

A1. Code

The Data, Code, Analysis and Plots used to construct this paper can be found on my github profile: https://github.com/minnaheim/contribution_vote_data. This paper was written using typst, based on the template from the Technical University of Munich: <https://github.com/ls1intum/thesis-template-typst>.

A2. Additional Models

Descriptive statistics					
Statistic	N	Mean	St. Dev.	Min	Max
District	1,984	9.191	9.803	0	53
Vote Change	2,314	0.062	0.342	0	4
Birthyear	2,314	1,958.587	11.147	1,929	1,989
1st dimension DW Nominate	2,314	0.439	0.137	0.110	0.848
2nd dimension DW Nominate	2,314	0.215	0.167	0.000	0.957
Vote Number	2,314	21.617	22.326	3	52
Vote Dummy	2,217	0.504	0.500	0	1
Seniority	2,314	5.546	4.205	1	18
Pro Env Contributions Amount	2,314	19.800	29.876	0.000	380.725
Anti Env Contributions Amount	2,314	0.991	2.877	0.000	60.550
Democratic Majority in House	2,314	0.321	0.467	0	1
Pro-Env Contribution Dummy	2,314	0.914	0.280	0	1
Anti-Env Contribution Dummy	2,314	0.307	0.461	0	1

Figure 1: the Main Dataset used for the Analysis¹

¹The variable Instance refers to the Votes. The Instances are 3, 4, 51, 52, 6, and 7, where 3 stands for the vote in the 113th Congress, 51 stands for the first vote in the 115th Congress, 52 for the second vote in the 115th congress, etc. The district variable refers to the district that the legislators represented. Sadly not all representatives had the district information.

	<i>Dependent variable:</i>	
	Vote <i>panel</i> <i>linear</i>	Vote <i>conditional</i> <i>logistic</i>
	(1)	(2)
Anti-Env Contributions Amount	-0.001*** (0.0001)	-0.021*** (0.008)
Pro-Env Contributions Amount	0.007*** (0.001)	0.103*** (0.034)
Pro-Env Contribution Dummy	-0.007 (0.009)	-0.049 (0.407)
Anti-Env Contribution Dummy	-0.021 (0.013)	-0.595 (0.589)
Vote Number		0.013* (0.008)
District	0.001** (0.0004)	0.010 (0.017)
Birthyear	0.001* (0.0004)	0.039** (0.017)
1st dimension DW Nominate	-0.141*** (0.029)	-2.708* (1.398)
2nd dimension DW Nominate	-0.070*** (0.021)	-3.002*** (1.024)
GeographicalNE	0.073*** (0.011)	2.432*** (0.547)
GeographicalSO	0.009 (0.009)	0.116 (0.484)
GeographicalWE	0.019* (0.011)	0.667 (0.568)
Seniority	0.002 (0.001)	0.070 (0.045)
GenderM	-0.025*** (0.009)	-1.141** (0.469)
Observations	1,901	1,901
R ²	0.081	0.061
Adjusted R ²	0.072	
Max. Possible R ²		0.205
Log Likelihood		-157.637
F Statistic	12.778*** (df = 13; 1881)	
Wald Test		93.070*** (df = 14)
LR Test		119.769*** (df = 14)
Score (Logrank) Test		158.630*** (df = 14)
<i>Note:</i>		*p<0.1; ** p<0.05; *** p<0.01

Figure 2: The LPM with party and year fixed effects and Conditional Logit Model with party fixed effects.

	<i>Dependent variable:</i>					
	Vote in 113th Congress (1)	Vote in 114th Congress (2)	1st Vote in 115th congress (3)	2nd Vote in 115th congress (4)	Vote 116th congress (5)	Vote 117th congress (6)
Anti-Env Contributions for Vote 3	0.0004 (0.0003)	0.001 (0.0005)	0.001 (0.001)	-0.0004 (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Pro-Env Contributions for Vote 3	0.001 (0.004)	-0.003 (0.004)	-0.008 (0.006)	-0.001 (0.007)	-0.005 (0.005)	-0.001 (0.005)
Anti-Env Contributions for Vote 4		0.0001 (0.0004)	-0.0004 (0.001)	0.00003 (0.001)	-0.0001 (0.001)	-0.003*** (0.001)
Pro-Env Contributions for Vote 4		0.0004 (0.005)	-0.010* (0.005)	0.004 (0.006)	0.007* (0.004)	-0.020*** (0.004)
Anti-Env Contributions for Vote 51			0.001 (0.001)	0.006*** (0.002)	0.005*** (0.001)	0.006*** (0.001)
Pro-Env Contributions for Vote 51			0.002 (0.005)	0.009 (0.006)	0.001 (0.006)	-0.0003 (0.006)
Anti-Env Contributions for Vote 52				-0.004** (0.002)	-0.003** (0.001)	-0.002* (0.001)
Pro-Env Contributions for Vote 52				-0.014*** (0.003)	-0.003 (0.005)	0.0003 (0.005)
Anti-Env Contributions for Vote 6					0.0003 (0.001)	0.002*** (0.001)
Pro-Env Contributions for Vote 6					-0.002 (0.011)	-0.014* (0.008)
Anti-Env Contributions for Vote 7						-0.001 (0.001)
Pro-Env Contributions for Vote 7						0.017* (0.009)
PartyR	0.951*** (0.019)	0.924*** (0.024)	0.936*** (0.028)	0.905*** (0.033)	0.979*** (0.022)	0.955*** (0.023)
1st dimension DW Nominate	-0.183*** (0.061)	-0.079 (0.077)	-0.079 (0.091)	-0.061 (0.110)	-0.011 (0.075)	0.035 (0.079)
2nd dimension DW Nominate	0.208*** (0.046)	0.178*** (0.057)	0.110* (0.065)	0.064 (0.078)	0.026 (0.056)	0.081 (0.055)
GenderM	0.032* (0.018)	0.036 (0.022)	0.007 (0.025)	0.017 (0.030)	0.024 (0.020)	0.004 (0.019)
Pro-Env Contribution Dummy	-0.017 (0.019)	-0.007 (0.025)	0.017 (0.026)	0.012 (0.030)	0.010 (0.036)	-0.018 (0.033)
Anti-Env Contribution Dummy	0.031 (0.032)	0.025 (0.036)	0.052 (0.036)	-0.036 (0.047)	0.007 (0.030)	0.009 (0.027)
Observations	339	332	281	268	224	179
R ²	0.940	0.910	0.917	0.891	0.968	0.976
Adjusted R ²	0.912	0.866	0.869	0.824	0.943	0.954
F Statistic	451.407*** (df = 8; 231)	224.254*** (df = 10; 221)	163.850*** (df = 12; 178)	96.517*** (df = 14; 165)	235.046*** (df = 16; 126)	211.775*** (df = 18; 93)

Note:

*p<0.1; **p<0.05; ***p<0.01

Figure 3: The LPM analysing each individual vote and the relevant contributions leading up to it.

	Dependent variable:	
	Vote	
	OLS (1)	logistic (2)
Log. Anti-Env Contributions Amount	-0.015*** (0.004)	-0.532*** (0.185)
Log. Pro-Env Contributions Amount	0.027*** (0.009)	0.839** (0.334)
Anti-Env Contribution Dummy	0.003 (0.016)	0.190 (0.747)
Pro-Env Contribution Dummy	-0.015 (0.012)	-0.319 (0.569)
District	0.001** (0.0004)	0.007 (0.017)
PartyR	-0.898*** (0.009)	-8.385*** (0.530)
Birthyear	0.001* (0.0004)	0.022 (0.018)
GenderM	-0.023** (0.009)	-1.138** (0.494)
1st dimension DW Nominate	-0.141*** (0.029)	-3.339** (1.454)
2nd dimension DW Nominate	-0.072*** (0.021)	-3.150*** (1.112)
GeographicalNE	0.071*** (0.011)	2.460*** (0.553)
GeographicalSO	0.006 (0.009)	0.127 (0.477)
GeographicalWE	0.018 (0.011)	0.804 (0.561)
Vote Number	0.001*** (0.0002)	0.029*** (0.009)
Seniority	0.001 (0.001)	0.039 (0.047)
Democratic Majority in House	0.023*** (0.009)	1.569*** (0.476)
Constant	-0.434 (0.785)	-36.504 (34.885)
Observations	1,901	1,901
R ²	0.908	
Adjusted R ²	0.907	
Log Likelihood		-157.266
Akaike Inf. Crit.		348.533
Residual Std. Error	0.152 (df = 1884)	
F Statistic	1,162.325*** (df = 16; 1884)	
Note:	* p<0.1; ** p<0.05; *** p<0.01	

Figure 4: The main LPM models with logistically transformed Contributions

A3. Comparison of Contribution types

	<i>Dependent variable:</i>					
	Anti-Env Vote in 113th (1)	Anti-Env Vote in 114th (2)	Anti-Env 1st Vote in 115th (3)	Anti-Env 2nd Vote in 115th (4)	Anti-Env Vote 116th (5)	Anti-Env Vote 117 (6)
Party	0.950*** (0.015)	0.931*** (0.017)	0.894*** (0.021)	0.899*** (0.022)	0.928*** (0.018)	0.951*** (0.016)
Anti-Env. Contribution (113th congress Vote)	0.0005* (0.0003)					
Pro-Env. Contribution (113th congress Vote)	-0.003 (0.003)					
Anti-Env. Contribution (114th congress Vote)		0.0004 (0.0003)				
Pro-Env. Contribution (114th congress Vote)		-0.003 (0.004)				
Anti-Env. Contribution (115th congress 1st Vote)			0.001* (0.0004)			
Pro-Env. Contribution (115th congress 1st Vote)			-0.006* (0.003)			
Anti-Env. Contribution (115th congress 2nd Vote)				0.001* (0.0003)		
Pro-Env. Contribution (115th congress 2nd Vote)				-0.010*** (0.002)		
Anti-Env. Contribution (116th congress)					0.0003 (0.0003)	
Pro-Env. Contribution (116th congress)					-0.002 (0.008)	
Anti-Env. Contribution (117th congress)						-0.00003 (0.0003)
Pro-Env. Contribution (117th congress)						0.003 (0.006)
GeographicalNE	-0.022 (0.021)	-0.072*** (0.025)	-0.138*** (0.029)	-0.117*** (0.032)	-0.079*** (0.025)	-0.049** (0.023)
GeographicalSO	0.012 (0.018)	-0.004 (0.021)	-0.016 (0.025)	-0.004 (0.026)	-0.005 (0.021)	-0.002 (0.019)
GeographicalWE	-0.011 (0.019)	-0.032 (0.023)	-0.066** (0.028)	-0.024 (0.030)	0.002 (0.024)	-0.004 (0.022)
Constant	0.035** (0.017)	0.051** (0.020)	0.077*** (0.024)	0.059** (0.025)	0.025 (0.020)	0.014 (0.018)
Observations	339	387	386	380	388	337
R ²	0.944	0.911	0.872	0.858	0.904	0.931
Adjusted R ²	0.943	0.910	0.870	0.856	0.903	0.930
Residual Std. Error	0.119 (df = 332)	0.149 (df = 380)	0.180 (df = 379)	0.190 (df = 373)	0.155 (df = 381)	0.131 (df = 330)
F Statistic	930.524*** (df = 6; 332)	651.327*** (df = 6; 380)	431.860*** (df = 6; 379)	377.152*** (df = 6; 373)	599.620*** (df = 6; 381)	741.917*** (df = 6; 330)

Note:

*p<0.1; **p<0.05; ***p<0.01

Figure 5: LPM results per votes with contributions within six months of vote

	<i>Dependent variable:</i>					
	Anti-Env. Vote 3 (1)	Anti-Env. Vote 4 (2)	Anti-Env. Vote 51 (3)	Anti-Env. Vote 52 (4)	Anti-Env. Vote 6 (5)	Anti-Env. Vote 7 (6)
PartyR	0.918*** (0.024)	0.909*** (0.023)	0.921*** (0.023)	0.911*** (0.030)	0.954*** (0.022)	0.953*** (0.021)
Pro-Env. Contributions (113)	0.0003* (0.0001)					
Anti-Env. Contributions (113)	-0.001 (0.001)					
Pro-Env. Contributions (114)		0.0003** (0.0001)				
Anti-Env. Contributions (114)		-0.0003 (0.001)				
Pro-Env. Contributions (1151)			0.0003* (0.0002)	-0.00002 (0.0002)		
Anti-Env. Contributions (1151)			-0.0002 (0.001)	-0.0003 (0.001)		
Pro-Env. Contributions (1152)					0.0001 (0.0001)	
Anti-Env. Contributions (1152)					0.00002 (0.001)	
Pro-Env. Contributions (116)						-0.00004 (0.0001)
Anti-Env. Contributions (116)						0.00002 (0.0005)
Pro-Env. Contributions (117)	-0.041 (0.033)	-0.064** (0.032)	-0.086*** (0.031)	-0.042 (0.041)	-0.023 (0.029)	-0.049* (0.027)
GeographicalNE	0.008 (0.026)	0.010 (0.025)	-0.010 (0.026)	0.026 (0.034)	0.001 (0.023)	0.011 (0.023)
GeographicalSO	-0.038 (0.030)	-0.034 (0.028)	-0.046 (0.028)	-0.007 (0.038)	0.024 (0.026)	0.007 (0.025)
GeographicalWE	0.002** (0.001)	-0.0005 (0.001)	0.0002 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
District	0.051* (0.027)	0.065** (0.026)	0.061** (0.027)	0.035 (0.036)	0.015 (0.024)	0.020 (0.023)
Observations	229	263	260	255	262	238
R ²	0.921	0.914	0.913	0.852	0.926	0.936
Adjusted R ²	0.918	0.911	0.910	0.848	0.924	0.934
Residual Std. Error	0.142 (df = 221)	0.148 (df = 255)	0.149 (df = 252)	0.195 (df = 247)	0.137 (df = 254)	0.127 (df = 230)
F Statistic	366.322*** (df = 7; 221)	384.881*** (df = 7; 255)	377.073*** (df = 7; 252)	203.786*** (df = 7; 247)	456.183*** (df = 7; 254)	480.825*** (df = 7; 230)
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01						

Figure 6: LPM results per votes with contributions of entire election of vote

	<i>Dependent variable:</i>
	all_votes_minus All Anti-Env Votes
PartyR	0.307*** (0.067)
District	0.006** (0.002)
GeographicalNE	0.048 (0.096)
GeographicalSO	0.029 (0.071)
GeographicalWE	0.0002 (0.079)
Pro-Env. Contributions (113)	0.0001 (0.004)
Anti-Env. Contributions (113)	-0.001 (0.001)
Pro-Env. Contributions (114)	-0.002 (0.004)
Anti-Env. Contributions (114)	-0.001 (0.001)
Pro-Env. Contributions (1151)	0.006 (0.006)
Anti-Env. Contributions (1151)	0.002 (0.001)
Pro-Env. Contributions (1152)	-0.006 (0.005)
Anti-Env. Contributions (1152)	0.002** (0.001)
Pro-Env. Contributions (116)	0.0005 (0.003)
Anti-Env. Contributions (116)	-0.002*** (0.001)
Pro-Env. Contributions (117)	-0.085 (0.071)
Observations	150
R ²	0.342
Adjusted R ²	0.269
Residual Std. Error	0.304 (df = 134)
F Statistic	4.652*** (df = 15; 134)
Note:	*p<0.1; ** p<0.05; *** p<0.01

Figure 7: LPM results with only consistent representatives, with contributions of entire election of vote

	<i>Dependent variable:</i>
	All Anti-Env. Votes
District	-0.001 (0.002)
Party	0.007 (0.042)
Anti-Env. Contribution (113th congress Vote)	-0.001 (0.001)
Pro-Env. Contribution (113th congress Vote)	-0.014 (0.011)
Anti-Env. Contribution (114th congress Vote)	-0.002 (0.002)
Pro-Env. Contribution (114th congress Vote)	-0.019* (0.010)
Anti-Env. Contribution (115th congress 1st Vote)	0.007* (0.004)
Pro-Env. Contribution (115th congress 1st Vote)	0.021 (0.019)
Anti-Env. Contribution (115th congress 2nd Vote)	-0.001 (0.003)
Pro-Env. Contribution (115th congress 2nd Vote)	-0.014 (0.017)
Anti-Env. Contribution (116th congress)	0.002 (0.001)
Pro-Env. Contribution (116th congress)	-0.002 (0.019)
Anti-Env. Contribution (117th congress)	-0.002 (0.001)
Pro-Env. Contribution (117th congress)	0.007 (0.015)
GeographicalNE	-0.022 (0.056)
GeographicalSO	-0.038 (0.045)
GeographicalWE	-0.014 (0.052)
Constant	0.018 (0.046)
Observations	144
R ²	0.304
Adjusted R ²	0.210
Residual Std. Error	0.192 (df = 126)
F Statistic	3.234*** (df = 17; 126)
<i>Note:</i>	
* p<0.1; ** p<0.05; *** p<0.01	

Figure 8: LPM results with only consistent representatives, with contributions within six months of vote

A4. Declaration of Aids

Type of Aid	Use of Aid
Github Copilot	Used for coding repetitive things in R
DeepL Write	Applied over entire thesis to improve spelling and wording
ChatGPT	Applied over entire thesis to improve spelling
Quillbot	Applied over entire thesis to paraphrase text from sources

A5. Declaration of Authorship

I hereby declare,

- that I have written this thesis independently
- that I have written the thesis using only the aids specified in the index;
- that all parts of the thesis produced with the help of aids have been precisely declared;
- that I have mentioned all sources used and cited them correctly according to established academic citation rules;
- that I have acquired all immaterial rights to any materials I may have used, such as images or graphics, or that these materials were created by me;
- that the topic, the thesis or parts of it have not already been the object of any work or examination of another course, unless this has been expressly agreed with the faculty member in advance and is stated as such in the thesis;
- that I am aware of the legal provisions regarding the publication and dissemination of parts or the entire thesis and that I comply with them accordingly;
- that I am aware that my thesis can be electronically checked for plagiarism and for third-party authorship of human or technical origin and that I hereby grant the University of St.Gallen the copyright according to the Examination Regulations as far as it is necessary for the administrative actions;
- that I am aware that the University will prosecute a violation of this Declaration of Authorship and that disciplinary as well as criminal consequences may result, which may lead to expulsion from the University or to the withdrawal of my title.

By submitting this thesis, I confirm through my conclusive action that I am submitting the Declaration of Authorship, that I have read and understood it, and that it is true.

21.05.2024

Minna Emilia Hagen Heim