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*Research article*

**The informative value of central banks talks: a topic model application to sentiment analysis**

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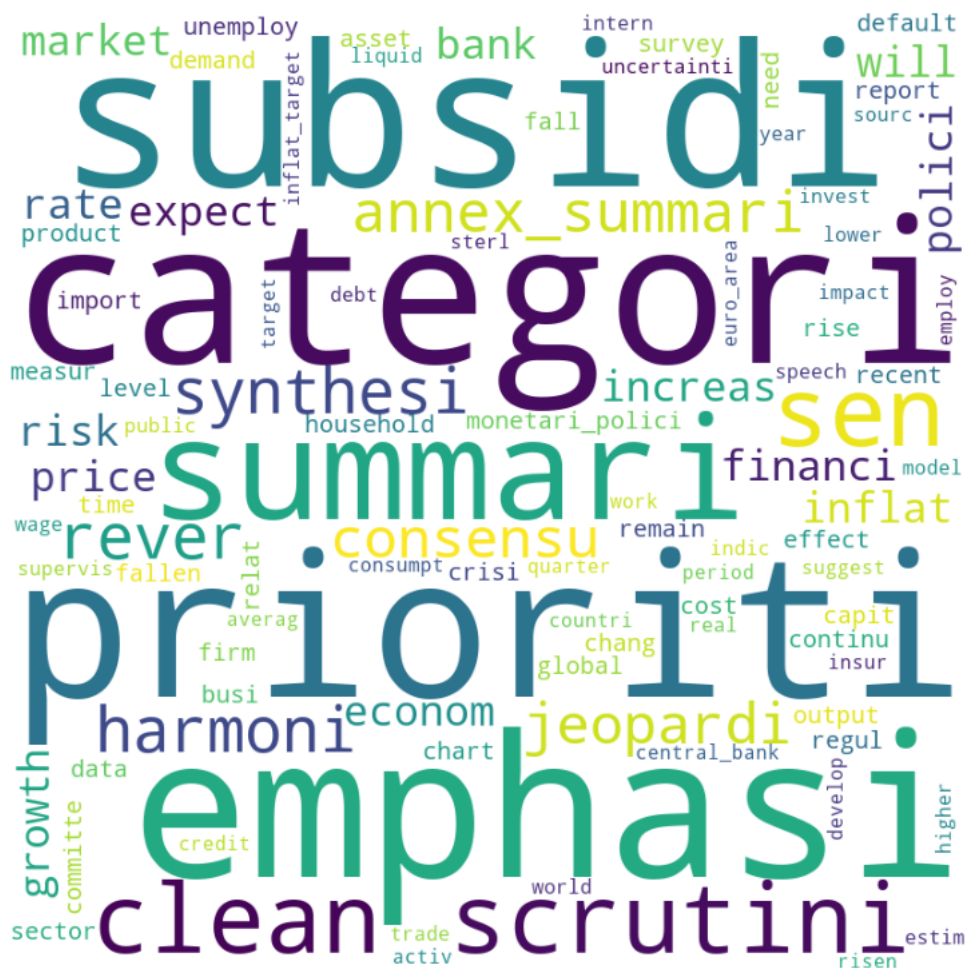
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**Supplementary**

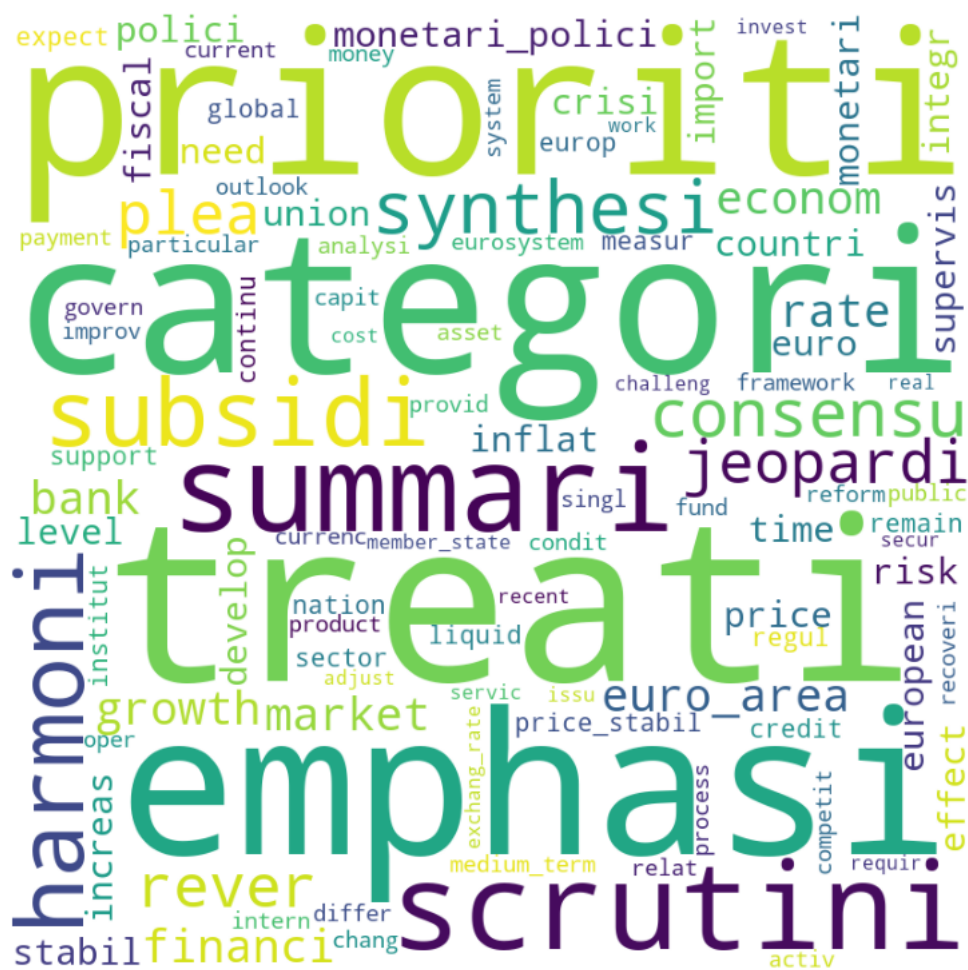
**Appendix**





**Figure A2.** BoE word cloud.

A larger font indicates that a term is used with a higher frequency in its respective text corpus.



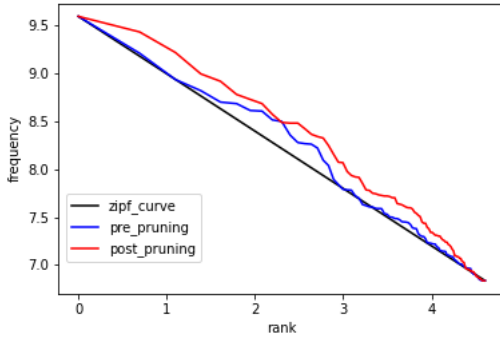
**Figure A3.** ECB word cloud.

A larger font indicates that a term is used with a higher frequency in its respective text corpus.

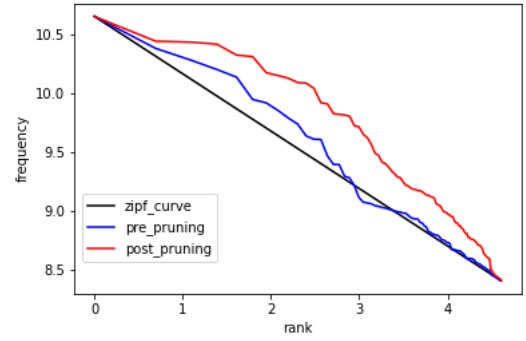


**Figure A4.** Fed word cloud.

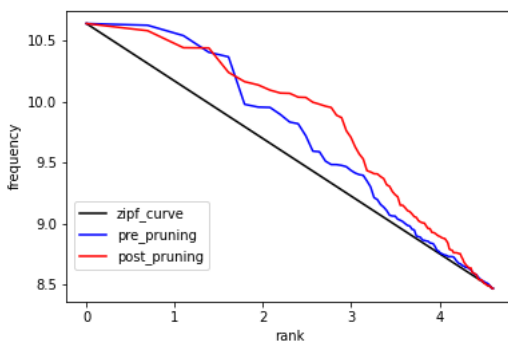
A larger font indicates that a term is used with a higher frequency in its respective text corpus.



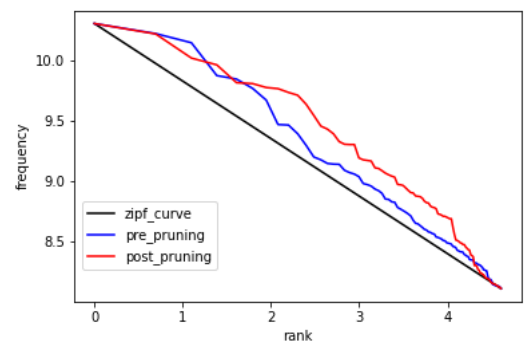
**Figure A5.** BoC Zipf curve.



**Figure A6.** BoE Zipf curve.



**Figure A7.** ECB Zipf curve.



**Figure A8.** Fed Zipf curve.

**Table A1.** BoC descriptive statistics of CBSI weighted and its sub-indicators.

<b>BOC</b>	<b>avg</b>	<b>med</b>	<b>std</b>	<b>obs</b>	<b>cor</b>	<b>max</b>	<b>min</b>
CBSIw	-0.18	-0.19	0.19	1007	1.00	0.47	-0.61
CLIMATE	0.20	0.20	0.35	2	-1.00	0.56	-0.15
FIS_POL	0.29	0.29	0.10	6	1.00	0.39	0.19
INNOVAT	-0.04	-0.07	0.19	28	0.44	0.43	-0.36
INT_AFF	-0.22	-0.23	0.23	102	0.69	0.30	-0.60
MACPRUD	-0.23	-0.27	0.26	182	0.83	0.64	-0.72
MISCELL	0.19	0.08	0.16	3	0.35	0.41	0.07
MON_POL	-0.19	-0.20	0.20	668	0.82	0.33	-0.80
PAYSECS	0.00	-0.04	0.28	16	0.87	0.37	-0.47

**Table A2.** BoE descriptive statistics of CBSI weighted and its sub-indicators.

<b>BOE</b>	<b>avg</b>	<b>med</b>	<b>std</b>	<b>obs</b>	<b>cor</b>	<b>max</b>	<b>min</b>
CBSIw	-0.30	-0.31	0.11	1319	1.00	0.04	-0.62
MACPRUD	-0.33	-0.34	0.15	403	0.69	0.22	-0.62
INT_AFF	-0.28	-0.29	0.18	50	0.53	0.15	-0.59
MON_POL	-0.32	-0.32	0.12	788	0.84	0.08	-0.62
MISCELL	-0.12	-0.14	0.20	8	0.52	0.20	-0.35
PAYSECS	-0.07	-0.05	0.19	70	0.75	0.20	-0.51

**Table A3.** ECB descriptive statistics of CBSI weighted and its sub-indicators.

<b>ECB</b>	<b>avg</b>	<b>med</b>	<b>std</b>	<b>obs</b>	<b>cor</b>	<b>max</b>	<b>min</b>
CBSIw	-0.01	-0.03	0.17	2306	0.98	0.40	-0.47
CLIMATE	-0.24	-0.30	0.14	9	-0.20	0.02	-0.39
EMU_AFF	0.17	0.18	0.19	151	0.30	0.67	-0.42
FINTEGR	0.31	0.33	0.19	140	0.19	0.77	-0.25
MACPRUD	-0.10	-0.11	0.20	414	0.42	0.54	-0.59
FIS_POL	0.06	0.02	0.27	4	0.93	0.43	-0.25
INNOVAT	0.17	0.15	0.20	43	0.56	0.71	-0.29
INT_AFF	0.02	0.03	0.22	80	0.67	0.46	-0.43
MON_POL	-0.06	-0.07	0.18	1345	0.85	0.39	-0.47
MISCELL	0.16	0.15	0.30	5	0.89	0.56	-0.21
PAYSECS	0.26	0.22	0.24	115	0.36	0.88	-0.37

**Table A4.** Fed descriptive statistics of CBSI weighted and its sub-indicators.

FED	avg	med	std	obs	cor	max	min
CBSIw	-0.22	-0.23	0.12	1505	1.00	0.12	-0.47
CONSCOM	-0.12	-0.13	0.24	225	0.71	0.56	-0.76
INNOVAT	-0.05	-0.09	0.20	45	0.31	0.42	-0.50
INT_AFF	-0.15	-0.18	0.16	67	0.38	0.21	-0.57
MACPRUD	-0.24	-0.26	0.17	446	0.67	0.26	-0.65
MISCELL	-0.06	-0.06	0.00	1	n.a.	-0.06	-0.06
MON_POL	-0.24	-0.26	0.16	686	0.69	0.34	-0.65
PAYSECS	-0.06	-0.07	0.18	35	0.33	0.38	-0.49
MON_POL	-0.06	-0.07	0.18	1345	0.85	0.39	-0.47
MISCELL	0.16	0.15	0.30	5	0.89	0.56	-0.21
PAYSECS	0.26	0.22	0.24	115	0.36	0.88	-0.37

**Table A5.** Word-topic distribution for the Bank of Canada.

TOPIC	WORDS
MACPRUD	( '0.043**mortgag" + 0.025**market" + 0.020**hous" + 0.009**guidelin" + 0.008**rate" + 0.008**choic" + 0.008**adjust" + 0.007**flexibl" + 0.007**chang" + 0.007**share"')
MACPRUD	( '0.042**bank" + 0.034**financi" + 0.024**risk" + 0.019**global" + 0.017**will" + 0.016**crisi" + 0.015**market" + 0.015**capit" + 0.014**reform" + 0.012**requir"')
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis"')
MON_POL	( '0.031**price" + 0.031**econom" + 0.015**import" + 0.015**commod" + 0.015**global" + 0.013**trade" + 0.012**export" + 0.012**increas" + 0.011**countri" + 0.011**commod_price"')
FIS_POL	( '0.020**risk" + 0.019**plan" + 0.016**pension" + 0.015**infrastructur" + 0.014**invest" + 0.012**individu" + 0.012**effici" + 0.011**defin_benefit" + 0.011**pension_plan" + 0.011**sponsor"')
MON_POL	( '0.149**bank" + 0.047**rate" + 0.032**project" + 0.032**econom" + 0.017**target_overnight" + 0.014**inflat" + 0.013**outlook" + 0.011**announc_overnight" + 0.010**target" + 0.010**report_updat"')
MON_POL	( '0.100**polici" + 0.090**fiscal" + 0.044**econom" + 0.033**monetari" + 0.029**monetari_polici" + 0.027**inflat" + 0.024**bank" + 0.020**rate" + 0.019**govern" + 0.017**effect"')
INT_AFF	( '0.015**inequ" + 0.010**brazil" + 0.006**million" + 0.004**incom" + 0.003**unemploy" + 0.003**coeffici" + 0.002**equal" + 0.001**gain" + 0.001**cycl" + 0.001**educ"')



**Table A5.** Word-topic distribution for the Bank of Canada.

TOPIC	WORDS
PAYSECS	( '0.020*payment' + 0.006*futur' + 0.006*oversight' + 0.006*need' + 0.005*will' + 0.005*vision' + 0.004*import' + 0.004*payment_system' + 0.004*growth' + 0.004*user'')
MACPRUD	( '0.067*market' + 0.054*liquid' + 0.032*bank' + 0.023*financi' + 0.020*asset' + 0.018*will' + 0.017*credit' + 0.015*fund' + 0.013*term' + 0.013*central_bank'')
MON_POL	( '0.036*potenti_output' + 0.030*growth' + 0.021*econom' + 0.021*product' + 0.015*will' + 0.013*output' + 0.011*inflat' + 0.011*trend_labour' + 0.009*input' + 0.008*trend'')
MISCELL	( '0.000*inflat' + 0.000*bank' + 0.000*tragic_event' + 0.000*duti' + 0.000*preserv' + 0.000*expect' + 0.000*terror' + 0.000*price' + 0.000*econom' + 0.000*underpin'')
MON_POL	( '0.026*inflat' + 0.020*rate' + 0.020*wage' + 0.012*lower' + 0.012*labour_market' + 0.012*polici' + 0.010*growth' + 0.010*expect' + 0.009*econom' + 0.009*compani'')
INT_AFF	( '0.016*open' + 0.014*tariff' + 0.008*foreign' + 0.008*confeder' + 0.007*year' + 0.007*peopl' + 0.007*immigr' + 0.006*world' + 0.006*trade' + 0.006*invest'')
INT_AFF	( '0.026*foreign_exchang' + 0.020*survey' + 0.017*transact' + 0.016*tabl' + 0.014*turnov' + 0.013*rate' + 0.012*dollar' + 0.012*currenc' + 0.010*bank' + 0.010*increas'')
MISCELL	( '0.000*tragic_event' + 0.000*duti' + 0.000*preserv' + 0.000*terror' + 0.000*bank' + 0.000*underpin' + 0.000*econom' + 0.000*attitud' + 0.000*endors' + 0.000*aftermath'')
MON_POL	( '0.011*lower' + 0.010*resourc' + 0.005*price' + 0.005*shock' + 0.005*seen' + 0.005*profil' + 0.005*import' + 0.005*variabl' + 0.005*higher' + 0.004*pose'')
MON_POL	( '0.003*bond_yield' + 0.001*attempt' + 0.001*logic' + 0.001*elect' + 0.001*deflat' + 0.001*long_stand' + 0.001*underperform' + 0.001*expos_intern' + 0.001*peril' + 0.001*transit_period'')
MISCELL	( '0.000*tragic_event' + 0.000*duti' + 0.000*preserv' + 0.000*terror' + 0.000*underpin' + 0.000*attitud' + 0.000*endors' + 0.000*aftermath' + 0.000*patch' + 0.000*envis'')
MISCELL	( '0.107*governor' + 0.095*said' + 0.020*bank' + 0.017*econom' + 0.009*professor' + 0.008*intern' + 0.007*univers' + 0.006*ad' + 0.006*governor_told' + 0.006*school'')
MON_POL	( '0.001*york' + 0.001*rebuild_phase' + 0.001*took_place' + 0.001*emphas' + 0.001*comparison' + 0.001*remain_stimul' + 0.001*absolut_essenti' + 0.001*junctur' + 0.001*headwind' + 0.001*truli'')

**Table A5.** Word-topic distribution for the Bank of Canada.

TOPIC	WORDS
INT_AFF	( '0.043**growth" + 0.043**export" + 0.039**product" + 0.030**invest" + 0.026**trade" + 0.021**busi" + 0.018**econom" + 0.017**global" + 0.016**recess" + 0.016**firm"')
MON_POL	( '0.075**econom" + 0.045**growth" + 0.036**expect" + 0.034**will" + 0.026**bank" + 0.024**inflat" + 0.020**global" + 0.019**rate" + 0.017**project" + 0.014**outlook"')
MON_POL	( '0.059**econom" + 0.040**polici" + 0.030**countri" + 0.025**global" + 0.020**market" + 0.017**need" + 0.015**adjust" + 0.015**financi" + 0.014**intern" + 0.014**import"')
INNOVAT	( '0.026**bank" + 0.017**will" + 0.016**money" + 0.016**peopl" + 0.014**need" + 0.013**work" + 0.011**issu" + 0.011**busi" + 0.010**innov" + 0.010**payment"')
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**econom" + 0.000**endors" + 0.000**aftermath" + 0.000**bank"')
CLIMATE	( '0.026**climat_chang" + 0.019**risk" + 0.016**climat" + 0.015**bank" + 0.011**financi" + 0.010**climat_relat" + 0.008**design" + 0.007**scenario" + 0.006**clear_settlement" + 0.006**transit"')
PAYSECS	( '0.019**financi" + 0.009**cyber_secur" + 0.008**threat" + 0.008**cyber" + 0.007**payment" + 0.005**coordin" + 0.005**protect" + 0.005**particip" + 0.005**collabor" + 0.005**cyber_attack"')
MON_POL	( '0.034**econom" + 0.023**will" + 0.022**worker" + 0.018**labour_market" + 0.016**technolog" + 0.015**work" + 0.015**peopl" + 0.012**skill" + 0.012**sector" + 0.011**product"')
MISCELL	( '0.000**intensifi" + 0.000**precari" + 0.000**governor_told" + 0.000**deputi" + 0.000**senior_deputi" + 0.000**immedi" + 0.000**downsid" + 0.000**audienc" + 0.000**host" + 0.000**choic"')
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis"')
MACPRUD	( '0.057**market" + 0.039**financi" + 0.023**bank" + 0.018**effici" + 0.012**risk" + 0.011**rate" + 0.011**need" + 0.011**regul" + 0.011**will" + 0.009**investor"')
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis"')
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis"')

**Table A5.** Word-topic distribution for the Bank of Canada.

TOPIC	WORDS
PAYSECS	( '0.093**note" + 0.071**bank" + 0.022**counterfeit" + 0.012**confid" + 0.011**payment" + 0.009**imag" + 0.009**woman" + 0.008**seri" + 0.008**cash" + 0.007**will" )
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis" )
MACPRUD	( '0.030**vulner" + 0.030**hous" + 0.030**market" + 0.012**continu" + 0.011**price" + 0.010**hous_price" + 0.009**household_indebted" + 0.008**risk" + 0.007**rise" + 0.006**report" )
INNOVAT	( '0.034**senior_deputi" + 0.012**deputi_governor" + 0.010**read_content" + 0.009**speech_appear" + 0.009**type_press" + 0.009**read" + 0.009**summari_topic" + 0.009**watch" + 0.008**summari" + 0.007**watch_deputi" )
MON_POL	( '0.044**inflat" + 0.038**econom" + 0.029**monetari_polici" + 0.027**bank" + 0.024**rate" + 0.023**inflat_target" + 0.021**target" + 0.019**polici" + 0.016**price" + 0.012**will" )
MON_POL	( '0.024**spend" + 0.023**household" + 0.017**incom" + 0.015**recoveri" + 0.014**save" + 0.013**will" + 0.011**servic" + 0.011**pandem" + 0.010**consumpt" + 0.010**econom" )
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis" )
MON_POL	( '0.029**polici" + 0.026**central_bank" + 0.019**econom" + 0.019**rate" + 0.016**growth" + 0.011**forward_guidanc" + 0.010**effect" + 0.008**financi" + 0.008**will" + 0.008**crisi" )
MISCELL	( '0.000**room_improv" + 0.000**transmit" + 0.000**monetari_union" + 0.000**meant" + 0.000**extraordinari" + 0.000**essenti_element" + 0.000**said" + 0.000**self_reinforc" + 0.000**withdrawn" + 0.000**diminish" )
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis" )
MISCELL	( '0.000**tragic_event" + 0.000**duti" + 0.000**preserv" + 0.000**terror" + 0.000**underpin" + 0.000**attitud" + 0.000**endors" + 0.000**aftermath" + 0.000**patch" + 0.000**envis" )
PAYSECS	( '0.038**payment" + 0.023**payment_system" + 0.016**system" + 0.012**risk" + 0.008**modern" + 0.008**valu" + 0.007**settl" + 0.004**retail_payment" + 0.003**liquid" + 0.002**bank" )
MON_POL	( '0.033**program" + 0.032**econom" + 0.027**pandem" + 0.024**recoveri" + 0.022**support" + 0.019**will" + 0.018**bank" + 0.016**busi" + 0.015**covid" + 0.011**polici" )

**Table A5.** Word-topic distribution for the Bank of Canada.

TOPIC	WORDS
INT_AFF	( '0.013**price'' + 0.013**retail'' + 0.006**unit_state'' + 0.005**market'' + 0.004**exchang_rate'' + 0.004**cost'' + 0.004**good'' + 0.004**differenti'' + 0.004**factor'' + 0.004**retail_sector'' )
MISCELL	( '0.000**tragic_event'' + 0.000**duti'' + 0.000**bank'' + 0.000**risk'' + 0.000**financi'' + 0.000**preserv'' + 0.000**terror'' + 0.000**underpin'' + 0.000**attitud'' + 0.000**econom'' )
MON_POL	( '0.006**client'' + 0.005**trust'' + 0.003**employe'' + 0.002**reward'' + 0.002**banker'' + 0.002**diminish'' + 0.002**relianc'' + 0.002**widespread'' + 0.002**connect'' + 0.002**restor_trust'' )
INT_AFF	( '0.034**econom'' + 0.027**global'' + 0.020**will'' + 0.019**financi'' + 0.018**countri'' + 0.013**market'' + 0.012**polici'' + 0.011**need'' + 0.010**growth'' + 0.010**world'' )
MACPRUD	( '0.051**hous'' + 0.021**rate'' + 0.020**mortgag'' + 0.019**debt'' + 0.019**hous_price'' + 0.017**polici'' + 0.015**chart'' + 0.012**household'' + 0.010**market'' + 0.010**borrow'' )
MACPRUD	( '0.060**financi'' + 0.032**risk'' + 0.025**econom'' + 0.025**bank'' + 0.018**crisi'' + 0.017**financi_stabil'' + 0.016**vulner'' + 0.013**will'' + 0.013**monetari_polici'' + 0.012**polici'' )
MON_POL	( '0.059**econom'' + 0.028**adjust'' + 0.020**will'' + 0.017**demand'' + 0.017**monetari_polici'' + 0.016**rate'' + 0.014**bank'' + 0.014**chang'' + 0.013**help'' + 0.013**product'' )
MON_POL	( '0.076**inflat'' + 0.032**price'' + 0.031**measur'' + 0.029**expect'' + 0.021**bank'' + 0.014**rate'' + 0.013**econom'' + 0.013**consum'' + 0.011**percept'' + 0.010**household'' )

**Table A6.** Word-topic distribution for the Bank of England.

TOPIC	WORDS
MON_POL	( '0.020**econom'' + 0.018**work'' + 0.014**employ'' + 0.013**rate'' + 0.013**unemploy'' + 0.010**survey'' + 0.010**worker'' + 0.010**data'' + 0.009**self_employ'' + 0.008**firm'' )
MACPRUD	( '0.079**bank'' + 0.022**rate'' + 0.019**market'' + 0.016**asset'' + 0.014**credit'' + 0.014**lend'' + 0.014**financi'' + 0.013**fund'' + 0.010**liquid'' + 0.009**econom'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )
MON_POL	( '0.058**product'' + 0.038**growth'' + 0.016**capit'' + 0.016**econom'' + 0.016**invest'' + 0.012**sector'' + 0.010**measur'' + 0.010**compani'' + 0.009**servic'' + 0.009**labour'' )

**Table A6.** Word-topic distribution for the Bank of England.

TOPIC	WORDS
MISCELL	( '0.000**"acut_aware" + 0.000**"violate" + 0.000**"curious" + 0.000**"view_express" + 0.000**"pledge" + 0.000**"seduce" + 0.000**"comprehens_packag" + 0.000**"tier_tier" + 0.000**"bucket" + 0.000**"longstand"')
MON_POL	( '0.042**"econom" + 0.027**"inflat" + 0.021**"growth" + 0.017**"price" + 0.016**"will" + 0.013**"rate" + 0.010**"demand" + 0.010**"global" + 0.010**"monetari_polic" + 0.009**"busi"')
INT_AFF	( '0.022**"financi" + 0.019**"econom" + 0.019**"bank" + 0.017**"global" + 0.016**"countri" + 0.013**"crisi" + 0.012**"chart" + 0.010**"intern" + 0.010**"asset" + 0.008**"sourc"')
MON_POL	( '0.037**"growth" + 0.027**"inflat" + 0.024**"bank" + 0.019**"expect" + 0.013**"market" + 0.013**"recent" + 0.013**"polic" + 0.012**"financi" + 0.012**"increas" + 0.011**"monetari_polic"')
MON_POL	( '0.031**"growth" + 0.028**"rate" + 0.024**"inflat" + 0.020**"price" + 0.018**"increas" + 0.016**"expect" + 0.013**"fallen" + 0.011**"committe" + 0.011**"survey" + 0.010**"remain"')
MISCELL	( '0.000**"union" + 0.000**"acut_aware" + 0.000**"threshold" + 0.000**"violate" + 0.000**"curious" + 0.000**"view_express" + 0.000**"pledge" + 0.000**"seduce" + 0.000**"comprehens_packag" + 0.000**"tier_tier"')
MACPRUD	( '0.026**"equiti" + 0.026**"compani" + 0.024**"sharehold" + 0.016**"valu" + 0.015**"share" + 0.013**"short" + 0.011**"investor" + 0.010**"corpor" + 0.010**"dividend" + 0.007**"return"')
MON_POL	( '0.034**"expect" + 0.029**"inflat" + 0.011**"survey" + 0.009**"percept" + 0.007**"ration" + 0.006**"bank" + 0.006**"form" + 0.006**"respons" + 0.005**"column" + 0.005**"educ"')
MACPRUD	( '0.078**"market" + 0.021**"risk" + 0.021**"financi" + 0.013**"liquid" + 0.012**"trade" + 0.011**"manag" + 0.010**"will" + 0.008**"asset" + 0.008**"secur" + 0.007**"bank"')
MON_POL	( '0.040**"rate" + 0.019**"inflat" + 0.017**"econom" + 0.013**"expect" + 0.012**"growth" + 0.011**"monetari_polic" + 0.011**"will" + 0.011**"polic" + 0.010**"real" + 0.010**"household"')
MISCELL	( '0.000**"acut_aware" + 0.000**"violate" + 0.000**"curious" + 0.000**"view_express" + 0.000**"pledge" + 0.000**"seduce" + 0.000**"comprehens_packag" + 0.000**"tier_tier" + 0.000**"bucket" + 0.000**"longstand"')
MISCELL	( '0.000**"acut_aware" + 0.000**"violate" + 0.000**"curious" + 0.000**"view_express" + 0.000**"pledge" + 0.000**"seduce" + 0.000**"comprehens_packag" + 0.000**"tier_tier" + 0.000**"bucket" + 0.000**"longstand"')
MACPRUD	( '0.002**"ship" + 0.002**"centuri" + 0.001**"marin" + 0.001**"disput" + 0.001**"affair" + 0.001**"gambli" + 0.001**"enemi" + 0.001**"despit" + 0.001**"council" + 0.001**"life_assur"')

**Table A6.** Word-topic distribution for the Bank of England.

TOPIC	WORDS
MACPRUD	( '0.040**bank'' + 0.035**risk'' + 0.027**financi'' + 0.018**regul'' + 0.017**will'' + 0.013**capit'' + 0.010**crisi'' + 0.010**financi_stabil'' + 0.009**need'' + 0.009**market'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )
PAYSECS	( '0.038**bank'' + 0.028**payment'' + 0.019**will'' + 0.012**servic'' + 0.011**technolog'' + 0.010**cash'' + 0.010**chang'' + 0.009**note'' + 0.009**money'' + 0.009**oper'' )
MACPRUD	( '0.036**firm'' + 0.029**bank'' + 0.023**will'' + 0.018**resolut'' + 0.016**insur'' + 0.013**group'' + 0.013**supervis'' + 0.011**need'' + 0.011**solvenc'' + 0.011**regim'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )
MON_POL	( '0.026**unemploy'' + 0.024**inflat'' + 0.019**wage'' + 0.019**rate'' + 0.015**chang'' + 0.015**price'' + 0.010**employ'' + 0.010**effect'' + 0.010**econom'' + 0.010**labour'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )
MISCELL	( '0.021**gender'' + 0.016**ethnic_minor'' + 0.014**ethnic'' + 0.013**woman'' + 0.009**surveil'' + 0.009**femal'' + 0.006**group'' + 0.005**qualif'' + 0.005**sampl'' + 0.005**white'' )
MISCELL	( '0.000**self_employ'' + 0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**econom'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**rate'' + 0.000**seduct'' + 0.000**uncertainti'' )
MISCELL	( '0.000**acut_aware'' + 0.000**violat'' + 0.000**curios'' + 0.000**view_express'' + 0.000**pledg'' + 0.000**seduct'' + 0.000**comprehens_packag'' + 0.000**tier_tier'' + 0.000**bucket'' + 0.000**longstand'' )

**Table A6.** Word-topic distribution for the Bank of England.

TOPIC	WORDS
MON_POL	( '0.031**"polici" + 0.028**"monetari_polici" + 0.027**"inflat" + 0.019**"price" + 0.018**"central_bank" + 0.015**"econom" + 0.015**"rate" + 0.014**"monetari" + 0.013**"inflat_target" + 0.011**"target"')
MON_POL	( '0.024**"bank" + 0.015**"public" + 0.014**"econom" + 0.009**"central_bank" + 0.009**"peopl" + 0.009**"time" + 0.009**"committe" + 0.008**"work" + 0.007**"polici" + 0.007**"institut"')
MACPRUD	( '0.023**"fair_valu" + 0.008**"valuat" + 0.006**"account" + 0.005**"mark" + 0.001**"foul" + 0.001**"misalign" + 0.001**"thrift" + 0.001**"hidden_reserv" + 0.001**"sight_deposit" + 0.001**"yardstick"')
MISCELL	( '0.000**"acut_aware" + 0.000**"violat" + 0.000**"curios" + 0.000**"view_express" + 0.000**"pledg" + 0.000**"seduct" + 0.000**"comprehens_packag" + 0.000**"tier_tier" + 0.000**"bucket" + 0.000**"longstand"')
MISCELL	( '0.000**"acut_aware" + 0.000**"violat" + 0.000**"curios" + 0.000**"view_express" + 0.000**"pledg" + 0.000**"seduct" + 0.000**"comprehens_packag" + 0.000**"tier_tier" + 0.000**"bucket" + 0.000**"longstand"')

**Table A7.** Word-topic distribution for the European Central Bank.

TOPIC	WORDS
MACPRUD	( '0.068**"risk" + 0.051**"bank" + 0.020**"financi" + 0.019**"manag" + 0.019**"regul" + 0.012**"sector" + 0.012**"resili" + 0.011**"capit" + 0.010**"requir" + 0.010**"stress_test"')
MACPRUD	( '0.008**"dilemma" + 0.008**"liquid" + 0.005**"incent" + 0.004**"dollar" + 0.004**"core" + 0.003**"longer" + 0.003**"gold" + 0.003**"shortag" + 0.003**"privat" + 0.002**"suppli"')
MON_POL	( '0.011**"spread" + 0.009**"autonom_factor" + 0.007**"forecast" + 0.006**"eurosystem" + 0.005**"short_term" + 0.004**"reserv" + 0.004**"liquid" + 0.003**"rate" + 0.003**"requir" + 0.003**"benchmark"')
MON_POL	( '0.046**"exchang_rate" + 0.022**"polici" + 0.012**"countri" + 0.012**"market" + 0.011**"euro_area" + 0.010**"rate" + 0.009**"effect" + 0.009**"econom" + 0.008**"eurogroup" + 0.008**"regim"')
CLIMATE	( '0.040**"climat_chang" + 0.027**"climat" + 0.024**"green" + 0.019**"risk" + 0.015**"climat_relat" + 0.012**"econom" + 0.012**"will" + 0.011**"environment" + 0.011**"transit" + 0.010**"sustain"')
MISCELL	( '0.002**"build" + 0.002**"permit" + 0.001**"renov" + 0.001**"preserv" + 0.001**"landscap" + 0.001**"energi" + 0.001**"annex" + 0.001**"construct" + 0.001**"collabor" + 0.001**"past_year"')
EMU_AFF	( '0.027**"design" + 0.013**"european" + 0.012**"europ" + 0.011**"citi" + 0.011**"competit" + 0.007**"invoic" + 0.007**"phase" + 0.006**"build" + 0.006**"euro" + 0.006**"opportun"')

**Table A7.** Word-topic distribution for the European Central Bank.

TOPIC	WORDS
PAYSECS	( '0.132*''euro'' + 0.033*''banknot'' + 0.025*''banknot_coin'' + 0.022*''euro_area'' + 0.021*''public'' + 0.016*''cash_changeov'' + 0.015*''introduc'' + 0.014*''nation'' + 0.012*''cash'' + 0.011*''currenc'' )
PAYSECS	( '0.106*''payment'' + 0.059*''sepa'' + 0.025*''scheme'' + 0.024*''retail_payment'' + 0.019*''innov'' + 0.019*''servic'' + 0.019*''bank'' + 0.017*''custom'' + 0.017*''payment_servic'' + 0.015*''card'' )
MON_POL	( '0.031*''econom'' + 0.020*''euro_area'' + 0.017*''growth'' + 0.017*''price'' + 0.017*''rate'' + 0.014*''develop'' + 0.014*''price_stabil'' + 0.012*''inflat'' + 0.012*''monetari_polici'' + 0.010*''polici'' )
MON_POL	( '0.006*''regul'' + 0.006*''safe'' + 0.005*''short_term'' + 0.004*''swap_spread'' + 0.004*''bond'' + 0.004*''german'' + 0.003*''swap'' + 0.003*''flight_safeti'' + 0.003*''widen'' + 0.003*''grow'' )
PAYSECS	( '0.060*''market'' + 0.021*''secur'' + 0.021*''infrastructur'' + 0.019*''eurosystem'' + 0.011*''oper'' + 0.011*''servic'' + 0.011*''financi'' + 0.011*''particip'' + 0.010*''euro'' + 0.010*''collater'' )
MON_POL	( '0.055*''monetari_polici'' + 0.023*''polici'' + 0.020*''communic'' + 0.019*''decis'' + 0.018*''strategi'' + 0.015*''bank'' + 0.015*''independ'' + 0.014*''econom'' + 0.013*''market'' + 0.013*''public'' )
MISCELL	( '0.010*''work'' + 0.007*''time'' + 0.006*''look'' + 0.005*''construct'' + 0.004*''build'' + 0.004*''challeng'' + 0.004*''peopl'' + 0.004*''like'' + 0.004*''event'' + 0.004*''basic'' )
MON_POL	( '0.082*''financi'' + 0.037*''stabil'' + 0.028*''asset'' + 0.022*''price'' + 0.021*''polici'' + 0.021*''crisi'' + 0.021*''risk'' + 0.020*''monetari_polici'' + 0.013*''econom'' + 0.011*''price_stabil'' )
MISCELL	( '0.003*''legitimaci'' + 0.002*''evolut'' + 0.001*''summit'' + 0.001*''zero'' + 0.001*''brief'' + 0.001*''disput'' + 0.001*''gather'' + 0.001*''steer'' + 0.001*''secretariat'' + 0.001*''onset_crisi'' )
MON_POL	( '0.034*''econom'' + 0.034*''household'' + 0.023*''countri'' + 0.023*''incom'' + 0.022*''euro_area'' + 0.015*''china'' + 0.010*''inequ'' + 0.010*''european'' + 0.009*''unit_state'' + 0.009*''increas'' )
FIS_POL	( '0.007*''fiscal'' + 0.004*''debt_ratio'' + 0.003*''ship'' + 0.003*''region'' + 0.003*''qualiti'' + 0.003*''statut'' + 0.002*''polici'' + 0.002*''debt'' + 0.002*''rule'' + 0.002*''refer_valu'' )
INT_AFF	( '0.004*''bank'' + 0.002*''rate'' + 0.002*''cash'' + 0.002*''base'' + 0.002*''commerci'' + 0.001*''deposit'' + 0.001*''provid'' + 0.001*''account'' + 0.001*''remuner'' + 0.001*''differ'' )
INT_AFF	( '0.090*''euro'' + 0.072*''currenc'' + 0.041*''countri'' + 0.038*''exchang_rate'' + 0.037*''intern'' + 0.025*''euro_area'' + 0.022*''region'' + 0.018*''dollar'' + 0.017*''role'' + 0.013*''trade'' )



**Table A7.** Word-topic distribution for the European Central Bank.

TOPIC	WORDS
INNOVAT	( '0.062**"bank" + 0.031**"digit" + 0.025**"cash" + 0.024**"base" + 0.020**"money" + 0.019**"deposit" + 0.019**"technolog" + 0.017**"rate" + 0.014**"commerci" + 0.013**"negat"')
MON_POL	( '0.000**"polici" + 0.000**"euro_area" + 0.000**"purchas" + 0.000**"price" + 0.000**"rate" + 0.000**"secur" + 0.000**"inflat" + 0.000**"monetari_polici" + 0.000**"market" + 0.000**"econom"')
MON_POL	( '0.038**"monetari" + 0.026**"money" + 0.026**"price" + 0.026**"inflat" + 0.025**"price_stabil" + 0.024**"econom" + 0.022**"growth" + 0.021**"analysi" + 0.021**"monetari_polici" + 0.017**"develop"')
FINTEGR	( '0.051**"integr" + 0.037**"financi" + 0.035**"market" + 0.033**"bank" + 0.029**"european" + 0.014**"cross_border" + 0.012**"nation" + 0.011**"europ" + 0.010**"singl" + 0.010**"servic"')
MON_POL	( '0.067**"rate" + 0.021**"polici" + 0.020**"monetari_polici" + 0.016**"inflat" + 0.016**"effect" + 0.015**"expect" + 0.014**"euro_area" + 0.012**"econom" + 0.012**"asset_purchas" + 0.010**"negat"')
MACPRUD	( '0.000**"rate" + 0.000**"bank" + 0.000**"market" + 0.000**"financi" + 0.000**"excess_liquid" + 0.000**"euro_area" + 0.000**"liquid" + 0.000**"increas" + 0.000**"level" + 0.000**"german"')
MACPRUD	( '0.057**"financi" + 0.053**"market" + 0.031**"bank" + 0.024**"liquid" + 0.022**"risk" + 0.012**"credit" + 0.010**"oper" + 0.010**"fund" + 0.009**"increas" + 0.009**"sector"')
MON_POL	( '0.031**"bank" + 0.006**"chang" + 0.006**"monetari_polici" + 0.006**"smaller" + 0.005**"billion" + 0.005**"small" + 0.004**"time" + 0.004**"comprehens_assess" + 0.004**"deleverag" + 0.004**"come"')
MACPRUD	( '0.064**"market" + 0.021**"financi" + 0.018**"risk" + 0.015**"govern_bond" + 0.014**"euro_area" + 0.013**"govern" + 0.011**"rate" + 0.011**"bond" + 0.011**"price" + 0.010**"spread"')
EMU_AFF	( '0.040**"trust" + 0.017**"faith" + 0.013**"legal_tender" + 0.010**"cash" + 0.008**"money" + 0.008**"status" + 0.007**"protect" + 0.006**"limit" + 0.006**"promis" + 0.004**"peopl"')
EMU_AFF	( '0.036**"europ" + 0.031**"cultur" + 0.018**"european" + 0.009**"spirit" + 0.009**"money" + 0.008**"peopl" + 0.008**"great" + 0.007**"uniti" + 0.007**"influenc" + 0.007**"work"')
MON_POL	( '0.000**"rate" + 0.000**"credit" + 0.000**"financi" + 0.000**"market" + 0.000**"euro_area" + 0.000**"measur" + 0.000**"risk" + 0.000**"support" + 0.000**"monetari_polici" + 0.000**"expect"')
MON_POL	( '0.045**"growth" + 0.041**"euro_area" + 0.037**"econom" + 0.029**"product" + 0.025**"market" + 0.020**"countri" + 0.020**"increas" + 0.014**"competit" + 0.013**"labour" + 0.011**"reform"')

**Table A7.** Word-topic distribution for the European Central Bank.

TOPIC	WORDS
EMU_AFF	( '0.006**"tariff" + 0.005**"report" + 0.003**"announc" + 0.003**"examin" + 0.003**"impos" + 0.002**"scenario" + 0.002**"annualis" + 0.001**"steel" + 0.001**"simul" + 0.001**"seven"')
MACPRUD	( '0.069**"bank" + 0.037**"rate" + 0.032**"deposit" + 0.032**"cash" + 0.027**"commerci" + 0.026**"base" + 0.023**"technolog" + 0.018**"account" + 0.018**"negat" + 0.017**"provid"')
MON_POL	( '0.029**"rate" + 0.025**"bank" + 0.024**"monetari_polici" + 0.017**"econom" + 0.015**"euro_area" + 0.014**"polici" + 0.013**"crisi" + 0.013**"market" + 0.012**"financi" + 0.012**"credit"')
MON_POL	( '0.027**"econom" + 0.024**"crisi" + 0.022**"bank" + 0.022**"euro_area" + 0.018**"countri" + 0.017**"financi" + 0.013**"fiscal" + 0.013**"govern" + 0.013**"union" + 0.012**"need"')
MON_POL	( '0.002**"trust" + 0.001**"owner_occupi" + 0.001**"daili_transact" + 0.001**"monetari_polici" + 0.001**"coin" + 0.001**"absolut" + 0.001**"thing" + 0.001**"loos" + 0.001**"imposit" + 0.001**"see_sign"')
INT_AFF	( '0.065**"global" + 0.042**"econom" + 0.039**"intern" + 0.039**"financi" + 0.027**"globalis" + 0.023**"world" + 0.018**"trade" + 0.018**"emerg" + 0.017**"countri" + 0.017**"domest"')
MON_POL	( '0.010**"exchang_rate" + 0.004**"capit_flow" + 0.003**"portfolio" + 0.003**"differenti" + 0.003**"correl" + 0.003**"half" + 0.003**"spillov" + 0.002**"relationship" + 0.002**"inform" + 0.002**"composit"')
MISCELL	( '0.009**"museum" + 0.009**"europ" + 0.008**"child" + 0.007**"languag" + 0.006**"learn" + 0.005**"featur" + 0.005**"berlin" + 0.005**"educ" + 0.004**"million_citizen" + 0.004**"connect"')
MISCELL	( '0.001**"tenth" + 0.001**"extrem_difficult" + 0.001**"trip" + 0.001**"peter_member" + 0.000**"forg" + 0.000**"scienc" + 0.000**"video" + 0.000**"librari" + 0.000**"teach" + 0.000**"school"')
MISCELL	( '0.005**"interim_solut" + 0.003**"fellowship" + 0.001**"safer" + 0.001**"slowest" + 0.001**"build_bridg" + 0.001**"follow_suit" + 0.001**"guilder" + 0.001**"compens" + 0.001**"feder_republ" + 0.001**"river"')
MON_POL	( '0.044**"euro_area" + 0.039**"growth" + 0.036**"econom" + 0.029**"remain" + 0.029**"continu" + 0.028**"rate" + 0.020**"inflat" + 0.017**"support" + 0.016**"expect" + 0.016**"inreas"')
MON_POL	( '0.071**"inflat" + 0.041**"econom" + 0.029**"model" + 0.025**"price" + 0.021**"monetari_polici" + 0.017**"polici" + 0.017**"shock" + 0.012**"inflat_expect" + 0.011**"output" + 0.010**"chang"')
PAYSECS	( '0.034**"payment" + 0.017**"bank" + 0.011**"system" + 0.011**"money" + 0.008**"particip" + 0.007**"oversight" + 0.007**"respons" + 0.007**"larg" + 0.006**"currenc" + 0.005**"public"')

**Table A7.** Word-topic distribution for the European Central Bank.

TOPIC	WORDS
MISCELL	( '0.001**"fatigu" + 0.001**"diverg" + 0.001**"transposit" + 0.001**"verdict" + 0.001**"dilig" + 0.001**"lawmak" + 0.001**"pendulum" + 0.001**"swing" + 0.001**"supervis_forbear" + 0.001**"near"')
MACPRUD	( '0.003**"secur" + 0.003**"portfolio" + 0.002**"represent" + 0.001**"held" + 0.001**"night" + 0.001**"silent" + 0.001**"copi" + 0.001**"gone" + 0.001**"strateg_vision" + 0.001**"seventh"')
MACPRUD	( '0.050**"financi" + 0.022**"risk" + 0.019**"bank" + 0.017**"supervis" + 0.016**"stabil" + 0.016**"institut" + 0.016**"crisi" + 0.015**"framework" + 0.014**"polici" + 0.013**"regul"')
MON_POL	( '0.015**"power" + 0.006**"firm" + 0.005**"markup" + 0.005**"concentr" + 0.003**"geograph_breakdown" + 0.003**"rise" + 0.002**"margin" + 0.002**"constant" + 0.001**"enter" + 0.001**"macroeconomist"')
MISCELL	( '0.023**"educ" + 0.010**"student" + 0.009**"woman" + 0.006**"profit" + 0.006**"profit_margin" + 0.006**"school" + 0.005**"graduat" + 0.005**"gender" + 0.005**"child" + 0.005**"mark"')
MACPRUD	( '0.037**"secur" + 0.030**"bank" + 0.011**"activ" + 0.010**"increas" + 0.009**"risk" + 0.007**"financi" + 0.007**"institut" + 0.007**"firm" + 0.007**"result" + 0.006**"exercis"')
EMU_AFF	( '0.032**"european" + 0.030**"union" + 0.027**"econom" + 0.025**"countri" + 0.019**"polici" + 0.019**"euro_area" + 0.019**"integr" + 0.018**"euro" + 0.018**"monetari" + 0.017**"europ"')
MON_POL	( '0.030**"econom" + 0.023**"support" + 0.022**"measur" + 0.020**"inflat" + 0.015**"euro_area" + 0.014**"polici" + 0.014**"recoveri" + 0.013**"monetari_polici" + 0.013**"pandem" + 0.012**"condit"')
FIS_POL	( '0.023**"deficit" + 0.022**"fiscal" + 0.015**"current_account" + 0.012**"rule" + 0.010**"pact" + 0.010**"spend" + 0.010**"countri" + 0.009**"save" + 0.008**"polici" + 0.007**"public"')
EMU_AFF	( '0.025**"eurosystem" + 0.005**"transpar" + 0.005**"vote" + 0.004**"mission" + 0.004**"oblig" + 0.004**"process" + 0.004**"decis" + 0.004**"relat" + 0.003**"nation" + 0.003**"european_parliament"')
MACPRUD	( '0.097**"bank" + 0.089**"supervis" + 0.020**"regul" + 0.020**"nation" + 0.016**"european" + 0.013**"institut" + 0.011**"risk" + 0.009**"rule" + 0.008**"financi" + 0.008**"level"')
INNOVAT	( '0.032**"statist" + 0.024**"financi" + 0.023**"euro_area" + 0.022**"european" + 0.022**"econom" + 0.017**"account" + 0.016**"nation" + 0.014**"data" + 0.012**"develop" + 0.011**"monetari"')
INNOVAT	( '0.071**"data" + 0.025**"inform" + 0.018**"financi" + 0.015**"analysi" + 0.011**"need" + 0.009**"statist" + 0.009**"sector" + 0.008**"collect" + 0.008**"report" + 0.007**"aggreg"')

**Table A7.** Word-topic distribution for the European Central Bank.

TOPIC	WORDS
MON_POL	( '0.025*""clear"" + 0.014*""recoveri"" + 0.011*""member"" + 0.008*""resolut"" + 0.007*""alloc"" + 0.006*""mandatori_clear"" + 0.005*""resourc"" + 0.005*""effect"" + 0.004*""recoveri_resolut"" + 0.003*""loss"" )]

**Table A8.** Word-topic distribution for the Federal Reserve.

TOPIC	WORDS
MACPRUD	( '0.114*""bank"" + 0.025*""communiti"" + 0.017*""supervis"" + 0.016*""regul"" + 0.013*""institut"" + 0.012*""financi"" + 0.012*""feder_reserv"" + 0.010*""activ"" + 0.009*""examin"" + 0.008*""requir"" )
MON_POL	( '0.035*""market"" + 0.032*""financi"" + 0.029*""feder_reserv"" + 0.027*""bank"" + 0.023*""fund"" + 0.019*""liquid"" + 0.018*""rate"" + 0.018*""credit"" + 0.015*""secur"" + 0.013*""reserv"" )
MISCELL	( '0.000*""econom"" + 0.000*""will"" + 0.000*""financi"" + 0.000*""market"" + 0.000*""rate"" + 0.000*""feder_reserv"" + 0.000*""bank"" + 0.000*""increas"" + 0.000*""risk"" + 0.000*""time"" )
MON_POL	( '0.046*""committe"" + 0.034*""econom"" + 0.032*""rate"" + 0.031*""will"" + 0.025*""inflat"" + 0.022*""feder"" + 0.019*""fund"" + 0.018*""polici"" + 0.017*""monetari_polici"" + 0.017*""feder_reserv"" )
MACPRUD	( '0.054*""market"" + 0.037*""financi"" + 0.018*""econom"" + 0.014*""inform"" + 0.012*""product"" + 0.011*""investor"" + 0.011*""will"" + 0.011*""risk"" + 0.007*""valu"" + 0.007*""market_particip"" )
MACPRUD	( '0.061*""bank"" + 0.035*""capit"" + 0.035*""risk"" + 0.022*""supervis"" + 0.020*""will"" + 0.016*""requir"" + 0.014*""regul"" + 0.012*""institut"" + 0.010*""propos"" + 0.010*""approach"" )
MACPRUD	( '0.041*""risk"" + 0.030*""risk_manag"" + 0.029*""manag"" + 0.022*""organ"" + 0.015*""complianc"" + 0.015*""process"" + 0.014*""financi"" + 0.013*""control"" + 0.013*""effect"" + 0.012*""busi"" )
MON_POL	( '0.021*""will"" + 0.021*""econom"" + 0.019*""fiscal"" + 0.017*""rate"" + 0.014*""increas"" + 0.013*""deficit"" + 0.011*""save"" + 0.011*""govern"" + 0.011*""budget"" + 0.009*""polici"" )
MON_POL	( '0.005*""against_background"" + 0.005*""dissent"" + 0.004*""heighten"" + 0.004*""nonetheless"" + 0.003*""avail"" + 0.003*""pressur"" + 0.003*""expertis"" + 0.003*""background"" + 0.002*""decid_maintain"" + 0.002*""unusu_high"" )
PAYSECS	( '0.108*""consum"" + 0.026*""credit_card"" + 0.020*""disclosur"" + 0.020*""credit"" + 0.019*""product"" + 0.018*""inform"" + 0.015*""effect"" + 0.015*""rate"" + 0.011*""chang"" + 0.010*""test"" )
MON_POL	( '0.038*""inflat"" + 0.032*""econom"" + 0.027*""rate"" + 0.014*""polici"" + 0.012*""monetari_polici"" + 0.012*""growth"" + 0.011*""will"" + 0.011*""price"" + 0.010*""expect"" + 0.010*""time"" )

**Table A8.** Word-topic distribution for the Federal Reserve.

TOPIC	WORDS
INNOVAT	( '0.041**product" + 0.032**econom" + 0.026**invest" + 0.023**growth" + 0.019**capit" + 0.018**busi" + 0.015**product_growth" + 0.015**increas" + 0.014**technolog" + 0.011**will"')
CONSCOM	( '0.053**bank" + 0.018**communiti" + 0.015**servic" + 0.012**feder_reserv" + 0.012**data" + 0.011**small_busi" + 0.010**financi" + 0.009**provid" + 0.009**know" + 0.009**work"')
MACPRUD	( '0.026**firm" + 0.024**regul" + 0.021**financi" + 0.020**bank" + 0.017**fund" + 0.017**requir" + 0.016**liquid" + 0.015**asset" + 0.013**market" + 0.012**capit"')
MACPRUD	( '0.039**firm" + 0.032**bank" + 0.031**supervis" + 0.027**regul" + 0.024**capit" + 0.020**stress_test" + 0.018**financi" + 0.017**requir" + 0.014**will" + 0.012**intern"')
CONSCOM	( '0.028**mortgag" + 0.024**hous" + 0.024**credit" + 0.024**market" + 0.023**loan" + 0.017**econom" + 0.012**home" + 0.012**will" + 0.012**rate" + 0.011**borrow"')
CONSCOM	( '0.039**econom" + 0.032**educ" + 0.022**work" + 0.020**worker" + 0.015**employ" + 0.014**famili" + 0.011**will" + 0.010**skill" + 0.010**student" + 0.009**particip"')
CONSCOM	( '0.047**communiti" + 0.025**develop" + 0.023**econom" + 0.018**feder_reserv" + 0.015**neighborhood" + 0.014**work" + 0.012**area" + 0.012**help" + 0.011**need" + 0.009**will"')
MON_POL	( '0.076**price" + 0.028**increas" + 0.020**energi" + 0.018**will" + 0.017**market" + 0.016**rise" + 0.016**product" + 0.015**cost" + 0.013**demand" + 0.011**econom"')
MACPRUD	( '0.056**market" + 0.045**risk" + 0.020**credit" + 0.019**financi" + 0.013**liquid" + 0.012**investor" + 0.011**trade" + 0.009**manag" + 0.009**counterparti" + 0.009**risk_manag"')
MACPRUD	( '0.074**financi" + 0.021**risk" + 0.021**bank" + 0.021**crisi" + 0.018**institut" + 0.018**regul" + 0.015**stabil" + 0.014**supervis" + 0.014**market" + 0.012**firm"')
INT_AFF	( '0.057**econom" + 0.037**global" + 0.029**countri" + 0.021**intern" + 0.017**unit_state" + 0.017**financi" + 0.016**trade" + 0.015**growth" + 0.015**world" + 0.012**foreign"')
CONSCOM	( '0.039**mortgag" + 0.032**loan" + 0.021**borrow" + 0.019**consum" + 0.017**lender" + 0.016**market" + 0.015**feder_reserv" + 0.013**regul" + 0.012**data" + 0.012**practic"')
CONSCOM	( '0.031**household" + 0.024**debt" + 0.024**financi" + 0.023**rate" + 0.015**increas" + 0.014**incom" + 0.013**busi" + 0.011**asset" + 0.011**econom" + 0.010**corpor"')

**Table A8.** Word-topic distribution for the Federal Reserve.

TOPIC	WORDS
MON_POL	( '0.093**clear** + 0.068**member** + 0.052**central** + 0.042**ccps** + 0.025**deriv** + 0.020**clearinghous** + 0.016**default** + 0.012**network** + 0.012**financi** + 0.010**exchang**')
MISCELL	( '0.000**will** + 0.000**econom** + 0.000**market** + 0.000**financi** + 0.000**rate** + 0.000**bank** + 0.000**feder_reserv** + 0.000**monetari_polici** + 0.000**risk** + 0.000**growth**')
MISCELL	( '0.000**market** + 0.000**will** + 0.000**econom** + 0.000**financi** + 0.000**growth** + 0.000**bank** + 0.000**risk** + 0.000**increas** + 0.000**rate** + 0.000**credit**')
MON_POL	( '0.044**rate** + 0.024**price** + 0.023**polici** + 0.019**monetari_polici** + 0.018**asset** + 0.015**econom** + 0.014**effect** + 0.013**market** + 0.012**financi** + 0.011**expect**')
PAYSECS	( '0.060**payment** + 0.022**bank** + 0.015**technolog** + 0.015**will** + 0.014**servic** + 0.013**feder_reserv** + 0.013**provid** + 0.011**system** + 0.011**money** + 0.011**innov**')
MON_POL	( '0.034**polici** + 0.032**monetari_polici** + 0.032**central_bank** + 0.026**econom** + 0.022**feder_reserv** + 0.018**inflat** + 0.013**object** + 0.011**public** + 0.010**rate** + 0.010**review**')]

**Table A9.** Ordered probit estimation results excluding the ELB.

variables	(I)	(II)	(III)	(IV)	(V)	(VI)
<b>BANK OF ENGLAND</b>						
$\Delta r_t$	0.96***, (0.2392)	0.72***, (0.2548)	0.62**, (0.2628)	0.8***, (0.2502)	0.78***, (0.2511)	0.67***, (0.259)
$CBSIw_t$					0.44***, (0.1336)	0.5***, (0.1668)
$MON\_POL_t$		0.51***, (0.1381)	0.57***, (0.164)			
$\Delta GDP_t$			0.37*, (0.1995)	0.43**, (0.1934)		0.37*, (0.1968)
$\Delta INF_t$			0.32*, (0.1729)	0.09, (0.1523)		0.32*, (0.176)
-1/0	-1.11***, (0.1583)	-1.22***, (0.173)	-1.2***, (0.1749)	-1.1***, (0.1614)	-1.19***, (0.1697)	-1.18***, (0.1724)
0/1	1.33***, (0.1708)	1.49***, (0.1904)	1.54***, (0.1963)	1.39***, (0.1738)	1.45***, (0.1852)	1.51***, (0.1911)
pseudo R <sup>2</sup>	0.1	0.1857	0.2141	0.1394	0.1654	0.1942
LLR	-77.79	-70.38	-67.93	-74.38	-72.13	-69.65
<b>EUROPEAN CENTRAL BANK</b>						
$\Delta r_t$	0.71***, (0.2186)	0.38, (0.2387)	0.26, (0.247)	0.34, (0.2417)	0.51**, (0.2303)	0.32, (0.2426)
$CBSIw_t$					0.35***, (0.109)	0.17, (0.1303)
$MON\_POL_t$		0.51***, (0.1203)	0.36**, (0.143)			
$\Delta GDP_t$			0.29**, (0.1465)	0.49***, (0.1241)		0.4***, (0.1428)
$\Delta INF_t$			-0.07, (0.1131)	-0.08, (0.1114)		-0.08, (0.1118)
-1/0	-1.3***, (0.1352)	-1.43***, (0.1492)	-1.44***, (0.1506)	-1.4***, (0.1451)	-1.37***, (0.1425)	-1.41***, (0.1465)
0/1	1.35***, (0.1355)	1.5***, (0.1542)	1.52***, (0.156)	1.46***, (0.1482)	1.42***, (0.1439)	1.47***, (0.1493)
pseudo R <sup>2</sup>	0.0478	0.1354	0.1532	0.1242	0.0962	0.1315
LLR	-107.95	-98.02	-96.01	-99.29	-102.46	-98.46
<b>FEDERAL RESERVE</b>						
$\Delta r_t$	1.05***, (0.1845)	1.07***, (0.1863)	0.96***, (0.192)	0.94***, (0.1903)	1.04***, (0.1859)	0.95***, (0.1913)
$CBSIw_t$					0.2**, (0.086)	0.16*, (0.0919)
$MON\_POL_t$		0.19**, (0.0856)	0.16*, (0.0875)			
$\Delta GDP_t$			0.25**, (0.1011)	0.28***, (0.0995)		0.25**, (0.1023)
$\Delta INF_t$			-0.05, (0.0948)	-0.05, (0.0945)		-0.09, (0.0966)
-1/0	-1.4***, (0.1237)	-1.43***, (0.1252)	-1.48***, (0.1314)	-1.46***, (0.1307)	-1.43***, (0.1248)	-1.47***, (0.1313)
0/1	1.32***, (0.1161)	1.35***, (0.1202)	1.39***, (0.1236)	1.36***, (0.1208)	1.35***, (0.1209)	1.38***, (0.1235)
pseudo R <sup>2</sup>	0.1064	0.1225	0.1421	0.1322	0.1235	0.1414
LLR	-145.17	-142.55	-139.37	-140.98	-142.39	-139.48

The model is estimated by maximum likelihood. Robust standard errors are in parenthesis. Coefficients labelled with \*\*\*, \*\*, \* denote significance at 1%, 5%, 10% levels, respectively. ELB stands for Effective Lower Bound. The number of observations is 112, 174 and 238 for the BoE, the ECB and the Fed, respectively.

**Table A10.** Average marginal effects excluding the ELB.

<b>BoE (ex-ELB)</b>		<b>P(Rate Cut)</b>	<b>P(No Change)</b>	<b>P(Rate Hike)</b>
	(I)			
$\Delta r_t$		-0.216***	0.056	0.160***
	(II)			
$\Delta r_t$		-0.145***	0.035	0.109***
$MON\_POL_t$		-0.103***	0.025	0.077***
	(III)			
$\Delta r_t$		-0.117**	0.025	0.092**
$MON\_POL_t$		-0.107***	0.023	0.085***
$\Delta GDP_t$		-0.069*	0.015	0.055*
$\Delta INF_t$		-0.061*	0.013	0.048*
<b>ECB (ex-ELB)</b>		<b>P(Rate Cut)</b>	<b>P(No Change)</b>	<b>P(Rate Hike)</b>
	(I)			
$\Delta r_t$		-0.122***	0.016	0.106***
	(II)			
$\Delta r_t$		-0.058	0.009	0.049
$MON\_POL_t$		-0.083***	0.013	0.071***
	(III)			
$\Delta r_t$		-0.037	0.005	0.032
$MON\_POL_t$		-0.061***	0.008	0.053***
$\Delta GDP_t$		-0.041**	0.005	0.036**
$\Delta INF_t$		0.005	-0.001	-0.004
<b>Fed (ex-ELB)</b>		<b>P(Rate Cut)</b>	<b>P(No Change)</b>	<b>P(Rate Hike)</b>
	(I)			
$\Delta r_t$		-0.164***	-0.026	0.190***
	(II)			
$\Delta r_t$		-0.165***	-0.022	0.186***
$MON\_POL_t$		-0.030**	-0.004	0.034**
	(III)			
$\Delta r_t$		-0.141***	-0.025	0.166***
$MON\_POL_t$		-0.023*	-0.004	0.027*
$\Delta GDP_t$		-0.037**	-0.006	0.043**
$\Delta INF_t$		0.007	0.001	-0.009

Coefficients with \*\*\*, \*\*, \* are significant at 1%, 5%, 10% levels.