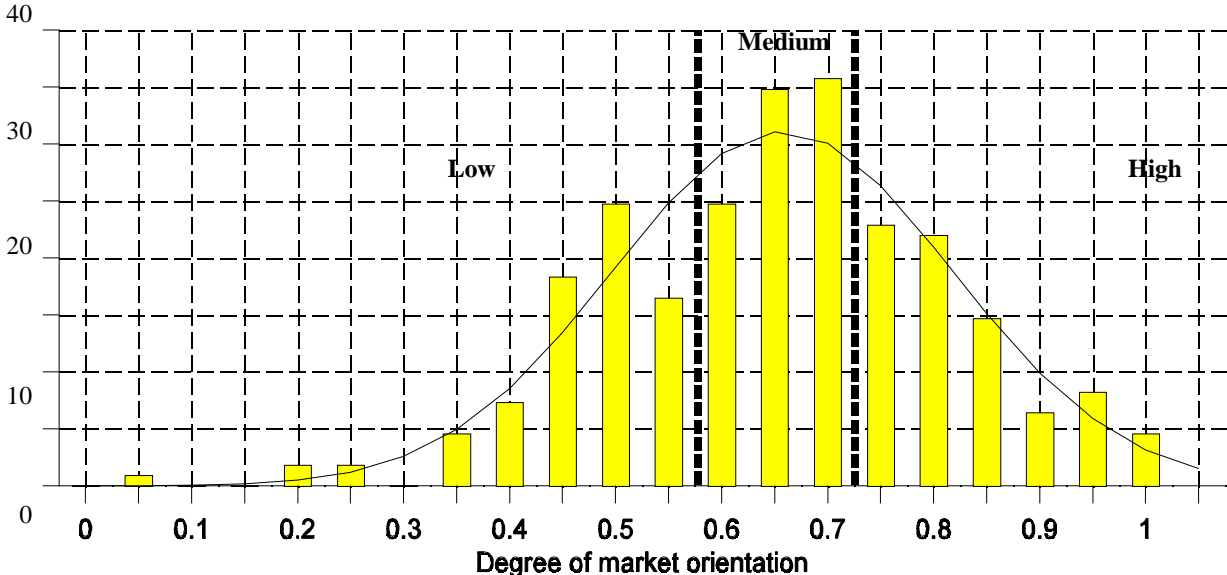
With the assistance of Laura Mørch Andersen, AKF

Table 1. The 12 tasks used to measure MO, the market orientation

Task:	Market orientation			No answer
	full	some	none	
1. Fire brigade Tenders or private production	176	3	93	0
2. Library book acquisition Municipal library gets non-standard price reduction	111	2	134	25
3. Library book binding Municipal library gets non-standard price reduction or producer is appointed after search for cheapest	93	2	137	40
4. Purchases of »normal« goods Municipality gets non-standard price reduction	48	189	9	26
5. Ordinary household refuse collection Tenders or private production	243	3	23	3
6. Special household refuse collection Tenders or private production	136	0	86	50
7. Collection of garden garbage from households Tenders or private production	114	0	89	69
8. School sweeping/cleaning Tenders or private production	83	12	174	3
9. Transport for the elderly and handicapped Tenders or private production	188	34	25	25
10. Ambulance service Tenders or private production	172	14	35	51
11. Transport of school children Tenders or private production	201	22	34	15
12. Transport of goods Tenders or private production	64	30	69	109

Note: Item 4: The purchase of stationary, office machines, food, ..., etc, covers goods sold in the shops as »ordinary« *private goods* as well. Item 11: The Danish school bus system covers only pupils living more than 3 km from the school, so it covers much fewer than in the US, and it is often done by taxi services.

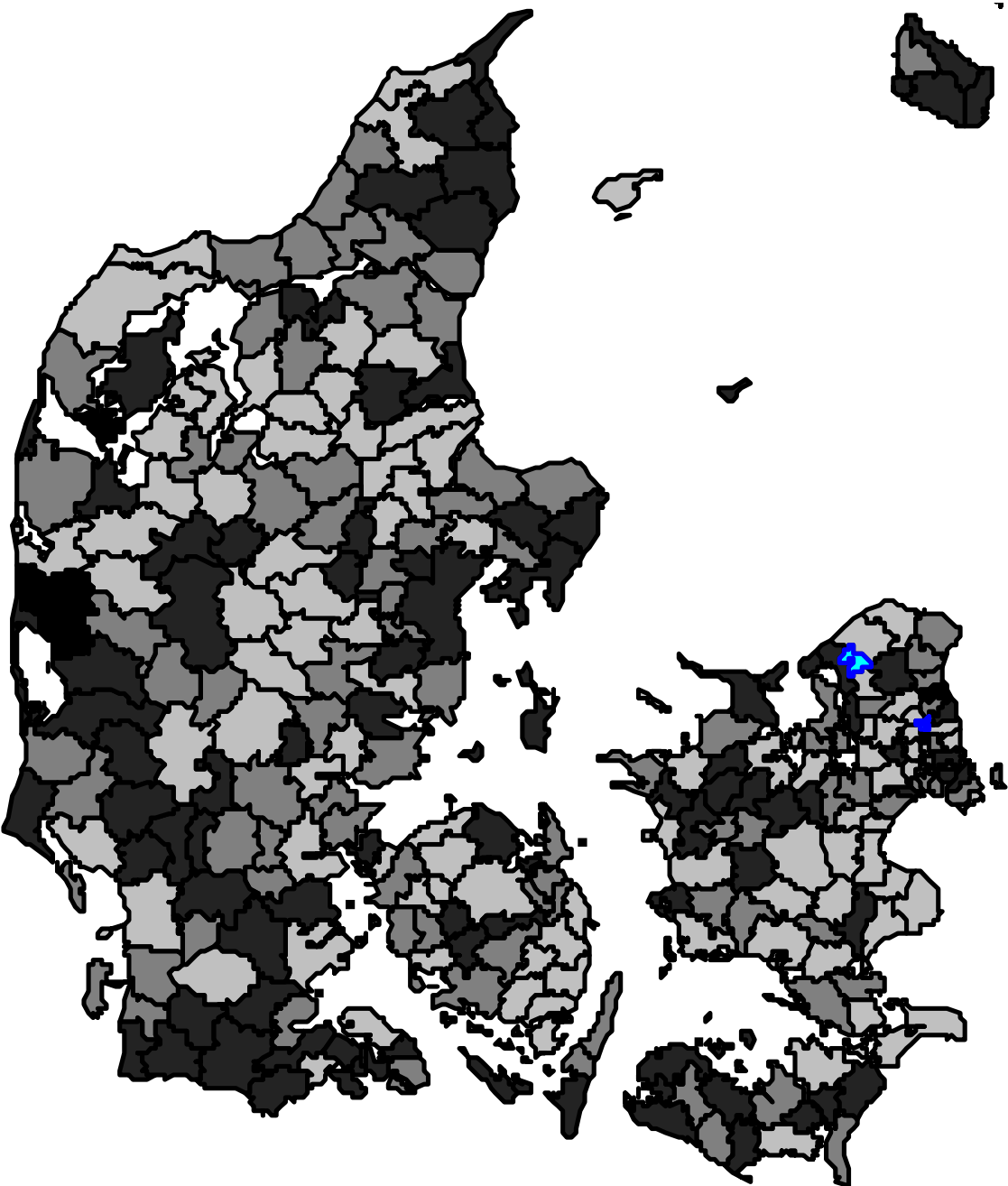
Figure 1. Frequency distribution of the MO-variable



Note: The horizontal axis give 5% intervals for the MO-variable. The vertical axis give the number of observations in each interval. The curve drawn shows a normal distribution with the same mean and standard deviation.

Figure 2. A map of Denmark showing the three categories:
From least to most market orientated municipalities.

■: Low MO ■: Medium MO ■: High MO ■: No answer



Note: The reader should compare with a more regular map to see the location of towns and rural areas. The Island of Bornholm has been moved from the Baltic into the Kattegat to keep the map reasonably compact. The three municipalities, who declined to answer, are Thyholm (purely rural), Ringkøbing (with a town and much tourism) and Hørsholm (a wealthy low tax suburb of Copenhagen).

Figure 3. Relationship between MO (market orientation) and Wal (welfare coalition)

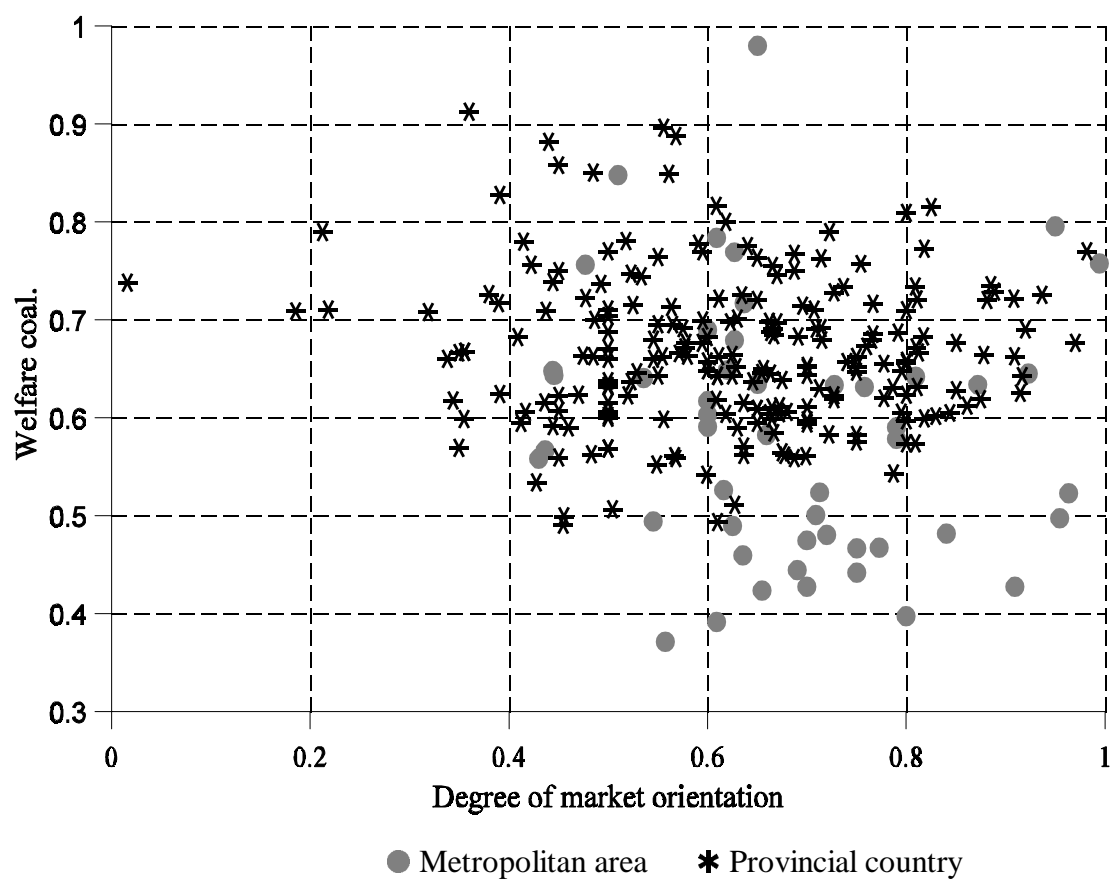


Table 2. The connection between the six hypotheses and the basic theory

Hypothesis	+ Cost savings (up)	- Political costs (down)	Success
H1: Modernization	Larger if markets are deeper		Yes
H2: Diffusion	Knowledge has to spread	Lower, if others do the same	Yes
H3: Inertia		Easier to do the same as before	No
H4: Political ideology		Low for Right, high for Left	No
H5: Welfare coalition		Higher the larger the fraction	Yes
H6: Pressures		Lower, if forced to do it	Yes

Table 3. Univariate results. The effect on the MO-variable of each of the 23 variables

MO-variable is influenced by:	Expected sign (Es)	Effect (in %) on MO-variable	P-value	Prediction		
				right	wrong	tie
H1 Modern vs traditional						
V1 Mtb	+	+0.31	4.36	52.6	45.5	1.9
V2 Mpr	-	-0.66	10.56	52.5	45.5	2.0
V3 Mpub	-	-0.50	9.89	51.1	45.9	3.0
V4 Mtra	+	-0.16	wrong	49.6	46.1	4.3
V5 Mpop	+	+6.97	1.71	55.8	42.8	1.3
V6 Murb	+	+0.12	22.35	49.5	46.8	3.7
H2 Diffusion channels						
V7 Dkm	-	-0.18	0.01	59.0	40.2	0.9
V8 Dnab	+	+0.31	0.12	56.0	38.5	5.4
H3 Inertia						
V9 Ilp	-	-0.42	42.04	37.0	36.9	26.1
V10 Ipp	-	-0.33	39.64	39.8	38.2	22.0
H4 Ideology						
V11 Pm	+	+2.30	32.93	24.9	22.8	52.4
V12 Ppm	+	+0.06	48.49	30.3	27.1	42.6
V13 Pco	+	+6.92	11.45	22.3	16.9	60.8
V14 Pmaj	+	+0.14	32.89	47.2	44.9	7.9
V15 Prw	+	+0.17	17.60	50.9	45.0	4.1
H5 Welfare coalition						
V16 Wpub	-	-0.53	12.78	50.8	45.7	3.5
V17 Wtra	-	-0.76	1.69	54.3	44.5	1.1
V18 Wal	-	-0.60	1.39	54.4	44.5	1.1
H6 Pressure						
V19 Rt	+	-1.41	wrong	48.2	46.2	5.6
V20 Rct	+	-6.05	wrong	50.6	42.5	6.9
V21 Rmo	-	-1.65	12.31	51.9	46.1	2.0
V22 Rcmo	-	+0.74	wrong	49.4	46.3	4.3
V23 Rpop	+	+3.68	0.06	59.9	39.4	0.7

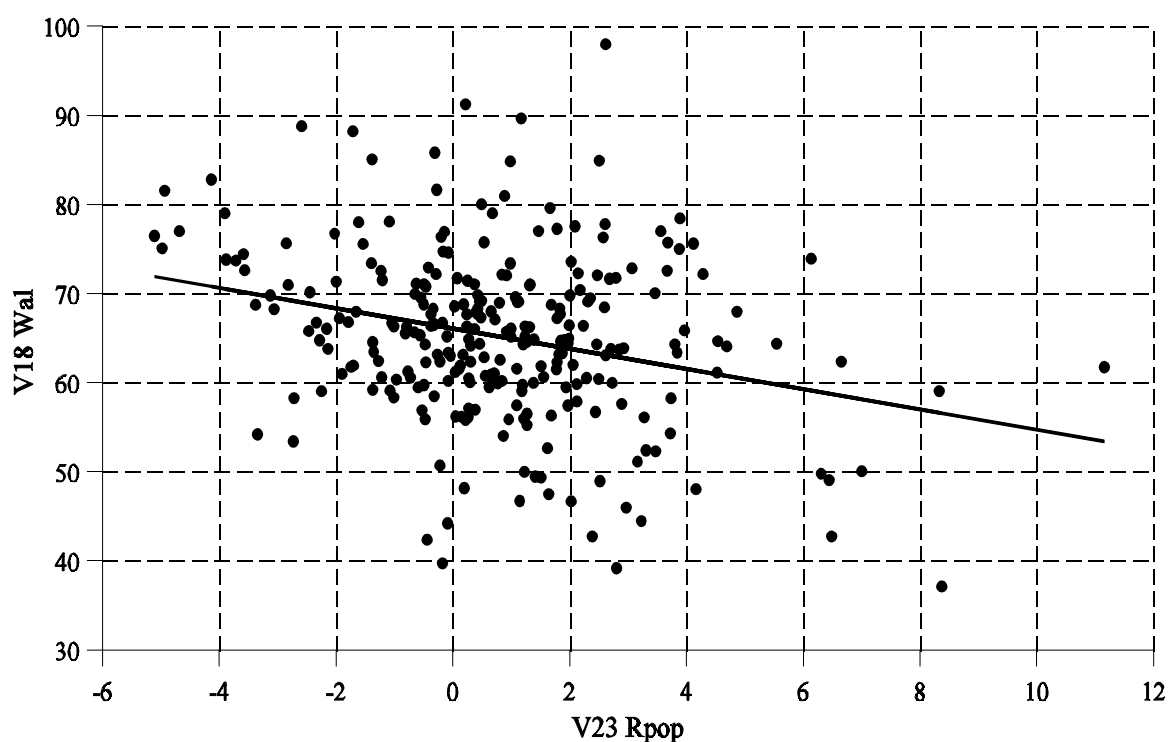
Note: Significant results at the 5%-level (in the one-sided test) in column three are bolded. Coefficients with wrong signs have p-values above 50% - we here write »wrong«. The program uses the term »concordant« for our »right« prediction and »discordant« for »wrong« prediction.

Table 4. Combining the explanations

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Effect	P-val.	Effect	P-val.	Effect	P-val.	Effect	P-val.	Effect	P-val.
V3 Mpub	-0.86	8.88					-1.09	0.86		
V5 Mpop	+5.05	10.75					+11.20	0.15	+7.5	1.34
V7 Dkm	-0.09	5.34	-0.14	0.23						
V8 Dnab	+0.18	6.69			+0.26	0.60			+0.23	1.39
V18 Wal	+0.08	43.17							-0.64	1.26
V23 Rpop	+2.22	4.77	+2.47	1.87	+3.19	0.28				
Right	62.2		61.6		62.2		59.5		61.3	
Wrong	37.3		37.8		37.32		39.7		38.2	
Tie	0.5		0.6		0.6		0.9		0.5	

Note: Defined as in Table 3.

Figure 4. Relationship between Wal (welfare coalition) and Rpop (change in population)



Note: The regression gives an R-square value of 0.06 and a significance probability of 0.01 percent.

Table 5. The metropolitan area (M) versus the provincial country (P)

The MO-variable is influenced by:	Effect (%) on MO-variable		P-value		Prediction (in percent)					
	M	P	M	P	right		wrong		tie	
					M	P	M	P	M	P
H1 Modern vs traditional										
V1 Mtb	+0.23	-0.29	27.36	wrong	52.5	50.0	44.6	47.1	2.9	2.8
V2 Mpr	+5.91	-0.09	wrong	44.54	58.2	43.5	40.5	42.8	1.3	13.7
V3 Mpub	-0.60	-0.69	19.58	7.38	56.5	51.0	40.7	46.8	2.8	2.2
V4 Mtra	+1.88	+0.33	16.74	19.14	57.7	50.8	41.1	47.0	1.2	1.3
V5 Mpop	-7.97	+7.87	wrong	2.13	53.0	54.7	44.8	44.1	2.1	1.2
V6 Murb	-0.79	-0.05	wrong	wrong	40.1	48.0	30.2	44.3	29.8	7.7
H2 Diffusion channels										
V7 Dkm	+0.04	-0.16	wrong	0.19	46.8	58.6	43.0	40.6	10.2	0.8
V8 Dnab	+0.02	+0.30	47.03	0.61	37.7	56.2	40.3	38.8	22.0	5.0
H3 Inertia										
V9 Ilp	+1.04	-1.78	wrong	23.28	41.9	37.1	27.8	35.2	20.2	27.7
V10 Ipp	-1.35	-0.74	32.96	29.59	38.5	41.0	32.8	38.0	28.7	21.0
H4 Ideology										
V11 Pm	+14.87	+1.03	13.44	42.66	31.9	24.0	18.5	23.0	49.6	52.9
V12 Ppm	+6.75	+0.33	8.59	42.61	41.4	33.7	24.7	32.1	33.9	34.2
V13 Pco	+17.40	+7.31	10.28	12.69	32.3	20.8	17.1	15.5	50.7	63.7
V14 Pmaj	+0.71	+0.04	18.23	46.90	53.6	36.2	39.7	37.4	6.7	26.5
V15 Prw	+0.57	+0.15	9.53	22.48	58.3	50.1	37.7	45.8	4.0	4.0
H5 Welfare coalition										
V16 Wpub	-0.73	-0.81	20.24	8.28	55.6	51.0	41.0	46.6	3.4	2.4
V17 Wtra	-1.66	-0.04	3.14	46.62	64.0	39.6	35.4	37.4	0.5	23.0
V18 Wal	-0.83	-0.29	5.68	20.68	61.4	50.4	37.4	47.3	1.2	2.3
H6 Pressure										
V19 Rt	-5.71	+1.86	wrong	23.67	60.3	50.7	36.4	46.0	3.3	3.3
V20 Rct	+10.91	-11.06	11.73	wrong	55.2	53.3	41.5	39.0	3.3	7.7
V21 Rmo	+0.71	-1.92	wrong	11.15	47.1	52.0	47.2	46.3	5.7	1.6
V22 Remo	-3.07	+2.23	17.55	5.53	56.1	54.6	41.9	44.1	2.0	1.3
V23 Rpop	-0.62	+4.58	40.21	0.05	48.8	60.9	45.6	38.5	5.6	0.6

Notes: See Table 3.

Table 6. Some specific general and neighbour effect

Area of specific market orientation	Effect (%) on MO-variable	P-value in t-test	Prediction in percent		
			right	wrong	tie
Specific degree of market orientation explained by (same) specific degree of market orientation in neighbour municipalities					
Fire brigade	+ 1.72	0.01	75.5	17.3	7.1
Library book acquisition	-0.31	wrong	49.6	40.4	10.0
Library book binding	-0.10	wrong	45.4	43.3	11.3
Purchases of »normal« goods	+0.04	36.55	45.8	42.7	11.5
Ordinary household refuse collection	+ 0.40	0.05	54.1	16.9	29.0
Special household refuse collection	+0.25	11.35	49.9	38.9	11.2
Collection of garden garb. from househ.	+ 0.43	2.28	52.3	37.0	10.7
School sweeping/cleaning	+ 0.65	0.11	54.9	32.4	12.7
Transp. for the elderly and handicapped	+0.15	15.63	42.4	37.0	20.6
Ambulance service	-0.25	wrong	44.5	26.5	29.1
Transport of school children	+ 0.50	0.14	55.0	25.9	19.2
Transport of goods	+0.07	28.59	46.6	44.4	8.9
Specific degree of market orientation explained by general degree of market orientation in neighbour municipalities					
Fire brigade	+ 0.44	0.01	59.8	35.0	5.1
Library book acquisition	-0.04	wrong	47.2	45.7	7.1
Library book binding	+ 0.25	3.14	54.6	39.9	5.5
Purchases of »normal« goods	+0.08	22.06	50.5	43.8	5.7
Ordinary household refuse collection	+ 0.12	3.40	60.0	35.0	4.9
Special household refuse collection	+0.07	30.88	48.9	45.2	5.9
Collection of garden garb. from househ.	+0.19	10.73	52.1	42.3	5.6
School sweeping/cleaning	-0.05	wrong	47.6	45.8	6.6
Transp. for the elderly and handicapped	+0.11	14.75	51.1	42.5	6.3
Ambulance service	-0.10	wrong	52.1	42.4	5.5
Transport of school children	+ 0.19	2.91	56.4	38.9	4.7
Transport of goods	+0.06	34.55	46.7	47.3	6.1

Notes: See Table 3.

Appendix Table: The 23 variables

	Name	Definition	Unit	ES
H1	Mtb	tax base. Average net income per capita, defined by the tax law as the municipal tax base - within wide limits the municipality can decide the level a proportional income tax on that base	1000 kr	plus
	Mpr	share of agriculture and fishing in total employment	pp	minus
	Mpub	share of public sector in total employment	pp	minus
	Mtra	share of tradables sector in total employment. »Tradables« are goods competing with goods produces abroad.	pp	plus
	Mpop	logarithm (natural) of 1995 population size	ln(pop)	plus
	Murb	urbanization. Share of population living in towns, as per zoning laws	pp	plus
H2	Dkm	distance to major city, in kilometres	km	minus
	Dnab	average MO-variable in neighbouring municipalities	pp	plus
H3	Ilp	the number of election periods (lasting 4 years) the present lord mayor has ruled. The poll was made toward the end of an election period. It is thus period one. The data goes back to the municipal reform 1973	Integer	minus
	Ipp	the number of election periods the same party has provided the lord mayor. Calculated as Ilp. Note that: $Ipp \geq Ilp$	Integer	minus
H4	Pm	political party of mayor on left/right scale	binary	plus
	Ppm	political party of mayor on 6-point scale	6 points	plus
	Pco	the left/right orientation of the majority in the municipal council	binary	plus
	Pmaj	the relative size of the majority	pp	plus
	Prw	the proportion of seats held by right wing politicians	pp	plus
H5	Wpub	public sector employees as share of voters, that is in population above 17 (note that Mpub and Wpub only differ as to denominator)	pp	minus
	Wtra	share voters receiving main income from public transfers - at least for a part of the year	pp	minus
	Wal	sum of two previous variables V16 + V17	pp	minus
H6	Rt	level of the municipal tax rate 1995	pp	plus
	Ret	change in municipal tax level	pp	plus
	Rmo	monetary assets per capita	1000 kr	minus
	Rcmo	change in municipal per capita cash-holdings, 1990-95	1000 kr	minus
	Rpop	relative net change in population size,	pp	plus

Notes: »Es +« means that the expected sign is positive, that is $\partial MO/\partial Mtb > 0$.