

Punctuated Equilibrium and Institutional Friction in Comparative Perspective

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Web Appendix

This appendix reports additional information excluded for reasons of space from the main body of our paper. The appendix is organized as follows*:

1. Data descriptions and variable names. This explains the structure of the related data file.
2. Descriptive statistics for each variable
3. Frequency distributions for each variable
4. Log-log and semi-log plots for each variable

Note that sections 3 and 4 consist of a series of graphs, one series per page. Since there are 30 series, these sections are 90 pages long. These graphs are provided for completeness and need not be read in order to understand the paper.

* Note that we added the Danish radio news data at the end of the appendix.

<i>Variable</i>	<i>Description</i>
country	1=DK, 2=BEL, and 3=US
year	Year
subcode	ID for each country's series see below
item	Categories of the series
topic	Label of the category
net R	aw value
prop	Proportion of annual agenda
dif R	aw change
dlc Perce	nt-count change
dlp Perce	nt-percent change

Table 1. Variables and their description

<i>ID</i>	<i>Description</i>	<i>Data Source and Identity</i>
1	Elections	Statistic Denmark, Befolkning og valg, Copenhagen, 1920-2005
2	Interpellations	Danish Agendas Project, 24 categories, 1953-2002
3	Questions	Danish Agendas Project, 24 categories, 1953-2002
4	Laws	Danish Agendas Project, 24 categories, 1953-2002
5	Appropriations	Breunig, 22 categories, 1964- 2004
6	Spending	Mortensen, 13 categories, 1971-2003

Table 2. List of Danish series

<i>ID</i>	<i>Description</i>	<i>Data Source and Identity</i>
1	Elections	Federal Public Services, http://www.elections.fgov.be/ , 1991-2000
2	Demonstrations	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
3	Newspapers	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
4	TV Coverage	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
5	Party platforms	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
6	Interpellations	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
7	Government agreement	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
8	Written Questions	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
9	Bills	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
10	Laws	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
11	Executive Orders	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000
12	Budgets	Belgian Political Agenda-Setting Project, 30 categories, 1991-2000

Table 3. List of Belgian series

<i>ID</i>	<i>Description</i>	<i>Data Source and Identity</i>
1	Presidential vote	Nardulli, 1828-2000, by state
2	House vote	King, 1896-1992, by district
3	Senate vote	Highton, 1914-1994, by seat
4	NYT stories	Policy Agendas Project, 1946-2003, 19 categories
5	Bills House	Wilkerson, 1947-1998 (with 1951-1952 missing), 19 categories
6	Bills Senate	Wilkerson, 1947-1998, 19 categories
7	Hearings - House	Policy Agendas Project, 1946-2004, 19 categories
8	Hearings - Senate	Policy Agendas Project, 1946-2004, 19 categories
9	Executive Orders	Policy Agendas Project, 1945-2001, 19 categories
10	CQ Stories	Policy Agendas Project, 1948-2002, 19 categories
11	Statutes	Policy Agendas Project, 1948-2004, 19 categories
12	Total Budget Outlays	Policy Agendas Project, 1800-1987, 1 category
13	Budget Authority	Policy Agendas Project, 1948-2004, 60 categories

Table 4. List of United States series

Descriptive Statistics

Descriptive statistics for each variable follow. Note that all variables are calculated in terms of the percent of the total agenda at time_t. Percent changes are then calculated from this base. (So if a given item is 10 percent of the total at time_t and 11 percent at time_{t+1}, then it scores as a 10 percent growth for time_{t+1}.) Election figures, which are already expressed in terms of percentages, are not transformed. Finally, in order to avoid biasing our results in our favor, we have excluded any percent change figures that are over +1,000 percent. These are listed as missing data in the dataset. Categories with zero counts in either year are also deleted. (There are two reasons for this: First, if we multiplied the number of categories which had no observations for many time periods; each of these would show no change from time to time, thus inflating the apparent incidence of no change and the size of the central peak of the distribution. Second, percentages based on a baseline of zero are undefined.) Both of these decisions to exclude data are designed to be as conservative as possible so that any results confirming our hypotheses cannot possibly be related to these decisions; each works towards deflating rather than increasing the reported kurtosis scores. The tables below provides the basic descriptive

statistics and Normality tests for all the series of each country (Tables 5 - 7). The descriptive statistics include the minimum, median, mean, maximum, inter-quartile range, variance, and the number of cases. The Normality tests compass Pearson's kurtosis measure, Hosking's L-kurtosis, the Kolmogorov-Smirnov test (D), and the Shapiro-Wilk Normality test (W).

<i>ID</i>	<i>Description</i>	<i>min</i>	<i>median</i>	<i>mean</i>	<i>max</i>	<i>IQR</i>	<i>var</i>	<i>N</i>
1	Elections	-0.12	0.00	0.00	16.0	03.0	00	218
2	Interpellations	-0.90	0.01	18.9	62.0	53.0	85	1080
3	Questions	-0.88	-0.02	0.28	13.0	89.1	13	815
4	Laws	-0.90	0.01	19.5	88.0	63.0	62	1069
5	Appropriations	-0.96	-0.01	0.03	43.0	12.0	15	792
6	Spending	-0.72	-0.01	0.00	71.0	08.0	03	832

Table 5a. Descriptive statistics for the Danish series.

<i>ID</i>	<i>Description</i>	<i>kurtosis</i>	<i>L-kurtosis</i>	<i>D</i>	<i>p</i>	<i>W</i>	<i>p</i>
1	Elections	5.71	0.25	0.46	0.00	95.0	00
2	Interpellations	42.40	0.35	0.24	0.00	58.0	00
3	Questions	14.94	0.27	0.21	0.00	73.0	00
4	Laws	13.57	0.26	0.22	0.00	78.0	00
5	Appropriations	198.25	0.49	0.37	0.00	37.0	00
6	Spending	86.95	0.43	0.39	0.00	56.0	00

Table 5b. Normality tests for the Danish series.

<i>ID</i>	<i>Description</i>	<i>min</i>	<i>median</i>	<i>mean</i>	<i>max</i>	<i>IQR</i>	<i>var</i>	<i>N</i>
1	Elections	-0.12	0.00	0.00	0.32	06.0	00	274
2	Demonstrations	-0.95	-0.04	0.38	7.51	01.2	13	202
3	Newspapers	-0.75	0.01	0.07	2.53	37.0	12	270
4	TV Coverage	-0.86	0.01	0.12	5.43	46.0	42	210
5	Party platforms	-0.99	-0.05	0.29	8.46	05.1	49	510
6	Interpellations	-0.81	-0.02	0.18	4.57	50.0	60	267
7	Government agreement	-0.80	-0.01	0.55	8.67	84.3	05	48
8	Written Questions	-0.71	0.02	0.08	3.71	48.0	.25	269
9	Bills	-0.87	0.01	0.30	7.87	77.1	.32	246
10	Laws	-0.86	-0.02	0.23	6.28	92.1	23	169
11	Executive Orders	-0.85	-0.04	0.21	8.96	65.1	08	239
12	Budgets	-0.92	0.01	0.15	9.98	15.1	06	245

Table 6a. Descriptive statistics for the Belgian series.

<i>ID</i>	<i>Description</i>	<i>kurtosis</i>	<i>L-kurtosis</i>	<i>D</i>	<i>p</i>	<i>W</i>	<i>p</i>
1	Elections 9.	.00	0.14	0.45	0.00	0.94	0.00
2	Demonstrations 10	.77	0.30	0.17	0.00	0.70	0.00
3	Newspapers 11	.92	0.19	0.32	0.00	0.89	0.00
4	TV Coverage	30.82	0.31	0.28	0.00	0.65	0.00
5	Party platforms	13.42	0.26	0.17	0.00	0.74	0.00
6	Interpellations 10	.83	0.30	0.23	0.00	0.76	0.00
7	Government agreement	12.48	0.38	0.22	0.02	0.63	0.00
8	Written Questions	14.57	0.23	0.26	0.00	0.84	0.00
9	Bills 1	6.51	0.32	0.21	0.00	0.68	0.00
10	Laws 15	.51	0.29	0.21	0.00	0.67	0.00
11	Executive Orders	27.61	0.32	0.22	0.00	0.65	0.00
12	Budgets 57	.75	0.64	0.33	0.00	0.31	0.00

Table 6b. Normality tests for the Belgian series.

<i>ID</i>	<i>Description</i>	<i>min</i>	<i>median</i>	<i>mean</i>	<i>max</i>	<i>IQR</i>	<i>var</i>	<i>N</i>
1	Presidential vote	-0.83	0.00	0.00	0.74	0.12	0.02	1778
2	House vote	-0.71	0.00	0.00	0.70	0.10	0.02	18355
3	Senate vote	-0.62	0.00	0.00	0.63	0.13	0.02	1327
4	NYT stories	-0.90	0.00	0.12	6.39	0.48	0.41	1072
5	Bills House	-0.80	0.00	0.06	3.10	0.39	0.15	912
6	Bills Senate	-0.78	0.01	0.08	7.33	0.42	0.22	969
7	Hearings - House	-0.87	-0.01	0.12	6.43	0.46	0.43	1091
8	Hearings - Senate	-0.93	0.00	0.15	8.41	0.58	0.53	1078
9	Executive Orders	-0.91	0.00	0.27	7.00	0.82	0.04	607
10	CQ Stories	-0.92	-0.02	0.19	8.87	0.68	0.77	994
11	Statutes	-0.91	-0.01	0.20	8.67	0.73	0.77	1007
12	Total Budget Outlays	-0.70	0.02	0.12	5.38	0.15	0.33	187
13	Budget Authority	-1.00	0.00	0.07	8.72	0.18	0.29	3106

Table 7a. Descriptive statistics for the United States series.

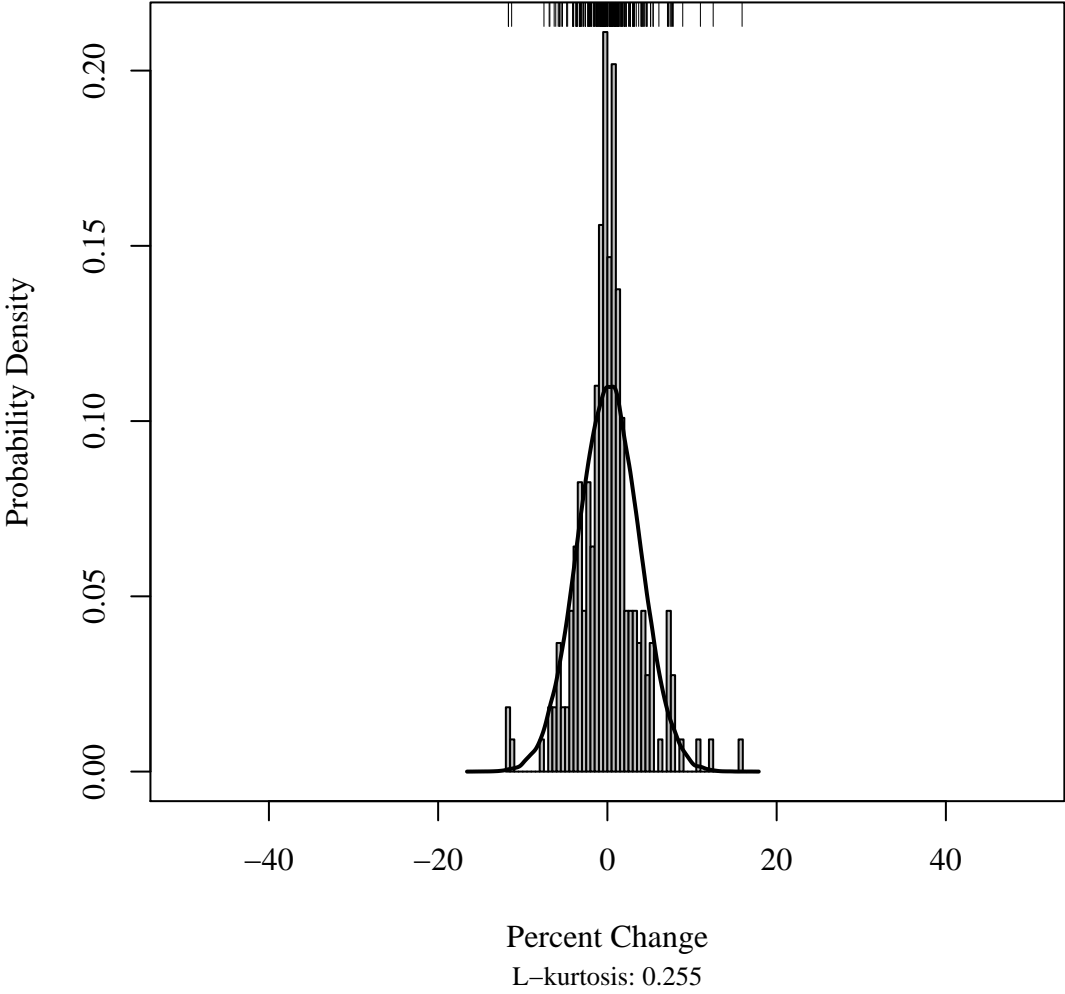
<i>ID</i>	<i>Description</i>	<i>kurtosis</i>	<i>L-kurtosis</i>	<i>D</i>	<i>p</i>	<i>W</i>	<i>p</i>
1	Presidential vote	8.24	0.25	0.38	0.00	0.93	0.00
2	House vote	7.17	0.30	0.38	0.00	0.92	0.00
3	Senate vote	6.14	0.22	0.39	0.00	0.96	0.00
4	NYT stories	26.87	0.28	0.25	0.00	0.73	0.00
5	Bills House	12.66	0.21	0.30	0.00	0.87	0.00
6	Bills Senate	66.00	0.23	0.29	0.00	0.73	0.00
7	Hearings - House	26.89	0.33	0.26	0.00	0.68	0.00
8	Hearings - Senate	34.21	0.27	0.24	0.00	0.71	0.00
9	Executive Orders	12.17	0.25	0.21	0.00	0.76	0.00
10	CQ Stories	28.03	0.29	0.23	0.00	0.68	0.00
11	Statutes	21.02	0.25	0.22	0.00	0.74	0.00
12	Total Budget Outlays	56.04	0.54	0.36	0.00	0.40	0.00
13	Budget Authority	66.47	0.48	0.30	0.00	0.50	0.00

Table 7b. Normality tests for the United States series.

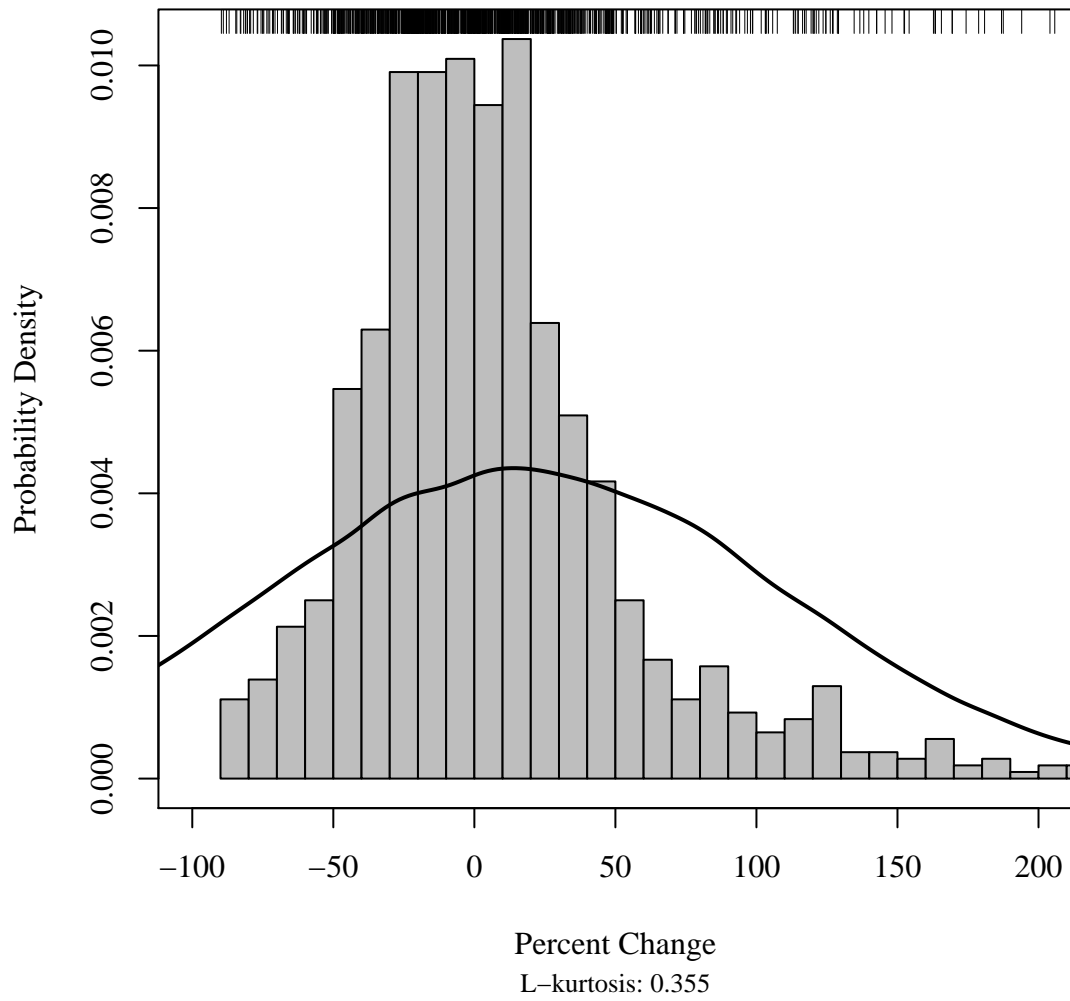
Frequency Distributions

Each of the plots in this section presents one series of data as a frequency distribution. The optimum bin size is calculated using the Sheather and Jones (1991) kernel density estimation. A Normal distribution with identical mean and variance is overlaid. The dashes at the top of the graphs indicate the observations at each value.

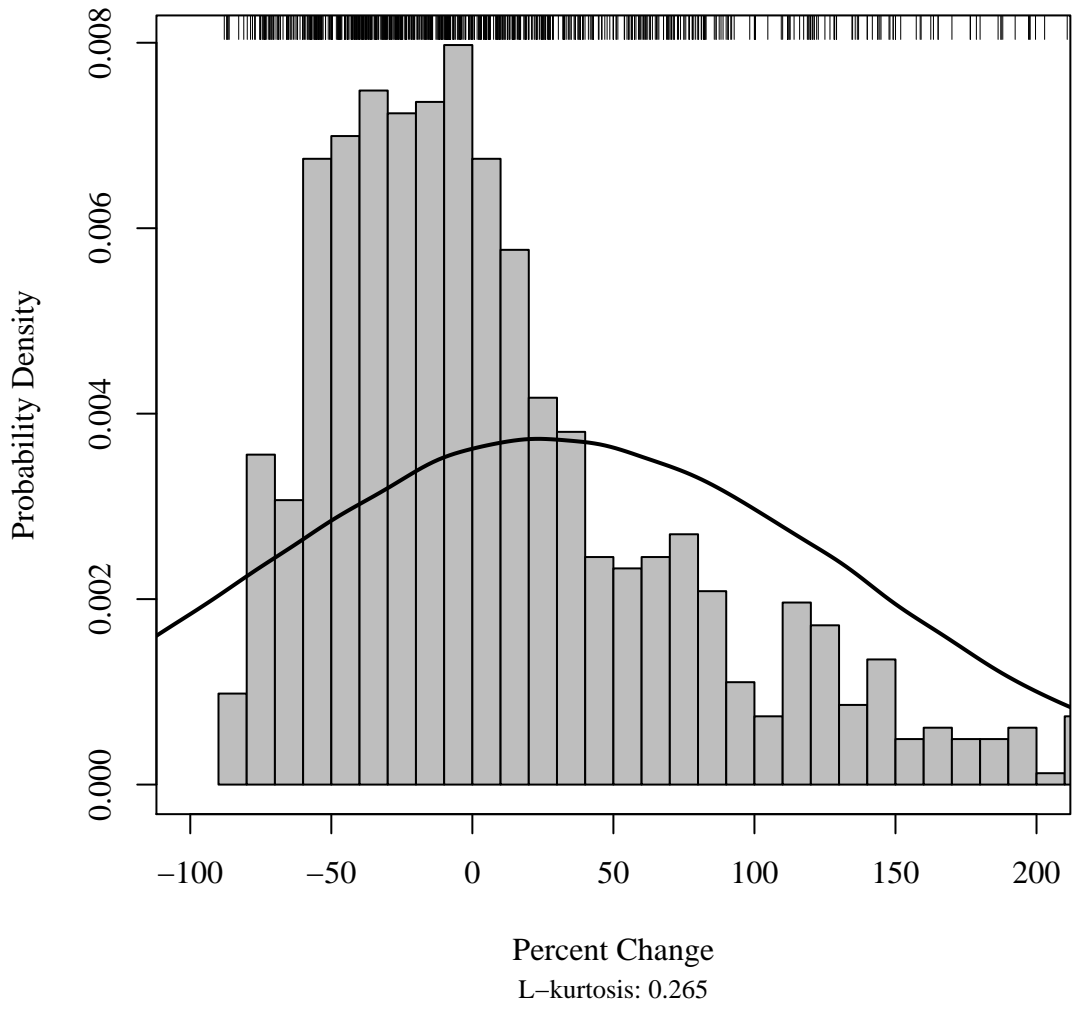
Histogram for Elections in Denmark



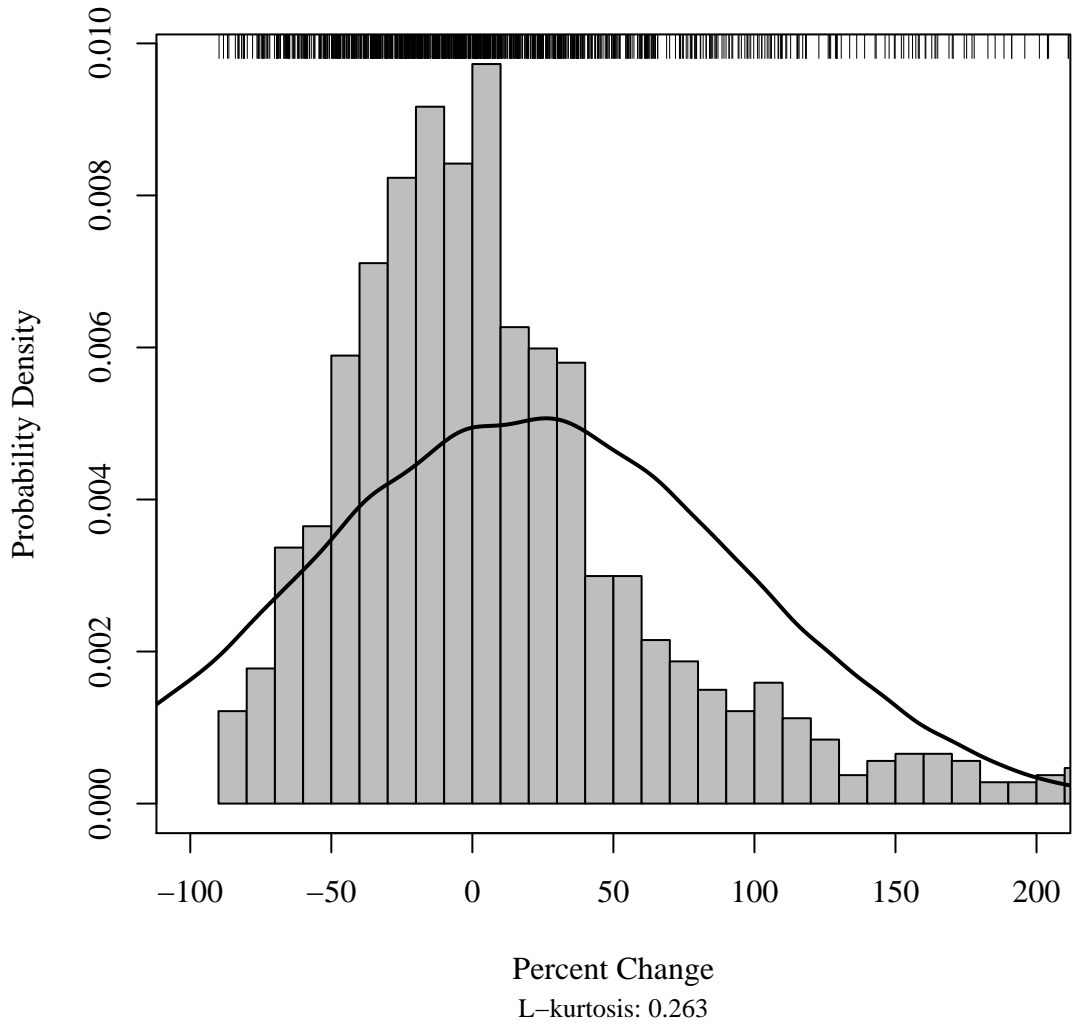
Histogram for Interpellations in Denmark



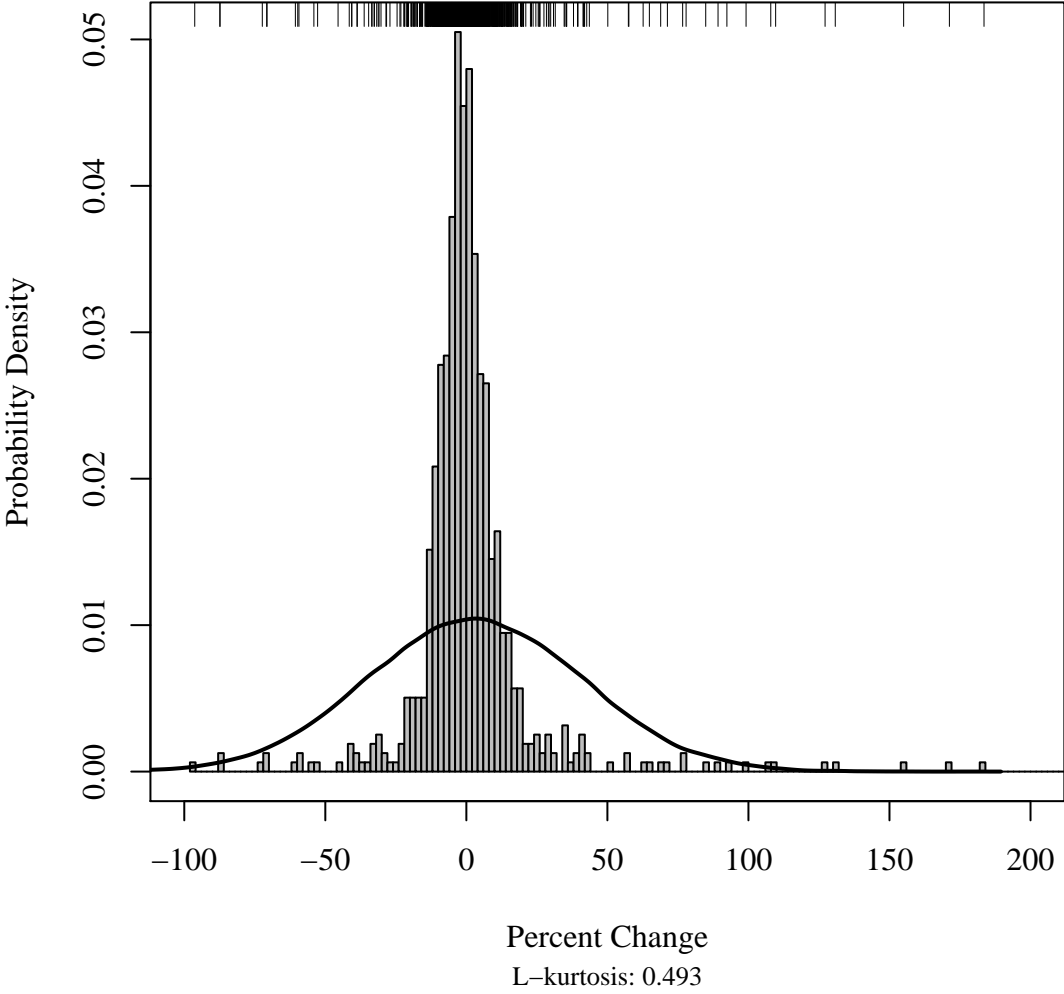
Histogram for Questions in Denmark



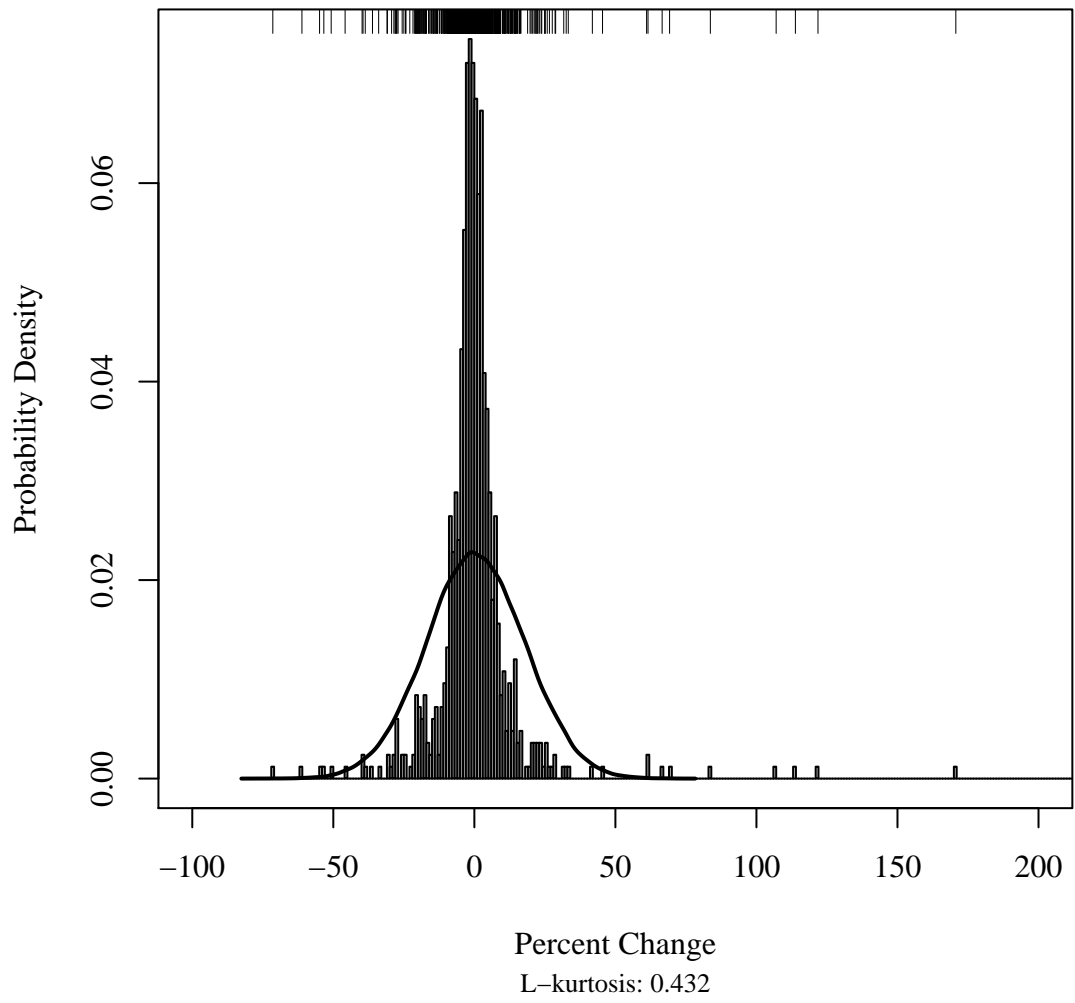
Histogram for Laws in Denmark



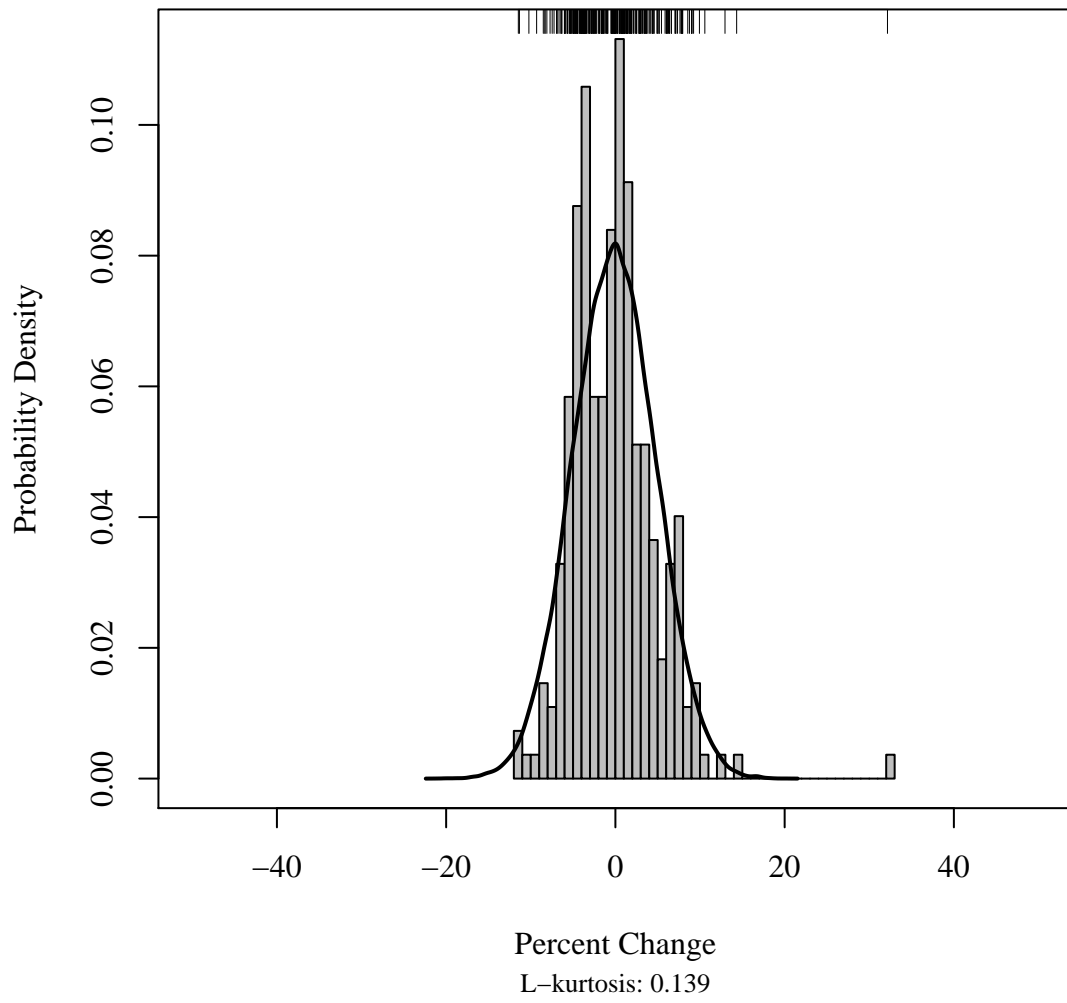
Histogram for Appropriations in Denmark



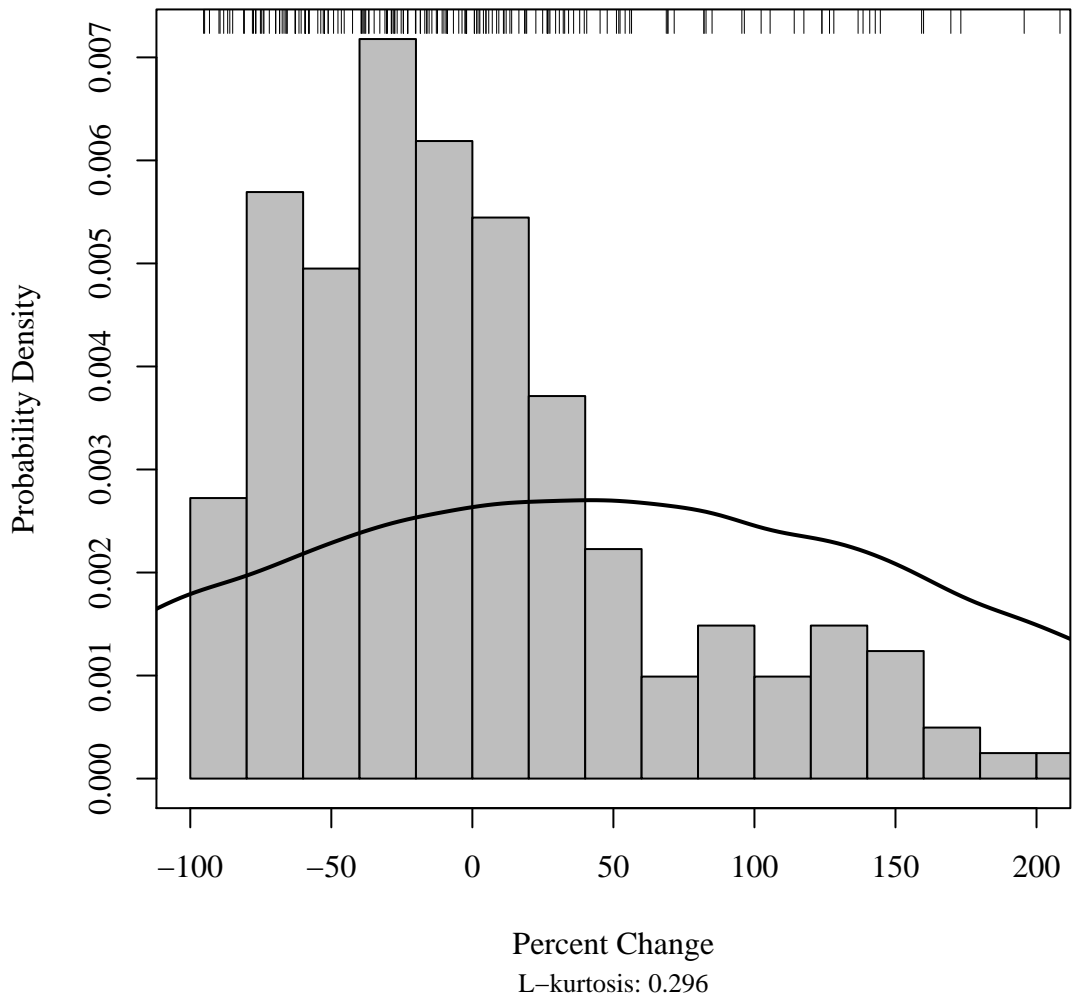
Histogram for Spending in Denmark



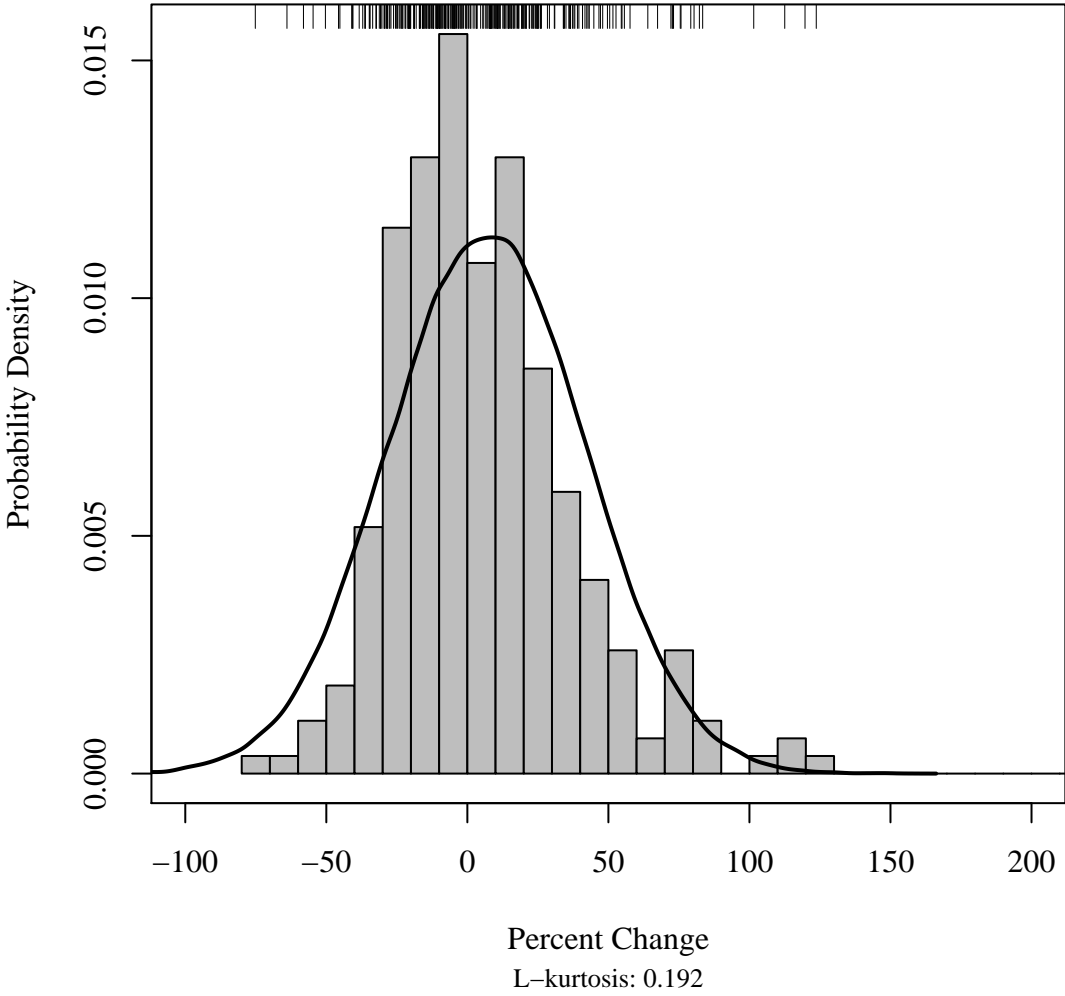
Histogram for Elections in Belgium



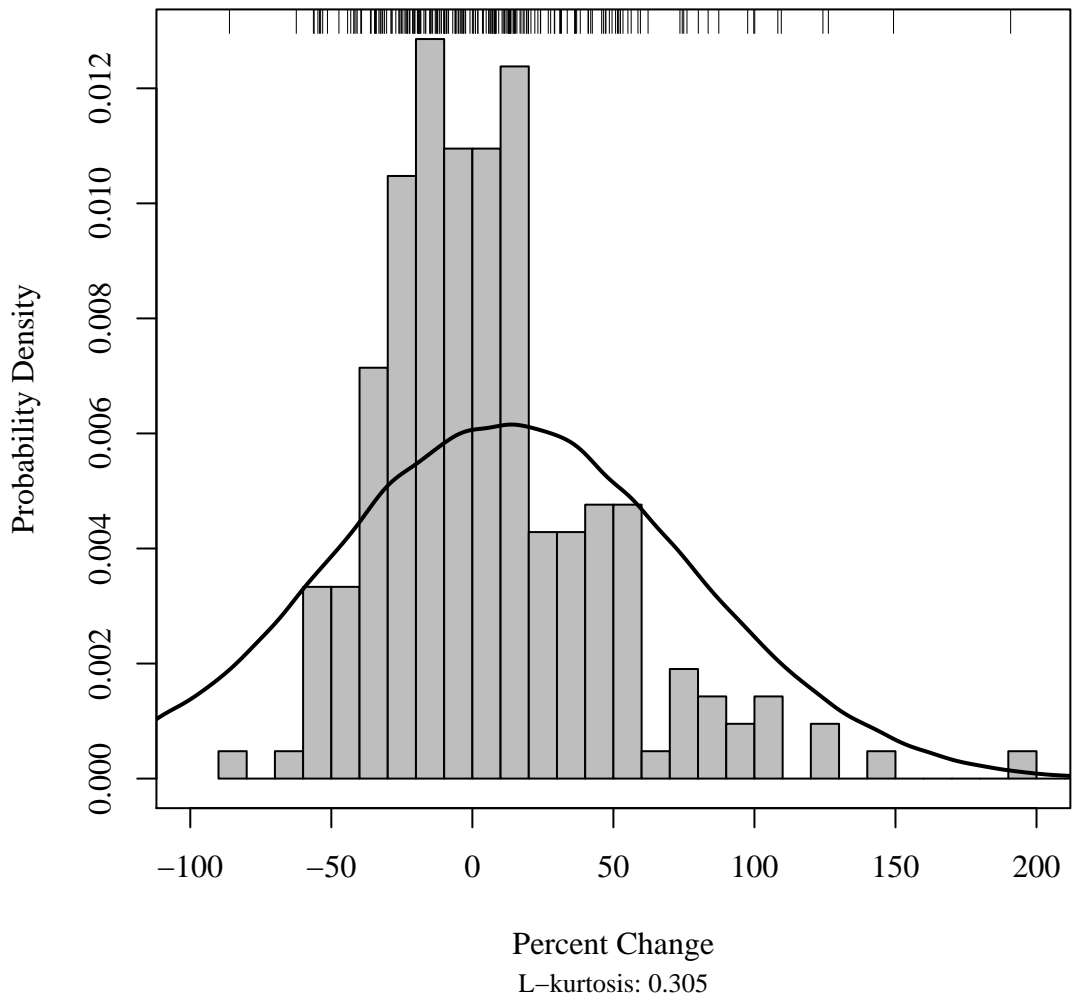
Histogram for Demonstrations in Belgium



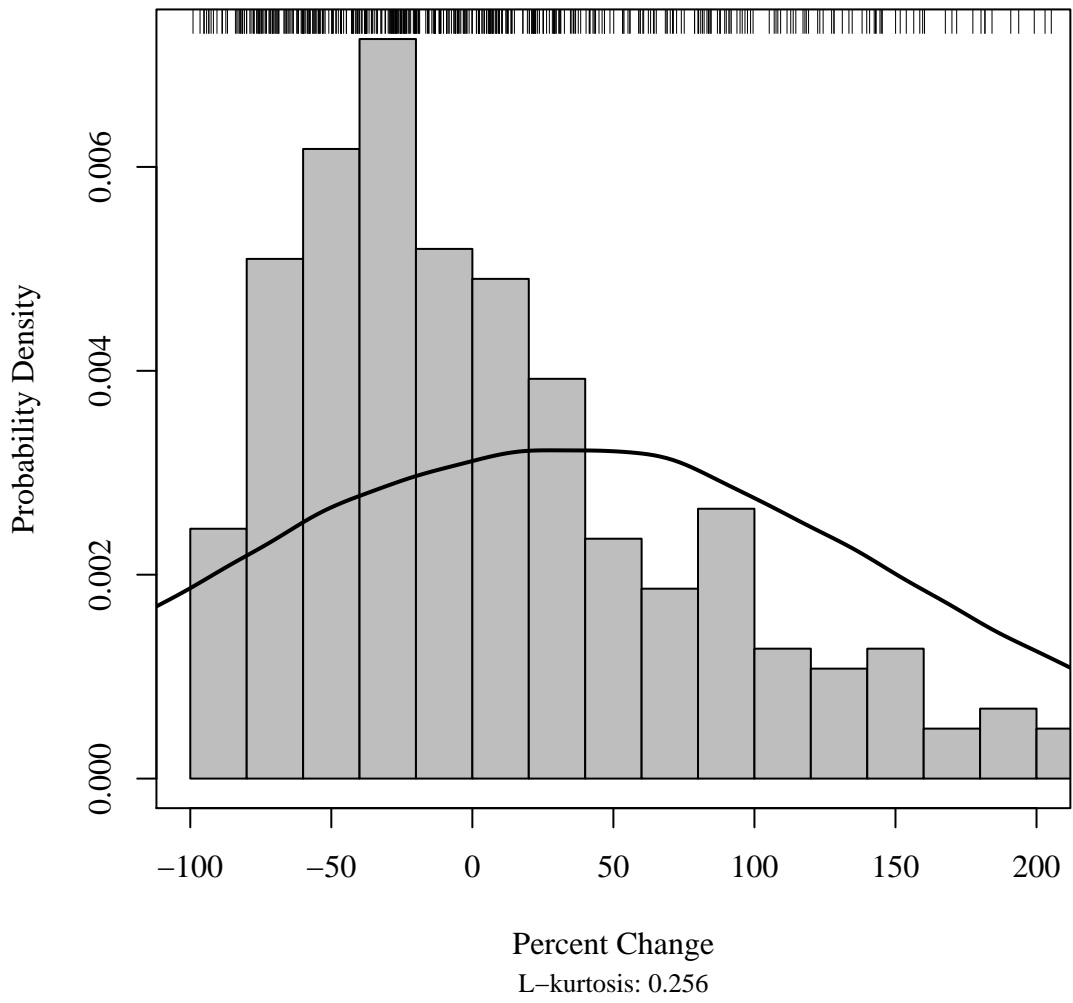
Histogram for Newspapers in Belgium



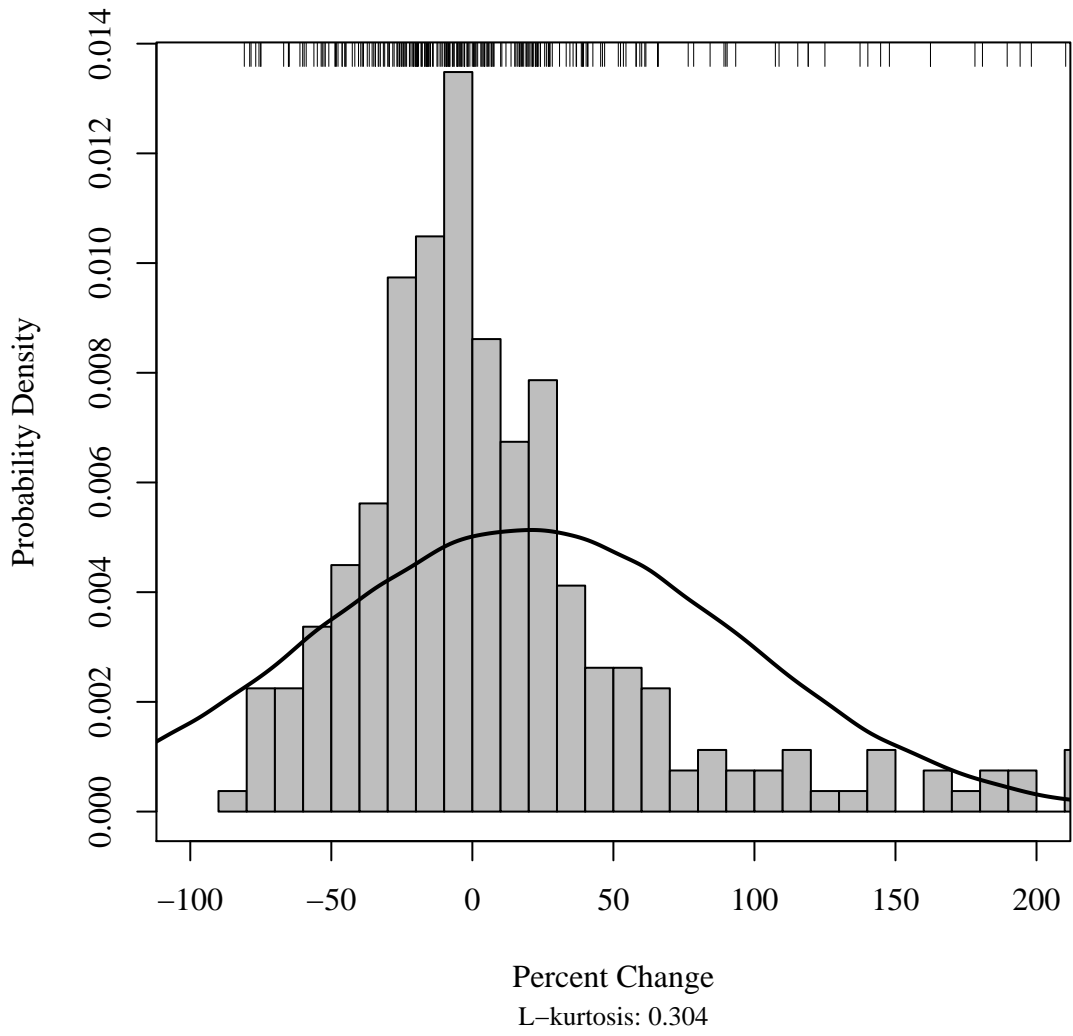
Histogram for TV coverage in Belgium



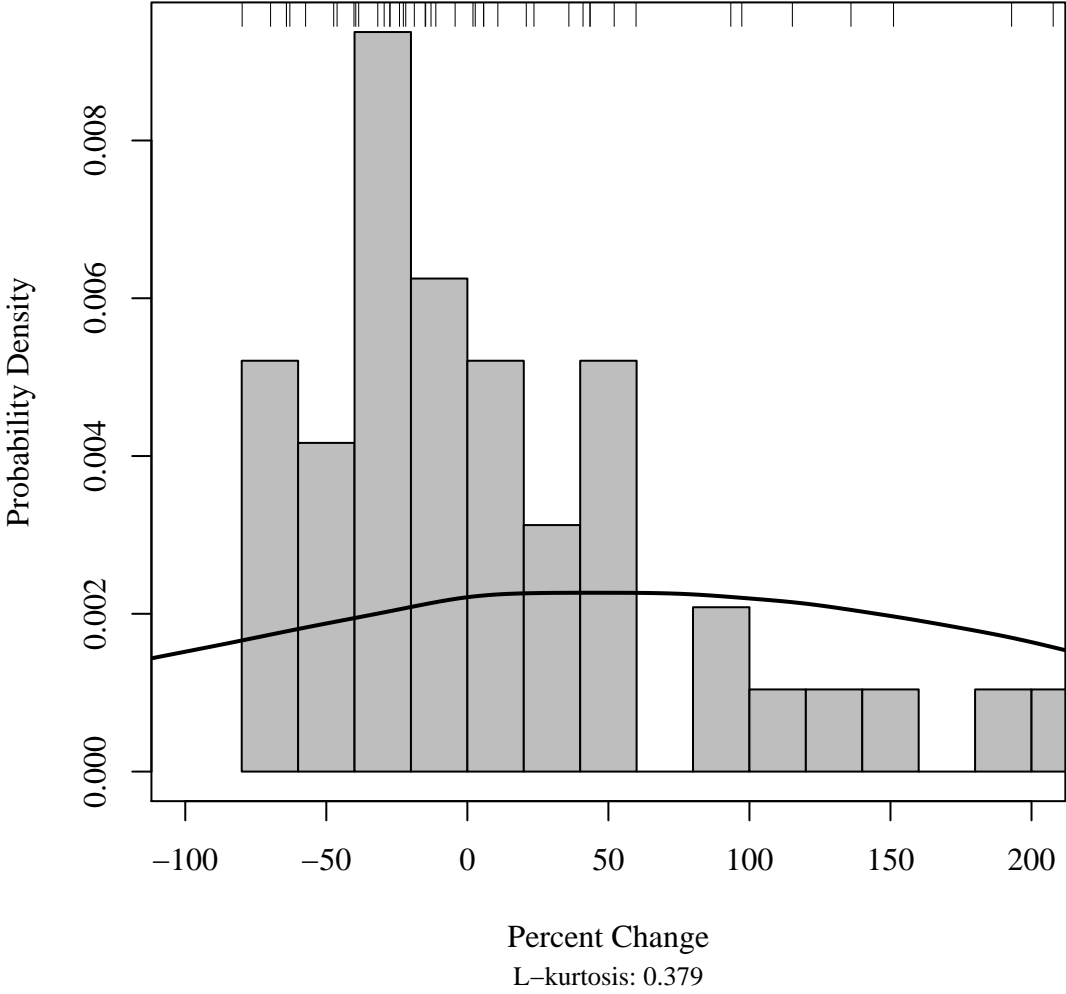
Histogram for Party platforms in Belgium



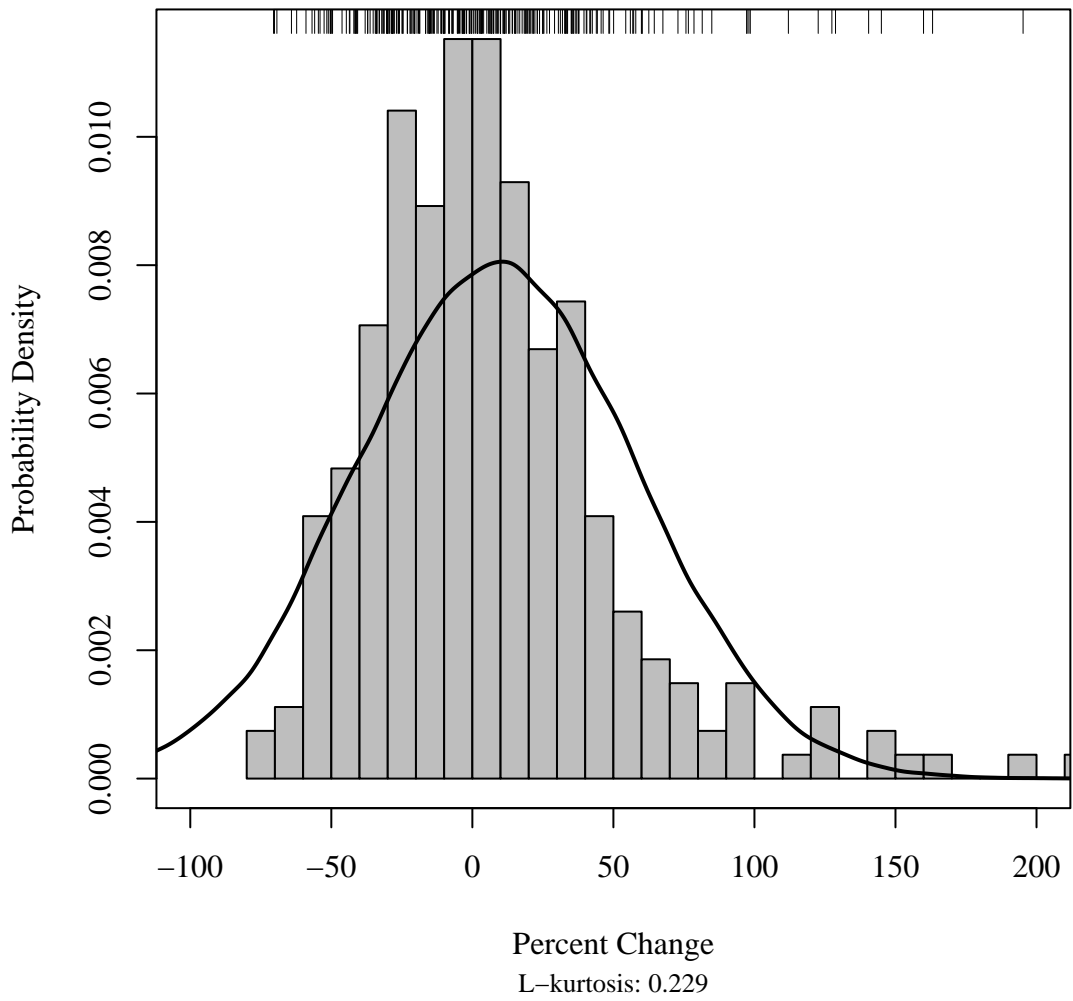
Histogram for Interpellations in Belgium



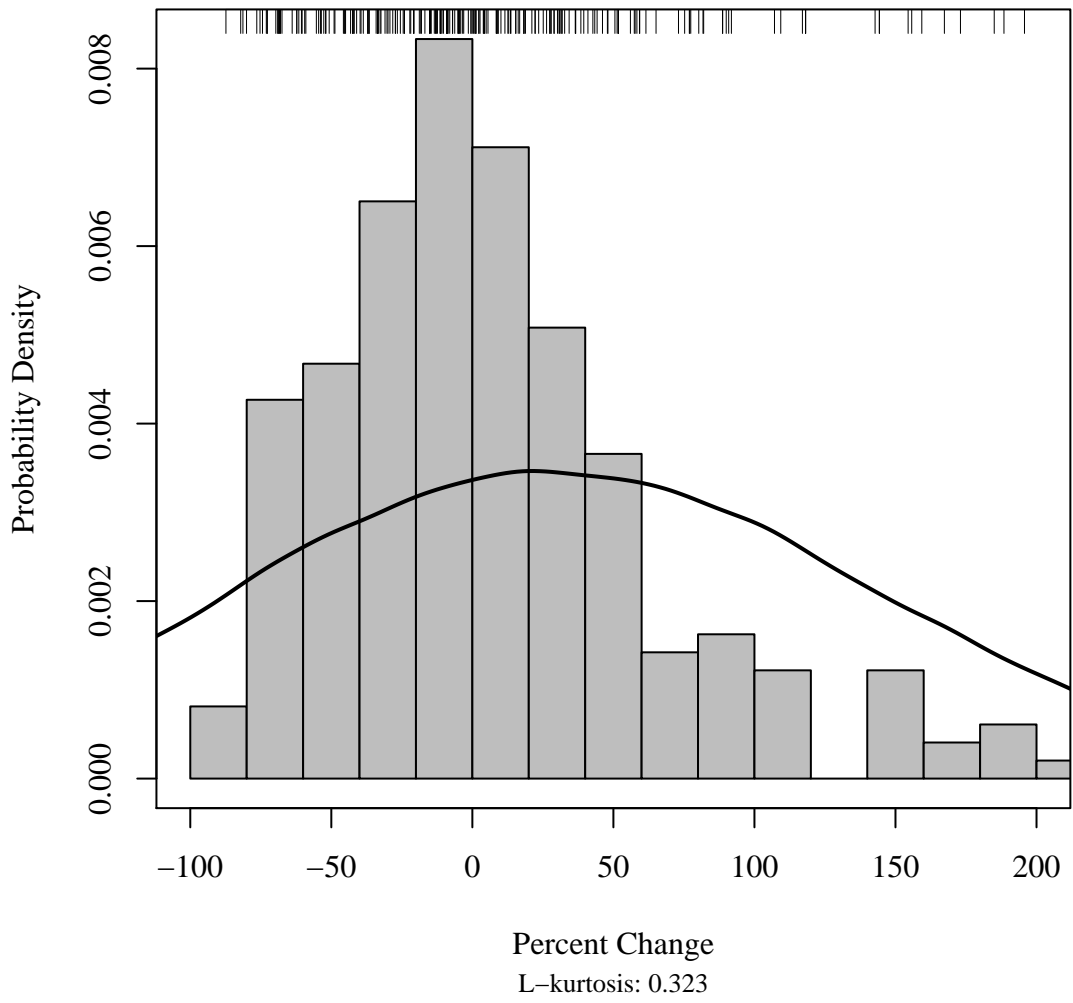
Histogram for Government agreements in Belgium



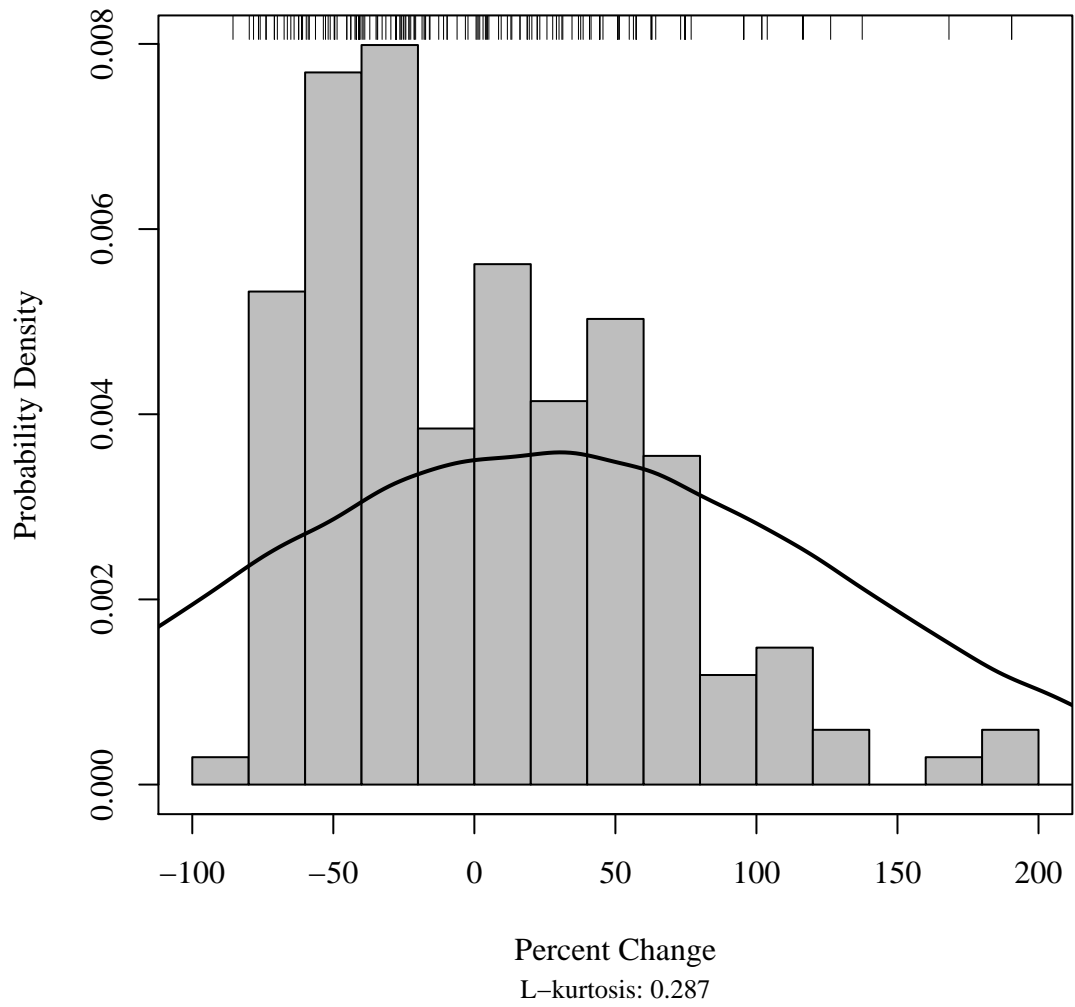
Histogram for Written questions in Belgium



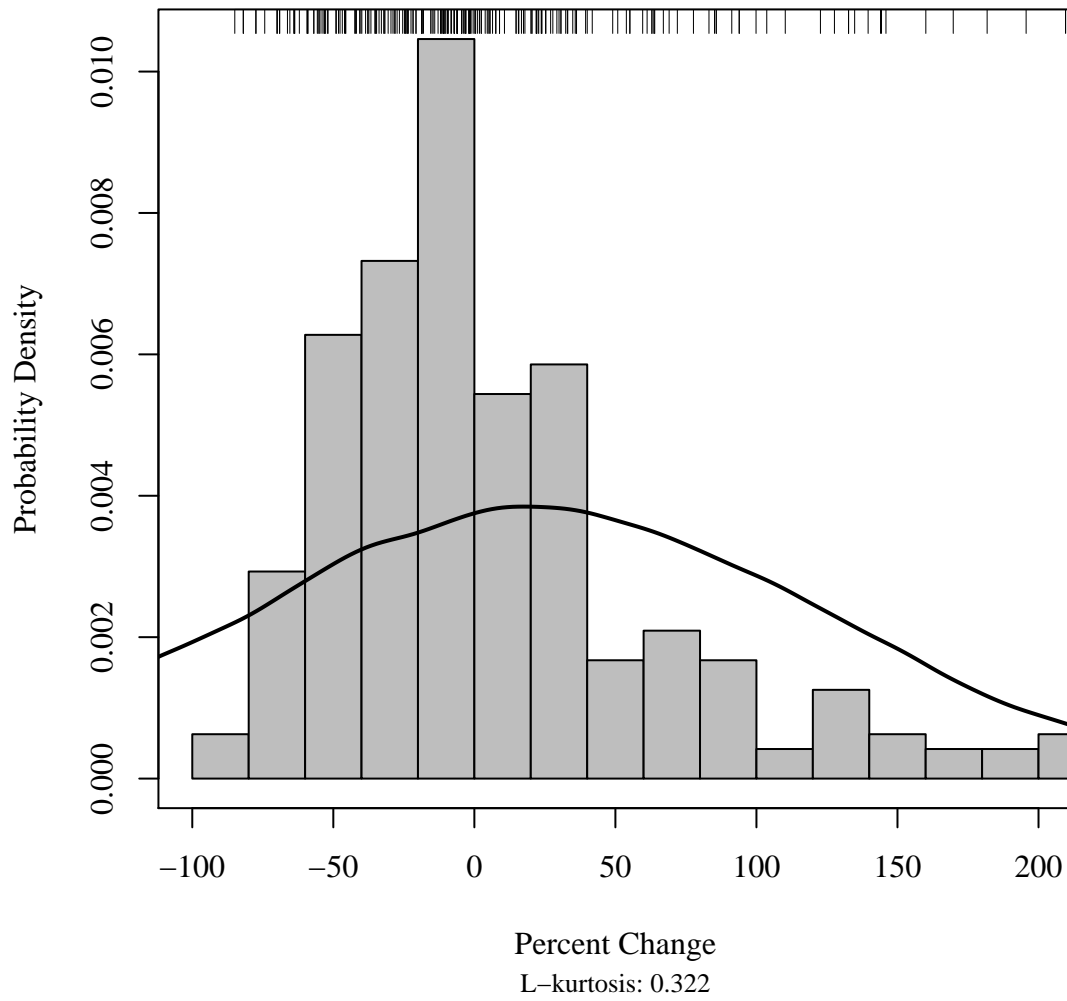
Histogram for Bills in Belgium



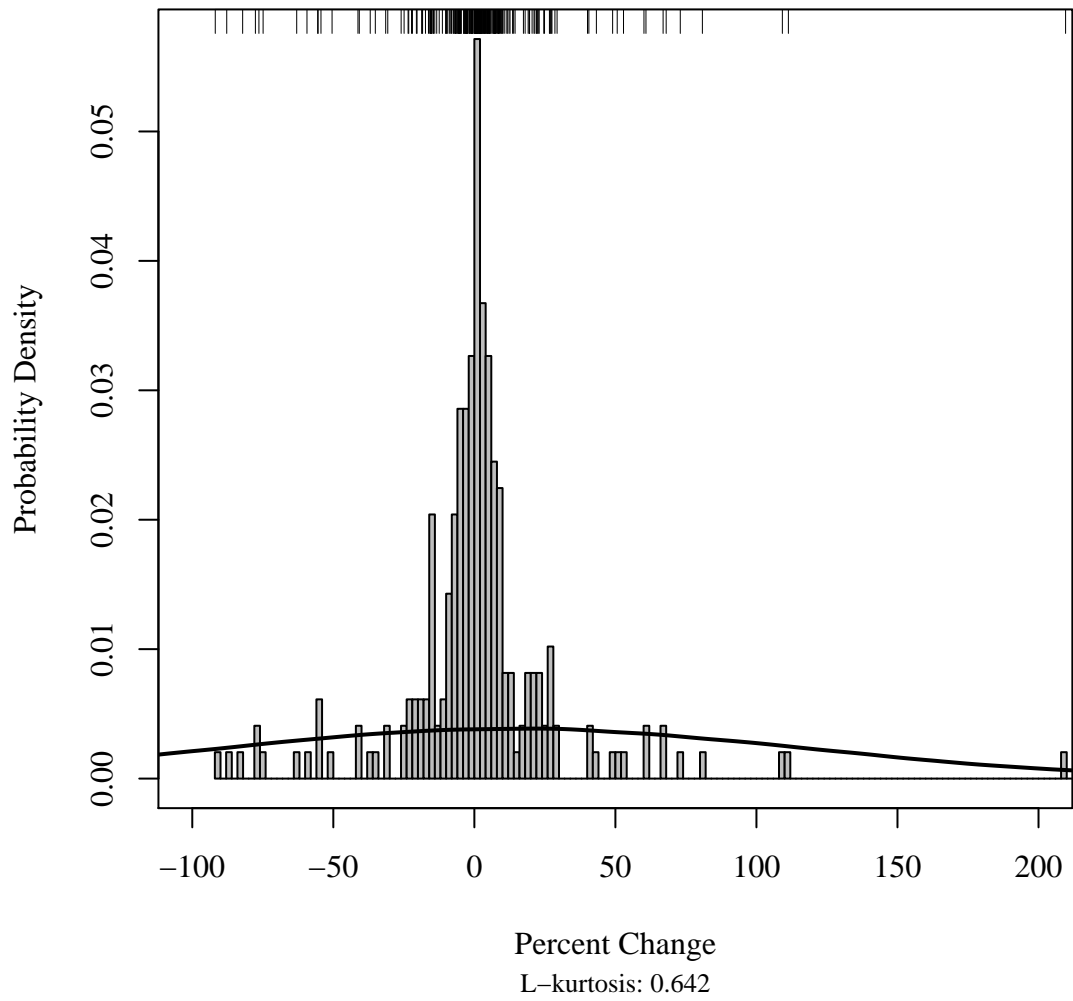
Histogram for Laws in Belgium



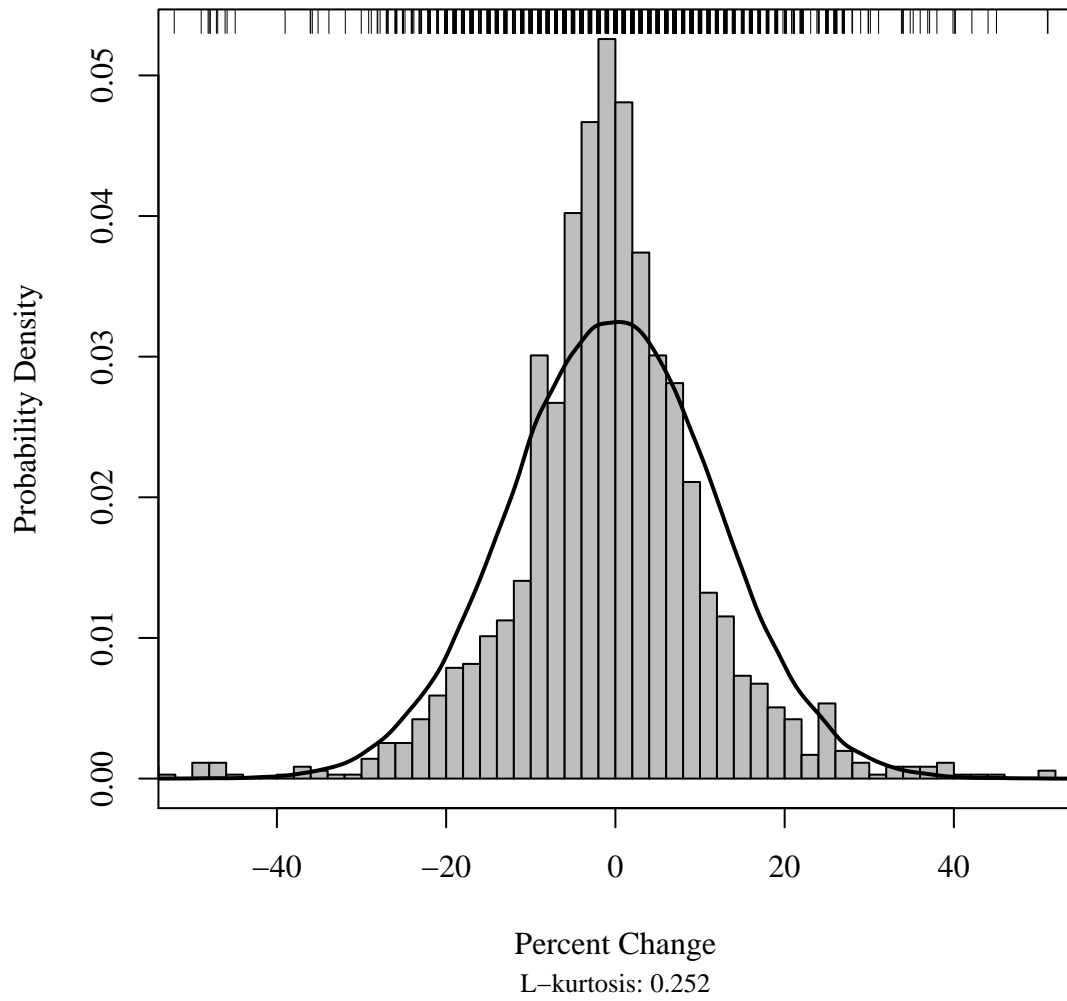
Histogram for Executive orders in Belgium



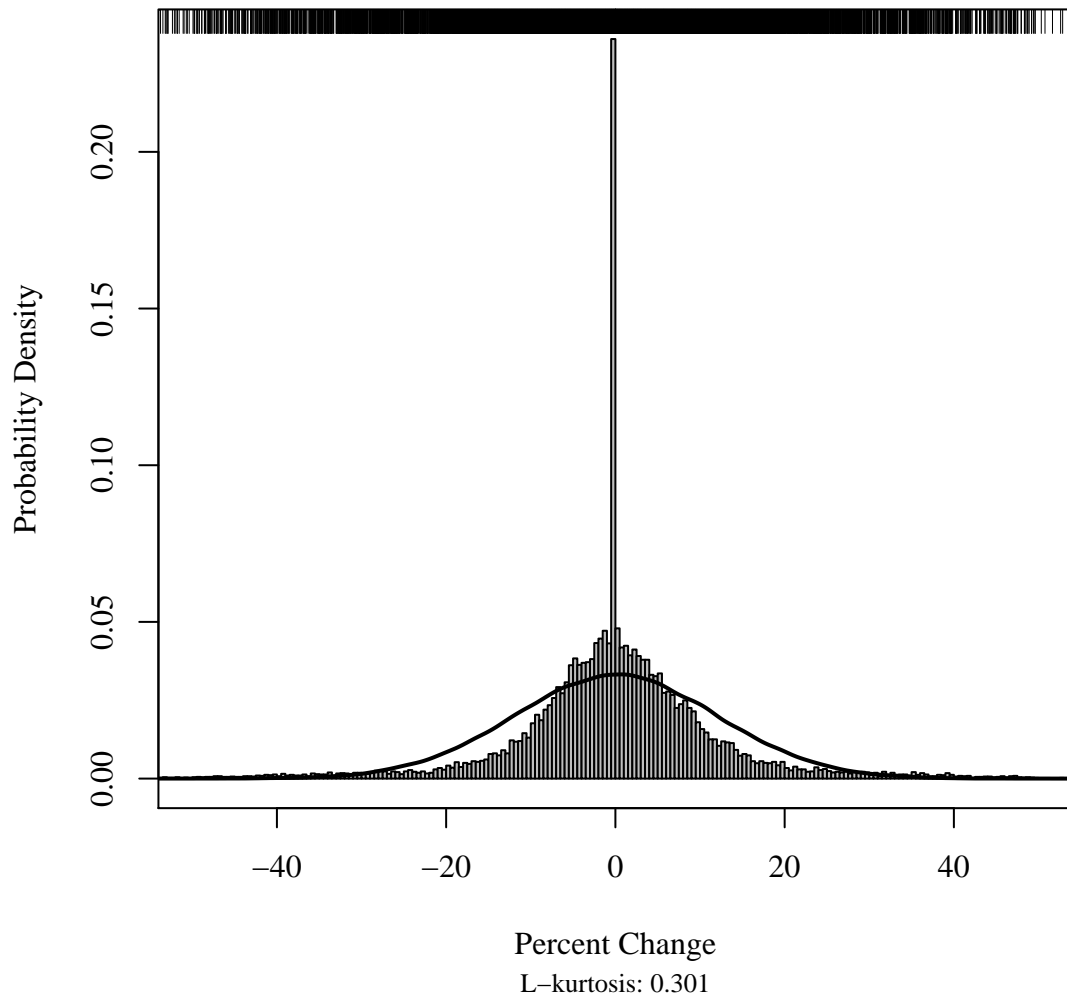
Histogram for Budgets in Belgium



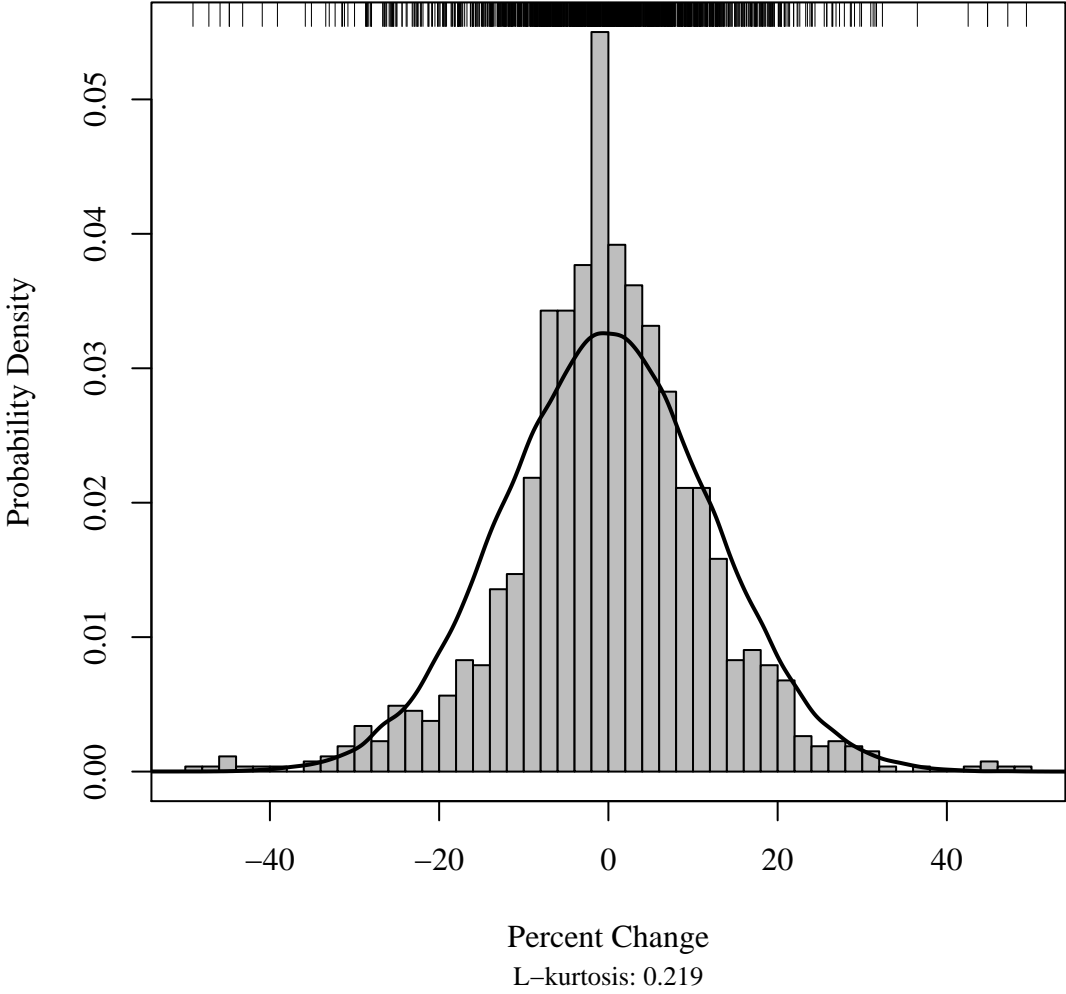
Histogram for Presidential elections in the United States



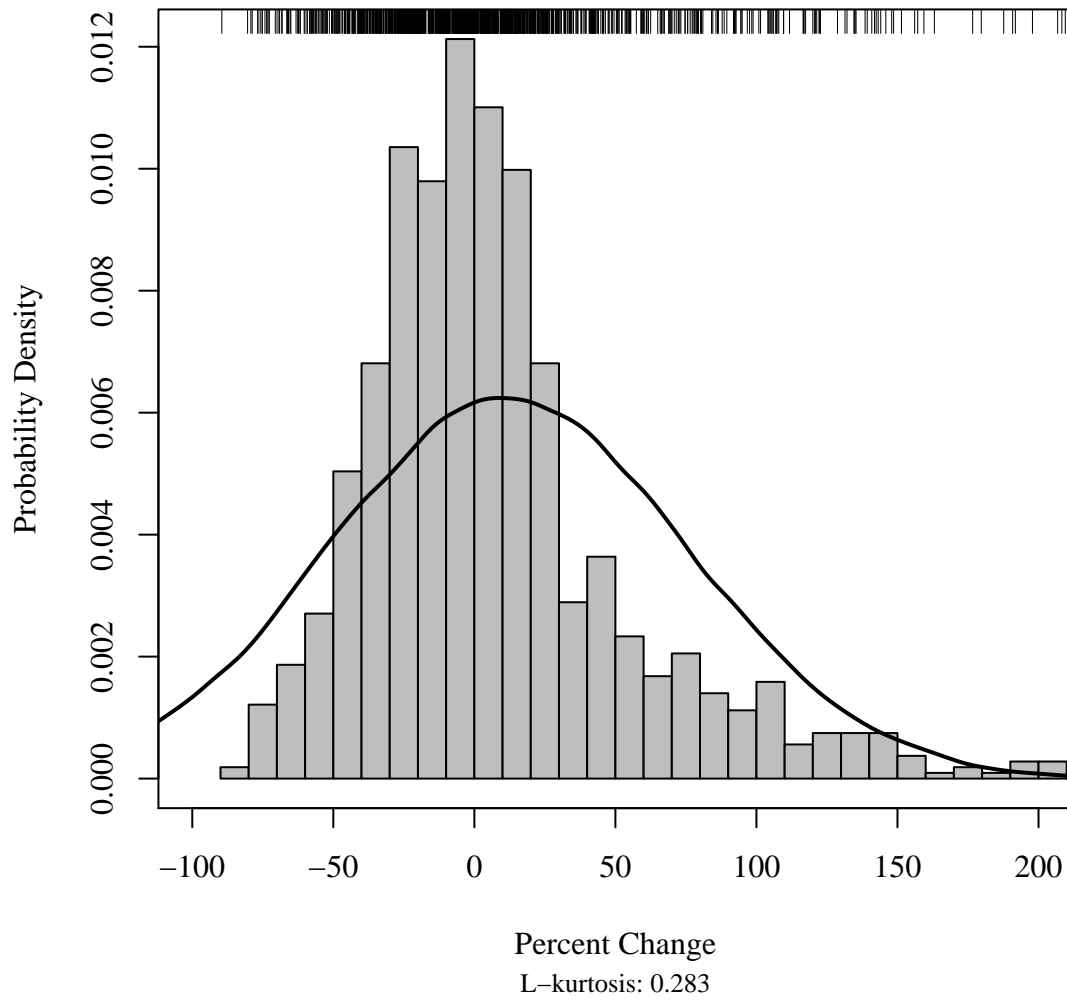
Histogram for House elections in the United States



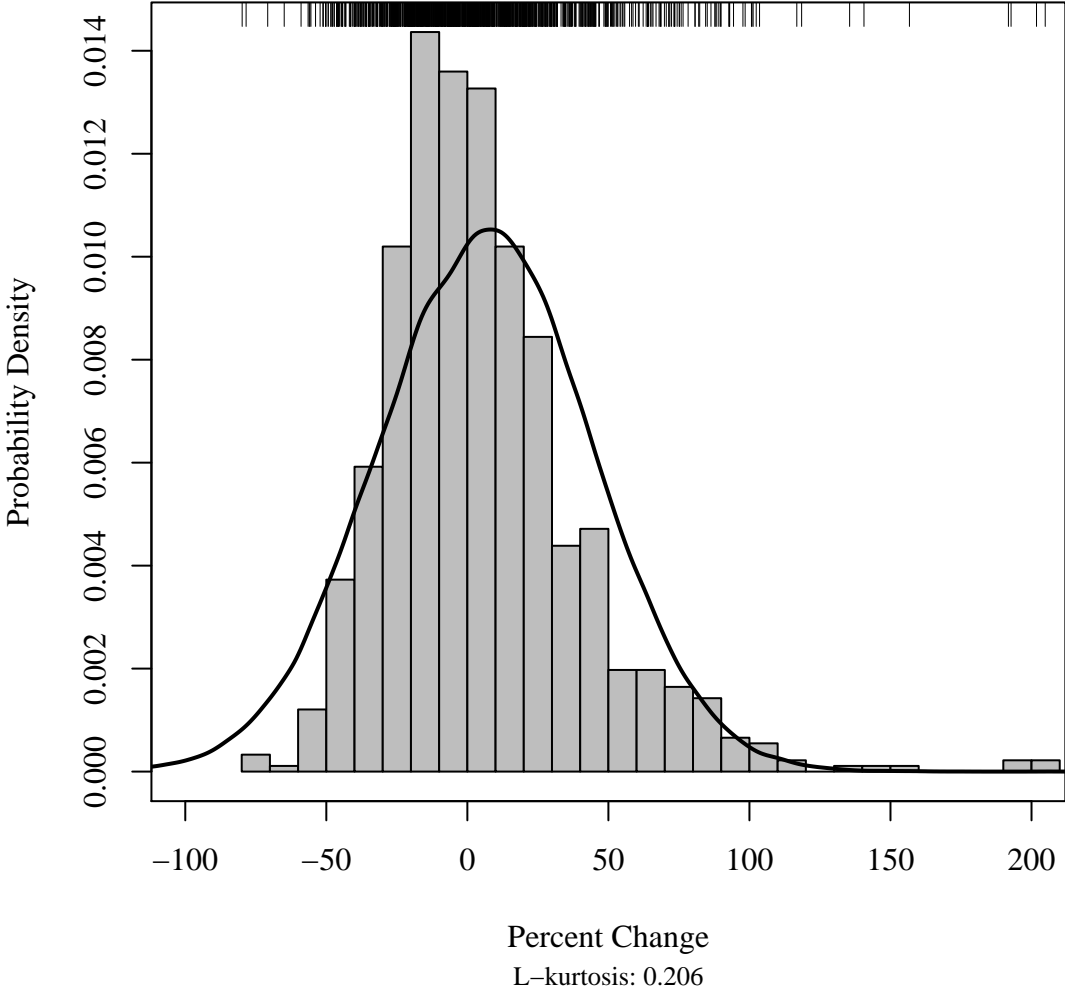
Histogram for Senate elections in the United States



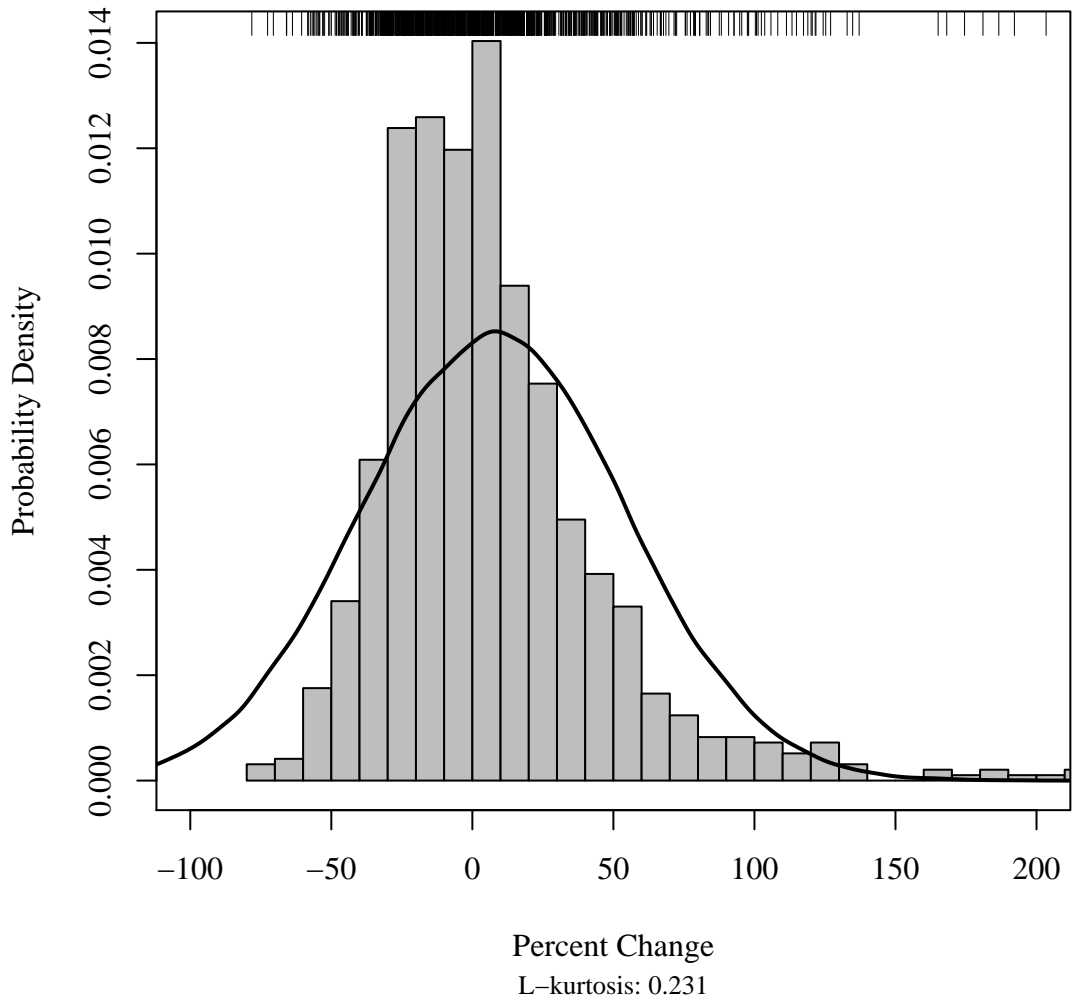
Histogram for NYT stories in the United States



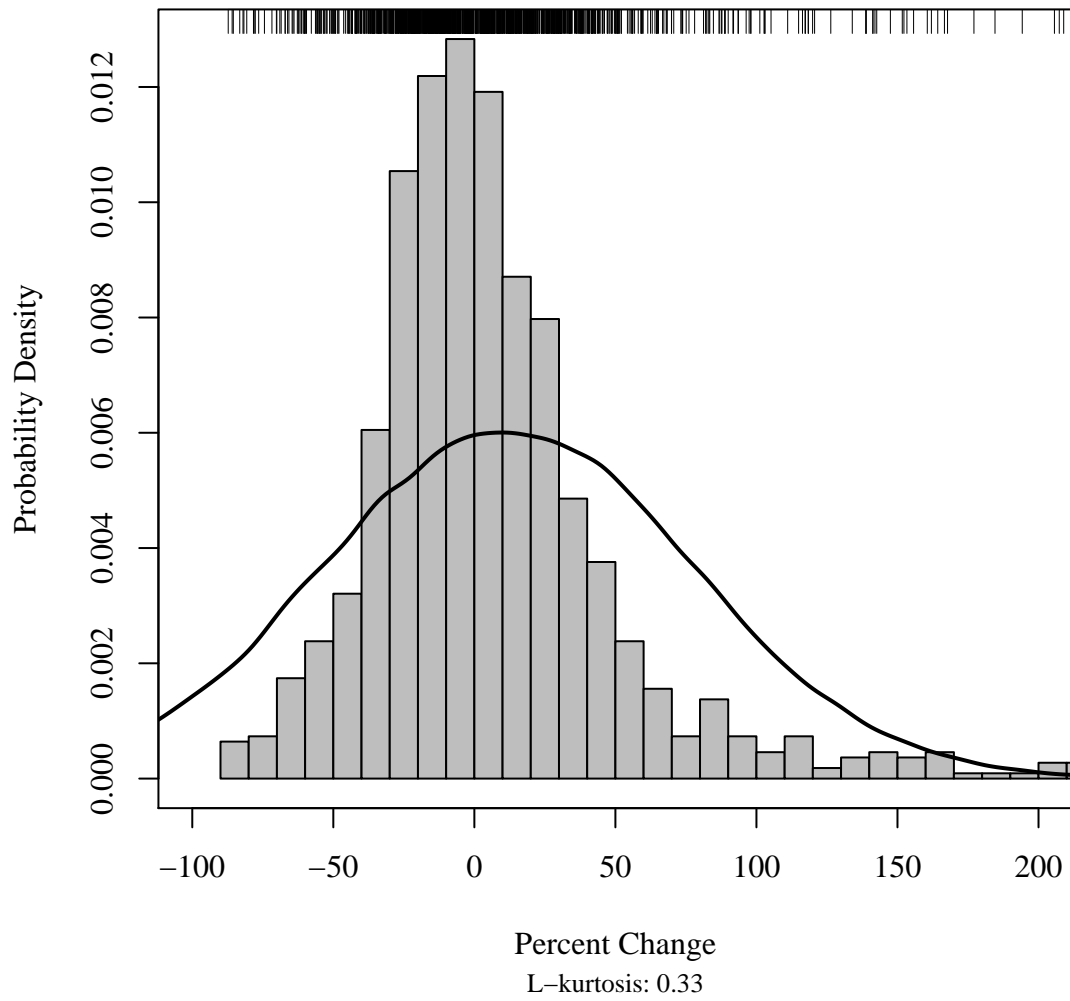
Histogram for House bills in the United States



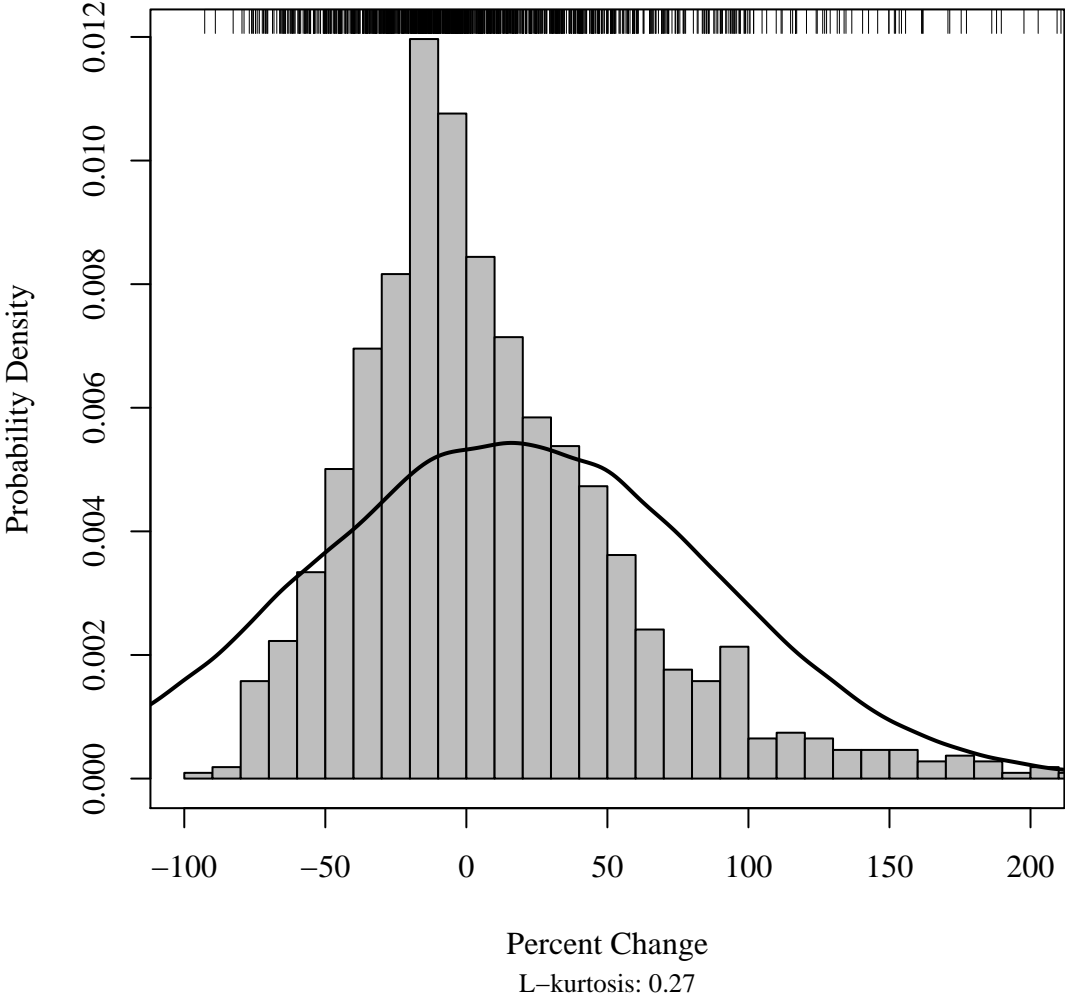
Histogram for Senate bills in the United States



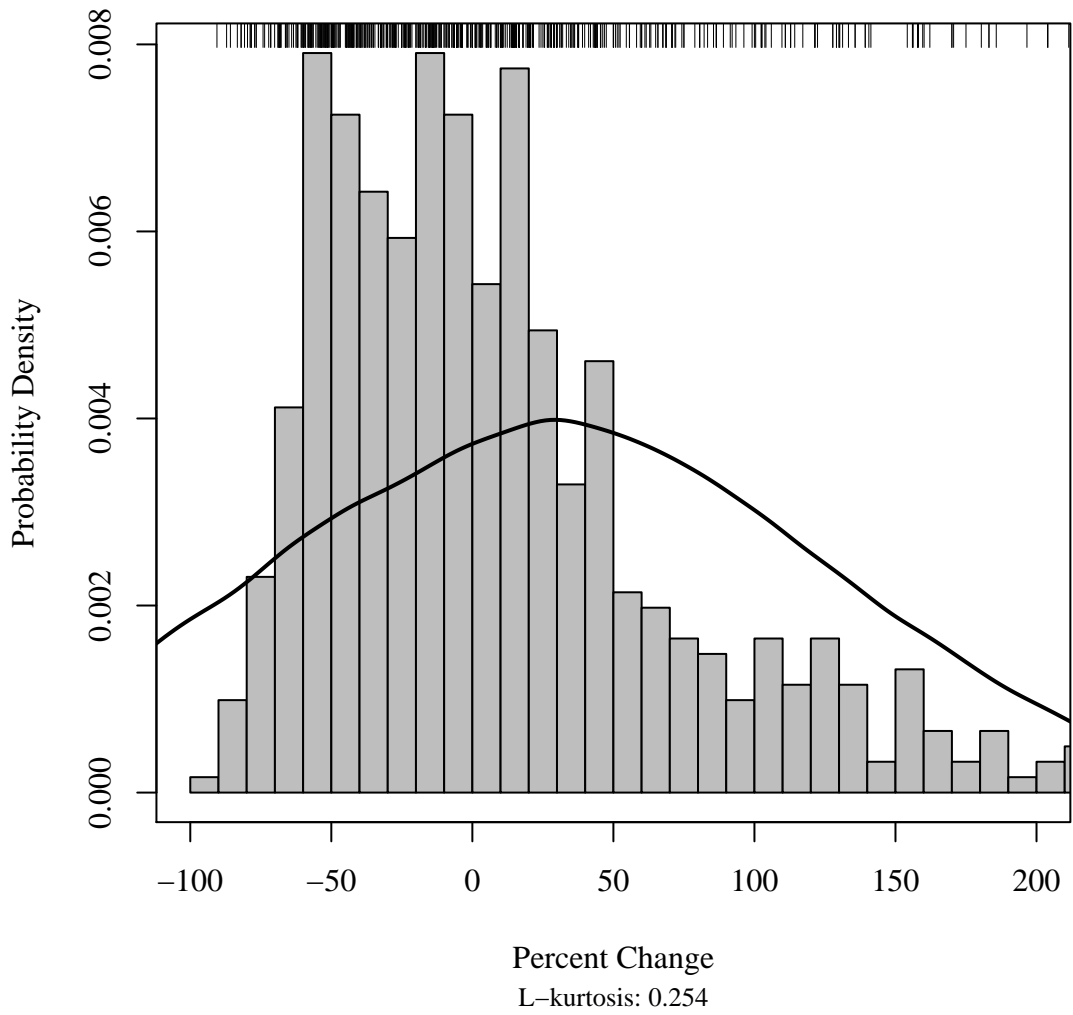
Histogram for House hearings in the United States



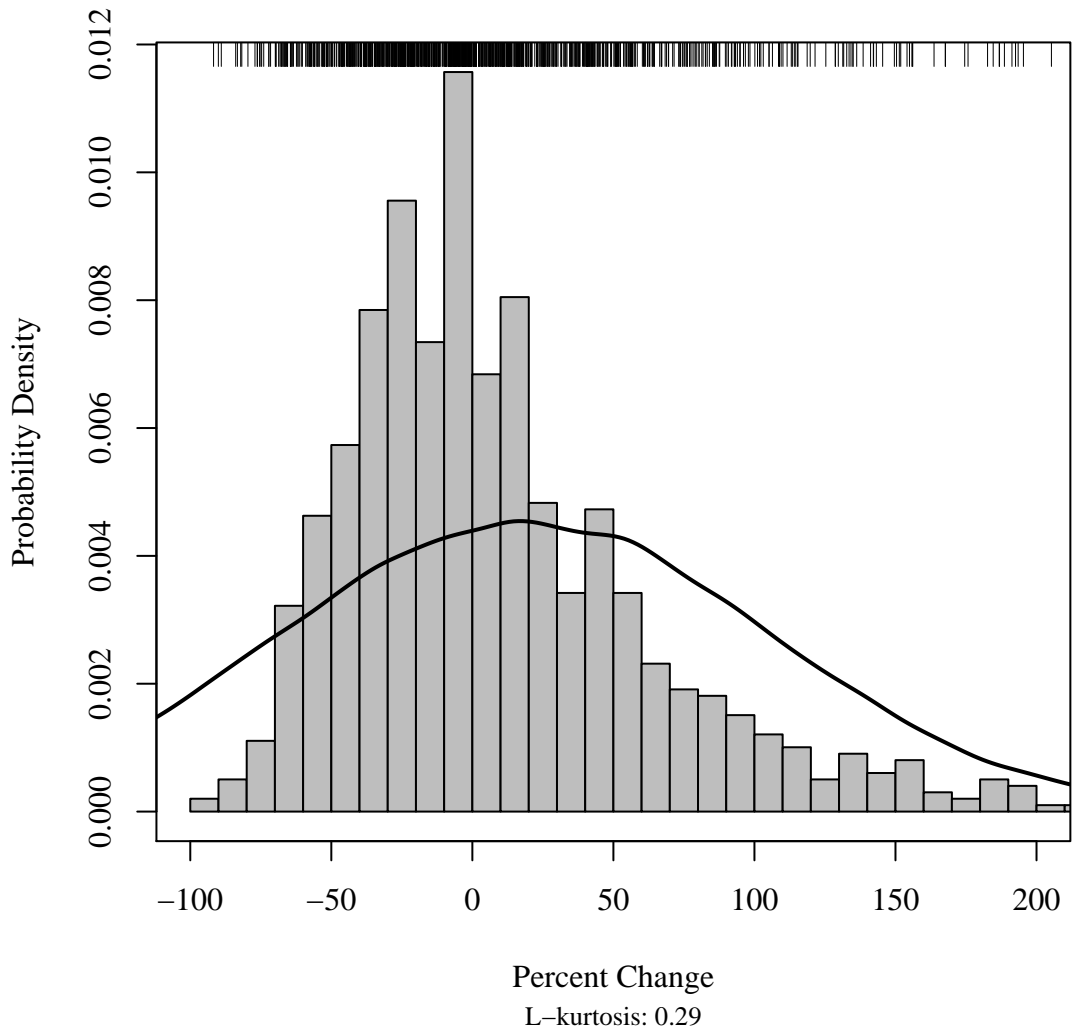
Histogram for Senate hearings in the United States



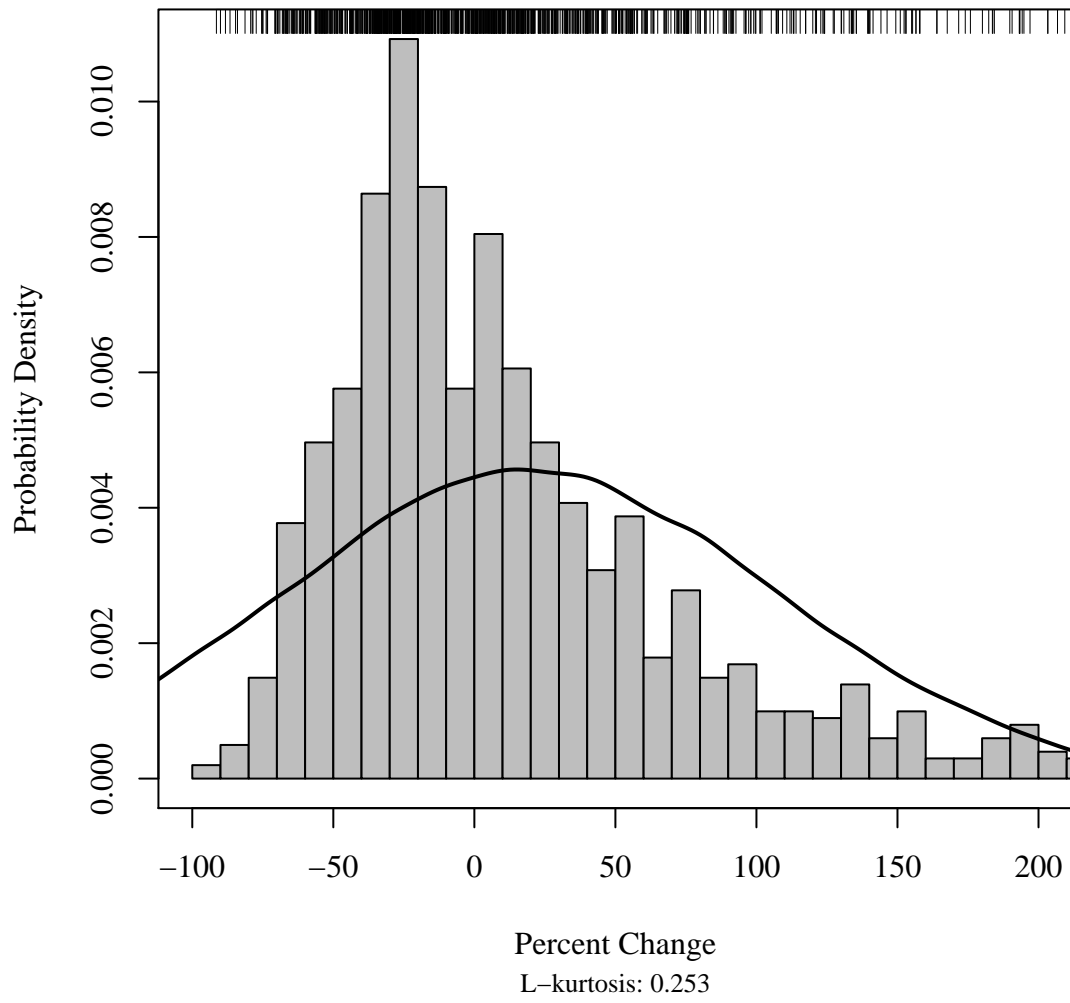
Histogram for Executive orders in the United States



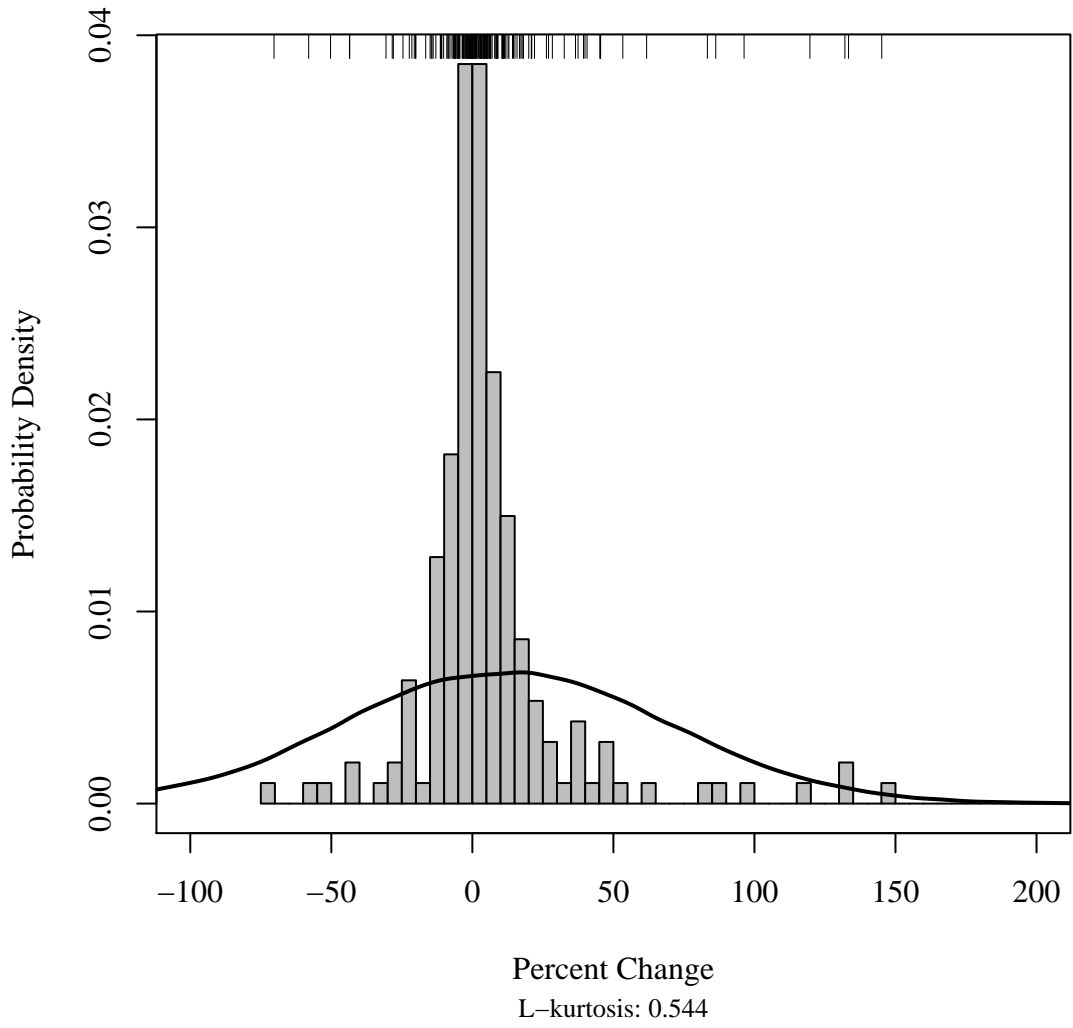
Histogram for CQ stories in the United States



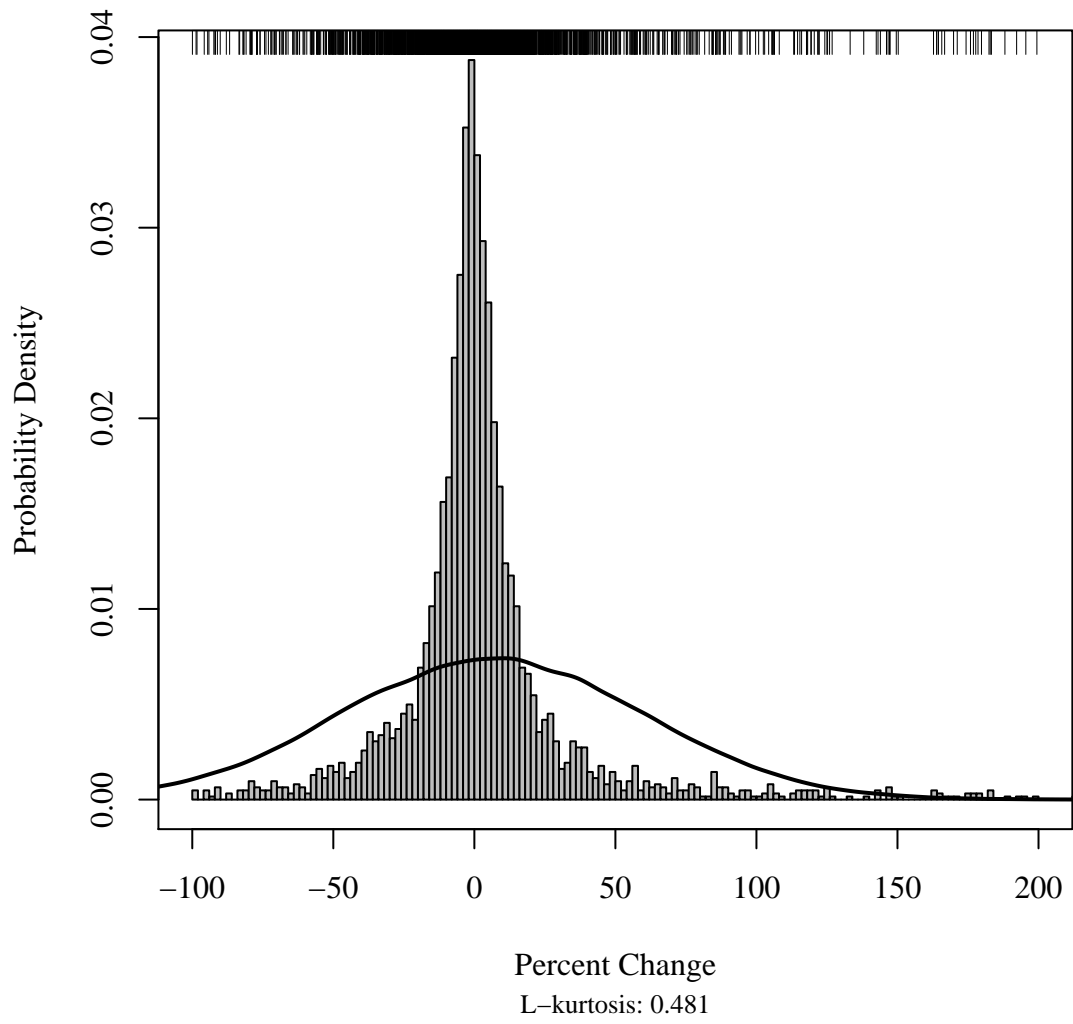
Histogram for Statutes in the United States



Histogram for Total outlays in the United States



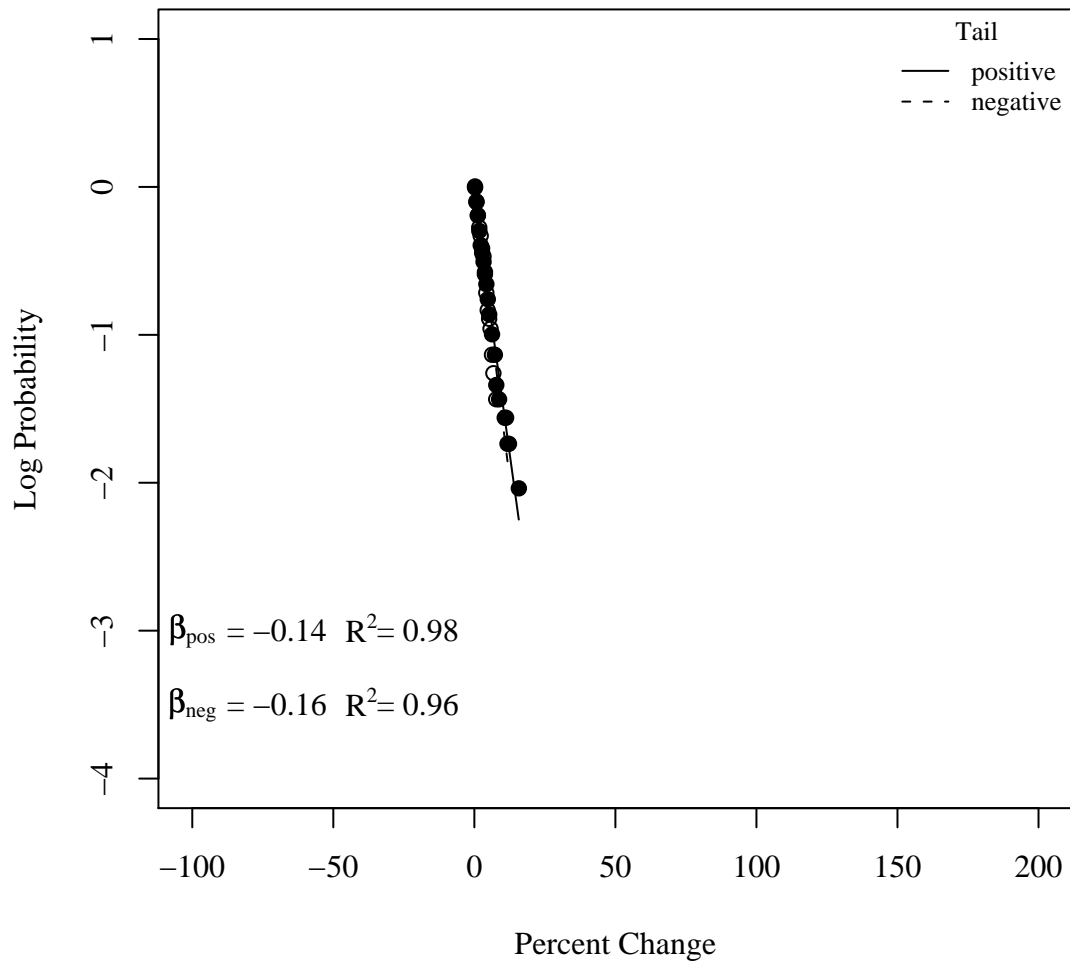
Histogram for Budget authority in the United States



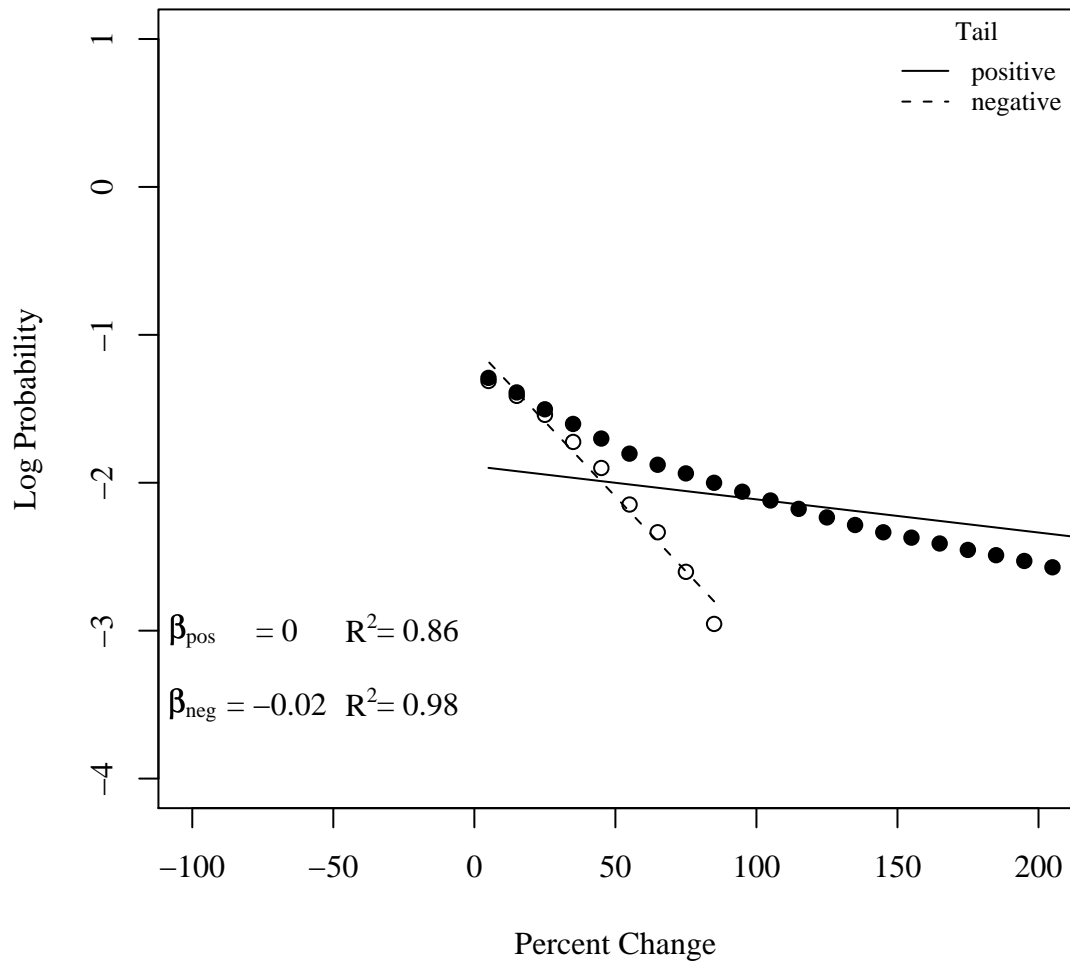
Log-Log and Semi-Log Plots

For each variable we present the cumulative number of observations at or above each value, once on a log-log scale and once where the values are on a logged scale but the frequencies are not (semi-log plot). Distributions that correspond to a Paretian, or power-law, distribution will display a straight line on the log-log plot. Distributions that are exponential will show a straight line on the semi-log presentation. Normal distributions would drop off quickly on the semi-log presentation, and even more quickly on the log-log presentation. We show both the positive and the negative tails separately on the same plots (negative tails are multiplied by -1 in order to present them on the same scale as the positive tails).

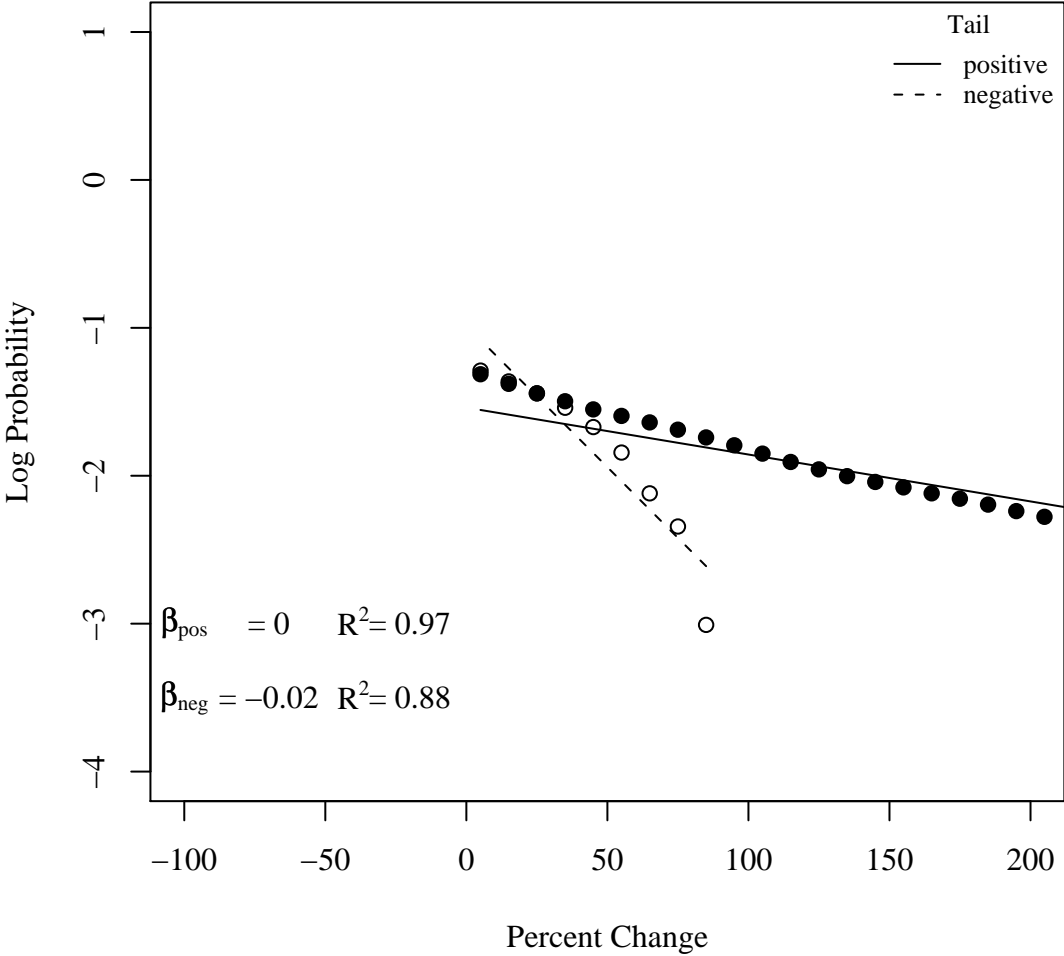
Semi-log plot for Elections in Denmark



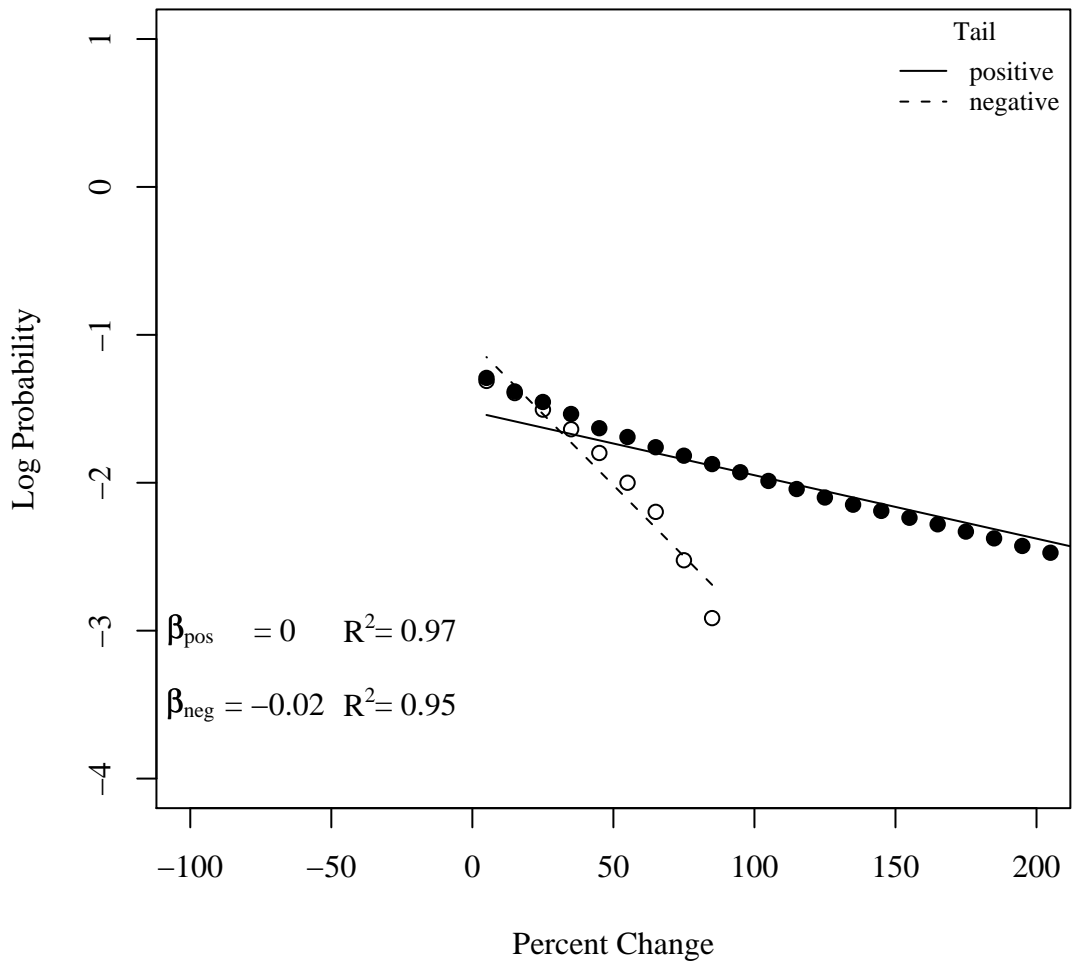
Semi-log plot for Interpellations in Denmark



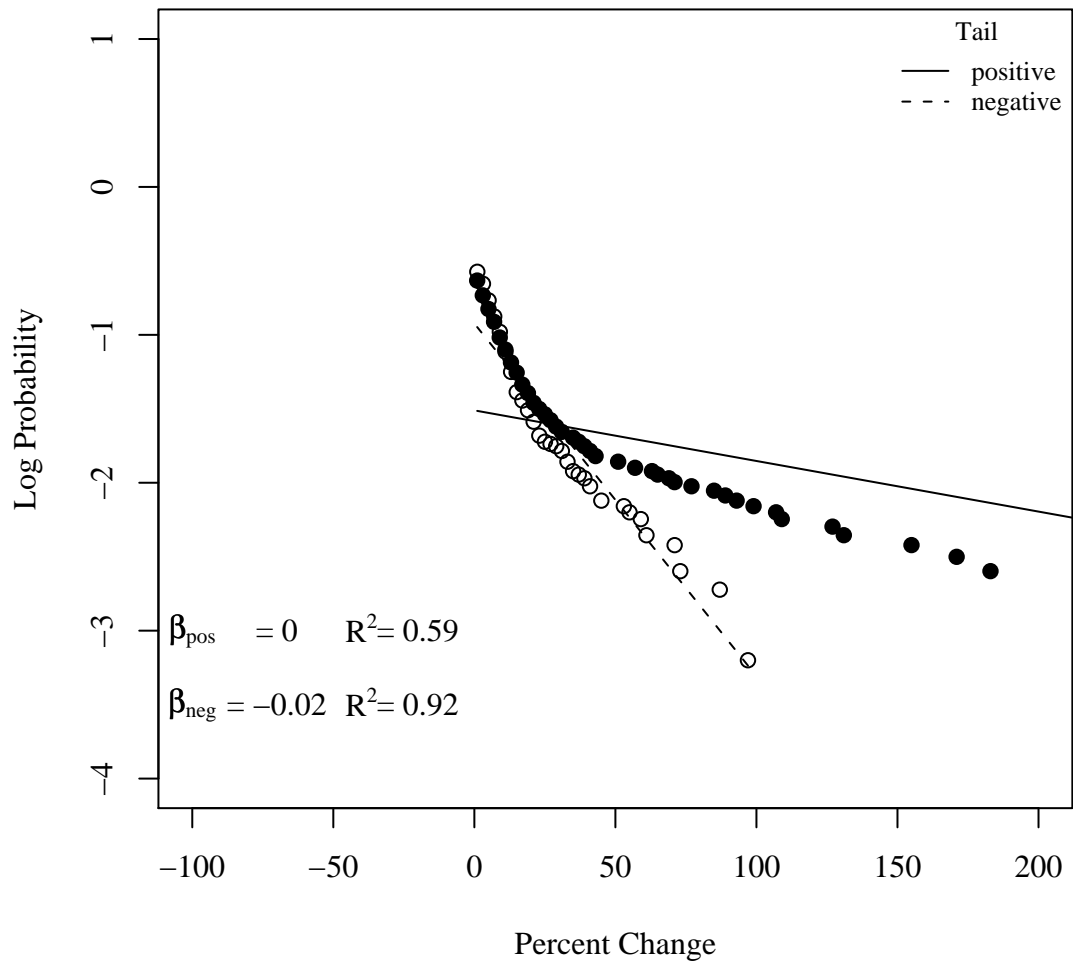
Semi-log plot for Questions in Denmark



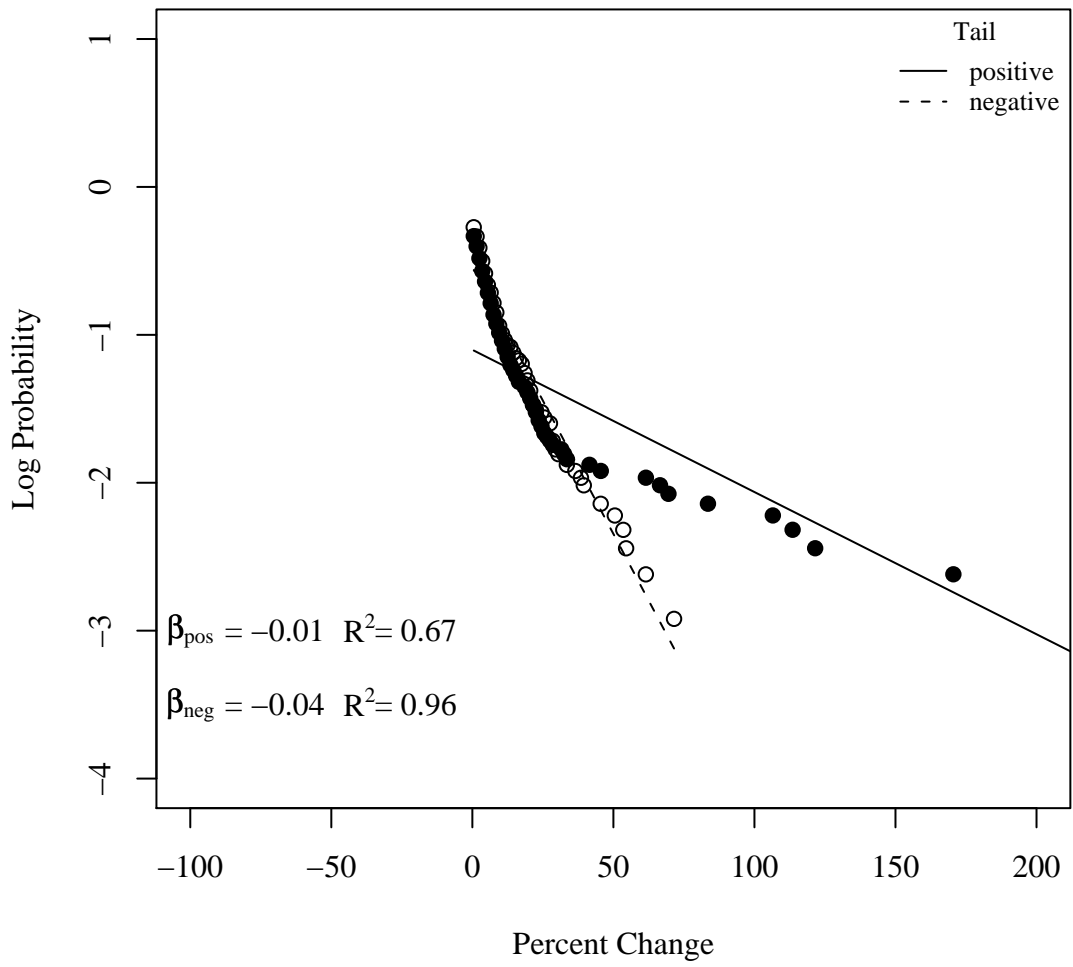
Semi-log plot for Laws in Denmark



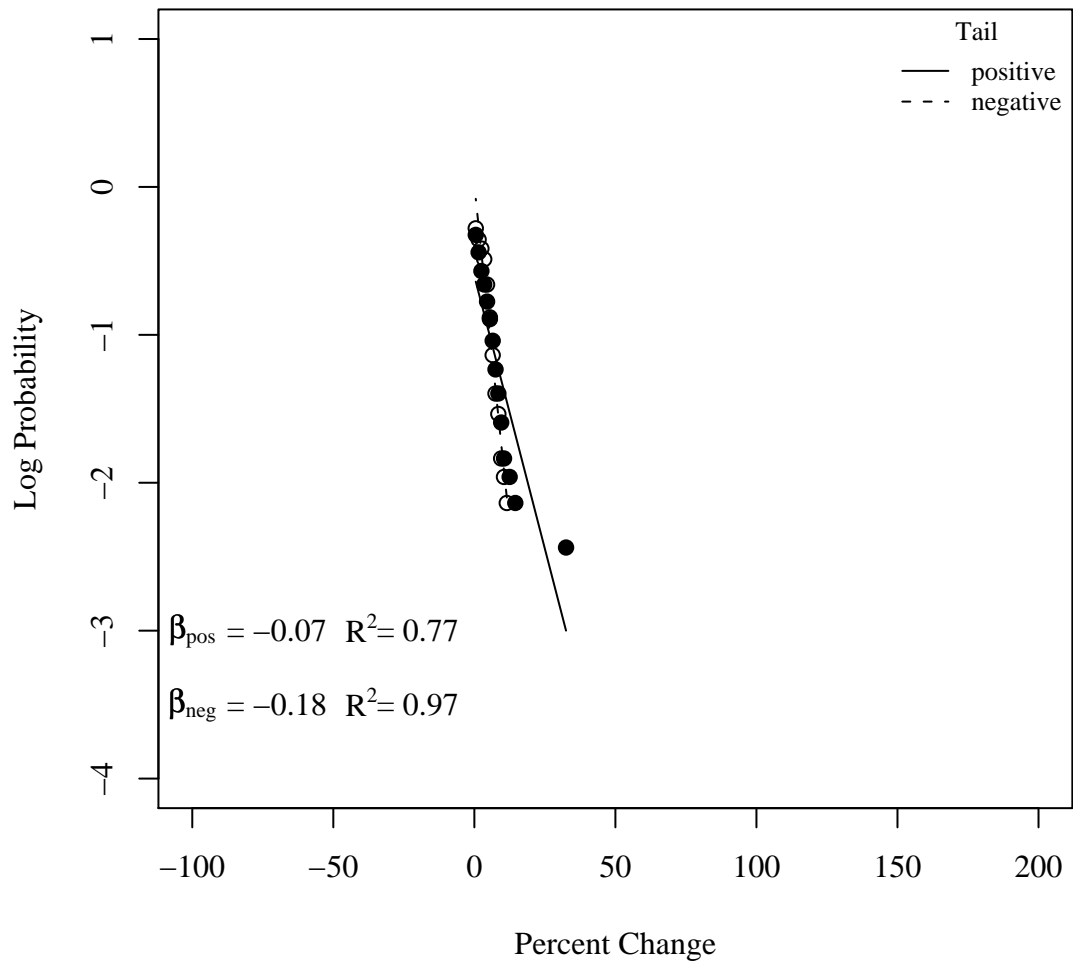
Semi-log plot for Appropriations in Denmark



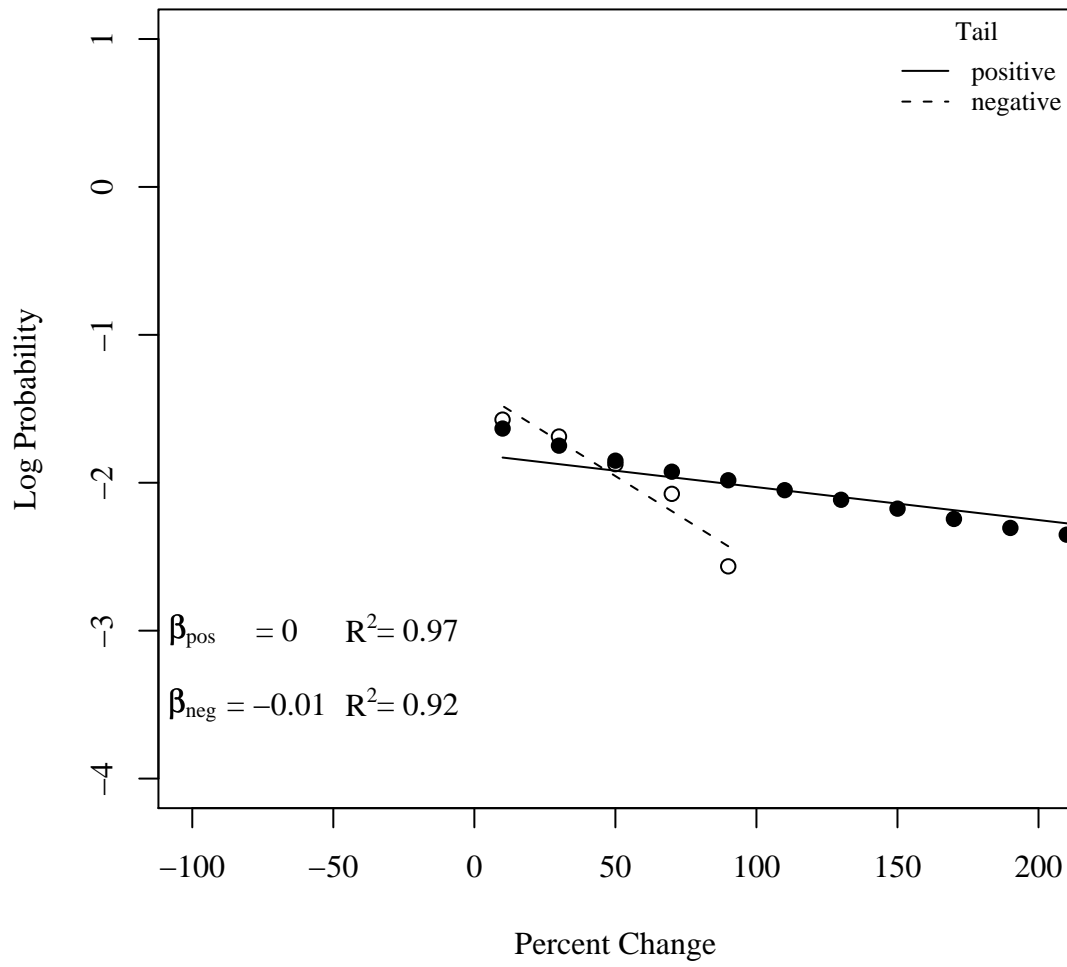
Semi-log plot for Spending in Denmark



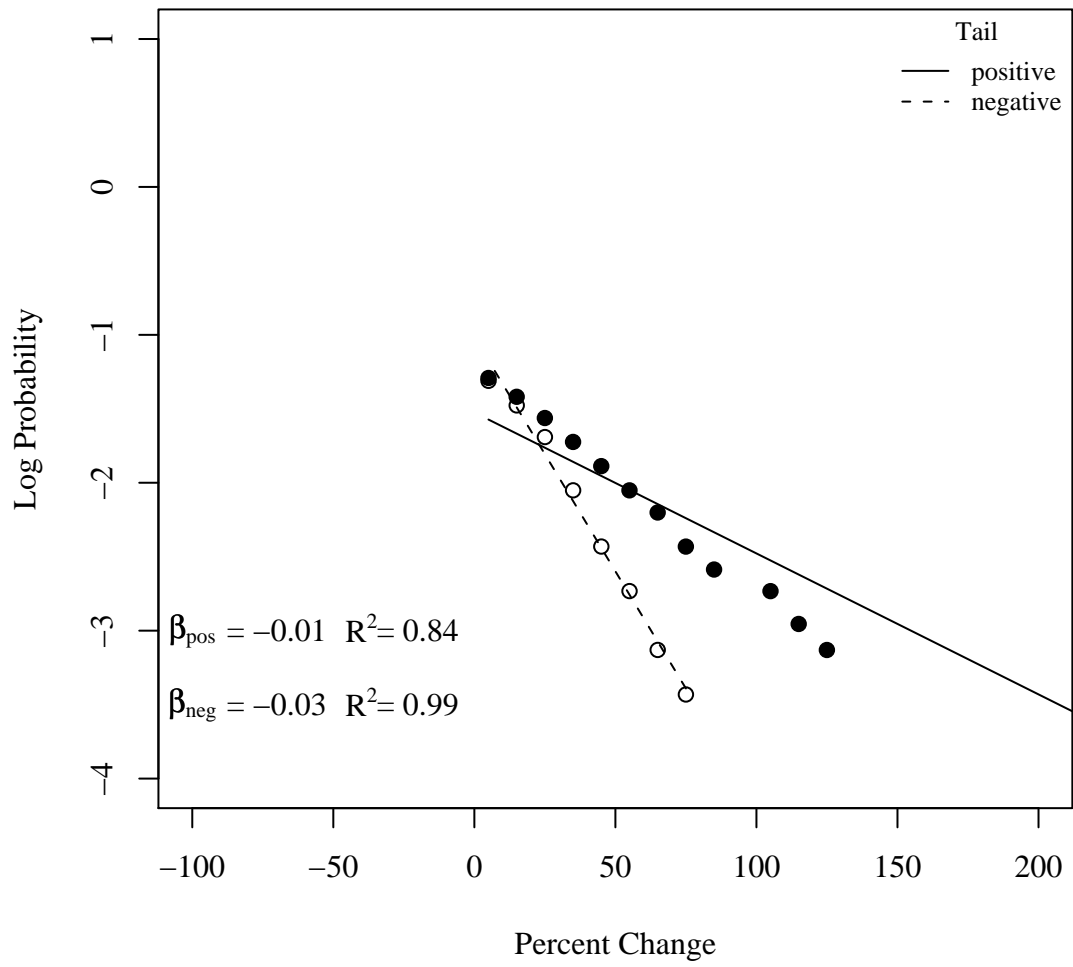
Semi-log plot for Elections in Belgium



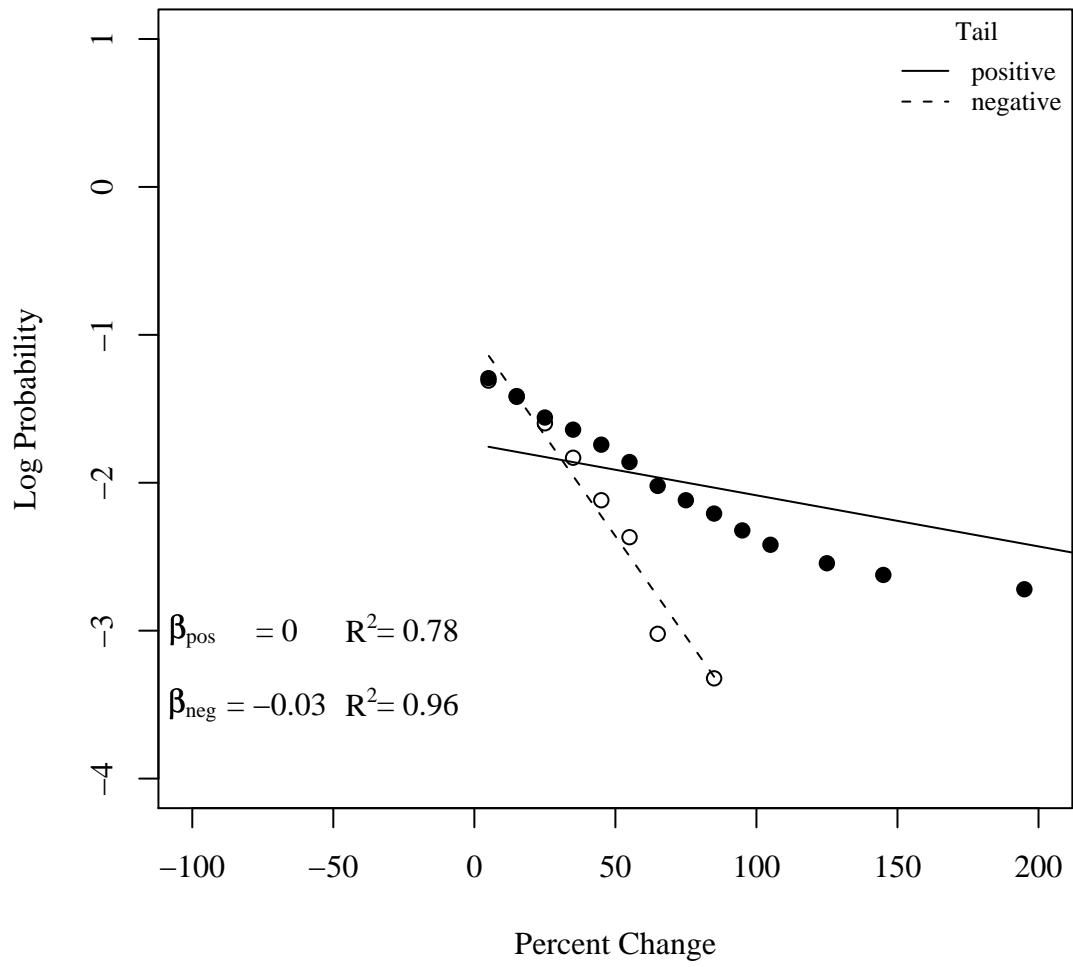
Semi-log plot for Demonstrations in Belgium



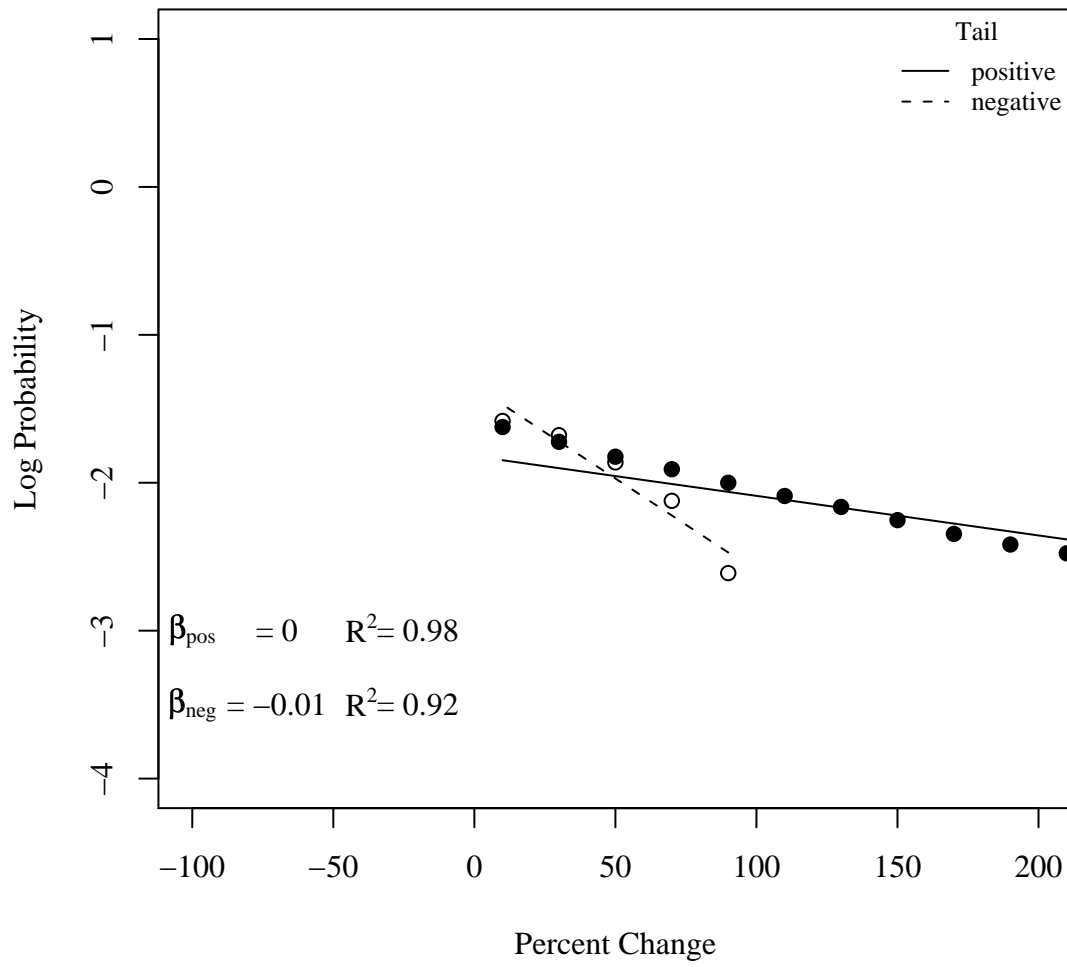
Semi-log plot for Newspapers in Belgium



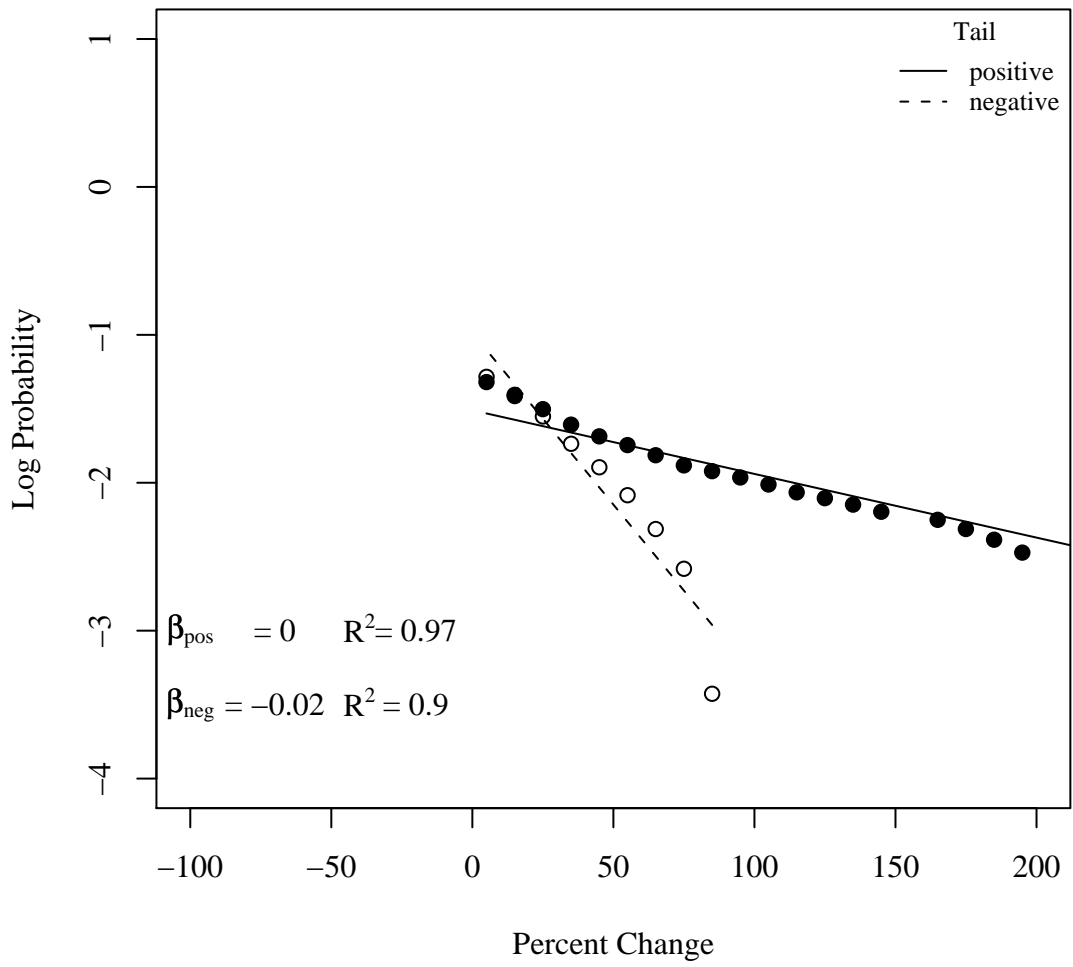
Semi-log plot for TV coverage in Belgium



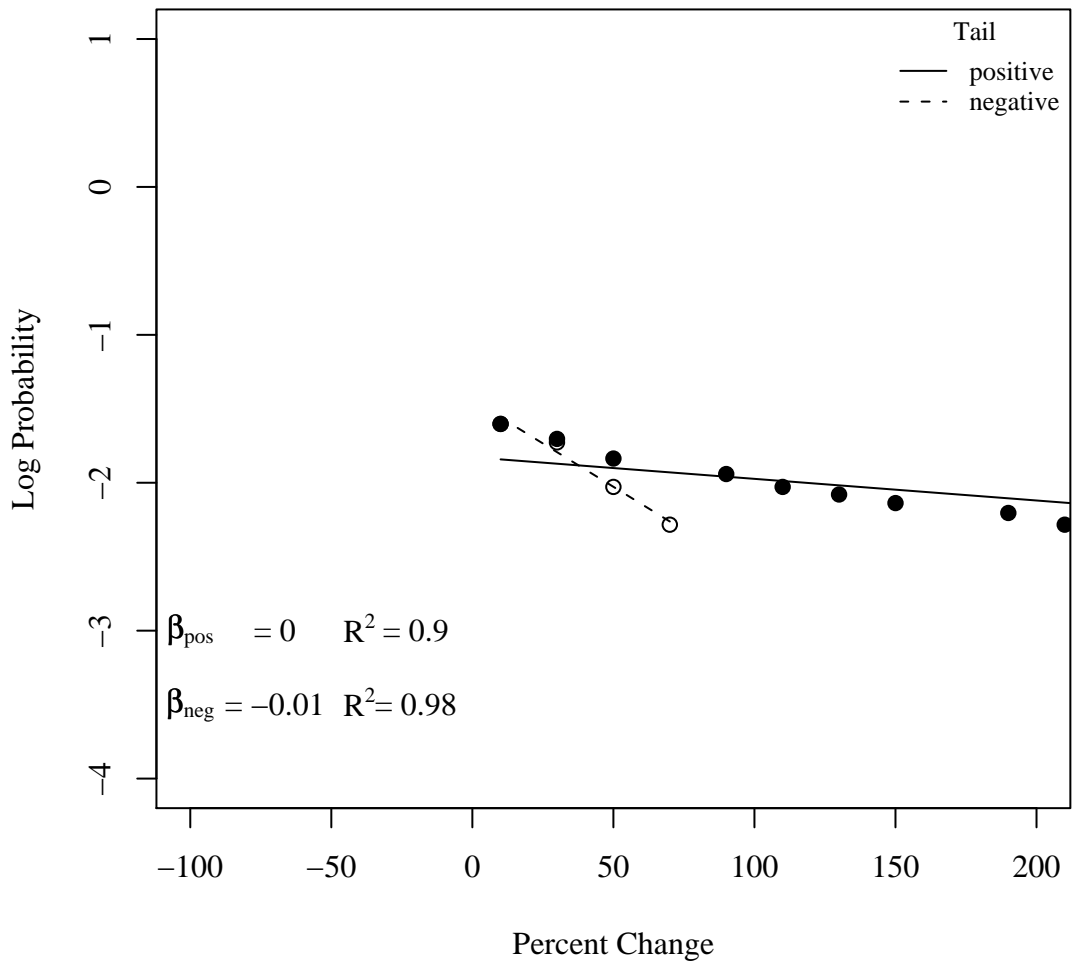
Semi-log plot for Party platforms in Belgium



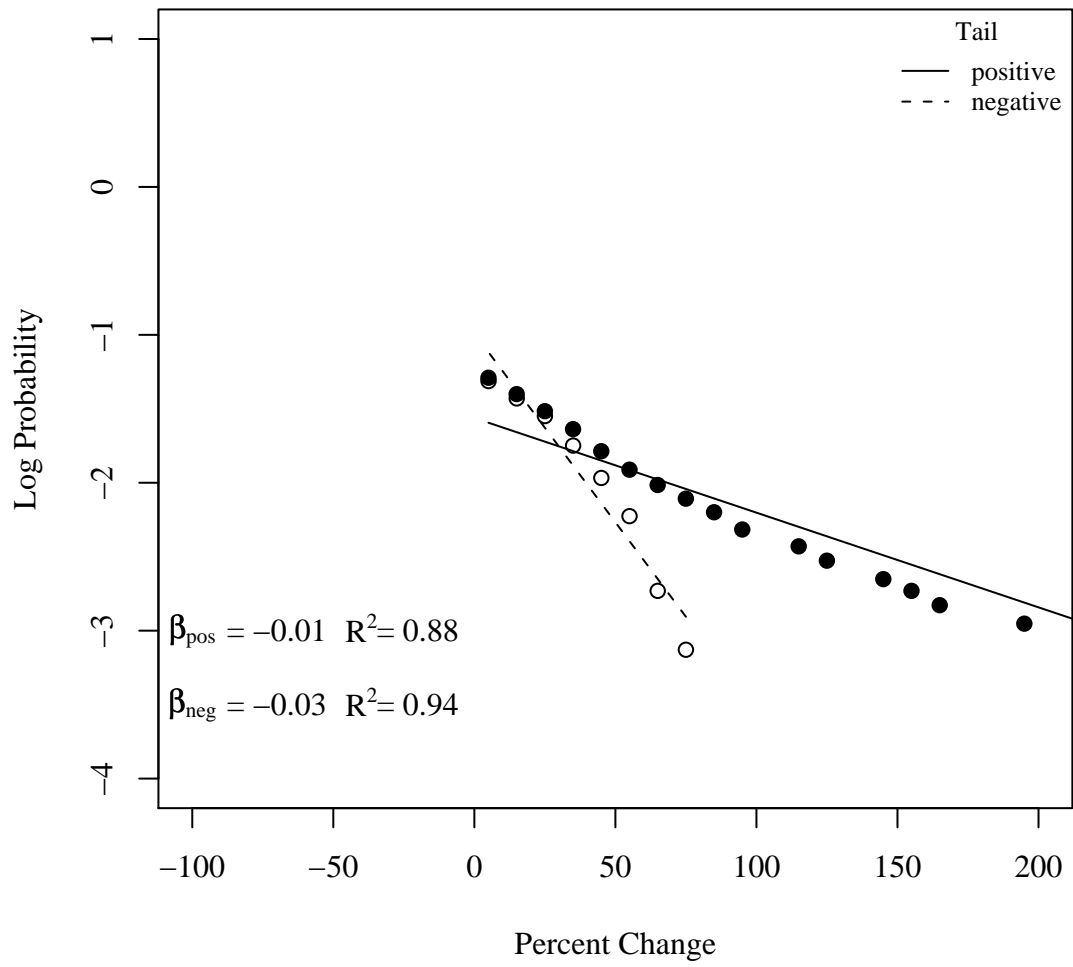
Semi-log plot for Interpellations in Belgium



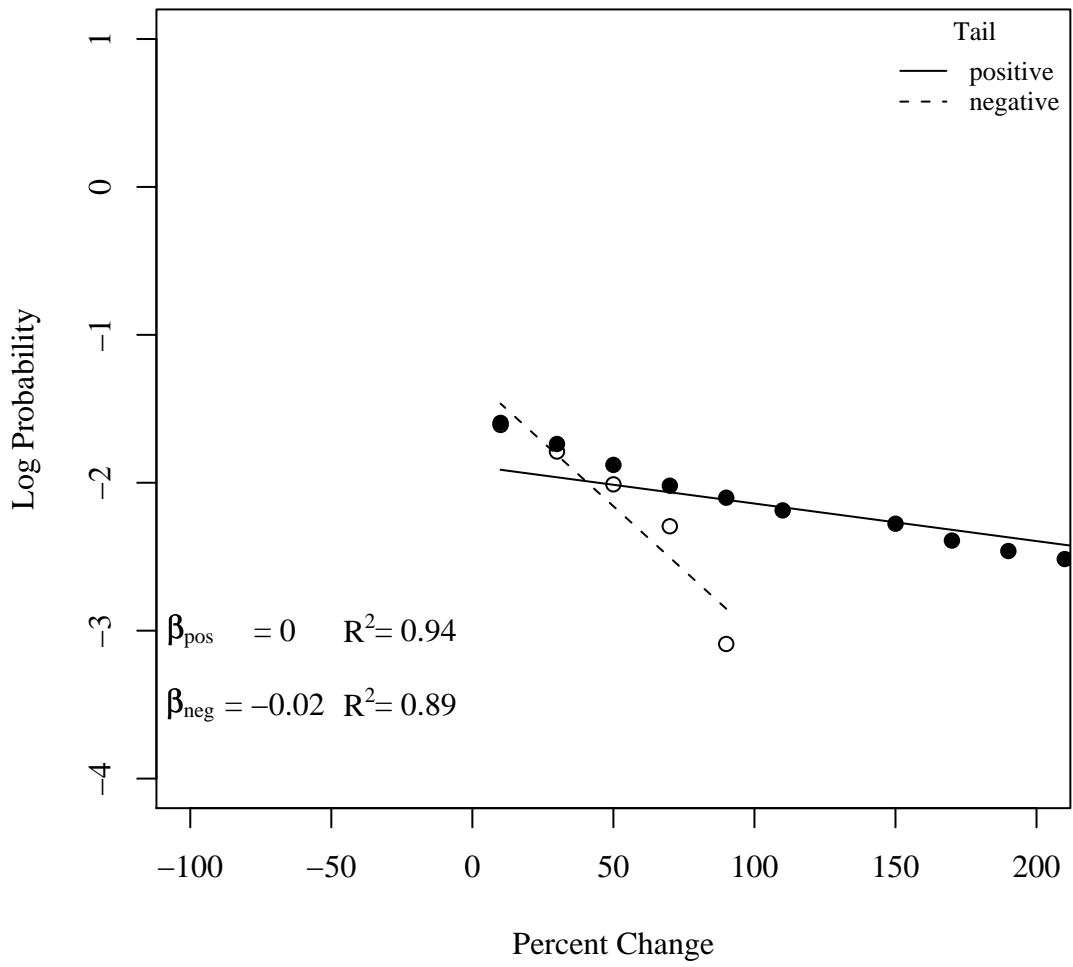
Semi-log plot for Government agreements in Belgium



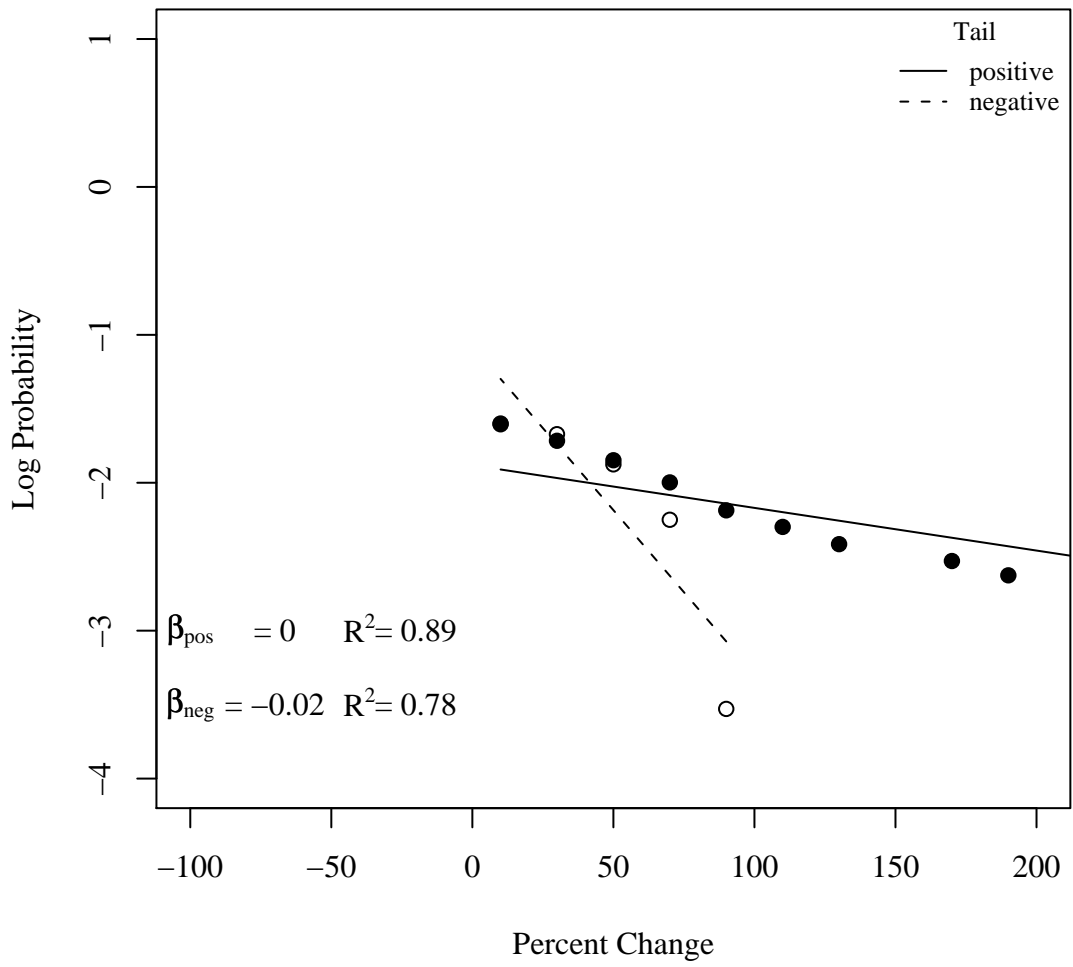
Semi-log plot for Written questions in Belgium



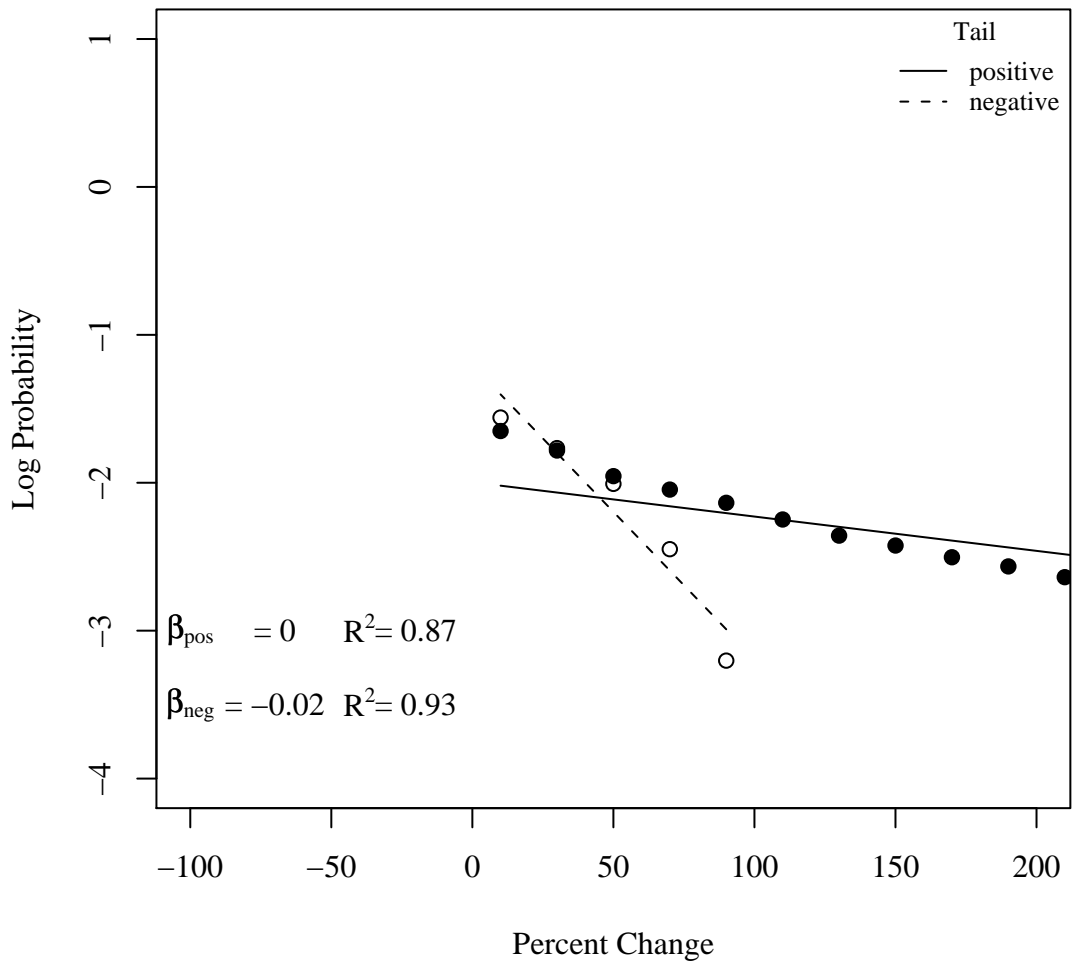
Semi-log plot for Bills in Belgium



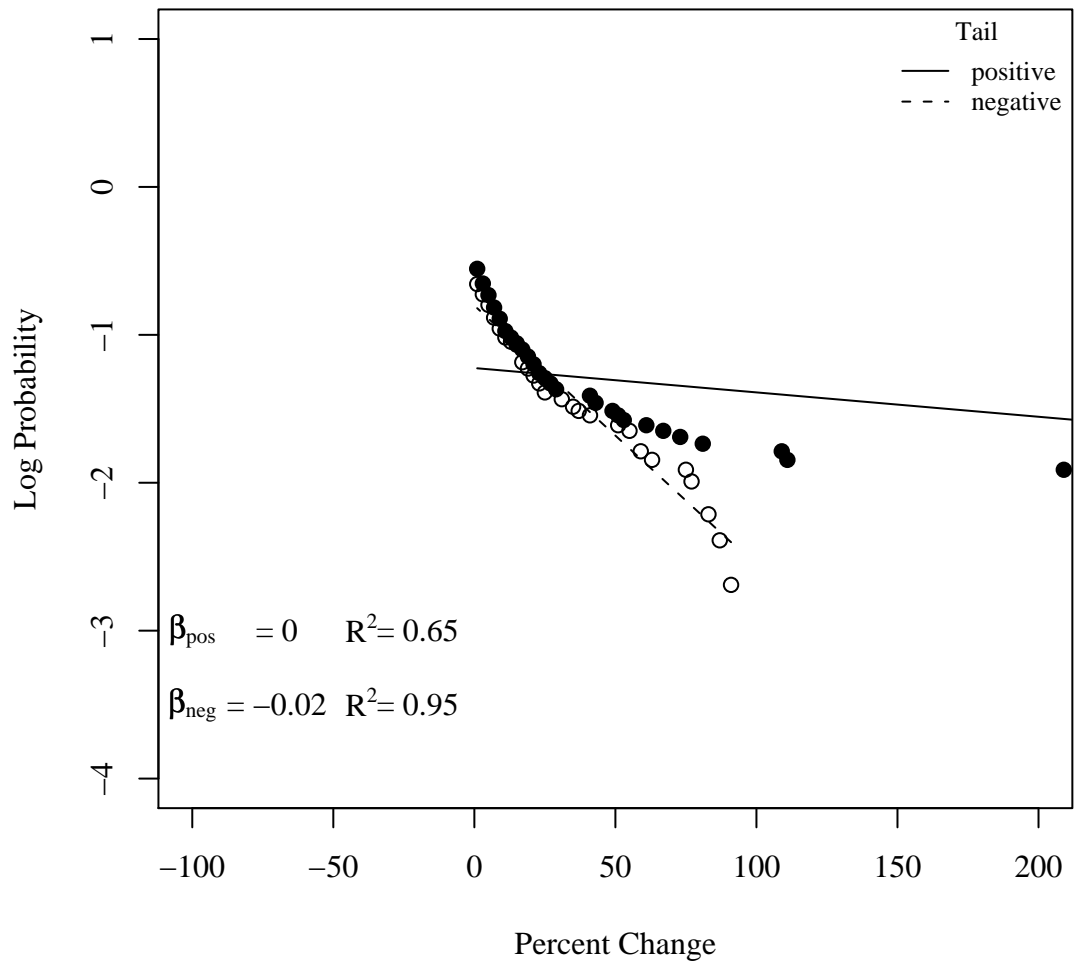
Semi-log plot for Laws in Belgium



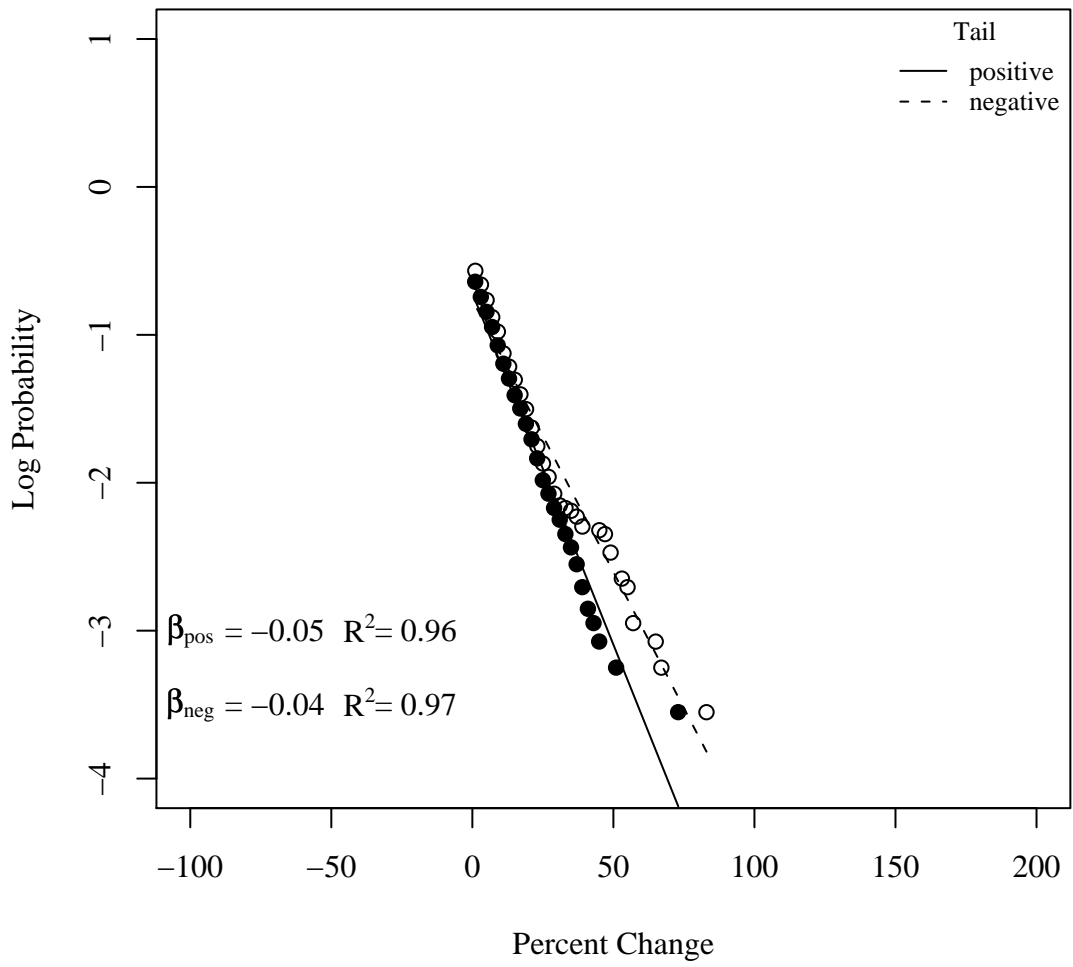
Semi-log plot for Executive orders in Belgium



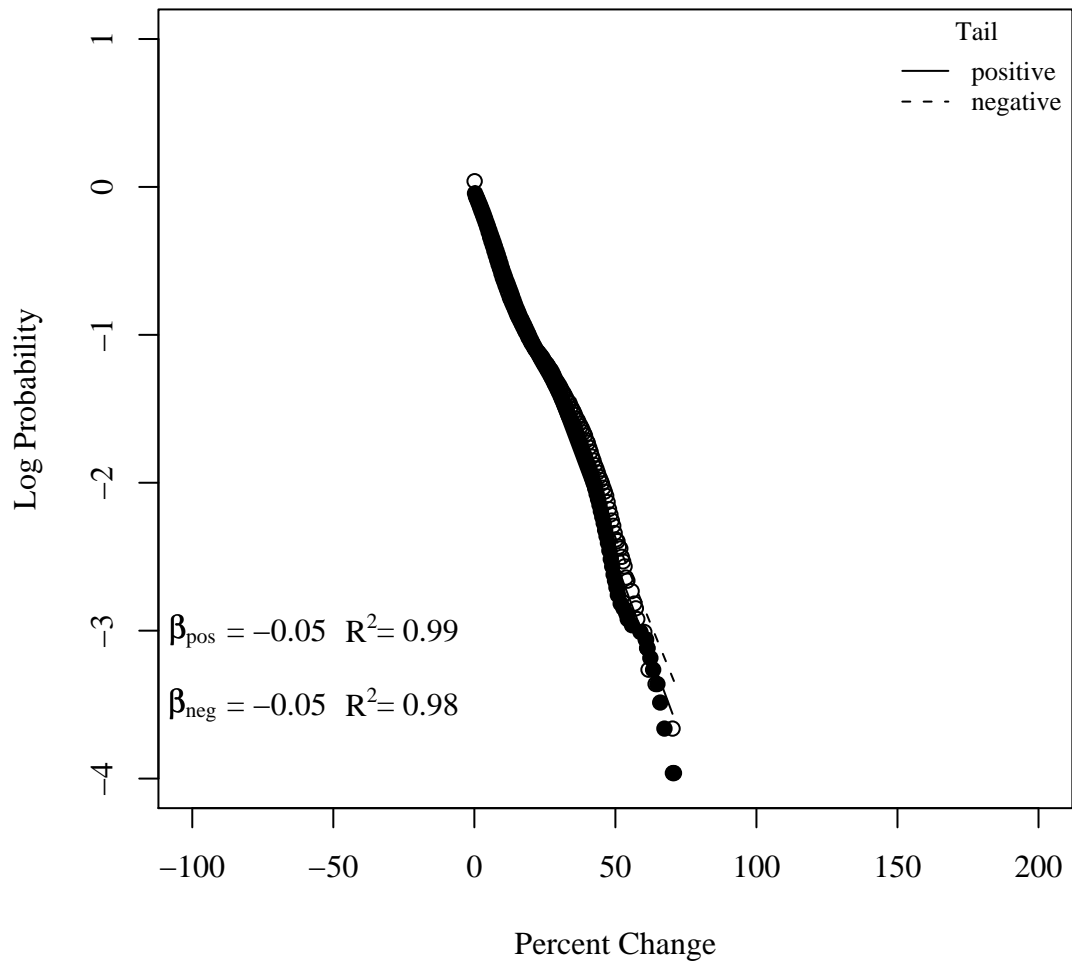
Semi-log plot for Budgets in Belgium



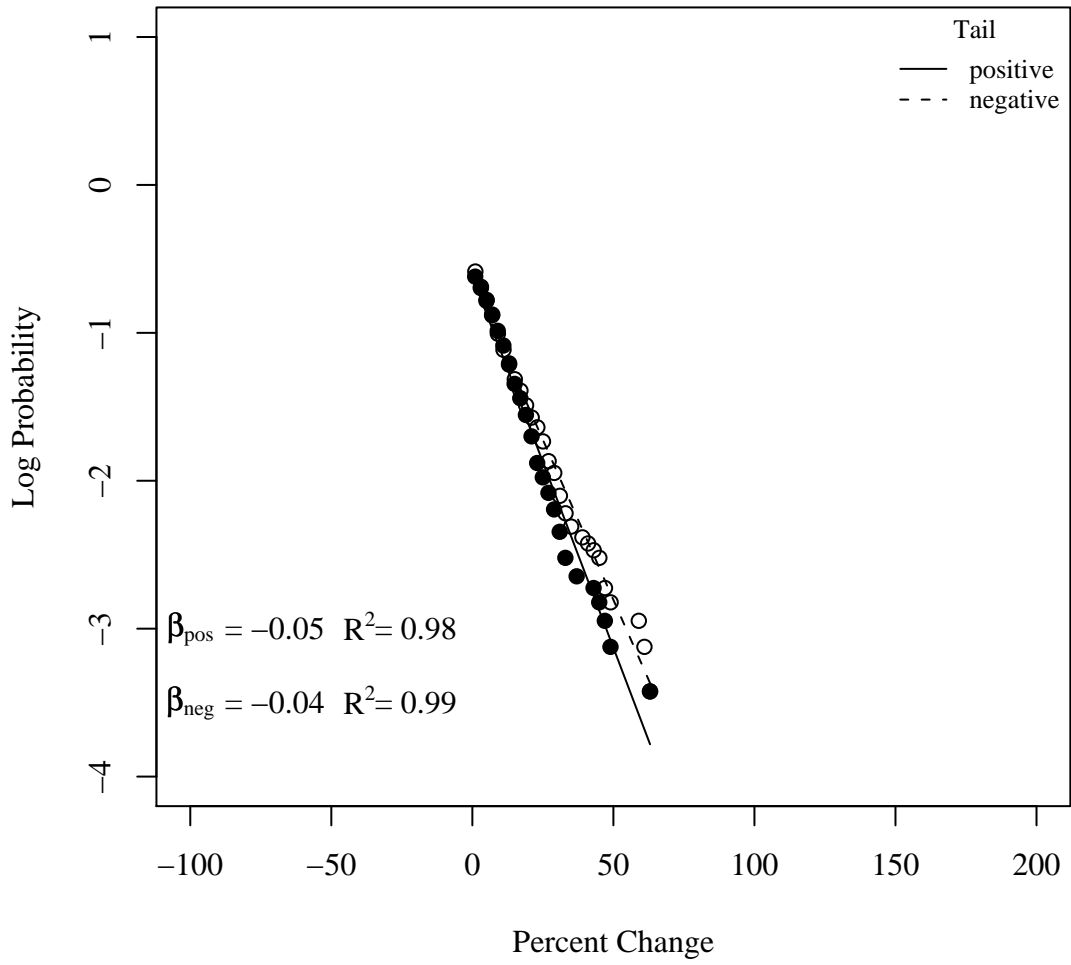
Semi-log plot for Presidential elections in the United States



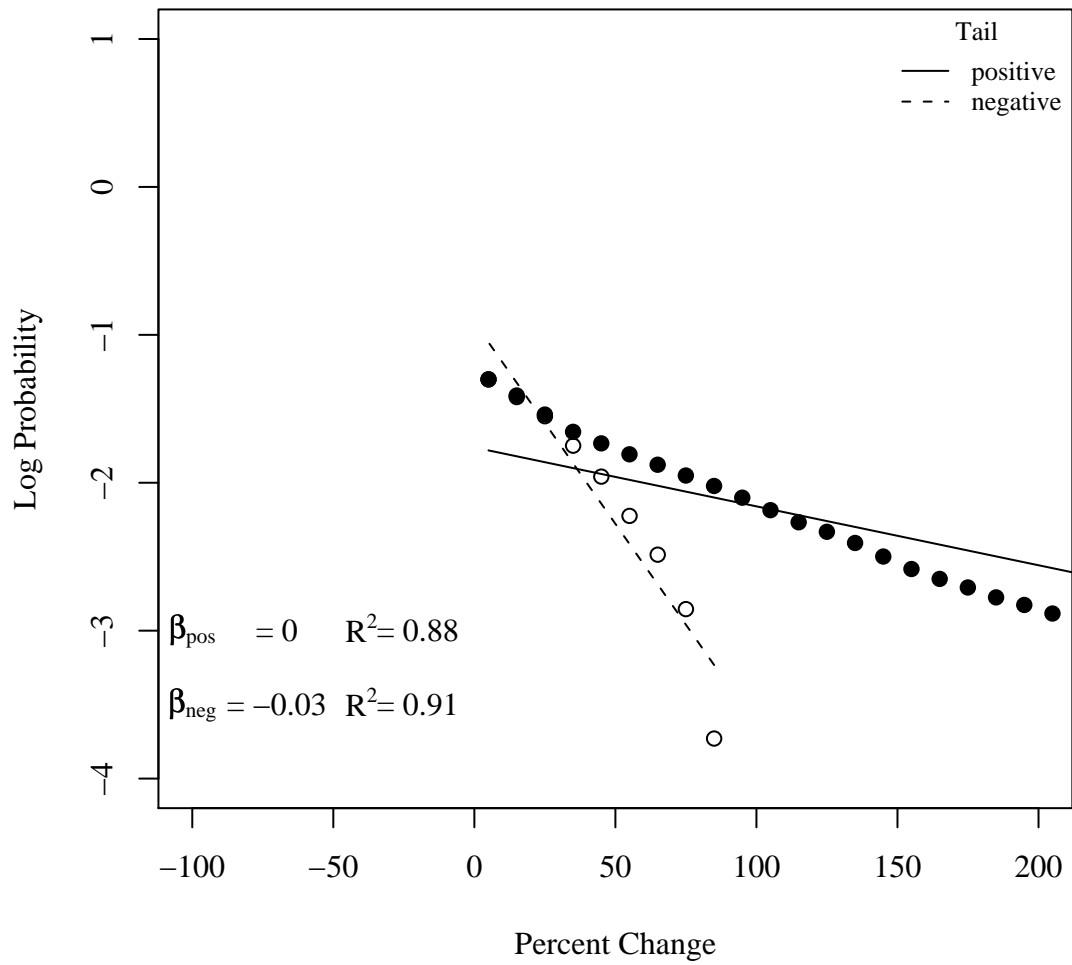
Semi-log plot for House elections in the United States



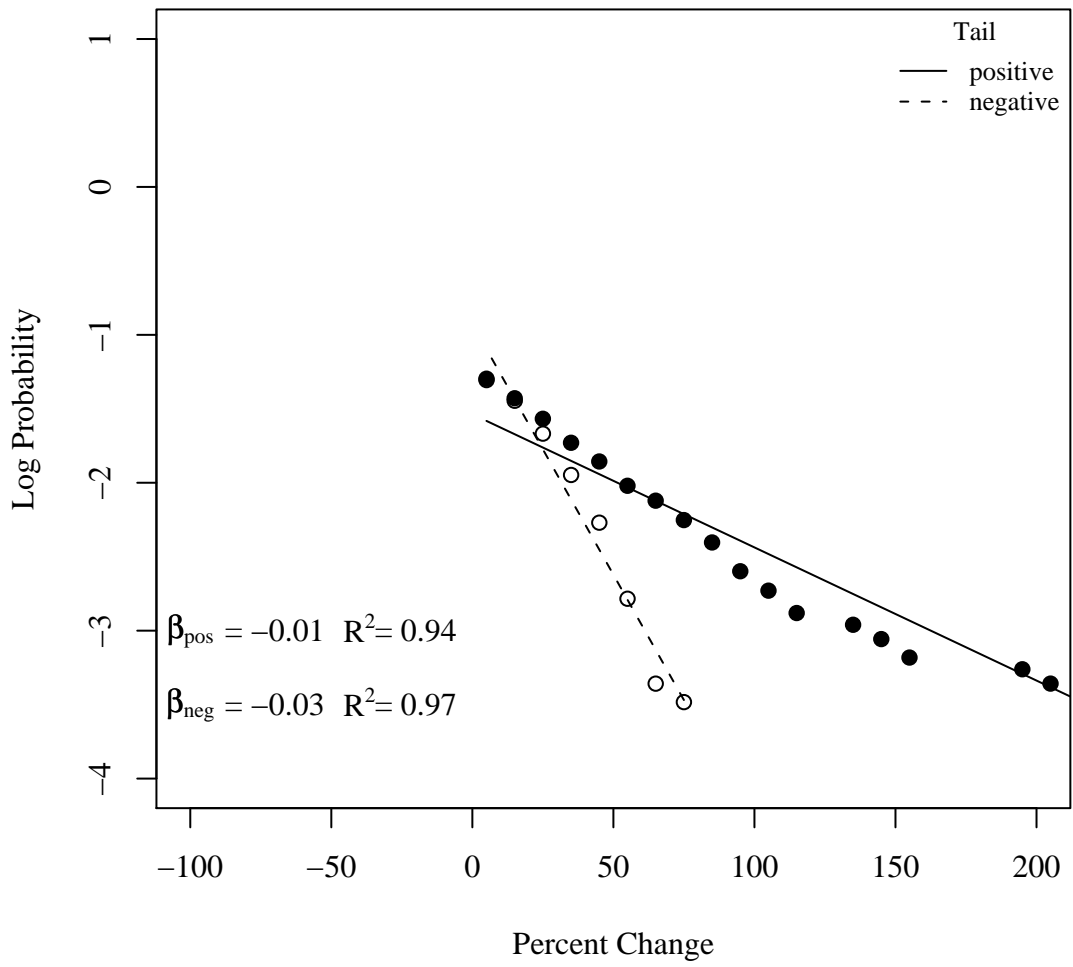
Semi-log plot for Senate elections in the United States



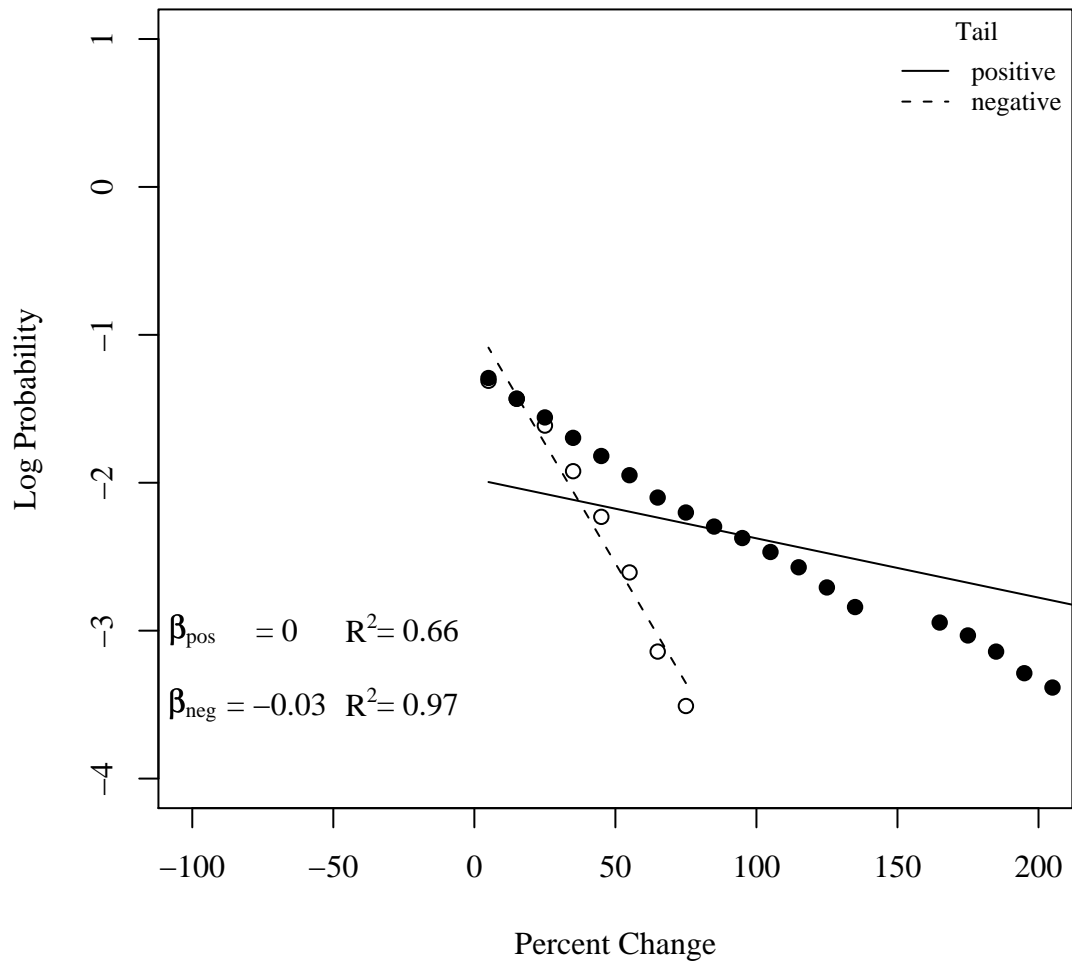
Semi-log plot for NYT stories in the United States



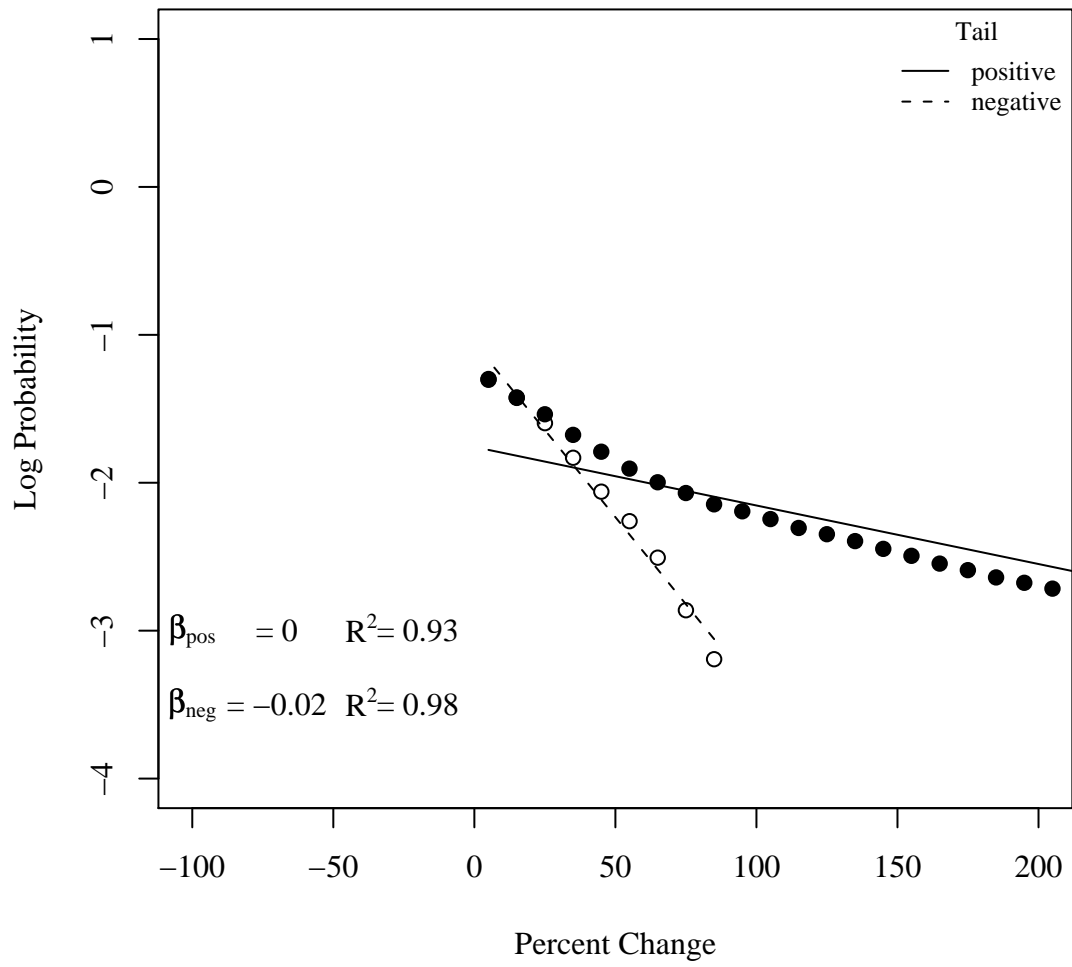
Semi-log plot for House bills in the United States



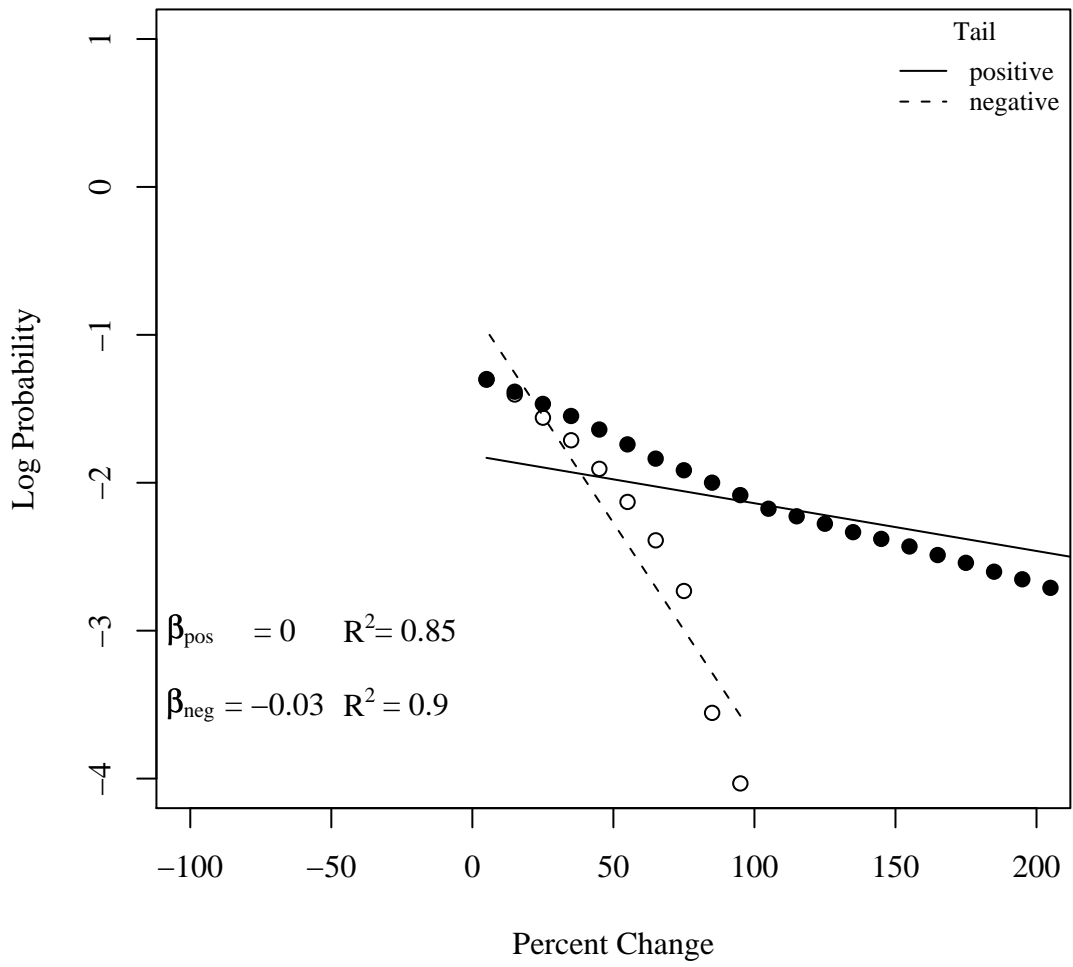
Semi-log plot for Senate bills in the United States



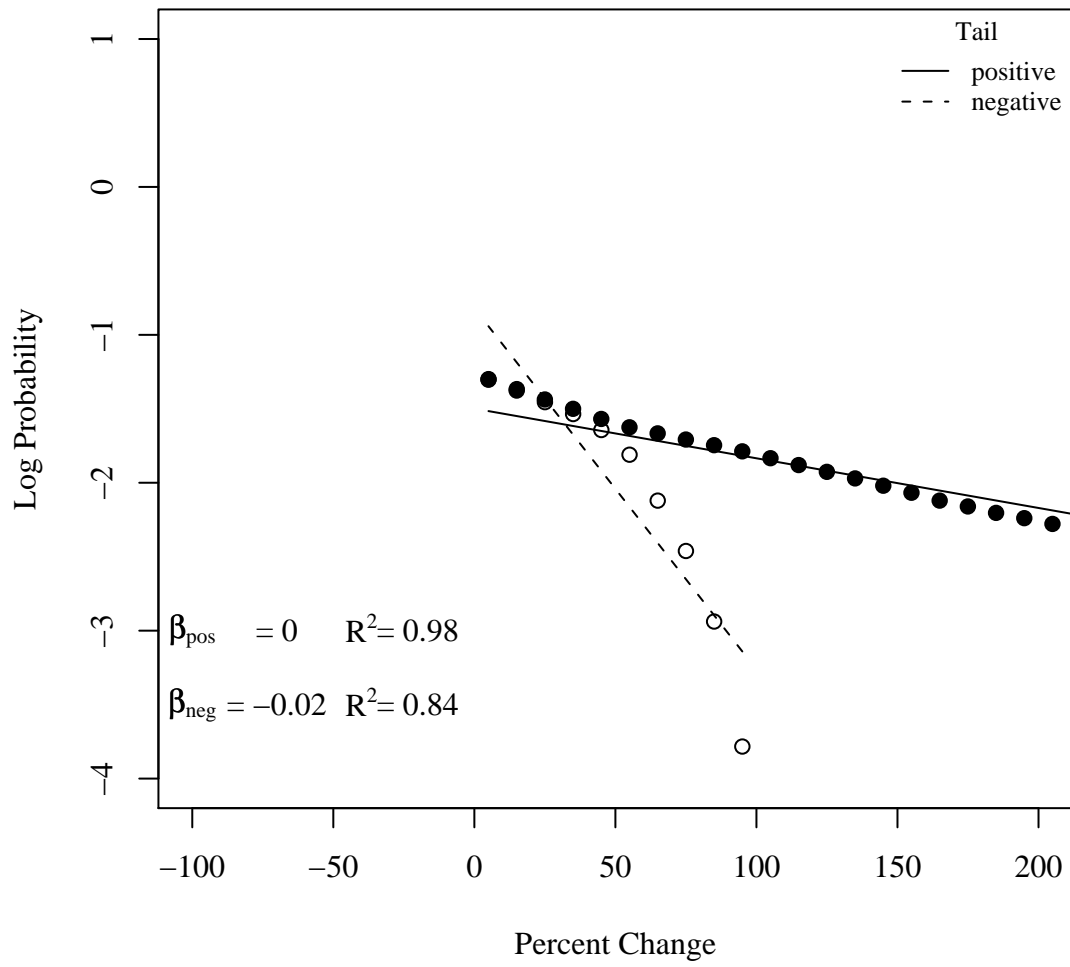
Semi-log plot for House hearings in the United States



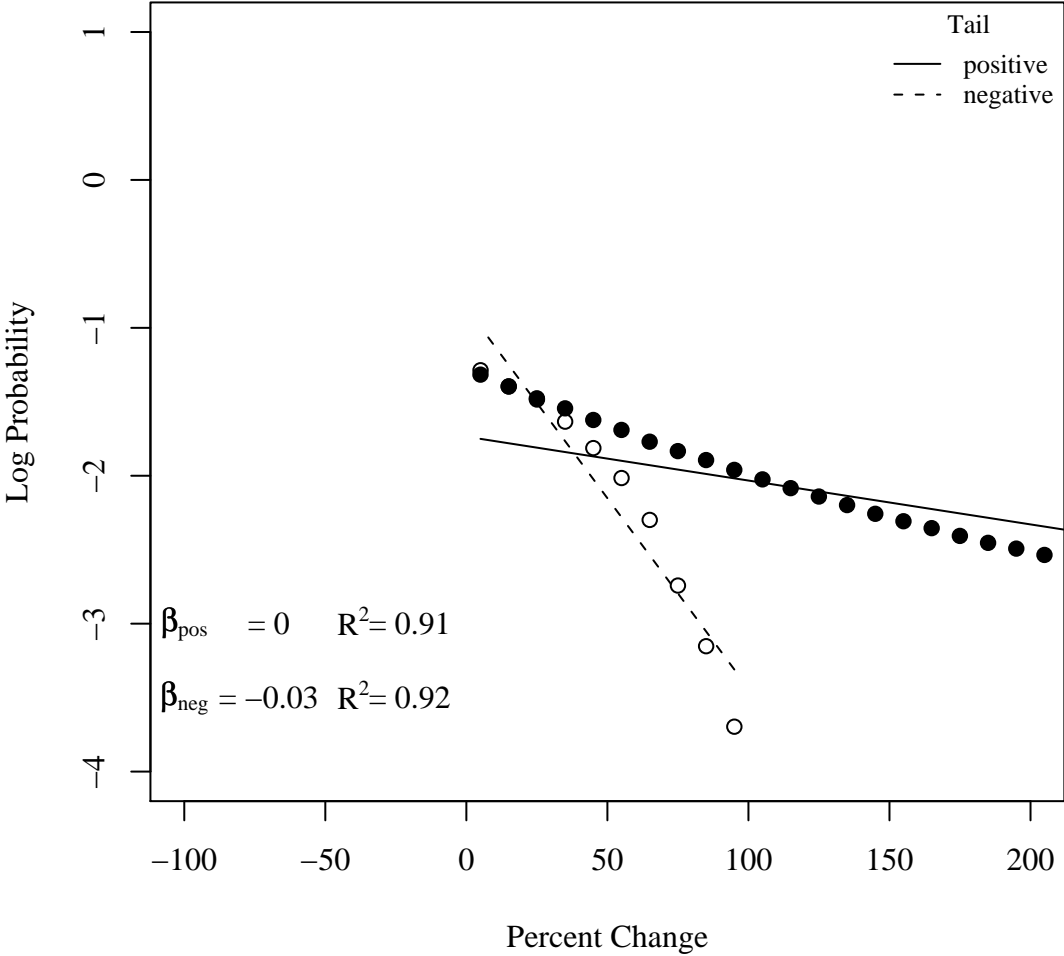
Semi-log plot for Senate hearings in the United States



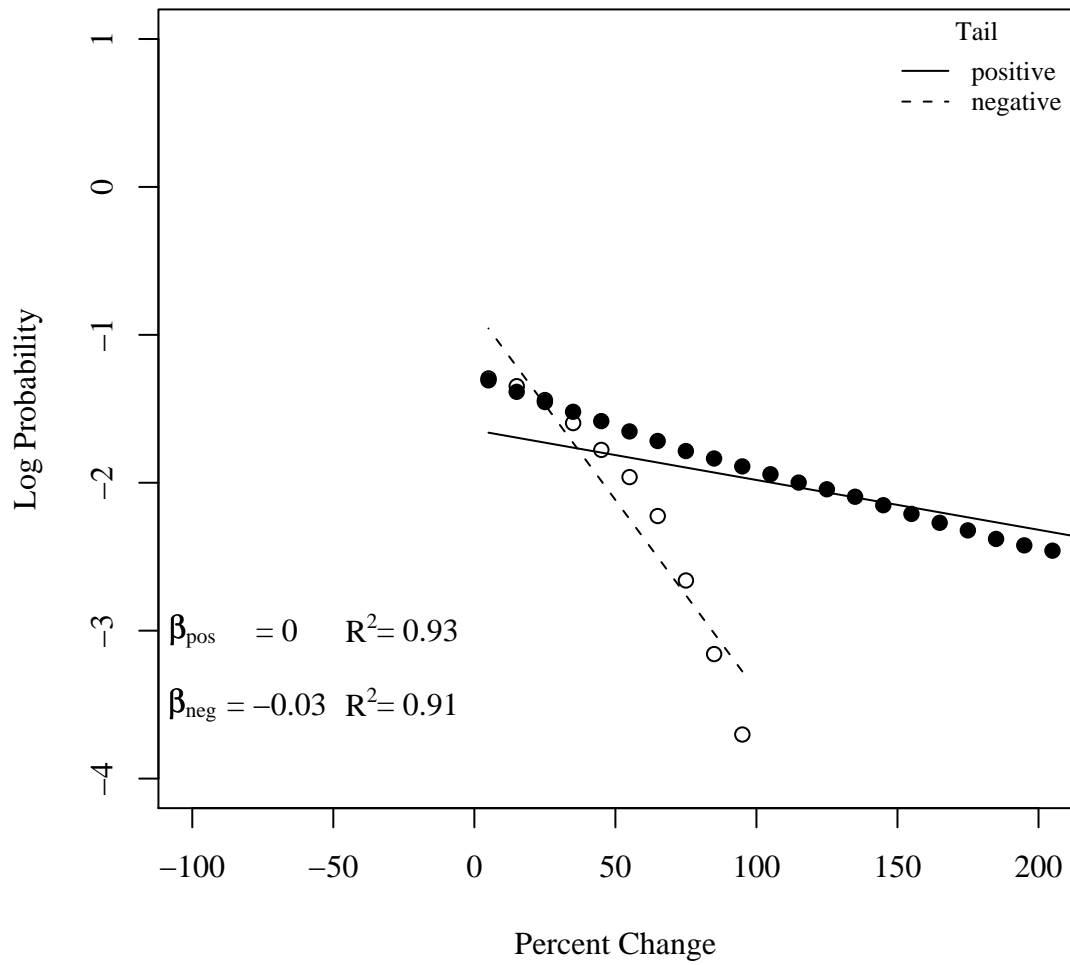
Semi-log plot for Executive orders in the United States



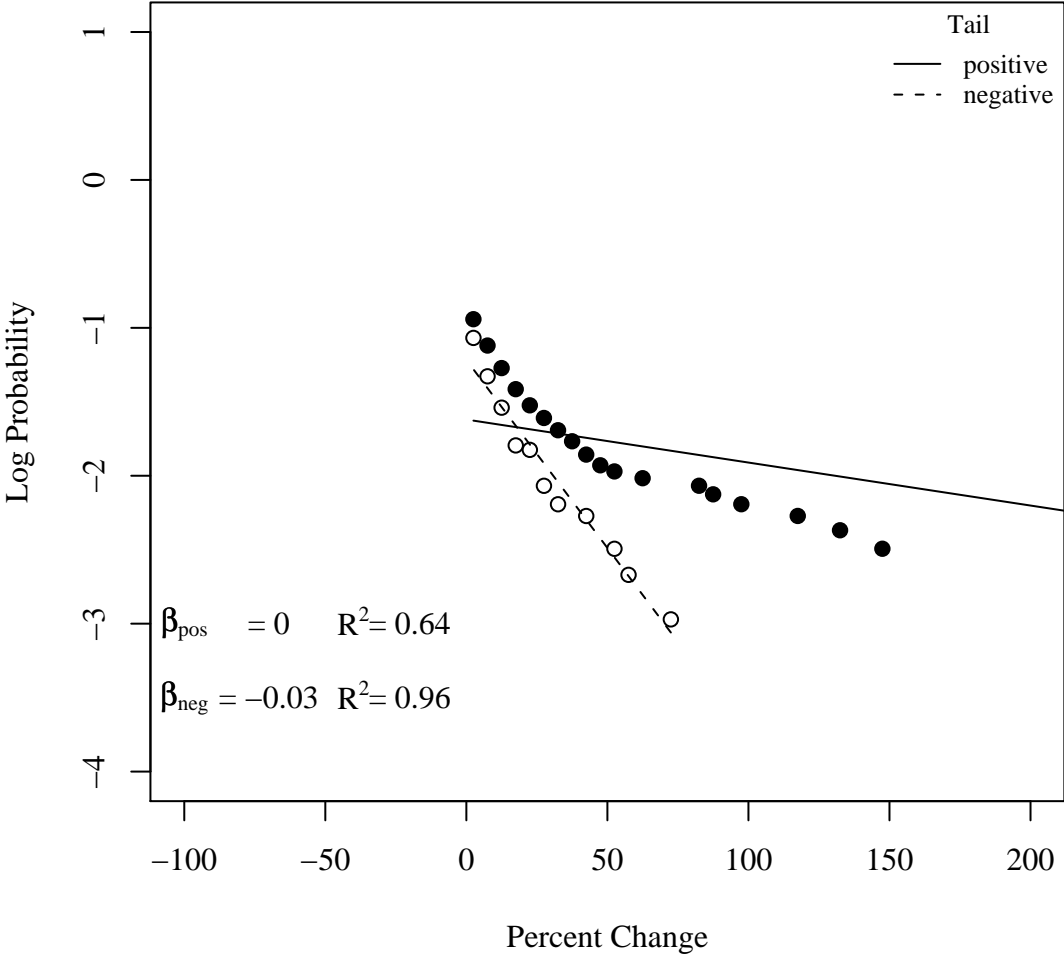
Semi-log plot for CQ stories in the United States



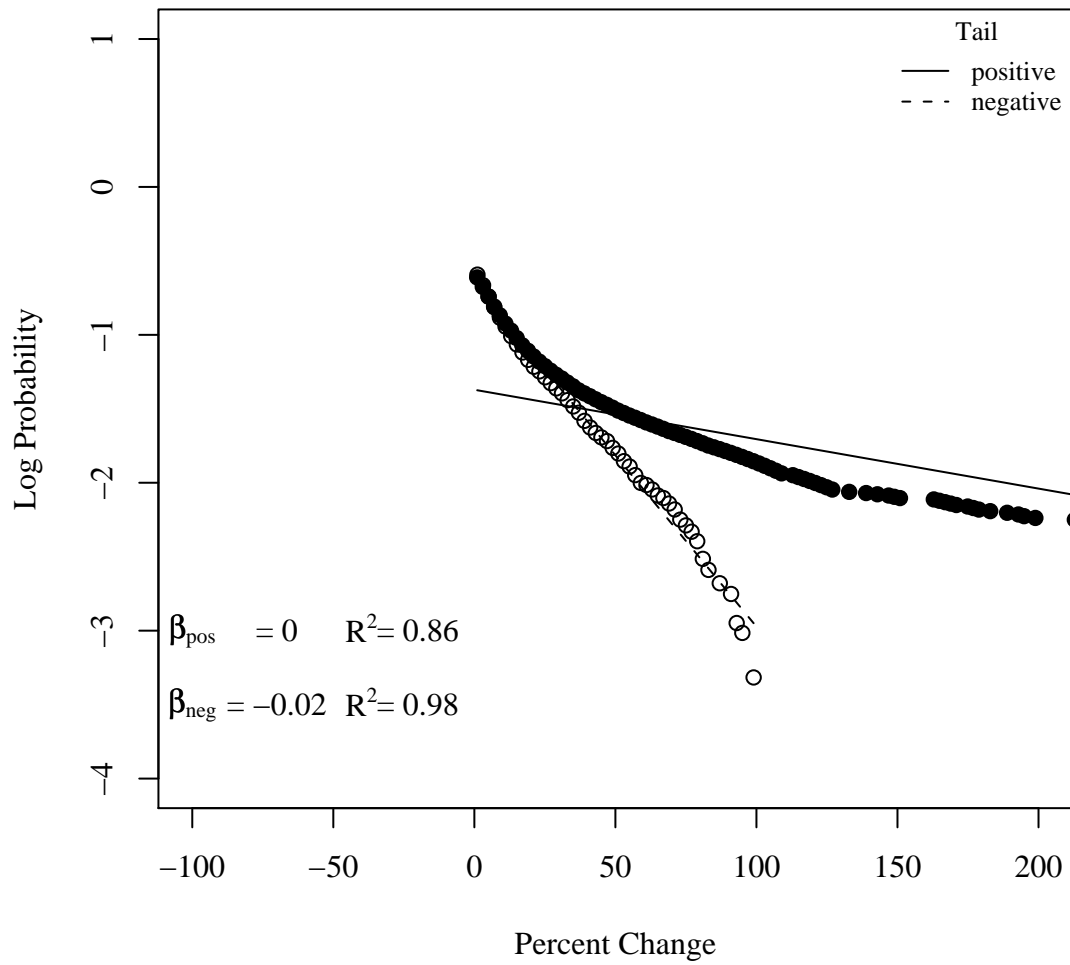
Semi-log plot for Statutes in the United States



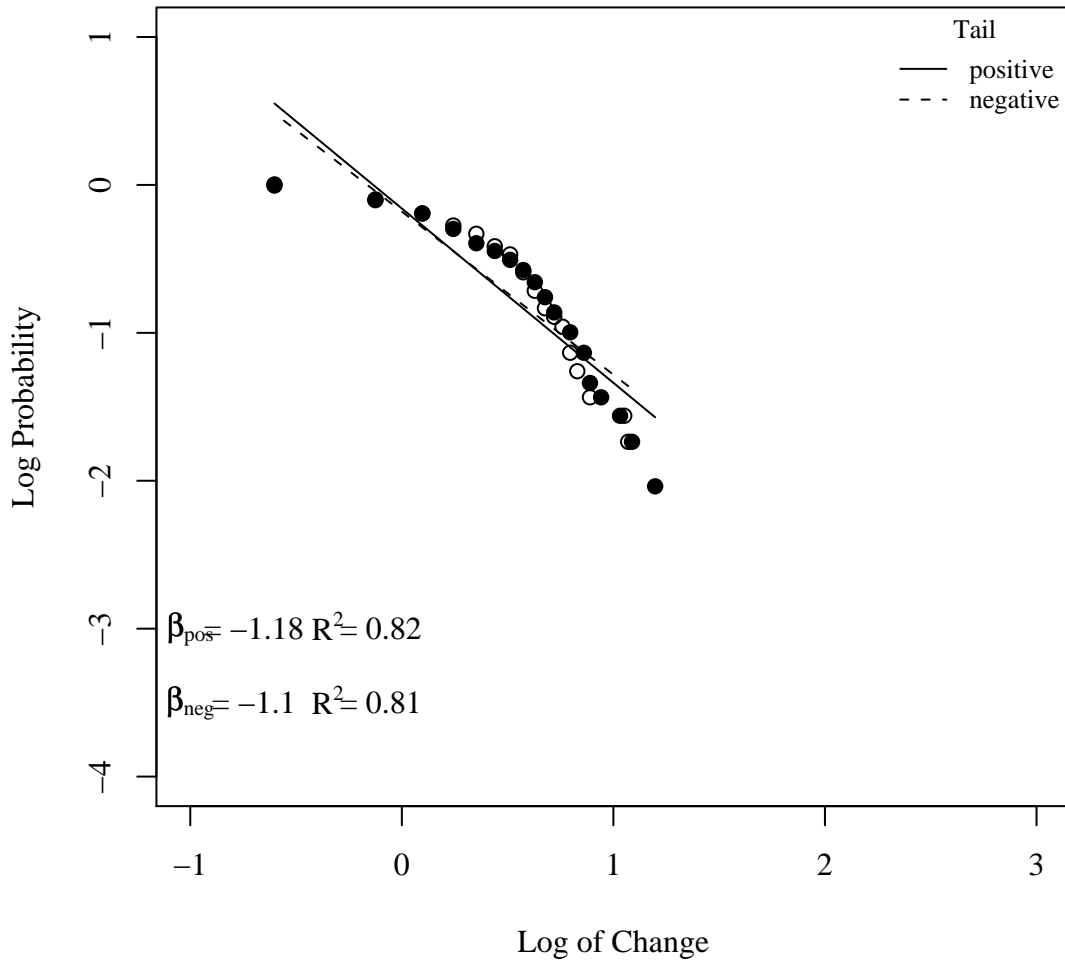
Semi-log plot for Total outlays in the United States



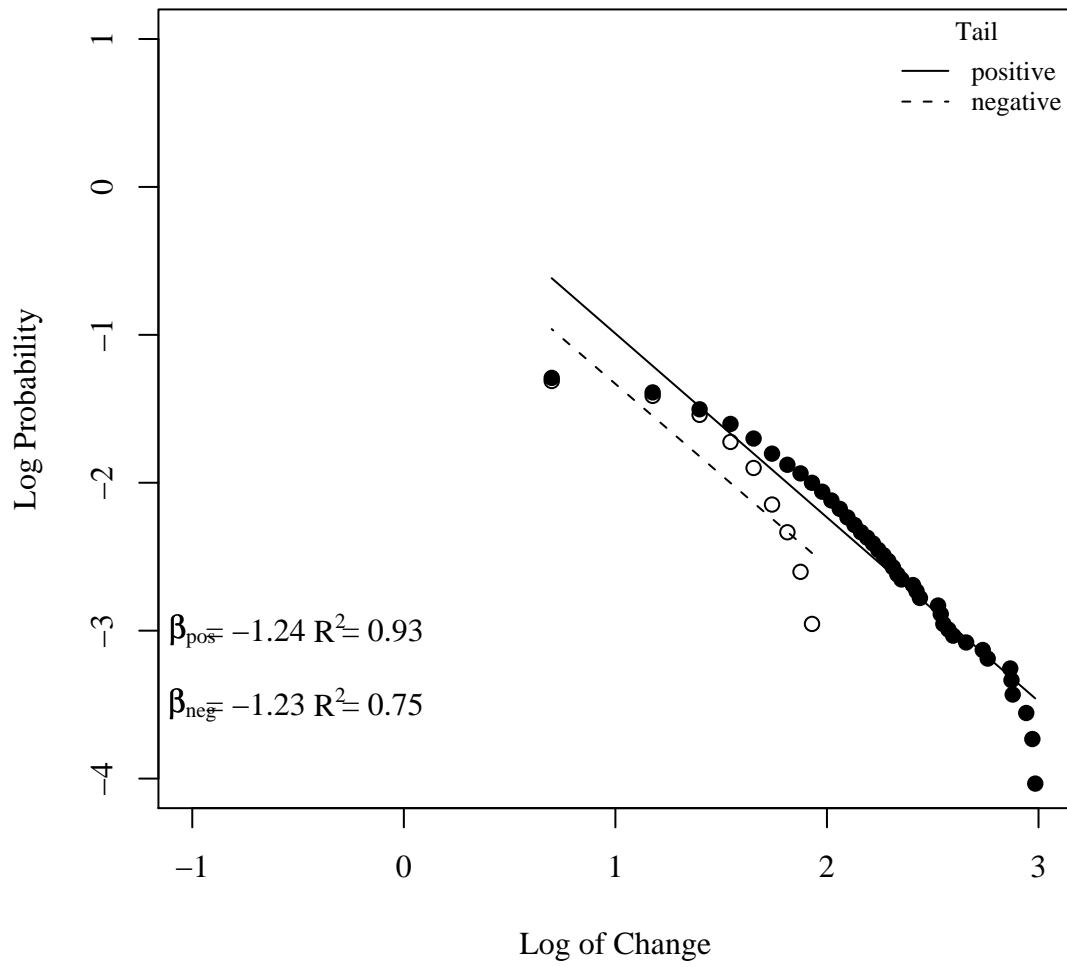
Semi-log plot for Budget authority in the United States



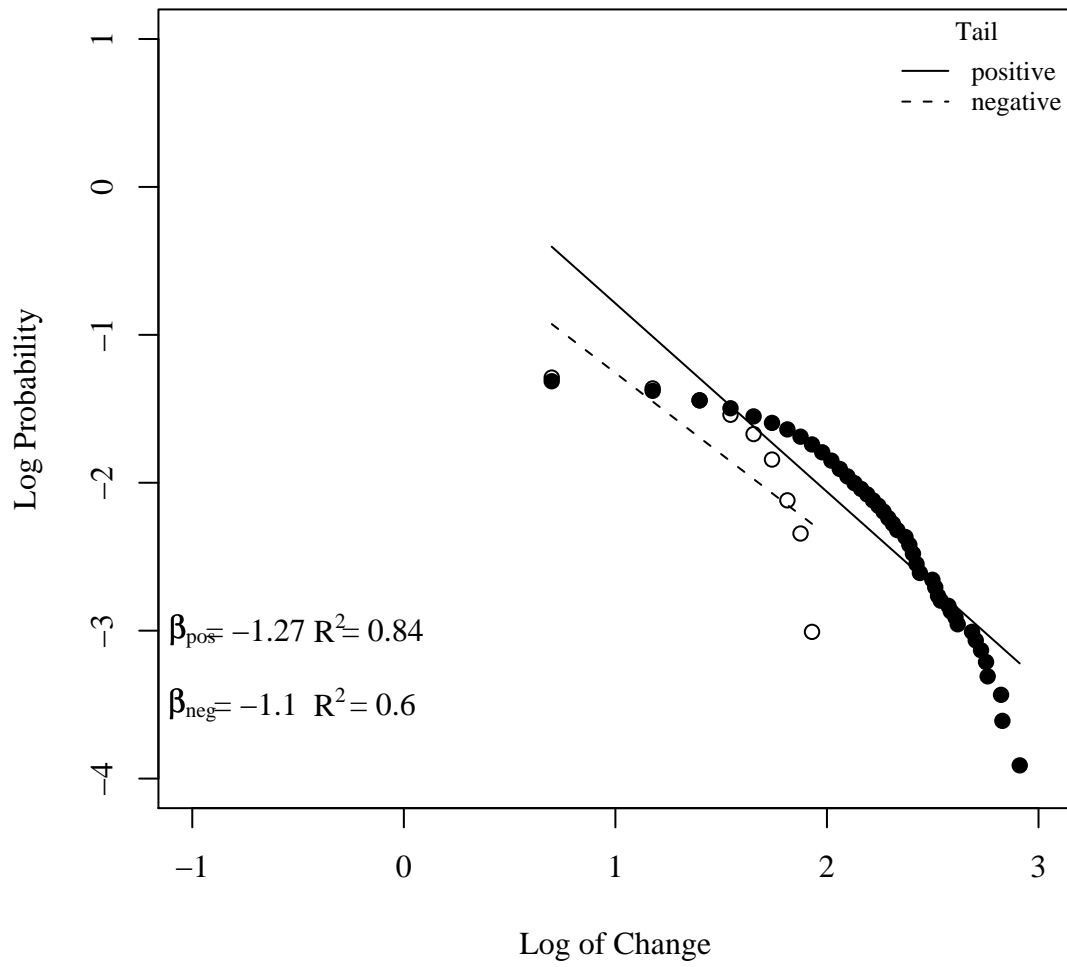
Log-log plot for Elections in Denmark



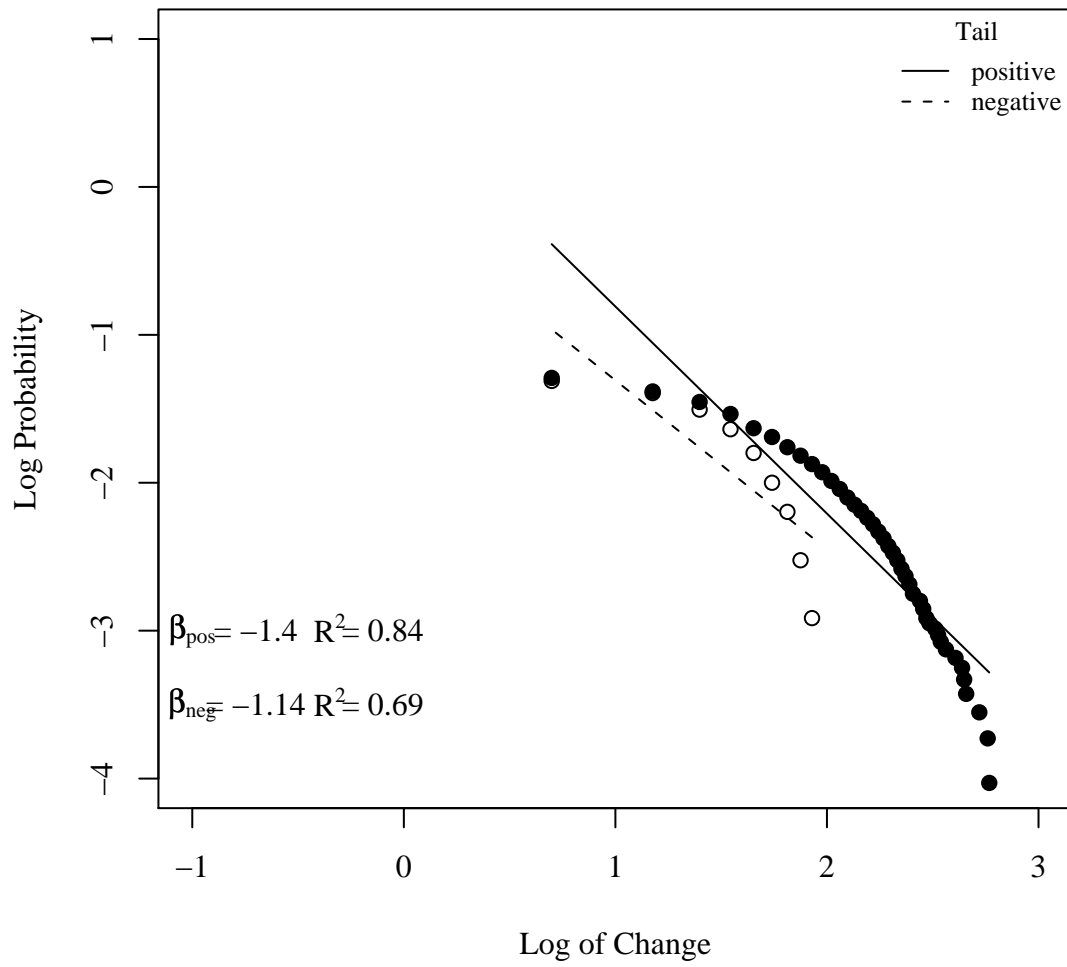
Log-log plot for Interpellations in Denmark



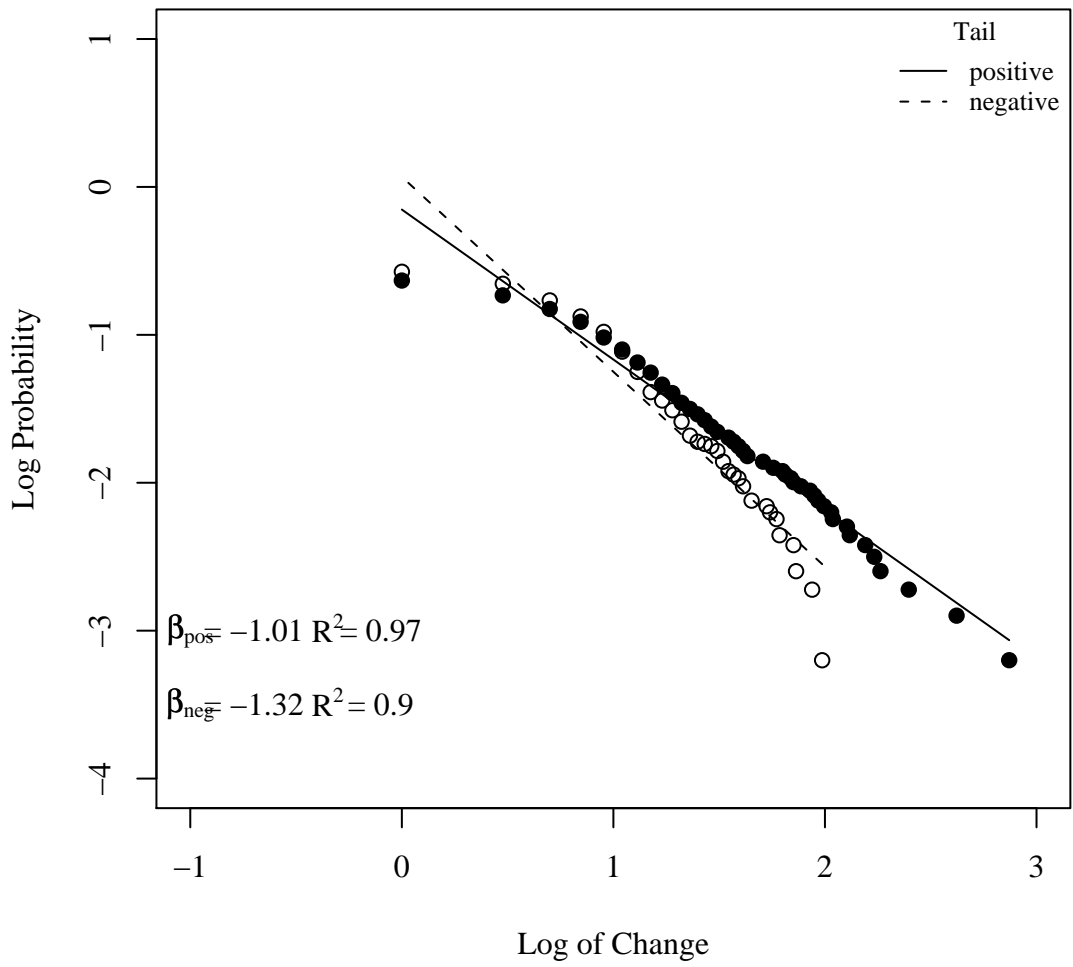
Log-log plot for Questions in Denmark



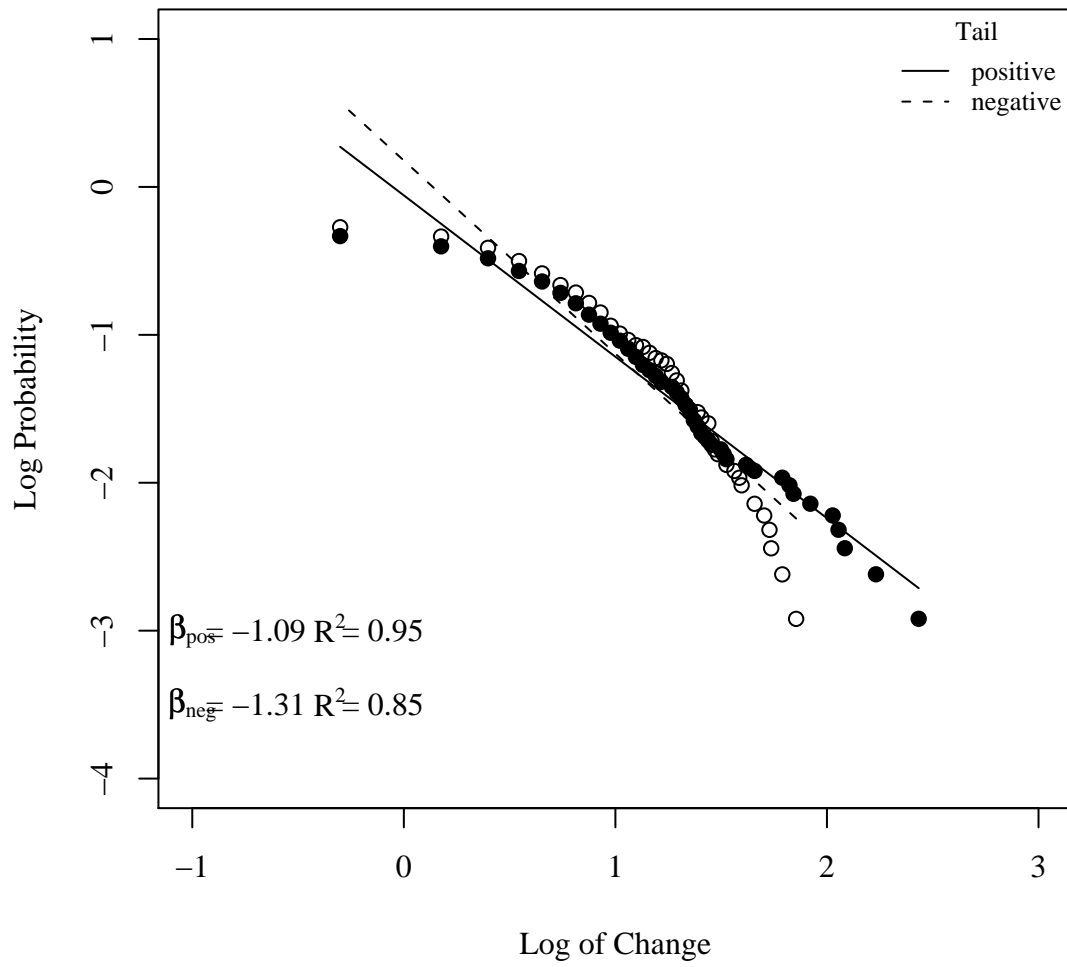
Log-log plot for Laws in Denmark



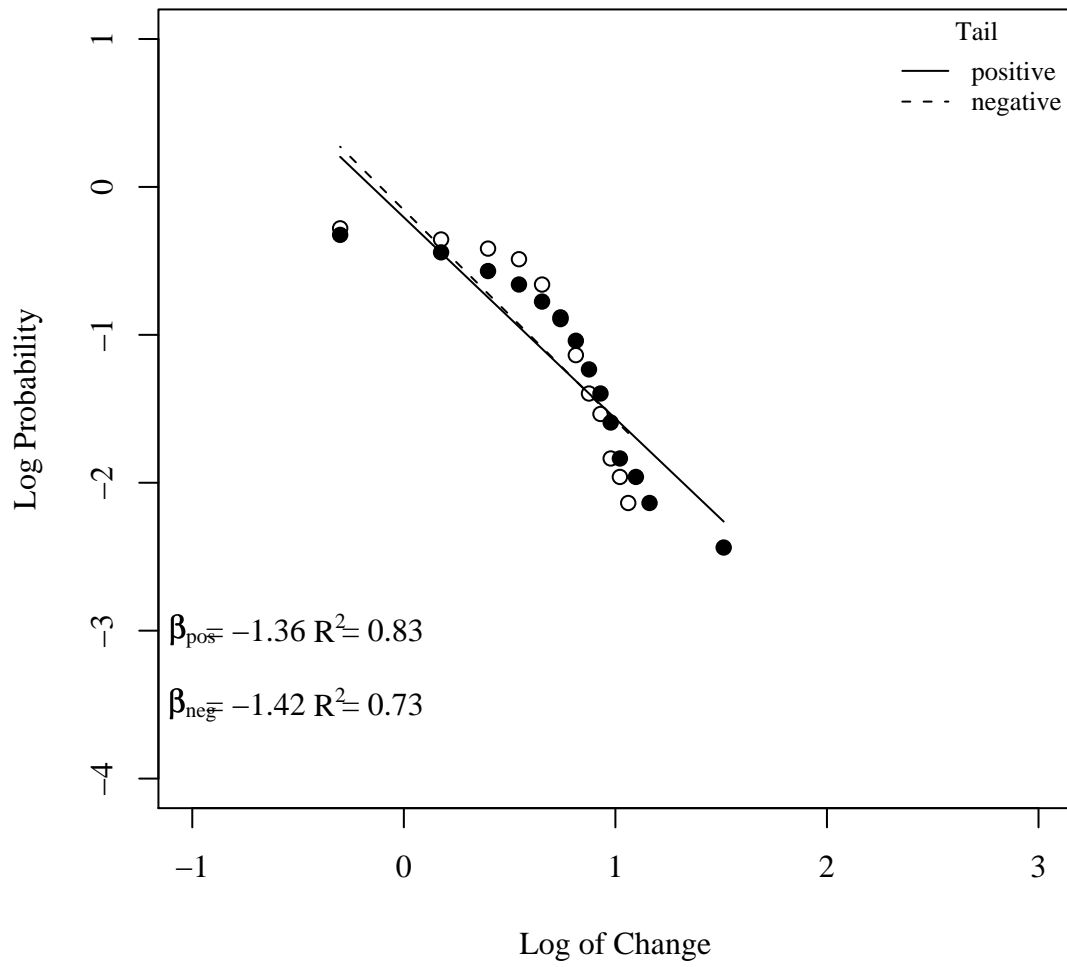
Log-log plot for Appropriations in Denmark



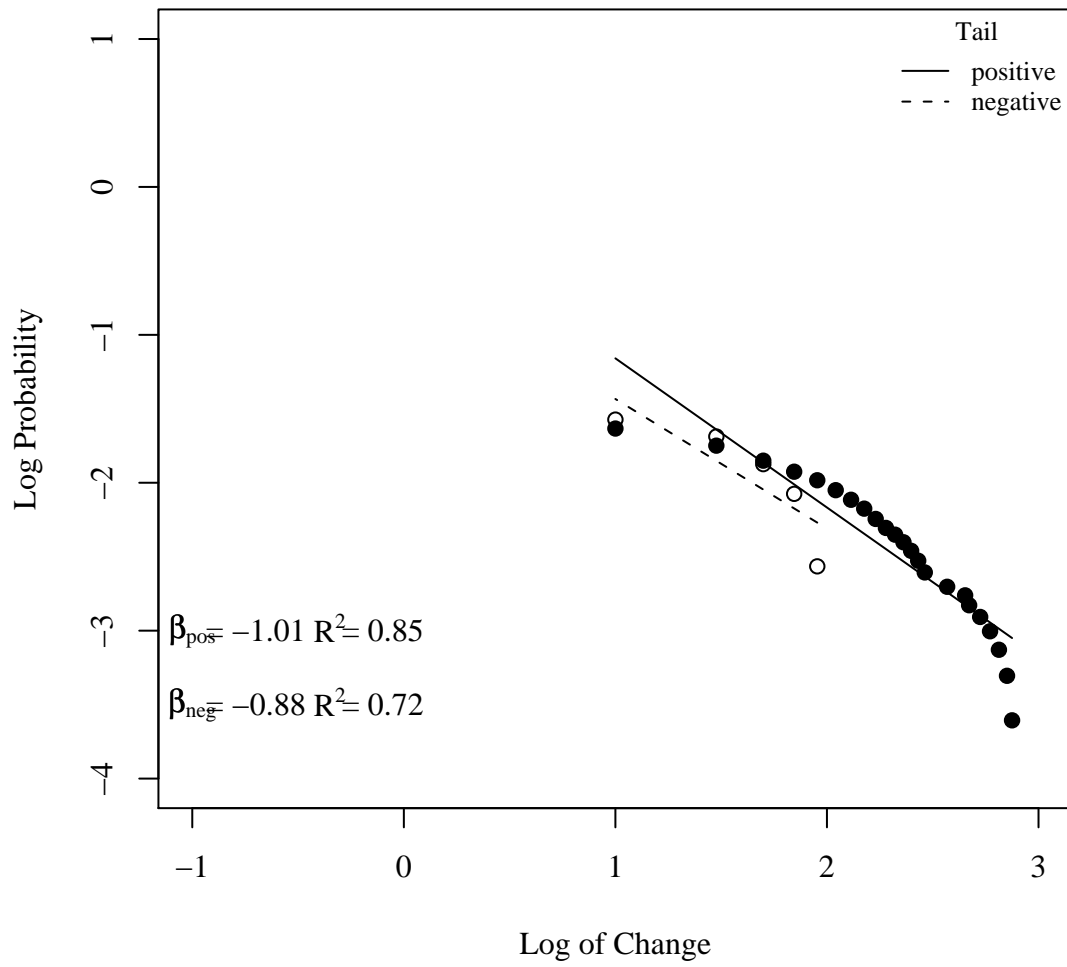
Log-log plot for Spending in Denmark



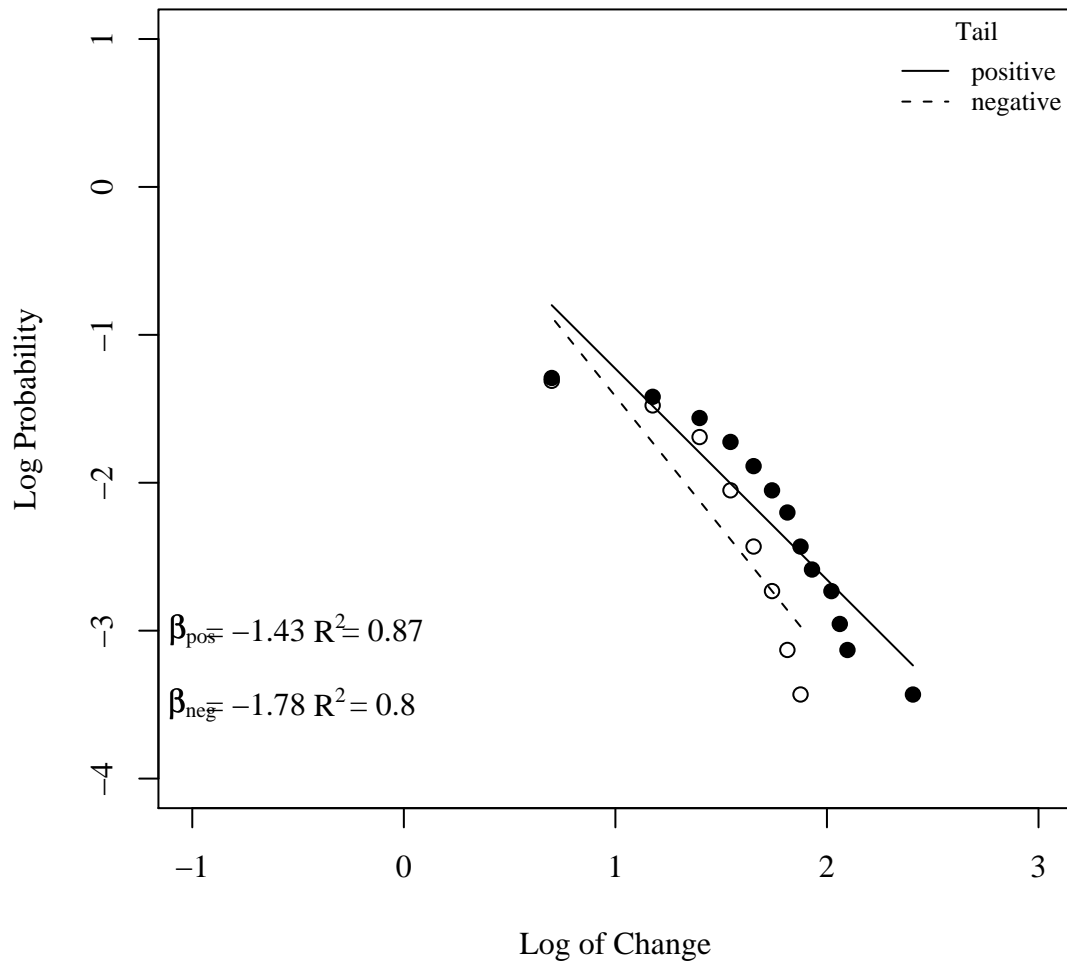
Log-log plot for Elections in Belgium



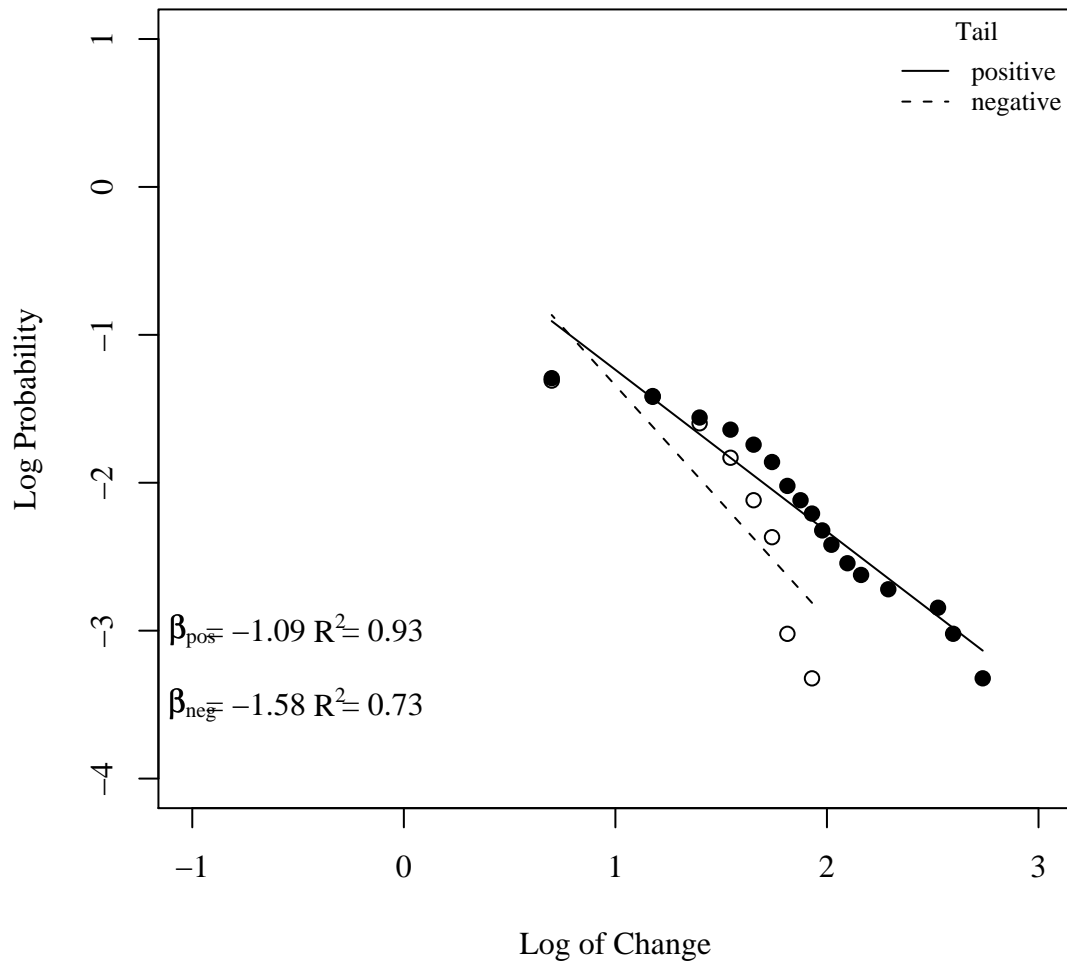
Log-log plot for Demonstrations in Belgium



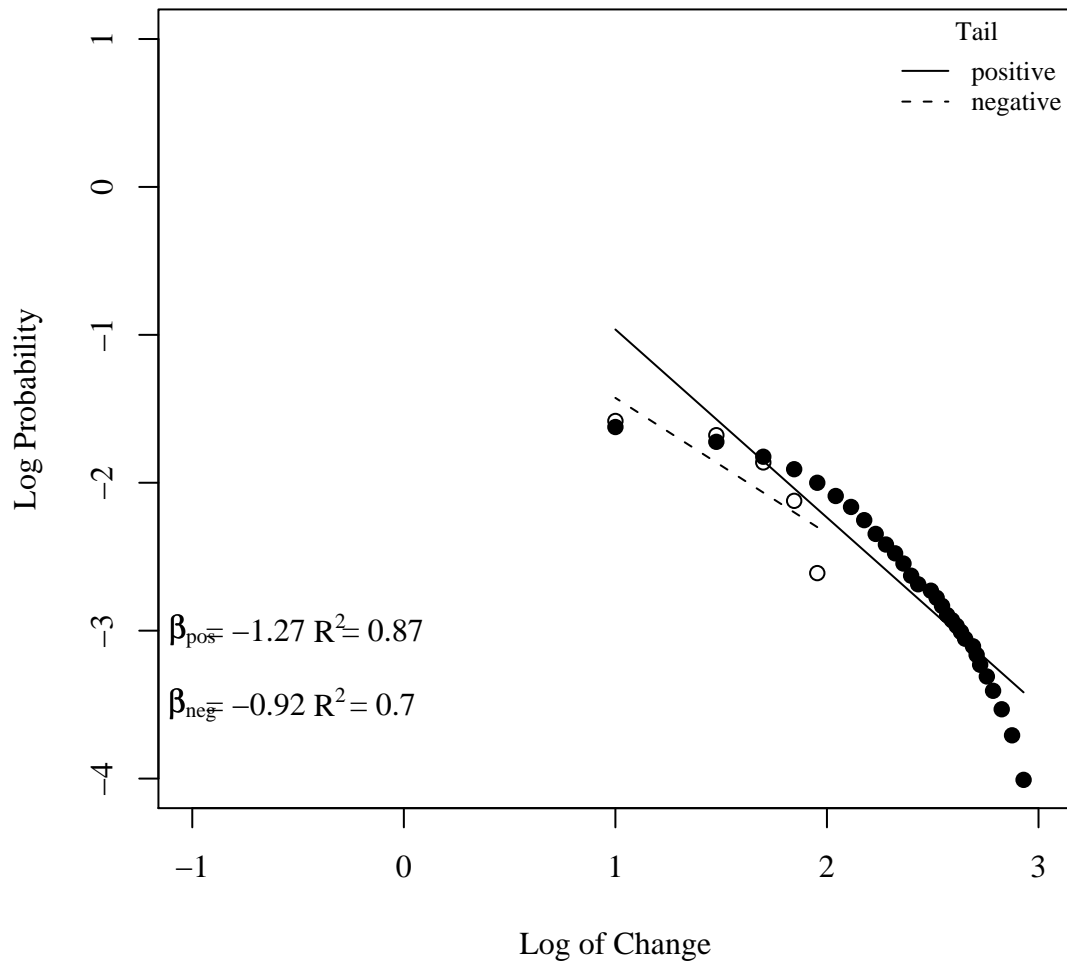
Log-log plot for Newspapers in Belgium



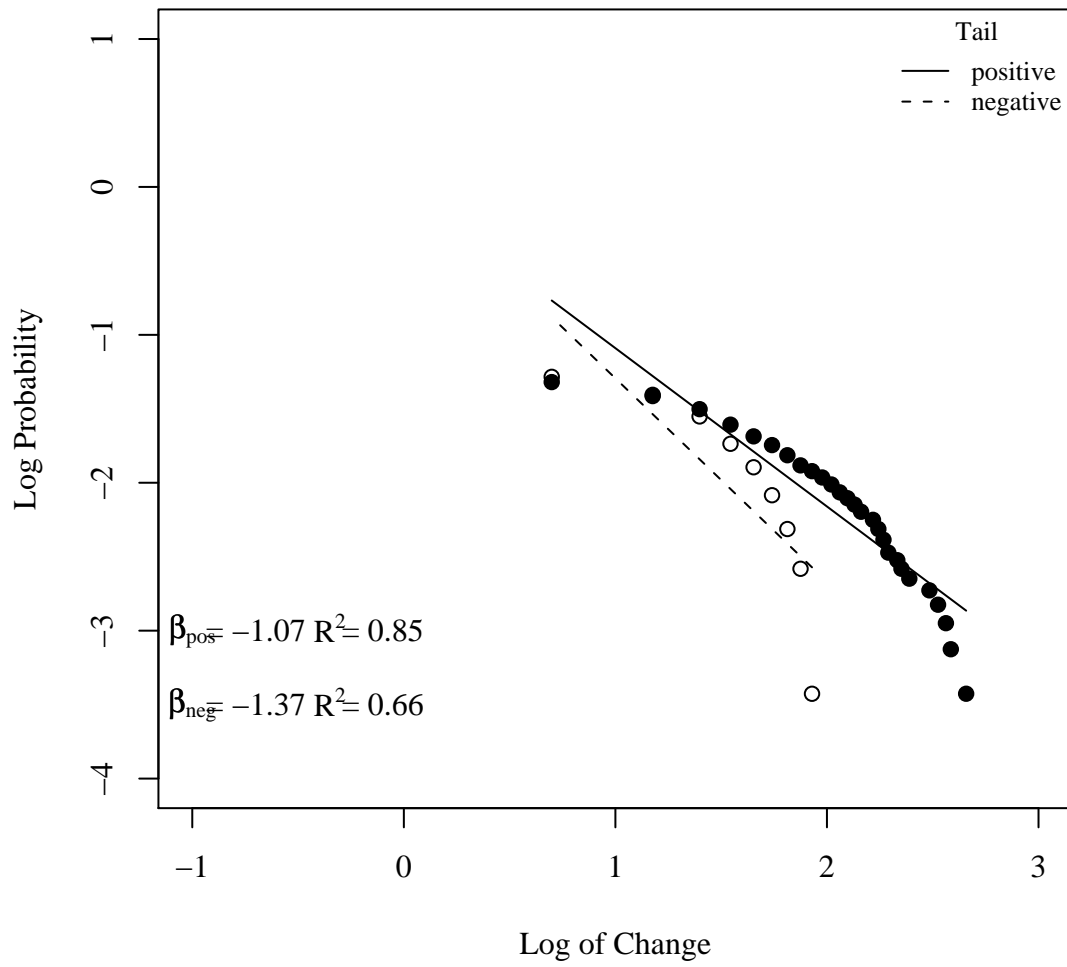
Log-log plot for TV coverage in Belgium



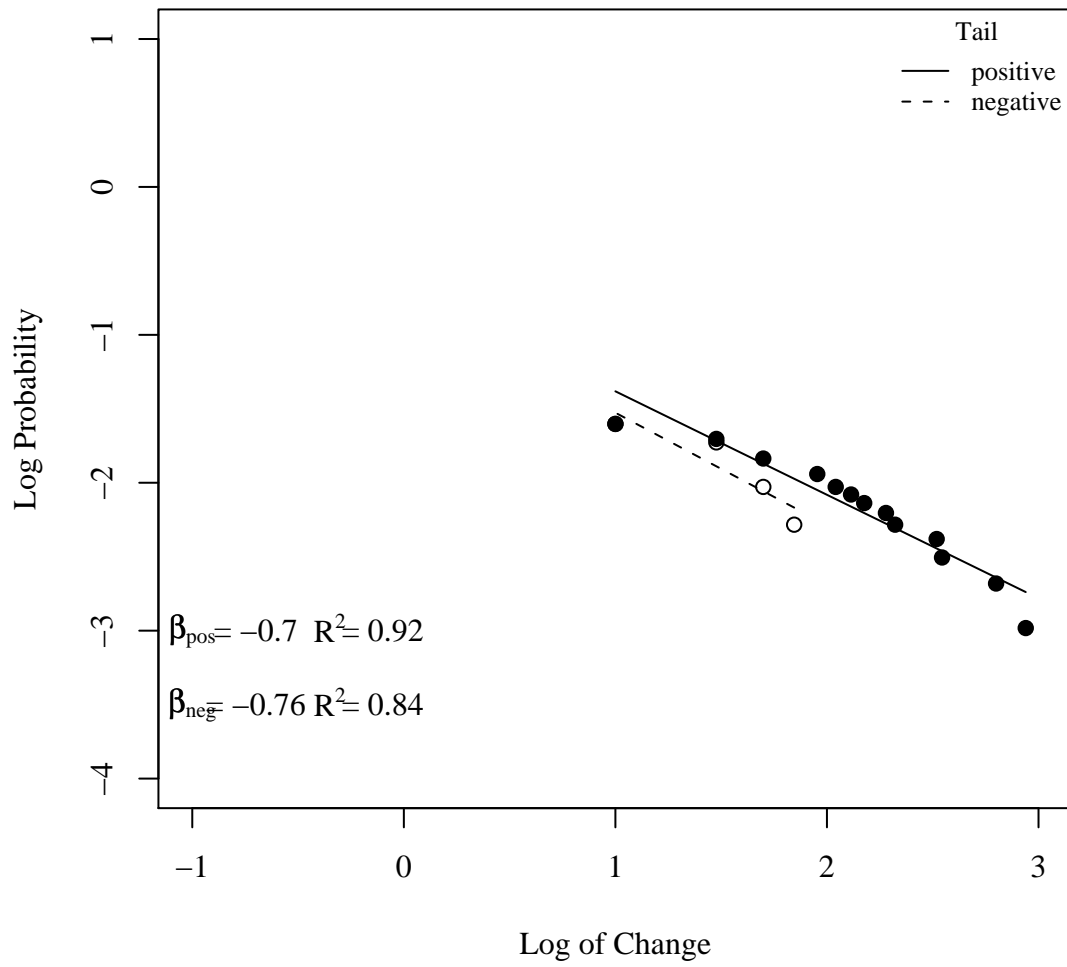
Log-log plot for Party platforms in Belgium



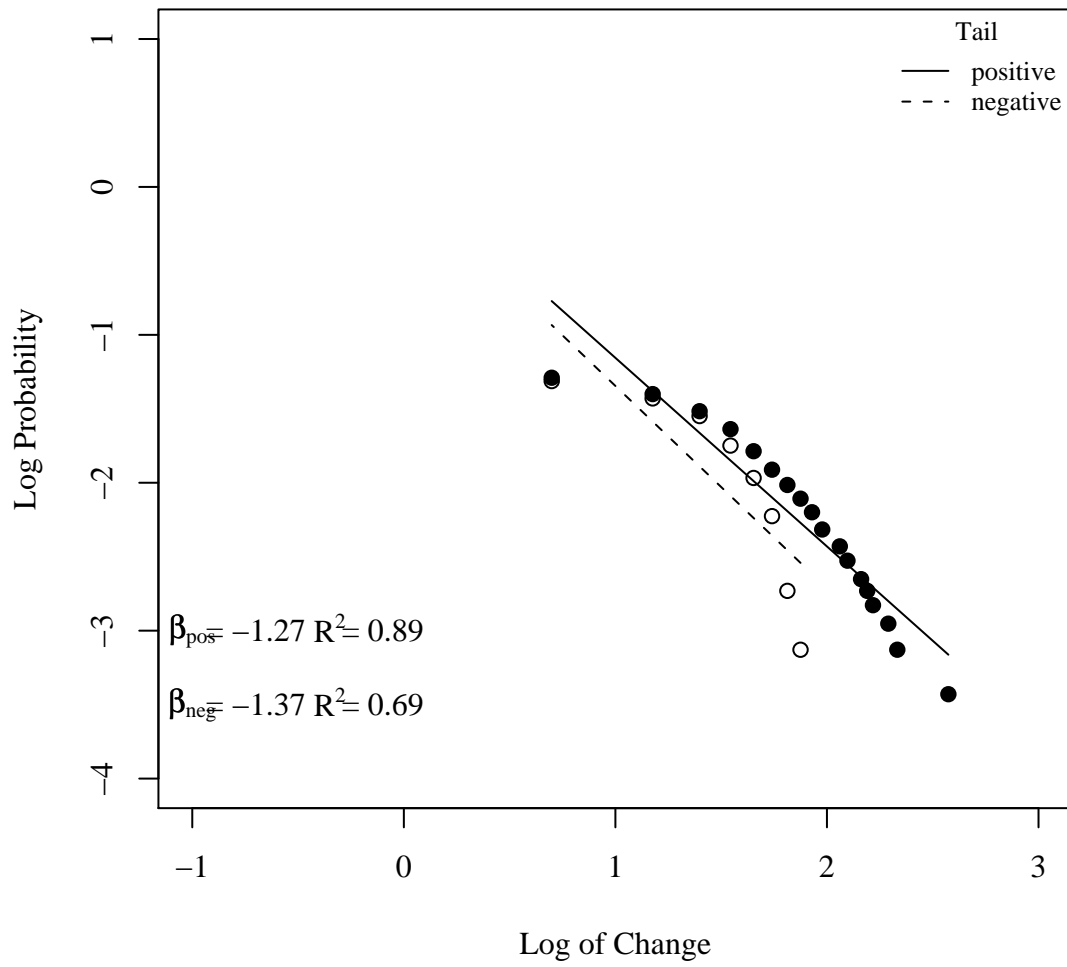
Log-log plot for Interpellations in Belgium



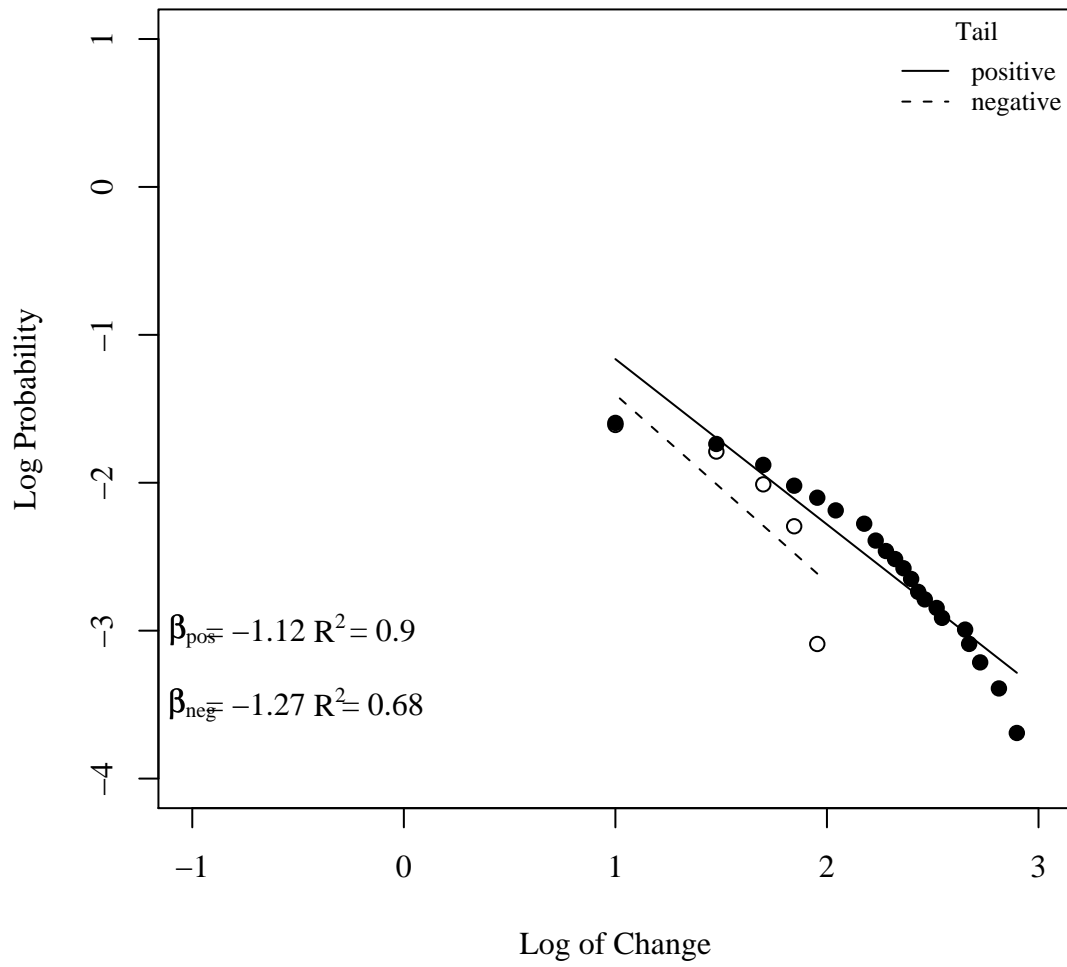
Log-log plot for Government agreements in Belgium



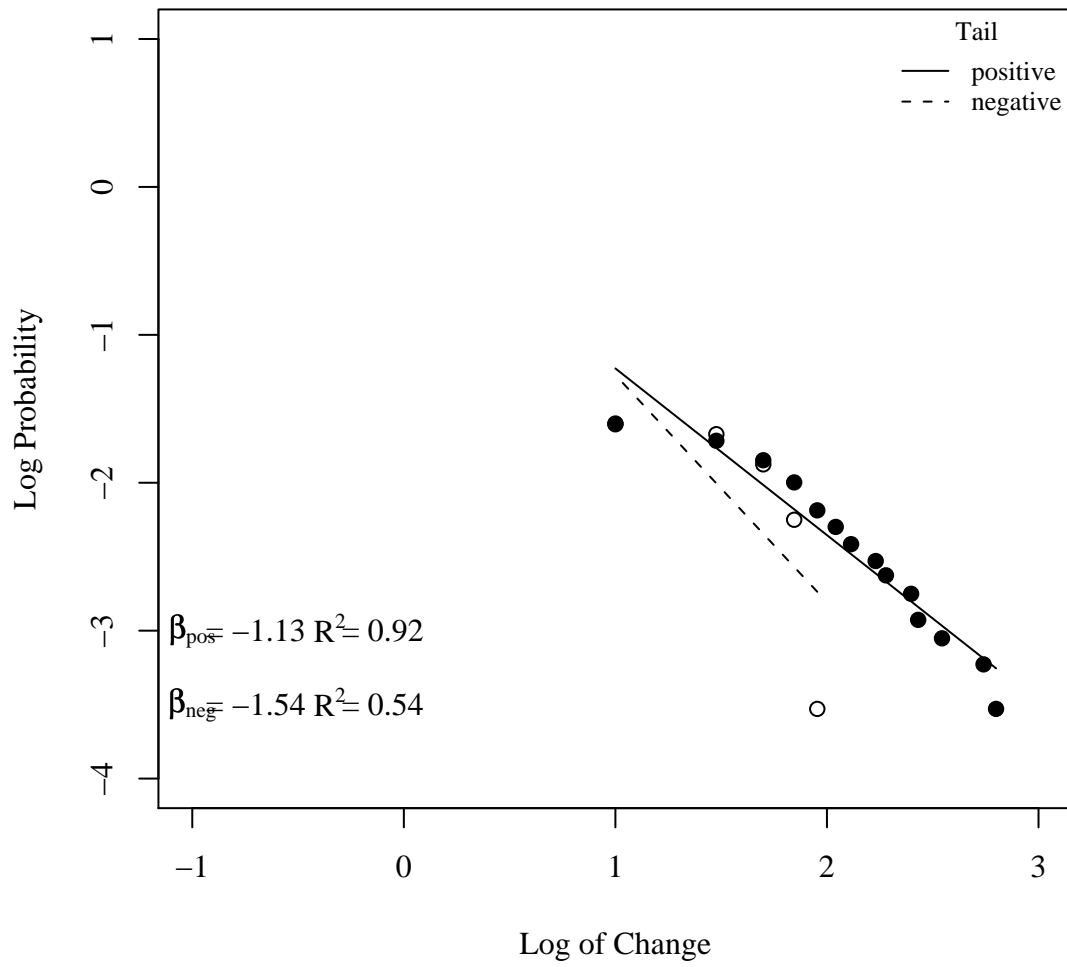
Log-log plot for Written questions in Belgium



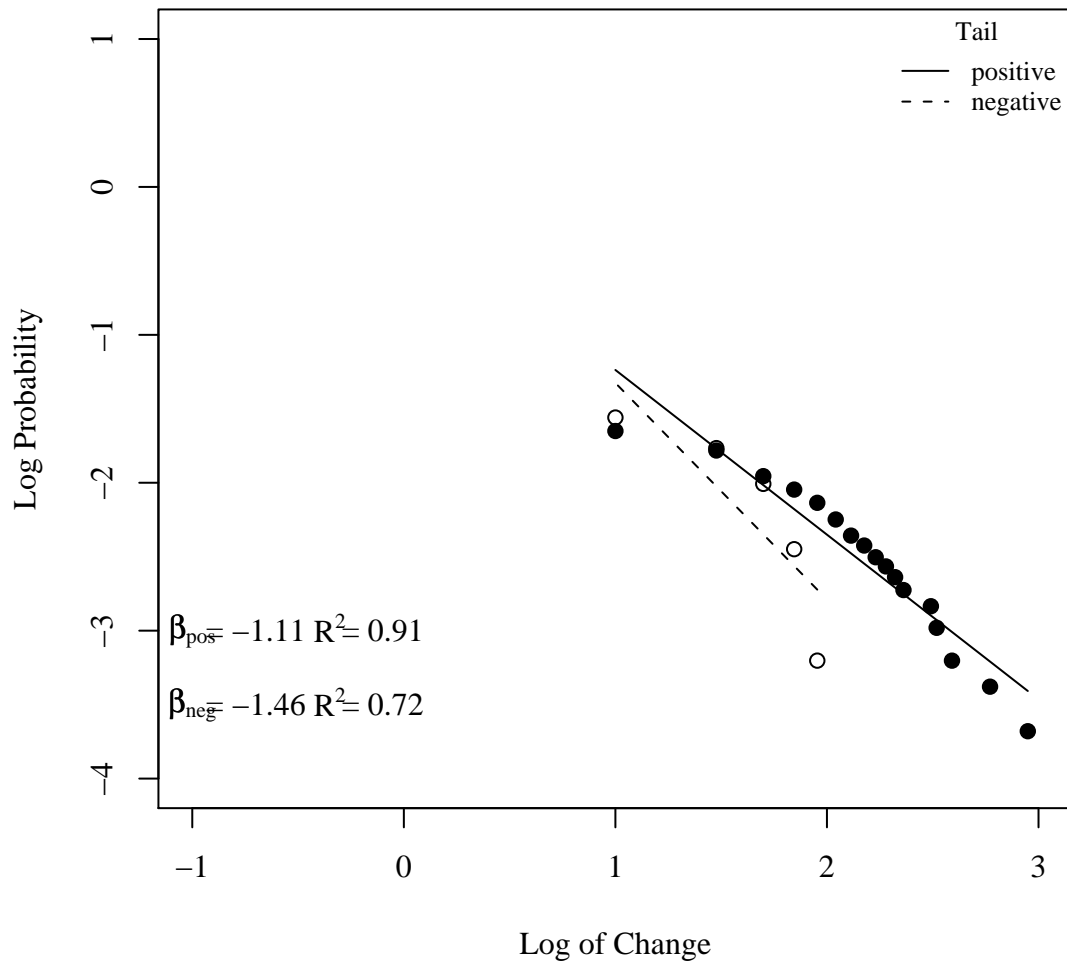
Log-log plot for Bills in Belgium



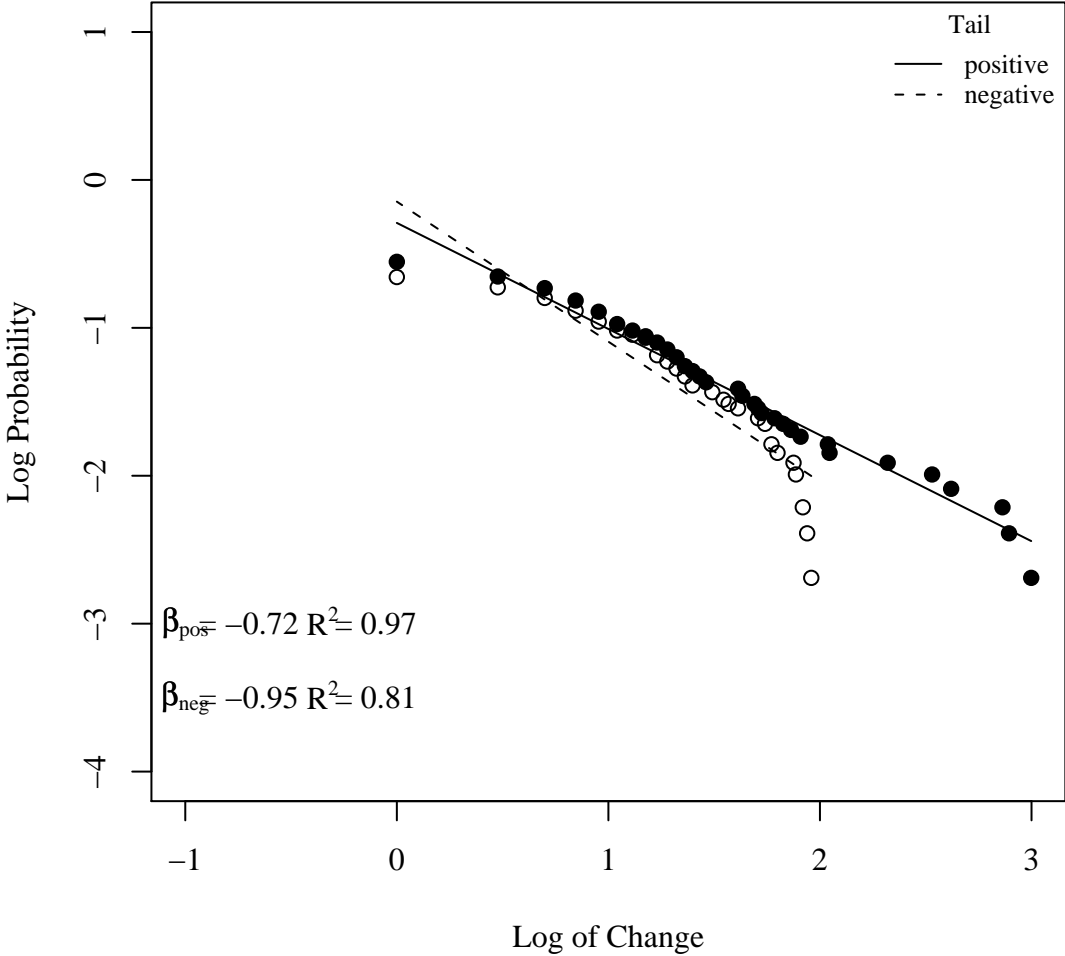
Log-log plot for Laws in Belgium



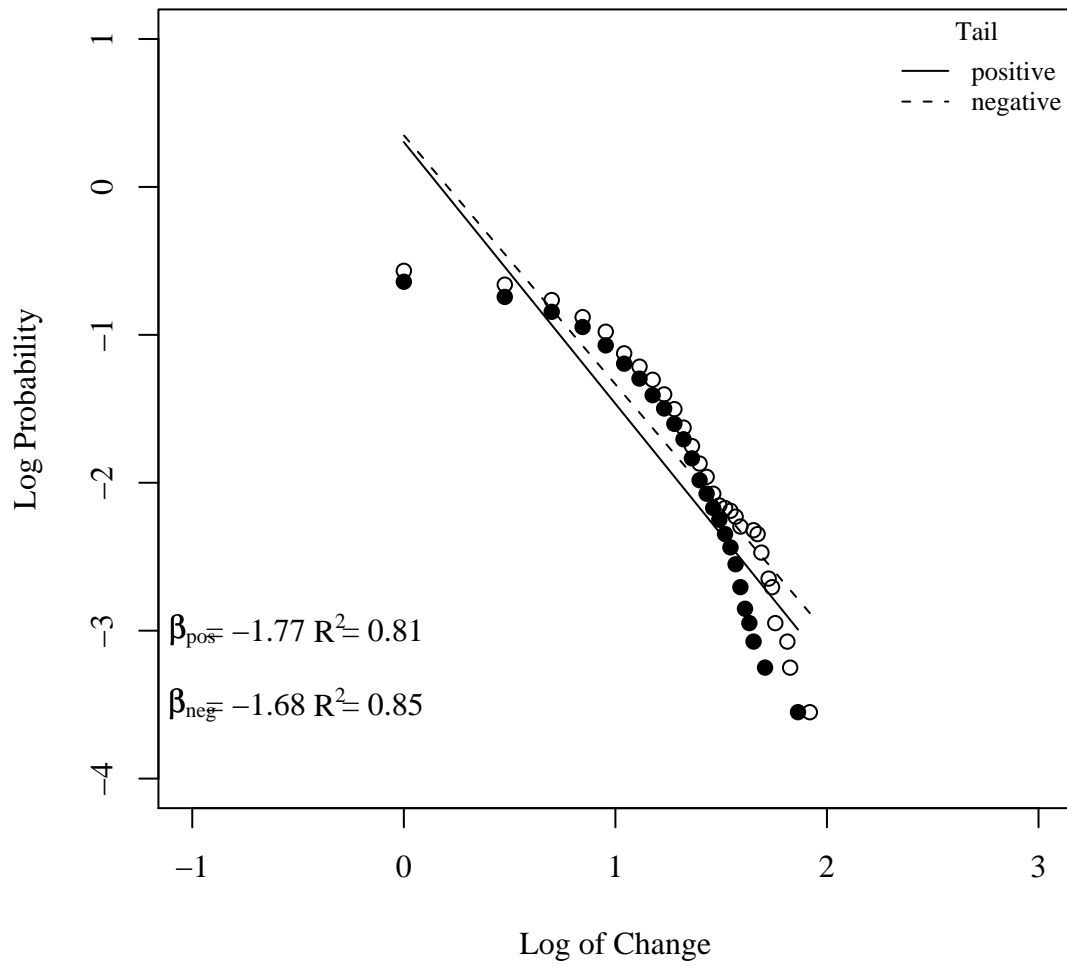
Log-log plot for Executive orders in Belgium



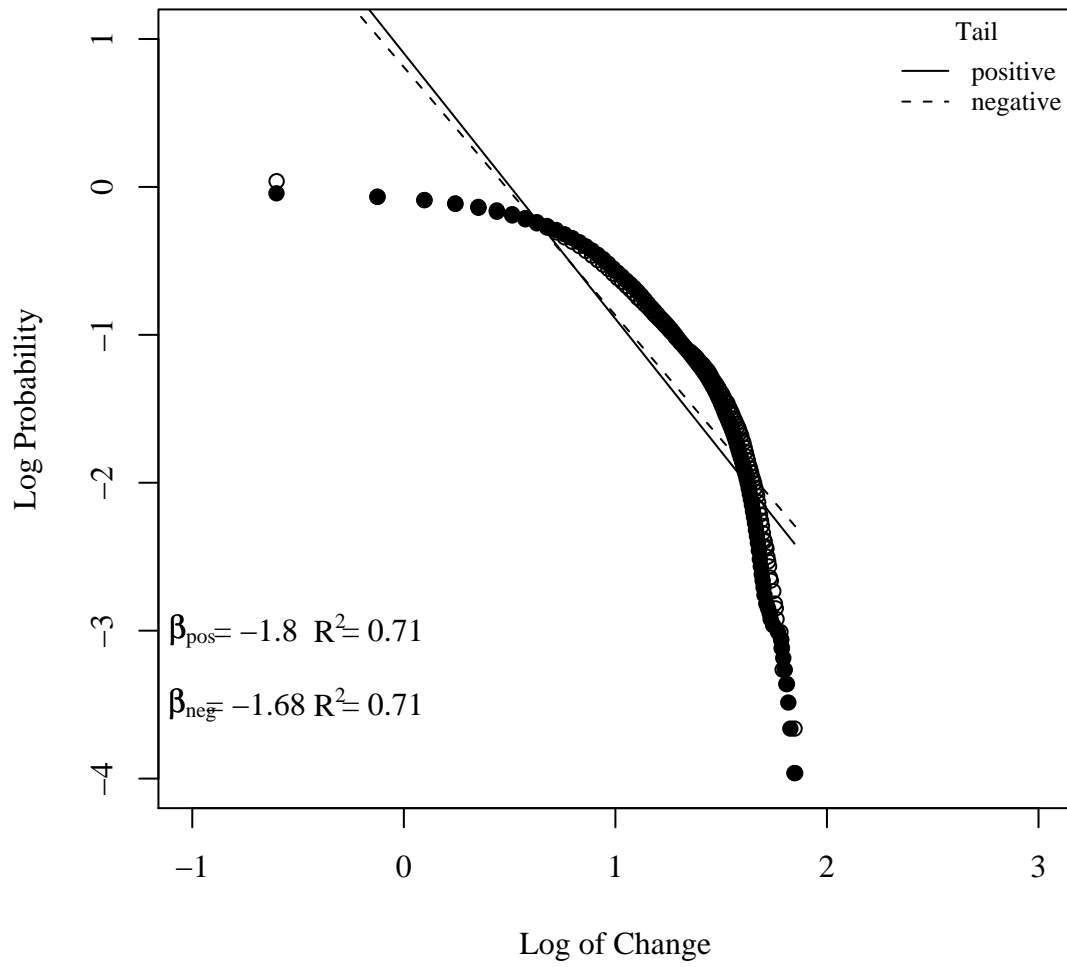
Log-log plot for Budgets in Belgium



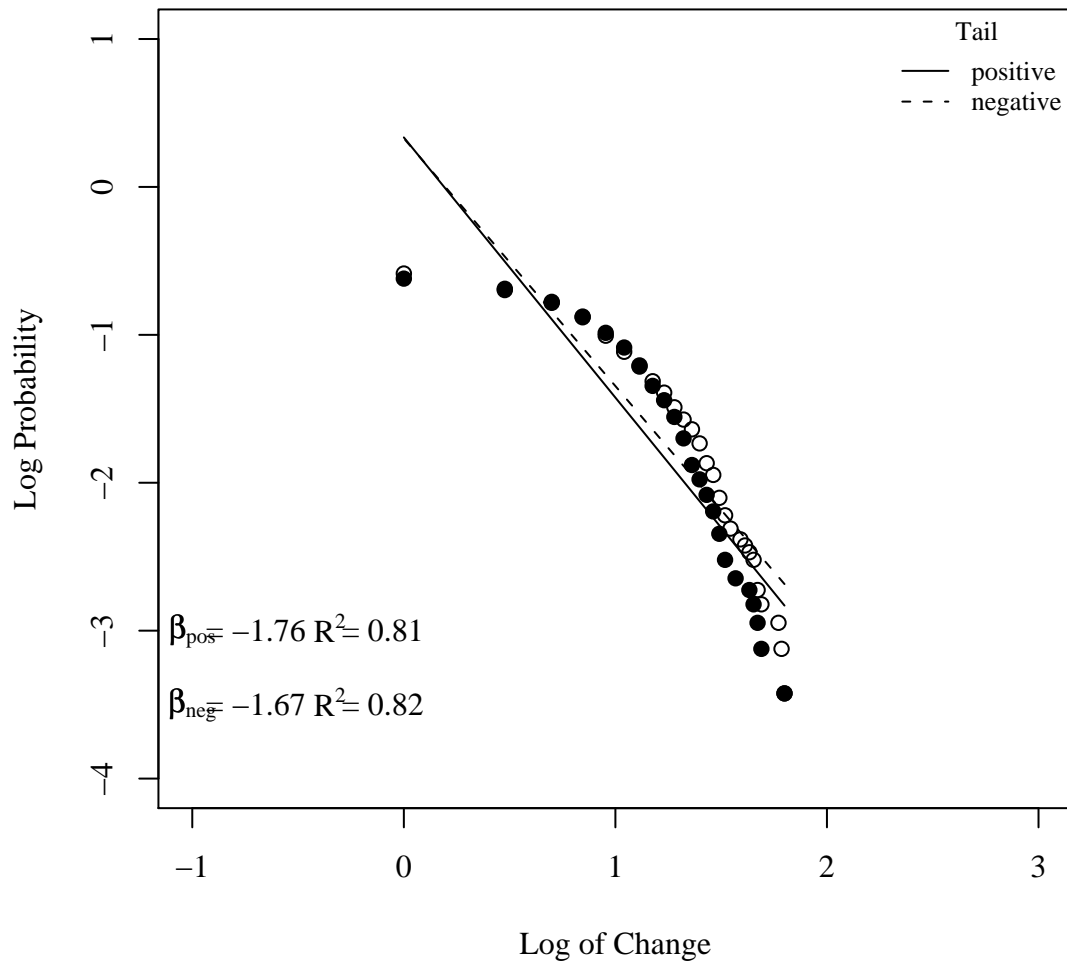
Log-log plot for Presidential elections in the United States



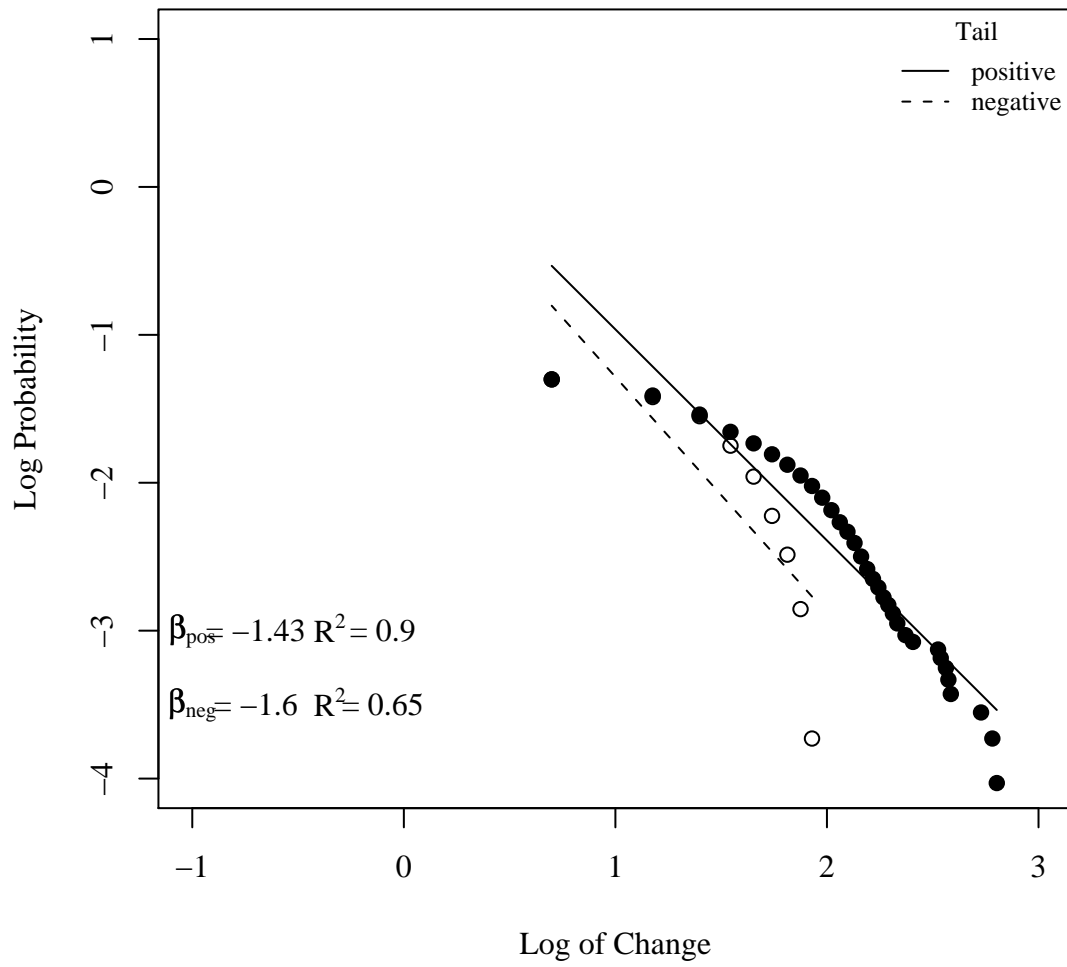
Log-log plot for House elections in the United States



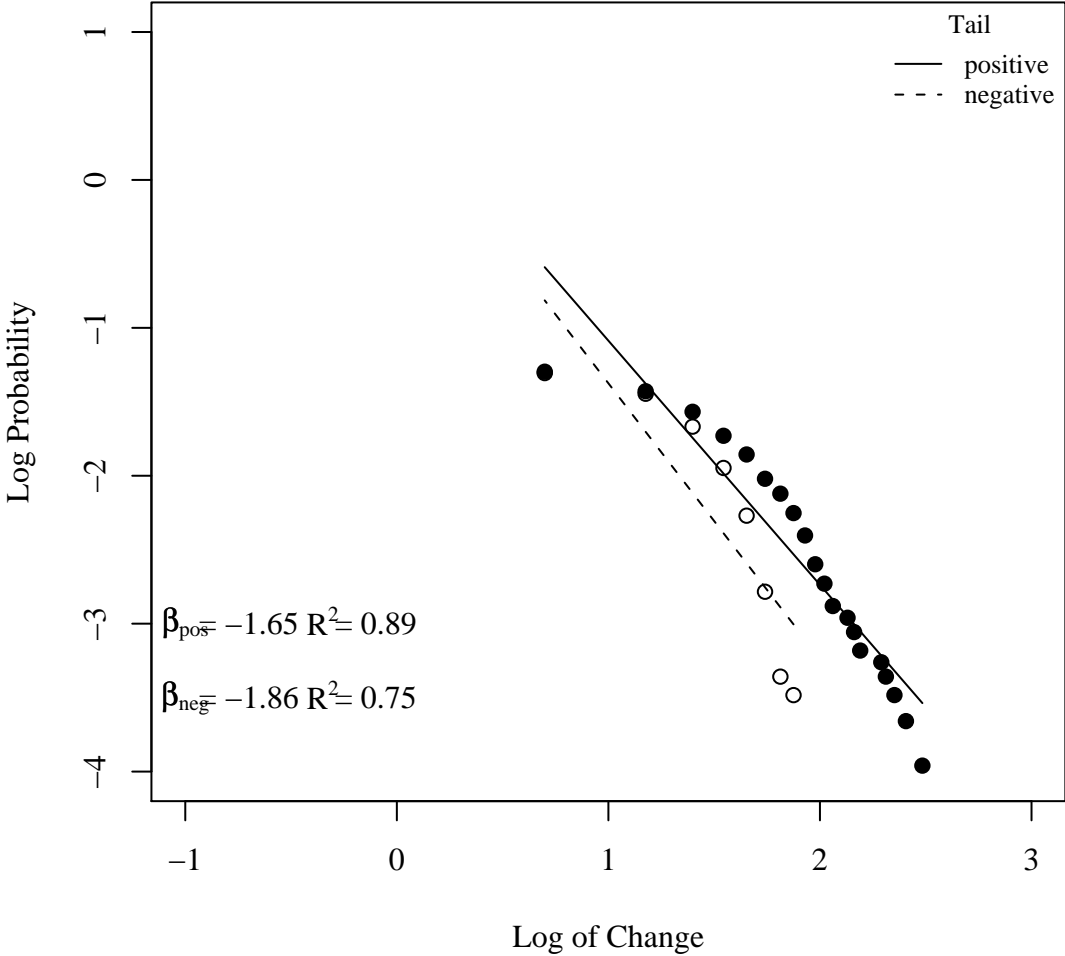
Log-log plot for Senate elections in the United States



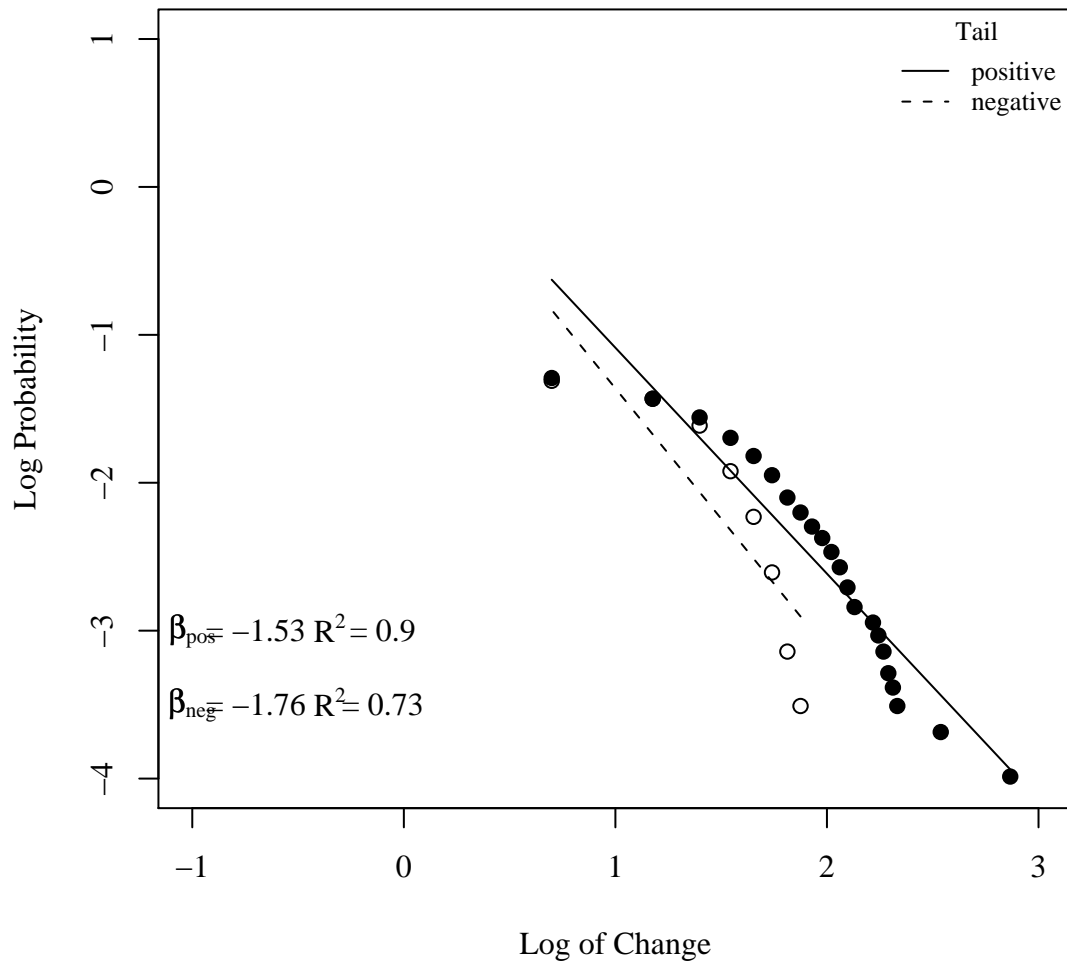
Log-log plot for NYT stories in the United States



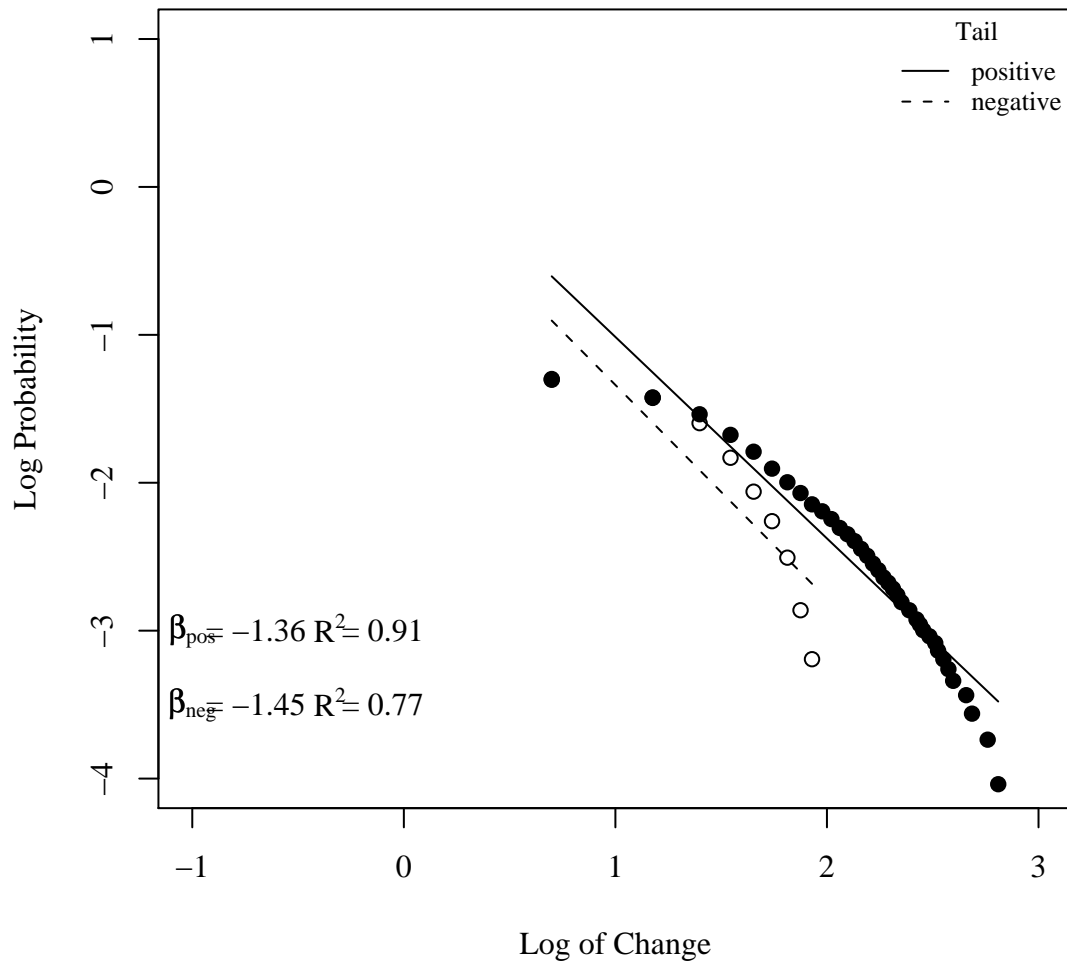
Log-log plot for House bills in the United States



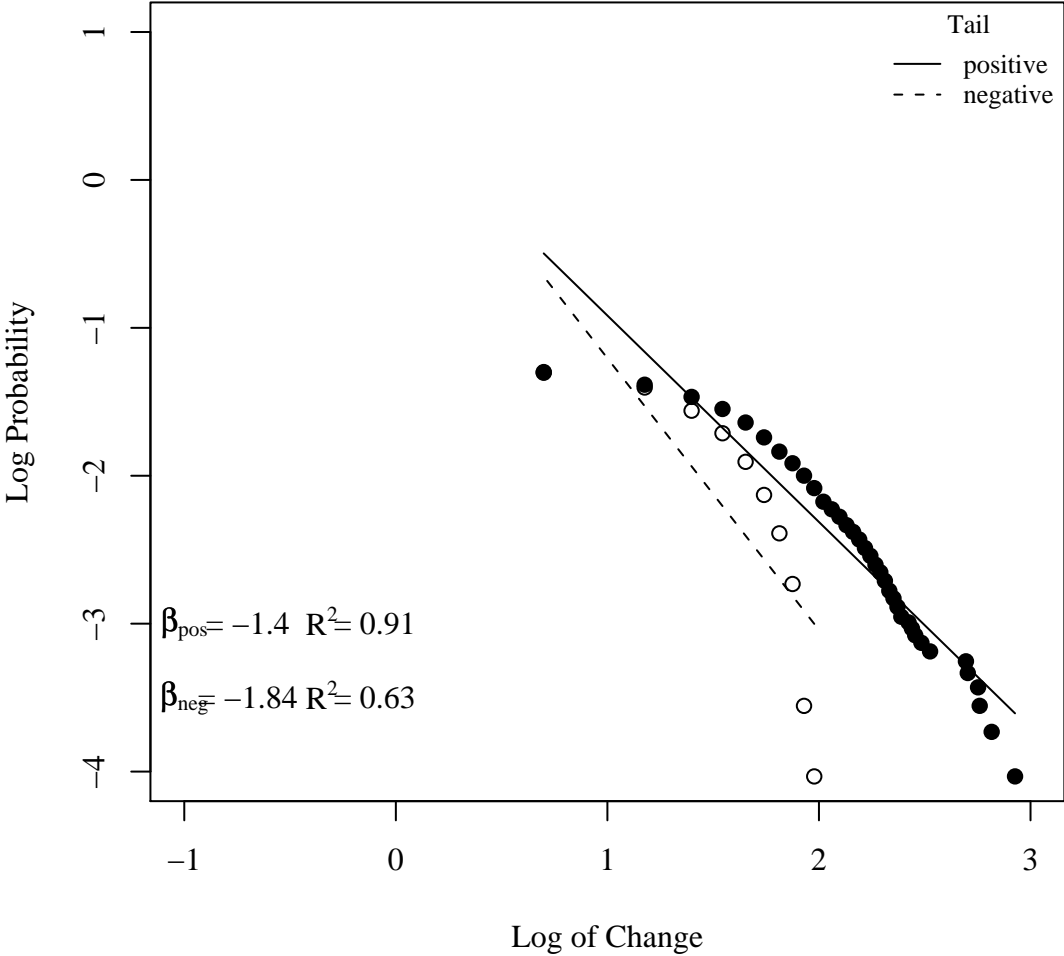
Log-log plot for Senate bills in the United States



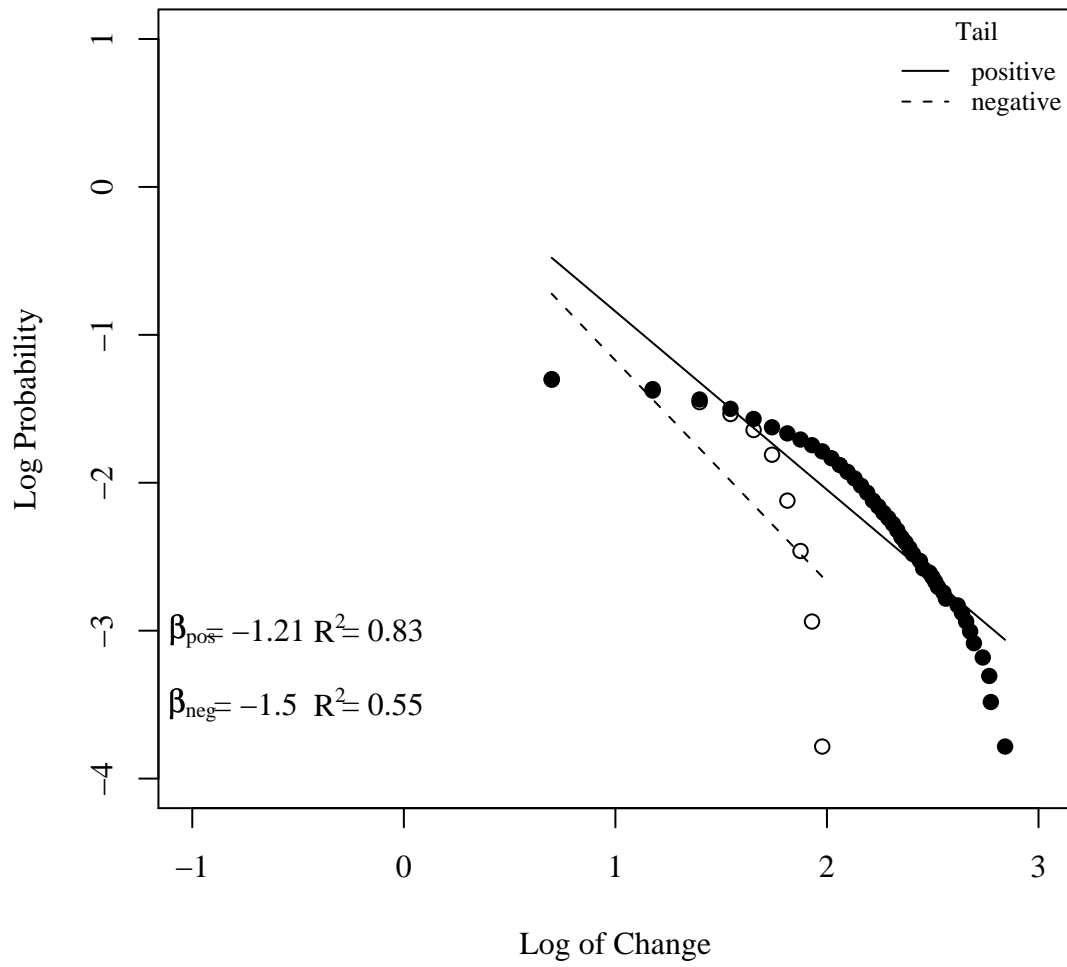
Log-log plot for House hearings in the United States



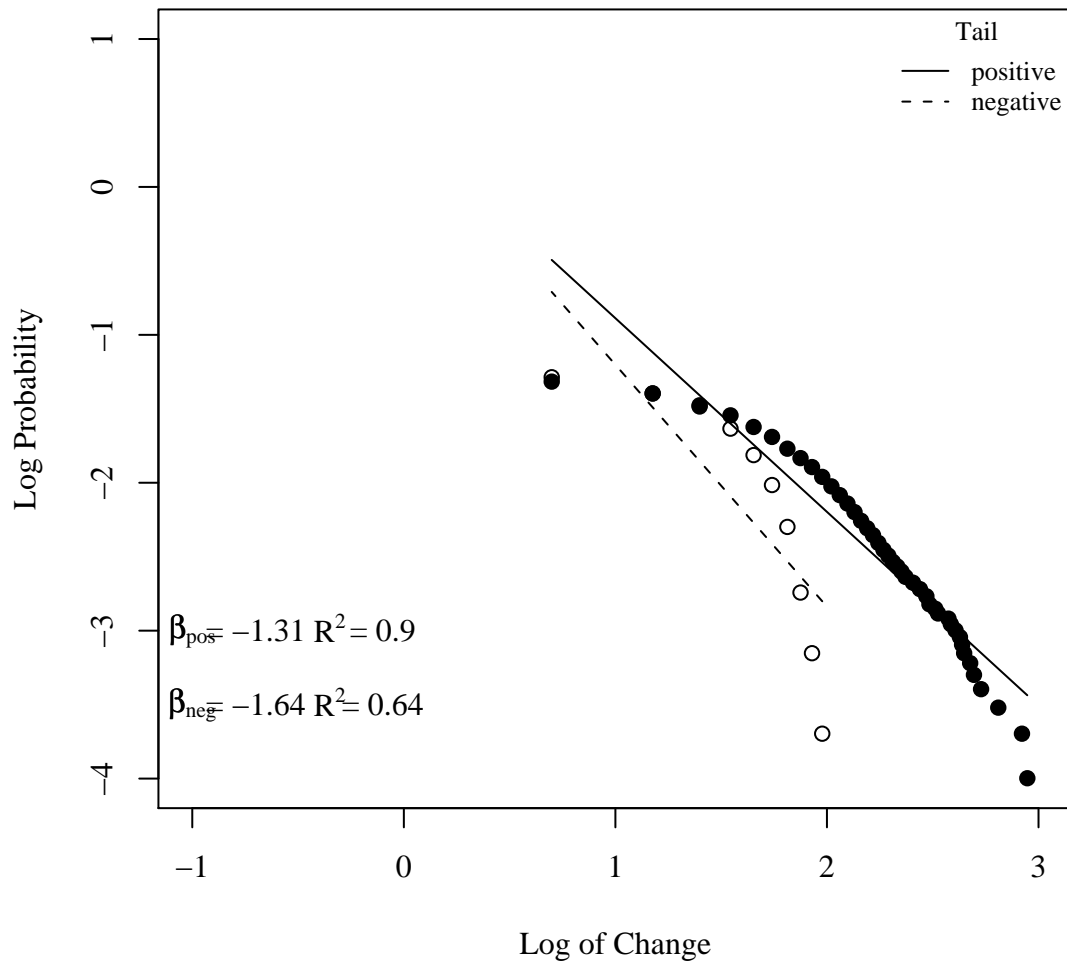
Log-log plot for Senate hearings in the United States



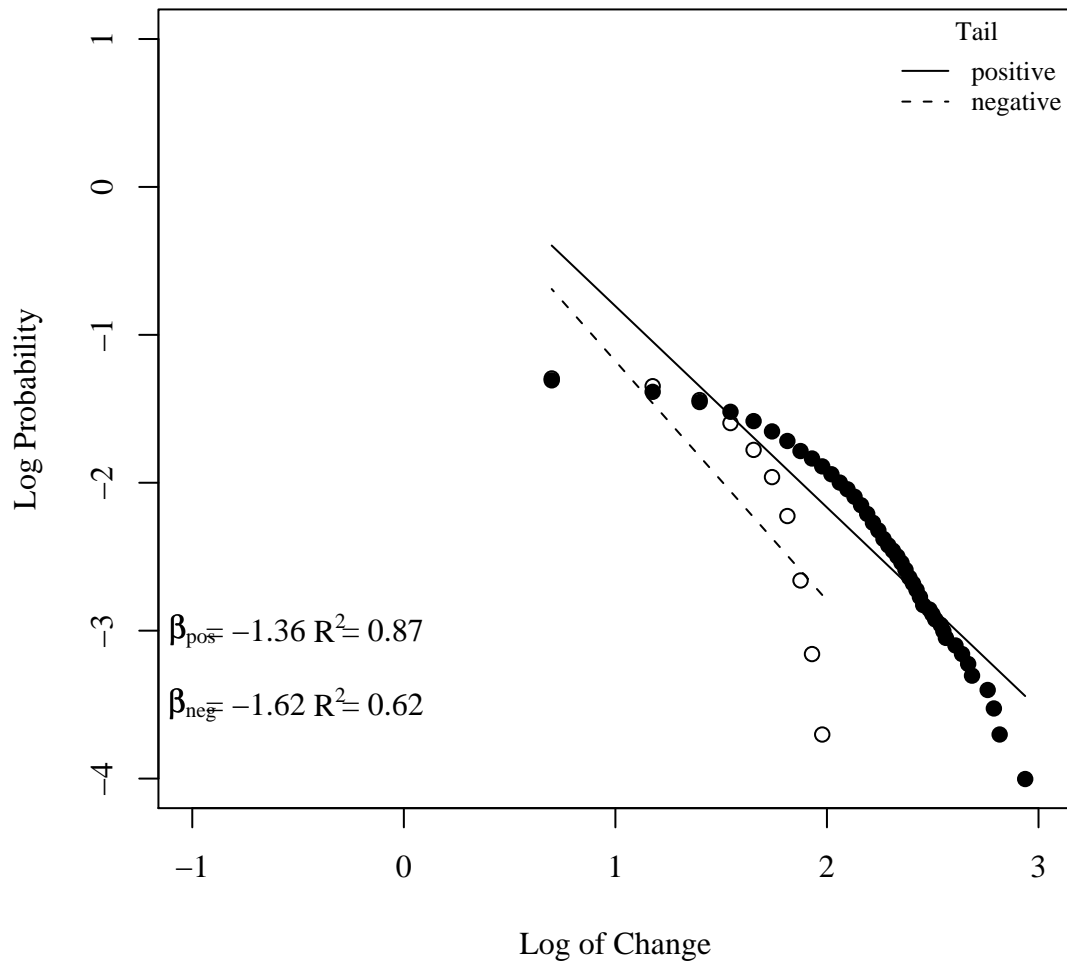
Log-log plot for Executive orders in the United States



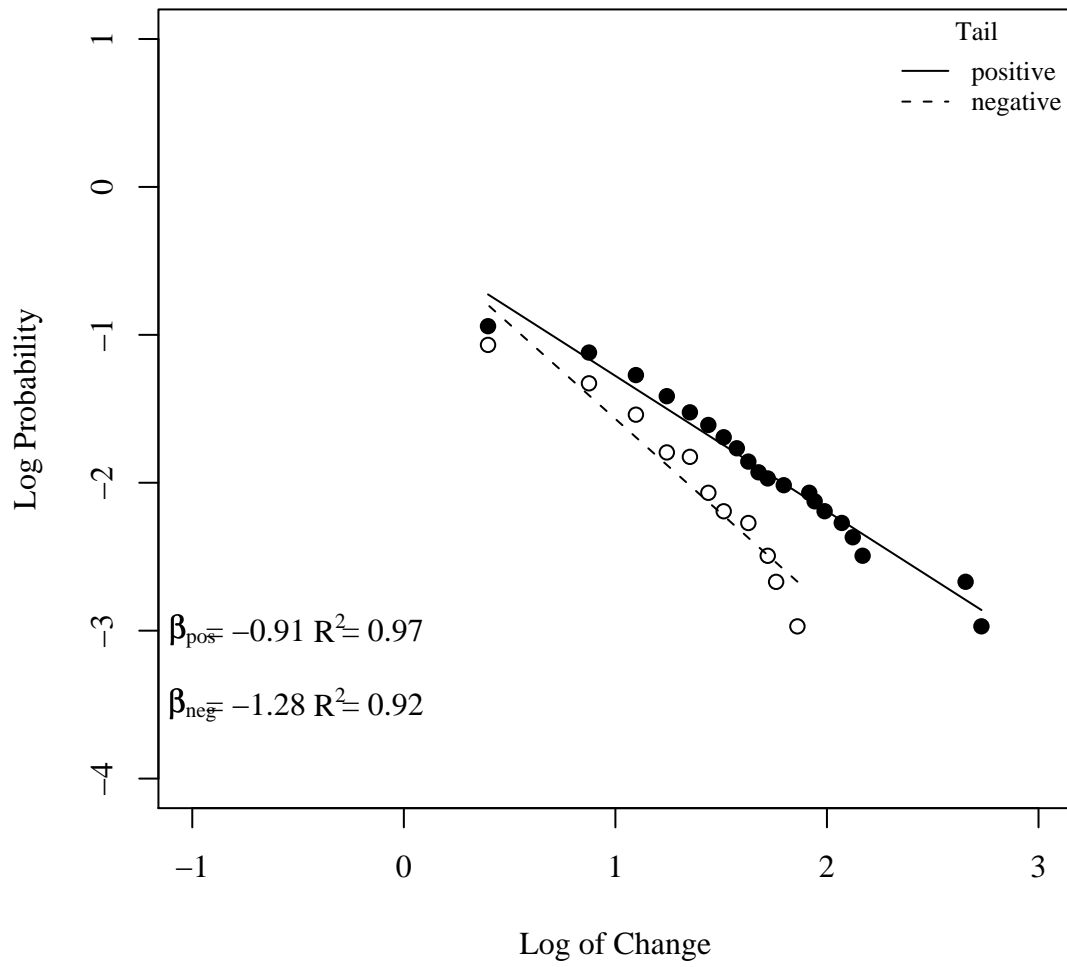
Log-log plot for CQ stories in the United States



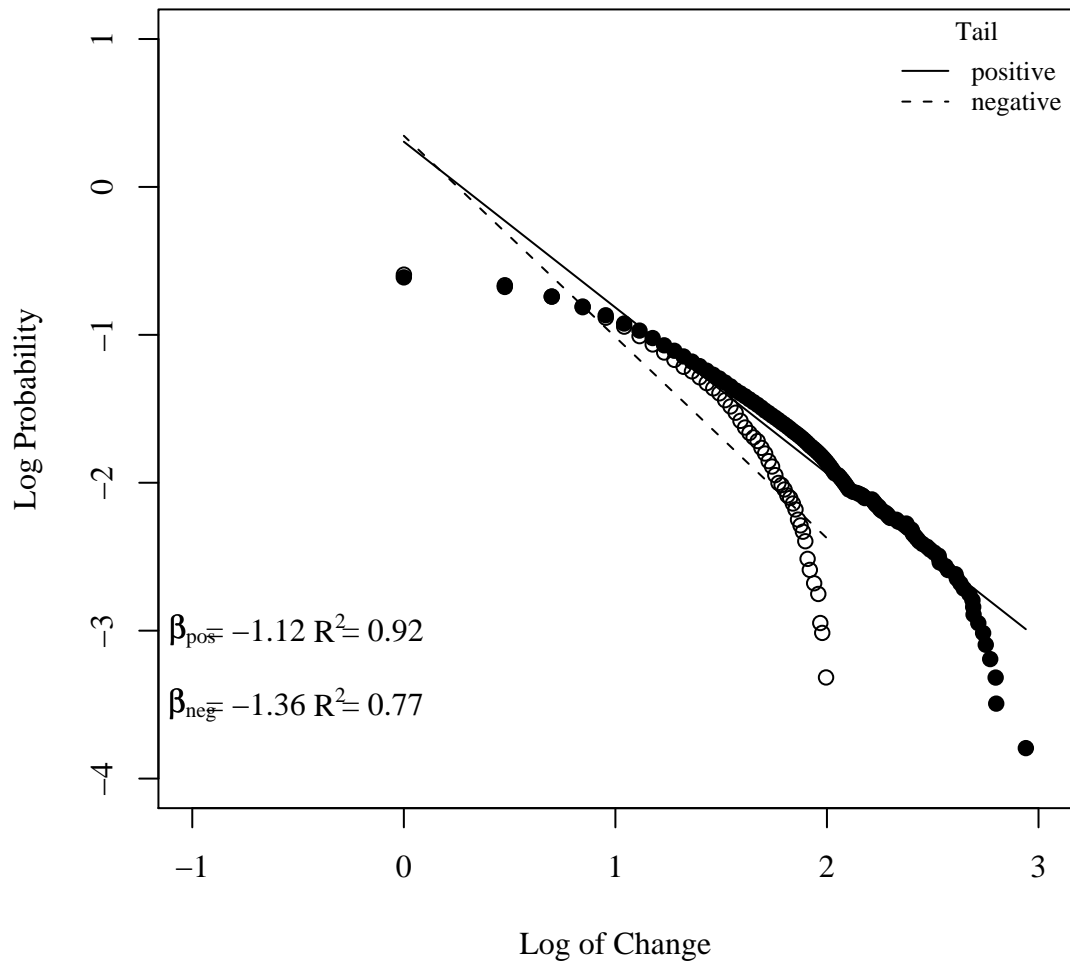
Log-log plot for Statutes in the United States



Log-log plot for Total outlays in the United States



Log-log plot for Budget authority in the United States



Web Appendix add on

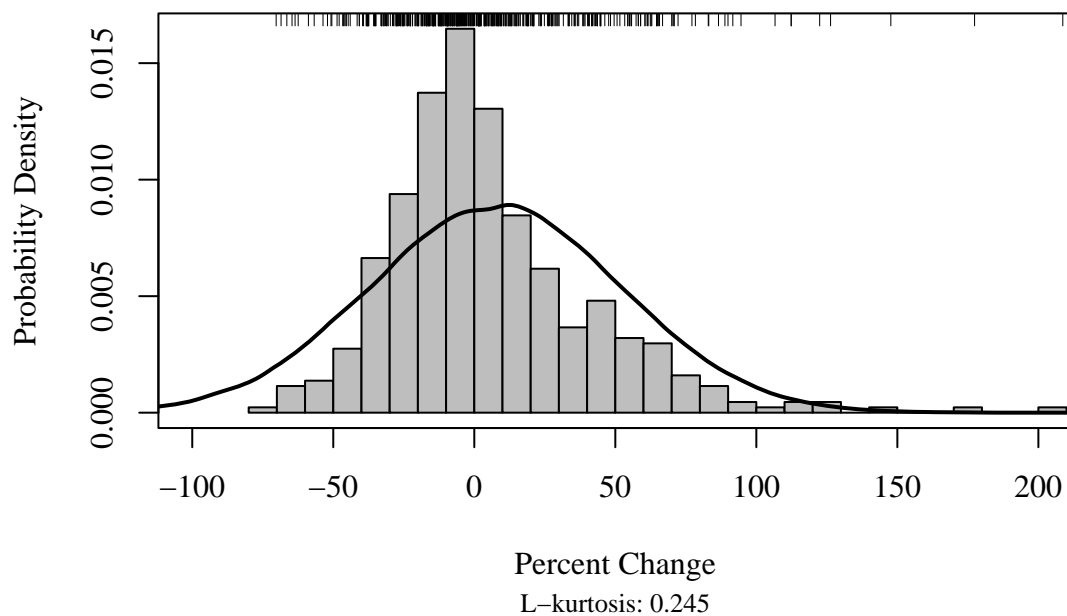
We added the radio news coverage to the Danish series. In Table 2, the Danish radio series will be listed with the ID number 7. The series entails 23 categories and runs from 1984 – 2003. To Table 5 a and b the following descriptive statistics can be added.

mean	median	var	IQR	min	max	N
0.08	-0.01	0.20	0.38	-0.70	3.78	437

KS-stat	KS-p	SW-stat	SW-p	kurtosis	L-kurtosis
0.29	0.00	0.80	0.00	15.31	0.25

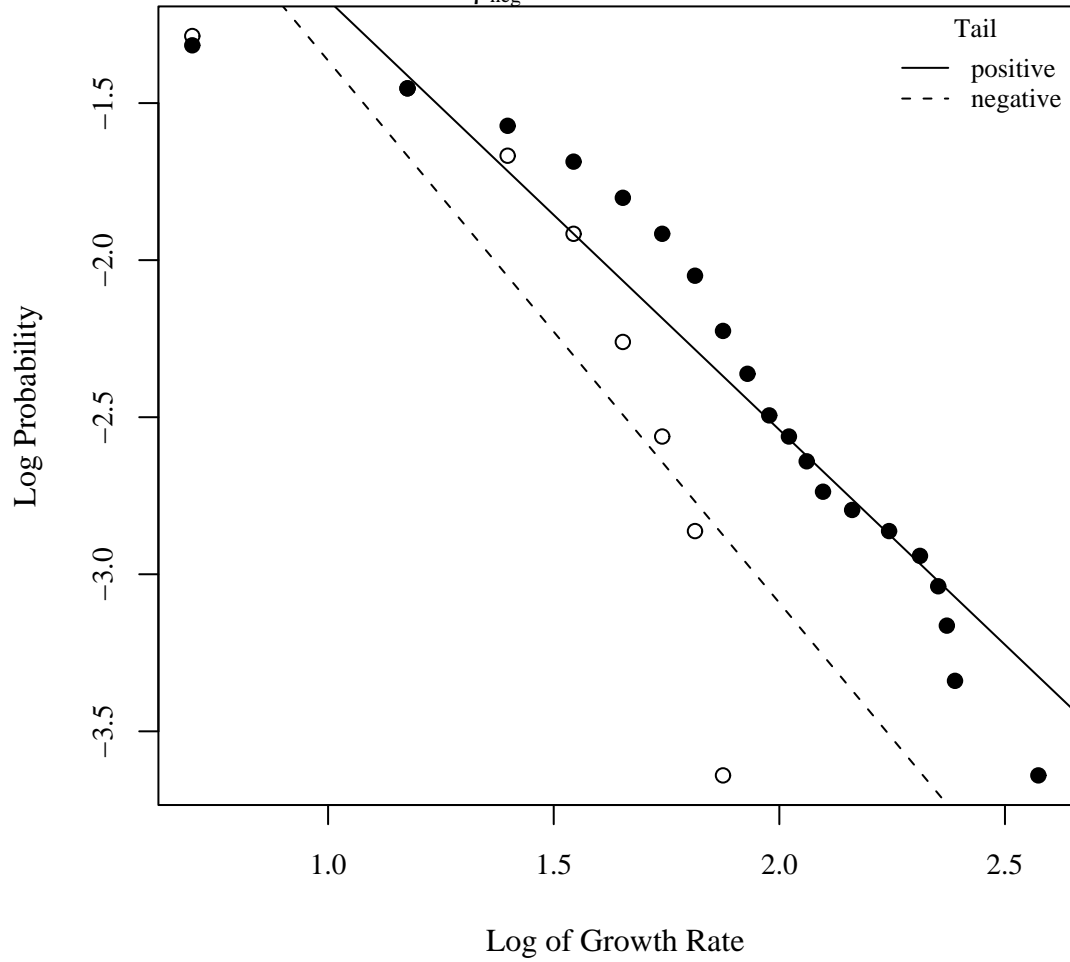
The following graphics can also be added:

Histogram for Radio News in Denmark



Log-Log Plot for Radio News in Denmark

$$\beta_{\text{pos}} = -1.37 \quad R^2 = 0.9$$
$$\beta_{\text{neg}} = -1.73 \quad R^2 = 0.73$$



Semi-Log Plot for Radio News in Denmark

$$\beta_{\text{pos}} = -0.01 \quad R^2 = 0.89$$

$$\beta_{\text{neg}} = -0.03 \quad R^2 = 0.95$$

