

Appendix A - Overview of Parties

Swedish	English	Abbr.
Centerpartiet	Centre Party	C
Kristdemokraterna*	Christian Democrats	KD
Liberalerna†	The Liberals	L
Moderata samlingspartiet	Moderate Party	M
Miljöpartiet de Gröna	Green Party	MP
Ny Demokrati	New Democracy	NYD
Sveriges socialdemokratiska arbetareparti	Swedish Social Democratic Workers' Party	S
Sverigedemokraterna	Sweden Democrats	SD
Vänsterpartiet‡	Left Party	V

* Till 1996: Kristen demokratisk samling

† Till 2015: Folkpartiet liberalerna

‡ Till 1990: Vänsterpartiet Kommunisterna

Table A1: Overview of the various parties, with their name in Swedish, most common English translation and abbreviation

Appendix B - Overview of Committees

Swedish	English (Committee on...)	Abbr.	Period
Arbetsmarknadsutskottet	Labour Market	AU	1975–2015
Bostadsutskottet	Housing	BoU	1971–2006
Civilutskottet	Civil Affairs	CU	2006–2015
Finansutskottet	Finance	FiU	1971–2015
Försvarsutskottet	Defence	FÖU	1971–2015
Inrikesutskottet	Internal Affairs	InU	1971–1975
Jordbruksutskottet	Agriculture	JoU	1971–1999
Justitieutskottet	Justice	JuU	1971–2015
Konstitutionsutskottet	Constitution	KU	1971–2015
Kulturutskottet	Cultural Affairs	KrU	1971–2015
Lagutskottet	Civil Law	LU	1971–2006
Miljö- och jordbruksutskottet	Environment and Agriculture	MJU	1999–2015
Näringsutskottet	Industry and Trade	NU	1971–2015
Skatteutskottet	Taxation	SkU	1971–2015
Socialförsäkringsutskottet	Social Insurance	SfU	1971–2015
Socialutskottet	Health and Welfare	SoU	1971–2015
Trafikutskottet	Transport and Communications	TU	1971–2015
Utbildningsutskottet	Education	UbU	1971–2015
Utrikesutskottet	Foreign Affairs	UU	1971–2015

Table A2: Overview of the Committees and their period of inclusion

Appendix C - Number of Motions per Party per Year

Year	V	MP	S	C	L	M	KD	SD	NYD	Total
1971	132	—	301	649	577	526	—	—	—	2185
1972	164	—	293	660	718	567	—	—	—	2402
1973	212	—	350	694	796	633	—	—	—	2685
1974	209	—	283	769	570	618	—	—	—	2449
1975	489	—	750	1814	1235	1396	—	—	—	5684
1976	274	—	624	334	268	337	—	—	—	1837
1977	347	—	727	431	336	397	—	—	—	2238
1978	425	—	809	841	211	739	—	—	—	3025
1979	356	—	636	487	295	528	—	—	—	2302
1980	374	—	711	556	324	523	—	—	—	2488
1981	384	—	753	552	373	777	—	—	—	2839
1982	299	—	573	690	373	737	—	—	—	2672
1983	402	—	584	857	502	914	—	—	—	3259
1984	368	—	648	1009	541	962	—	—	—	3528
1985	392	—	659	938	744	917	—	—	—	3650
1986	404	—	695	1043	866	968	—	—	—	3976
1987	355	—	761	1089	919	988	—	—	—	4113
1988	462	535	873	1036	943	1001	—	—	—	4850
1989	475	595	940	1175	1021	1144	—	—	—	5350
1990	491	653	1009	1128	949	1152	—	—	—	5382
1991	299	—	1095	456	489	514	260	—	271	3384
1992	302	—	1325	541	591	535	421	—	338	4053
1993	335	—	1137	451	509	450	308	—	209	3400
1994	290	351	841	473	418	635	297	—	—	3305
1995	82	101	91	92	124	181	65	—	—	736
1996	294	373	714	451	448	728	295	—	—	3303
1997	346	428	792	509	461	838	358	—	—	3732
1998	267	251	627	285	265	702	381	—	—	2778
1999	300	266	763	444	348	916	540	—	—	3577
2000	322	241	947	479	359	1120	622	—	—	4090
2001	385	309	957	481	379	1299	807	—	—	4617
2002	344	253	1055	498	385	703	538	—	—	3776
2003	266	276	1056	584	607	890	716	—	—	4395
2004	316	266	1095	637	655	927	732	—	—	4628
2005	347	276	1239	731	799	1011	921	—	—	5324
2006	313	197	1042	233	300	444	218	—	—	2747
2007	316	299	1489	274	363	824	257	—	—	3822
2008	262	323	1623	259	393	1068	319	—	—	4247
2009	273	343	1588	314	407	1021	408	—	—	4354
2010	179	266	1279	193	252	902	338	72	—	3481
2011	197	267	1118	177	270	765	300	315	—	3409
2012	182	341	1204	184	238	713	255	401	—	3518
2013	287	446	1543	205	242	889	266	552	—	4430
2014	72	84	625	322	247	1085	322	477	—	3234
2015	86	116	558	352	279	1285	265	581	—	3522
Total	13,676	7,856	38,782	26,377	22,389	36,269	10,209	2,398	818	158,774

Table A3: Number of motions per Party, per Year. Note that the total number of motions is higher given that in this Table a motion were counted based on party authorship. Thus, if a motion had two authors, it is counted double.

Appendix D - Correlated Topic Model

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
primärvården socialgifter konsumenten detaljer högskola lastas gift vit partnerskap	drivmedel israel sambällsplaneringen befogenhet taiwans inora enprocentsmålet ersättning kristna	funktion vindkraftverk handikappades uppvärdena utsläppen spelberoende planerats skogslänen biologiskt	grundskolan tydlighet tekoindustrin förvärsarbete straffskalan miljöbalken lars-ove sre sammansblandning	entreprenörskap skogsnäringen toc brandvarnare behöver_stöd miljöövervakning materialet skick social_dumpning	rapport bilar mälaren försäkringsbolagen grundlagen alkoholens våldsbrott
Topic 7	Topic 8	Topic 9	Topic 10	Topic 11	Topic 12
bestå punkten asylsökandes malmöregionen tillkännager enskilda_företag arbetslivserfarenhet solenergi investeringsstöd	generösa introduktionen riksdagsbeslutet förelämn merkostnader visar fisket anställa anser_emellertid	kontakt pojkar turkiet utifrån försvarsmaktens domstolen rapportera grisar bp	årskurs inlandsbanan älvar legitimation klyftor ssab sjukdomar strategier livskvalitet	köp arbetsgivargifter stadigt institutet ätsörmingar begränsningar krigsmaterielexporten blinda rovdjur	katter mening bostadsrätter bly hässleholm fakultet dagspressen västerås värdefull
Topic 13	Topic 14	Topic 15	Topic 16	Topic 17	Topic 18
glasögon lokal_nivå asylsökande finansierar eksjö studiehjälp fastighetsägaren omlokalisering perspektiv	religiösa marken kyrkan sexualbrott vare japan sverige erkännande grovt	transportstödet talerätt införande utbildningsbakgrund båttregister flexiblare konventets dalthalla fiskevård	vattenfall sas folkpartiet liberalerna nästan eu-länderna europarådets livstid dödshjälp progressiv	sammansboende trafikpolitiska rollen relaterat företagshälsovård väsentligen nationalpark östergötlands_län tuberkulos	döva svt transpersoner tillkomsten vägras världssamfundet utvecklingsamarbete colombia stämmor

Table A4: First 10 FREX terms for the 18-topic CTM model

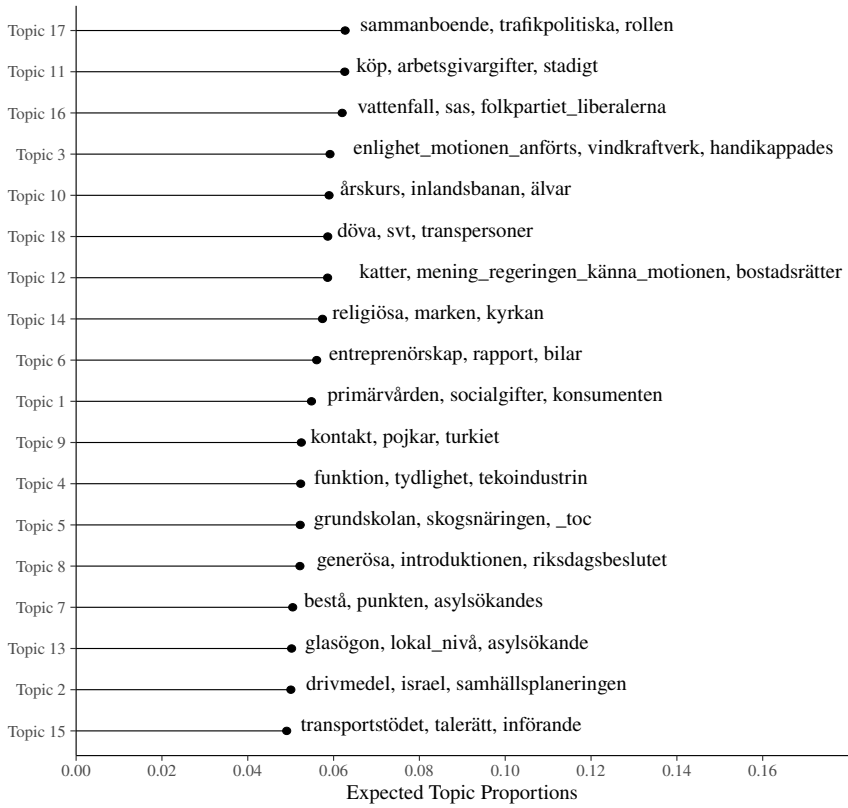


Fig. A1: Prevalence of each of the 18 topics for the Correlated Topic Model

Appendix E - Tokens and Features

Year	Pre-Cleaning						Post-Cleaning	
	Sents.	Tokens	Types	Punct.	Numbers	Symbols	Tokens	Types
1971	40	865	376	90	29	0.17	298	229
1972	41	891	380	92	30	0.17	308	233
1973	43	909	380	94	31	0.32	312	234
1974	39	827	357	87	29	0.16	282	215
1975	37	813	344	87	31	0.18	274	205
1976	39	864	354	95	35	0.32	291	214
1977	38	839	351	91	34	0.24	278	210
1978	44	979	376	106	39	0.27	328	234
1979	37	797	337	88	30	0.16	264	199
1980	41	892	362	98	34	0.25	296	220
1981	44	937	360	104	37	0.21	311	222
1982	39	820	340	91	32	0.21	272	205
1983	40	847	349	93	33	0.25	280	210
1984	40	822	340	90	32	0.24	271	205
1985	40	839	344	93	28	0.16	277	208
1986	41	840	342	91	27	0.19	278	208
1987	44	916	355	97	28	0.23	302	221
1988	40	940	337	93	30	0.22	300	207
1989	44	1025	356	102	33	0.15	325	222
1990	42	1019	351	102	25	0.06	328	224
1991	37	886	334	90	23	0.13	286	204
1992	38	915	339	91	23	0.08	294	207
1993	44	1041	367	102	27	0.10	334	232
1994	49	1193	402	114	29	0.12	384	263
1995	50	1570	501	128	31	0.04	519	346
1996	42	1321	451	110	29	0.35	434	301
1997	58	1432	464	119	35	0.32	473	317
1998	44	1344	455	113	28	0.36	442	306
1999	41	1258	430	107	23	4.83	411	287
2000	45	1184	406	97	19	0.32	392	269
2001	58	1210	413	106	30	0.65	406	278
2002	57	1203	406	106	30	2.97	400	272
2003	57	1220	410	106	30	0.17	408	277
2004	53	1137	390	103	24	0.23	382	258
2005	58	1210	402	101	22	0.25	410	274
2006	41	899	329	78	20	0.06	295	204
2007	40	884	324	75	19	0.05	289	201
2008	41	909	320	78	20	0.08	299	201
2009	39	854	311	73	18	0.06	279	192
2010	31	699	279	60	14	0.14	226	163
2011	37	832	304	70	18	1.04	271	186
2012	39	879	315	77	20	1.42	285	195
2013	42	942	326	80	21	0.93	307	205
2014	32	742	281	65	16	0.74	242	169
2015	40	915	313	78	23	0.79	297	198

Table A5: Mean number of Sentences, Tokens, Types (Unique Tokens), Punctuation, Numbers and Symbols per Year. Note that the Post-Cleaning only has Tokens and Types as Numbers, Symbols and Punctuation has been removed (and therefore also the sentences)

Appendix F - Clustering

To find the overall themes for our topics, we will perform a hierarchical clustering on the θ matrix given by the STM package, which gives, for each document, the prevalence for each of the thirty topics. After taking the logarithmic version of this matrix to standardise it, we run a hierarchical clustering method using the **fastcluster** package (Müllner, 2013). We then plot this, resulting in Figure 4 in our paper.

Given that we are using a hierarchical clustering method, the final number of clusters is decided by where we choose to “cut” the tree. This process, as Theodoridis and Koutroumbas (2008) notices, is at its heart a *subjective* process. In other words, there is no single, correct clustering of our data. Yet, while noting that the final decision on the clustering “will be influenced by the expert’s knowledge” Theodoridis and Koutroumbas (2008, p.597), they do provide several indices that can help the expert to take that decision.

Here, we will use the **NbClust** (Charrad et al., 2014) package to provide these criteria. As for the procedure, we will again use the logarithmic version of the θ matrix. Table A6 shows the results of this analysis for 18 of the indices provided by the package. For each, the associated value index and the suggested number of clusters is given. From Table A6, we can see that the suggested number of clusters varies widely. Yet, apart from several indices suggesting a relatively high number of clusters, most suggest anything between 2 and 4 clusters. Looking at Figure 4 though, either combination would lead to a grouping that would be broader than we would wish for.

Index	# Clusters	Value Index
Cubic Clustering Criterion	2	171.95
Calinski and Harabasz	2	2802.62
C Index	22	0.34
Davies and Bouldin	2	2.28
Dunn	23	0.06
Frey	2	1.29
Friedman	13	26.94
Hartigan	4	371.46
Krzanowski and Lai	2	3.21
McClain	2	0.79
PT Biserial	2	0.41
Ratkowsky	4	0.21
Rubin	4	-0.26
Scott	3	7472.40
SD BW	29	0.53
SD	13	0.42
Silhouette	2	0.16
Trace W	4	47434.54

Table A6: Values for optimal clustering calculated with the **NbClust** package. See for a full explanation and derivation of the criteria Charrad et al. (2014)

As an alternative, we can also look at two graphical indices proposed by Duda and Hart (1973), also given by **NbClust**: the Duda and Pseudo T^2 indices, with especially the latter focusing on hierarchical clustering. These two indices are related

and are often used by looking for the largest values for the largest value on the Duda Index that corresponds to the lowest Pseudo- T^2 value. Figure A2 shows this.

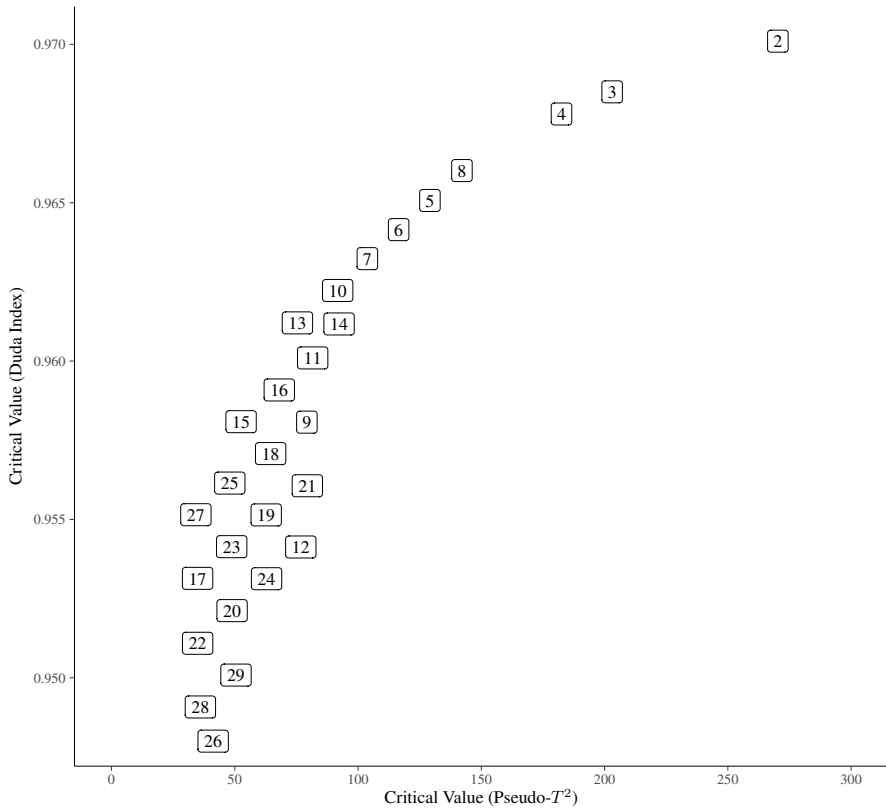


Fig. A2: Pseudo T^2 values against Duda-values, following Duda and Hart (1973)

Looking at Figure A2, we find that the combination lowest-highest occurs at the outer edge of a hypothetical line we can draw through the cluster numbers, which is here between 10 and 14. Applying this to the Figure 4 would lead us to cut the tree at at height of around 1300. This would lead to 10 clusters that on closer inspection make sense qualitatively, as Theodoridis and Koutroumbas (2008) advice. As a final step, we reduce the number of clusters one final time, and combine the two “Protocol” clusters, as these have more to do with artifacts related to the text than the actual content of the motions themselves.

Appendix G - Topics per Committee

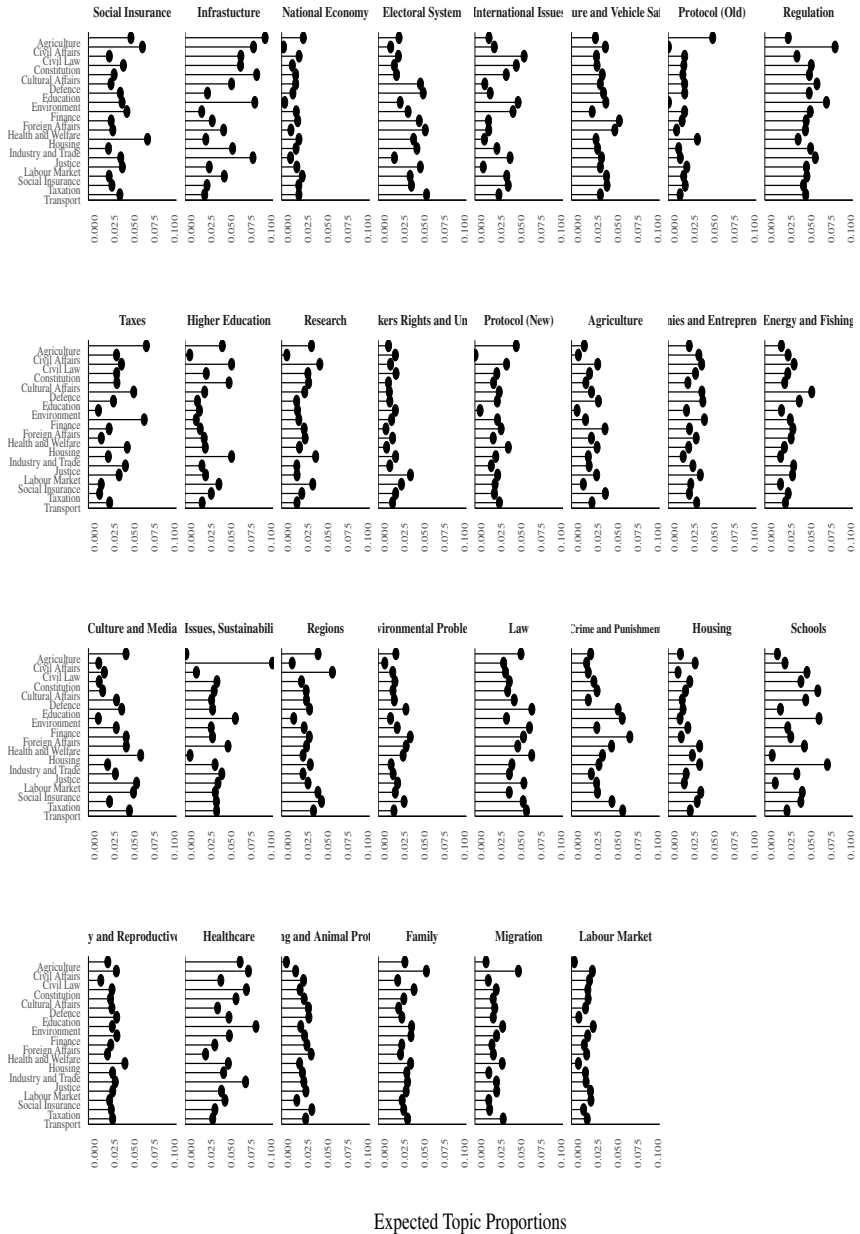


Fig. A3: Prevalence Effects per Committee for each of the 30 Topics

References

- Charrad, M., N. Ghazzali, V. Boiteau, and A. Niknafs. 2014. NbClust: An R Package for Determining the Relevant Number of Clusters in a Data Set. *Journal of Statistical Software* 61(6): 1–36. <https://doi.org/10.18637/jss.v061.i06> .
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