Consumer Confidence and Elections

by

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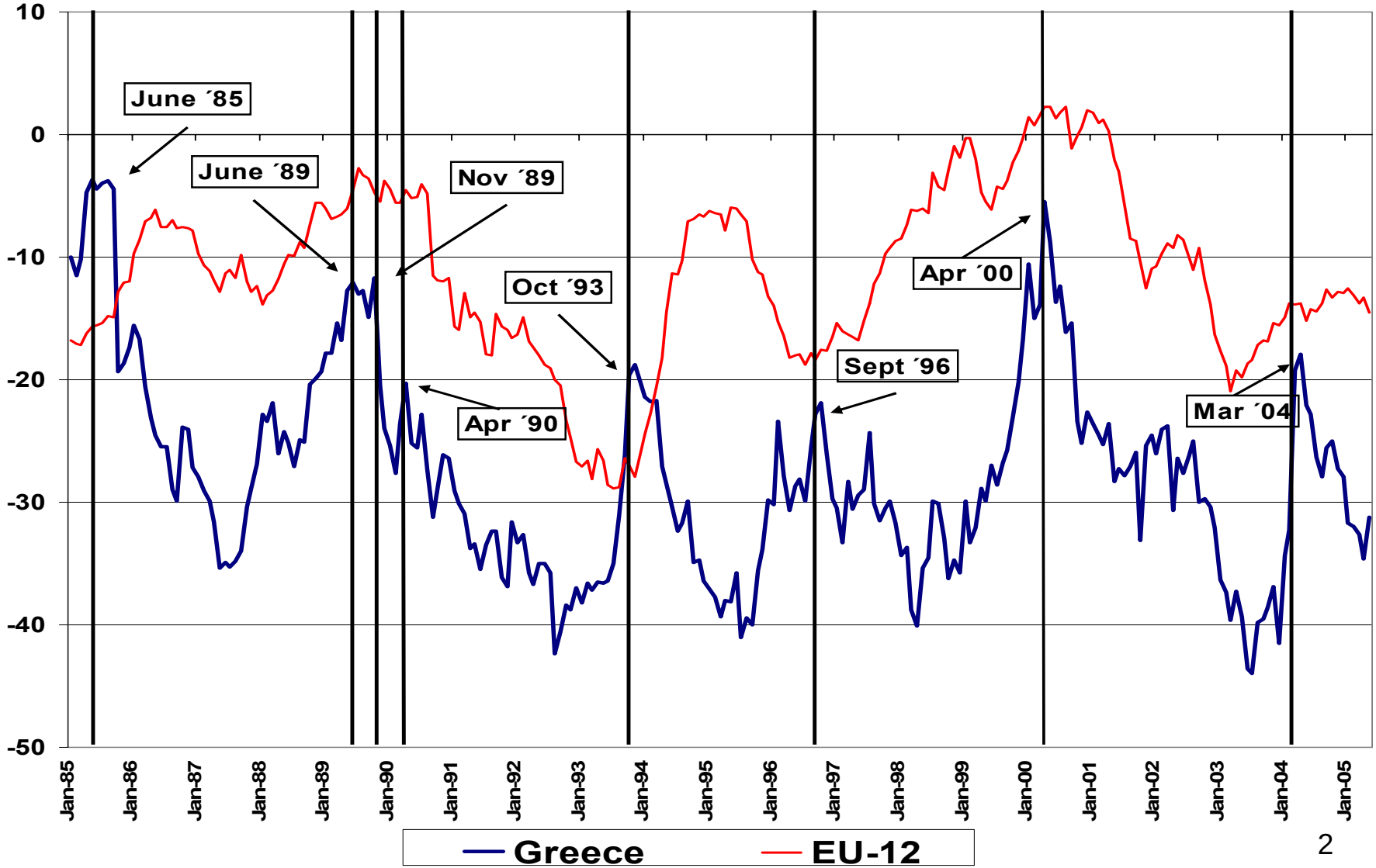
Motivation:
The Greek experience



Contents of Presentation

- **Data description**
- **Statistical properties of the CC indicator in the EU-15 countries**
- **Event-study analysis:**
  - Is the behavior of CC different at election times?
    - Fixed vs. variable election dates
  - Incumbent party re-elected vs. voted out of office
    - CC & macro-variables across the two cases
- **Econometric analysis**
  - of the relative share of votes of the incumbent & its probability of re-election
    - The predictive power of CC's level and trend
    - The predictive power of macroeconomic & fiscal variables
    - The predictive power of all variables combined
  - What explains the behavior of CC after elections?
    - Is it related to the previous up turn, or political & economic variables?
- **Conclusions and further research**
- **Appendix:**
  - US Evidence

Table 1.
EU-15 National Elections
1985:1 - 2007:3 (92 Elections)

Website: www.parties-and-elections.de

	Share of winner in all elections	Share of runner up in all elections	Elections where incumbent wins	Incremental share of incumbent in all elections	Elections where center-right wins
Available Observations	**92**	**92**	**66**	**92**	**41**
Average Share	**35.3%**	**26.9%**	**35.9%**	**4.9%**	**35.6%**
Std. Deviation	**8.7%**	**7.7%**	**8.4%**	**9.4%**	**9.2%**

Winner and **runner-up** parties are defined as the two parties with the highest shares of votes in each election.

Description of the CC index

European consumer confidence data from the European Commission's "***Business and Consumer Surveys***

Consumer Confidence Index is the arithmetic average of the balances, **B**, (in percentage points) of 4 forward looking questions:

Q1: How do you expect the **financial position of your household** to change over the next 12 months?

Q2: How do you expect the general **economic situation in this country** to develop over the next 12 months?

Q3: How do you expect the number of people **unemployed in this country** to change over the next 12 months?

Q4: Over the next 12 months, how likely is it that **you save** any money?

- Answers to the questions: ***PP, P, Neutral, N, NN, Do not know***.
- Aggregate balances are calculated for each question. Balances are the difference (in percentage points of total answers) between positive and negative answers

$$B = (PP + \tfrac{1}{2}P) - (\tfrac{1}{2}N + NN)$$

Table 2A:
Distributional Statistics of CC

Country	Obs.	Sample Begins	# of Elections	Mean	Std. Dev.	Normality p-value	Skew.	Kurt.
Belgium	249	85-01	6	-6.74	9.32	0.10	-0.07	2.94
Denmark	249	85-01	7	3.86	9.69	0.00	-0.44	2.12
Germany	249	85-01	6	-8.54	8.46	0.00	-0.25	2.09
Greece	249	85-01	7	-28.07	8.18	0.00	0.81	3.53
Spain	230	86-06	6	-10.76	8.41	0.00	-0.76	4.11
France	249	85-01	5	-18.19	8.42	0.00	0.05	2.37
Ireland	249	85-01	5	-8.24	14.18	0.00	0.06	1.93
Italy	249	85-01	5	-12.93	6.88	0.00	-0.93	4.34
Netherlands	249	85-01	7	4.53	11.59	0.26	0.15	2.48
Portugal	232	86-06	6	-21.28	12.06	0.00	-0.20	1.89
Austria	120	95-10	4	-0.62	6.64	0.05	-0.15	2.40
Finland	119	95-11	3	15.04	3.72	0.07	-0.29	2.36
Sweden	120	95-10	3	8.18	7.22	0.37	0.07	2.80
United Kingdom	249	85-01	5	-8.07	7.62	0.00	-0.50	2.44

Table 2B:
Temporal Characteristics of CC

Country	*r*(1)	*r*(12)	*r*(24)	Fractal Order
Belgium	0.94	0.37	0.13	0.499
Denmark	0.96	0.72	0.52	0.499
Germany	0.96	0.39	-0.06	0.499
Greece	0.92	0.11	-0.11	0.498
Spain	0.95	0.63	0.27	0.499
France	0.93	0.32	0.05	0.499
Ireland	0.97	0.74	0.45	0.499
Italy	0.93	0.34	-0.09	0.498
Netherlands	0.96	0.52	0.23	0.499
Portugal	0.97	0.67	0.38	0.499
Austria	0.90	0.35	-0.06	0.498
Finland	0.87	0.14	-0.01	0.496
Sweden	0.93	0.09	-0.01	0.498
United Kingdom	0.93	0.53	0.15	0.499

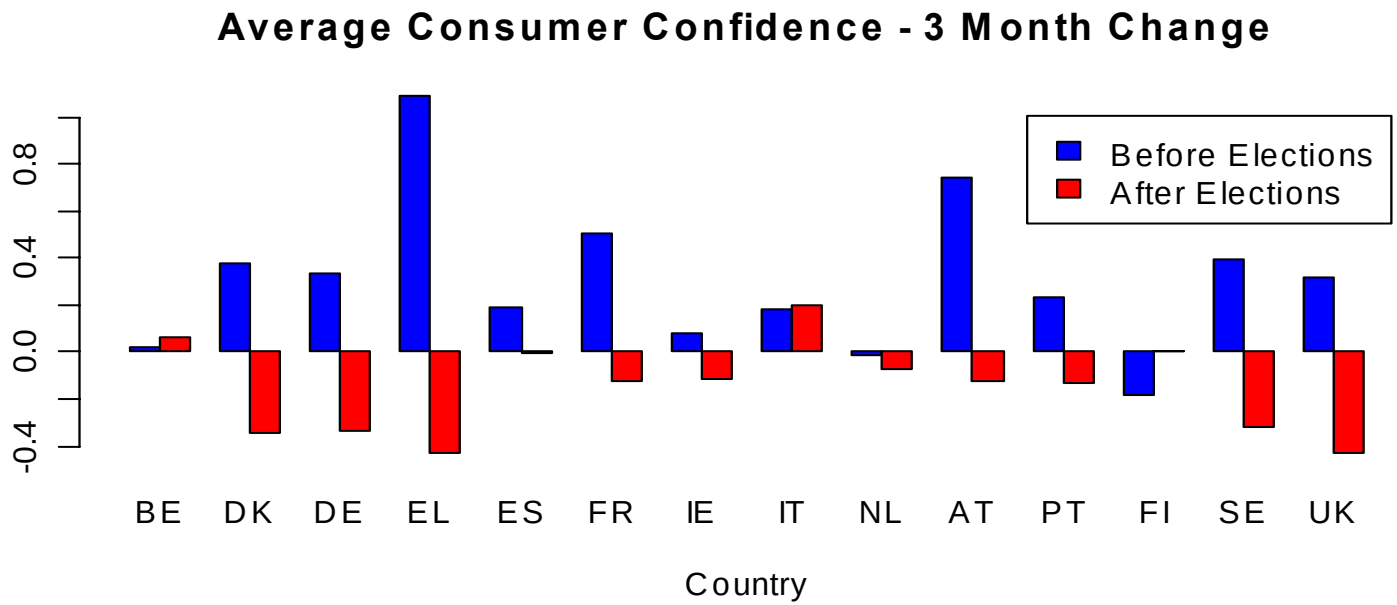
Event Study Analysis

- Index the election month to **0** and compare the levels of consumer confidence 12 months before **(-12 through -1**) and 12 months after (**1 through 12**) by averaging across election cases: Is there a pattern?
  - first by country
  - then for all EU-15 countries, ignoring the country differences

- Split fixed-date elections from variable-date elections: Do governments time the date of elections?

- Split the election cases to winning and losing ones by the incumbent government and compare the behavior of CC in the interval (-12, 12): **Are there any differences?**
  - perform a similar analysis on a representative set of macroeconomic variables

Figure 1: Elections and the Change in Consumer Confidence



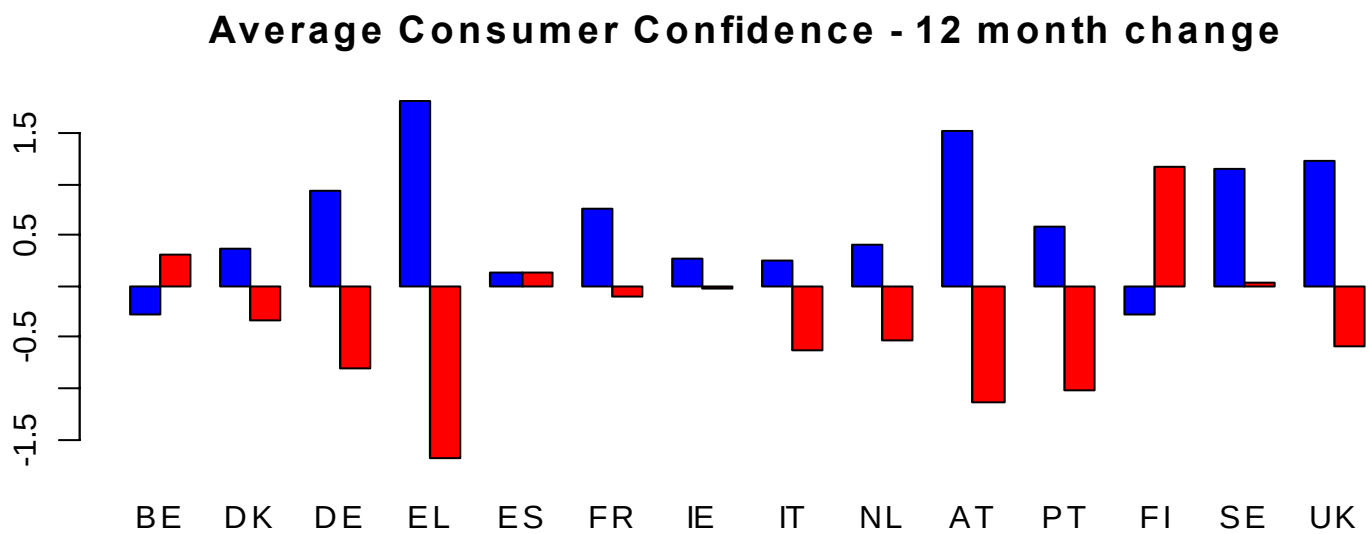
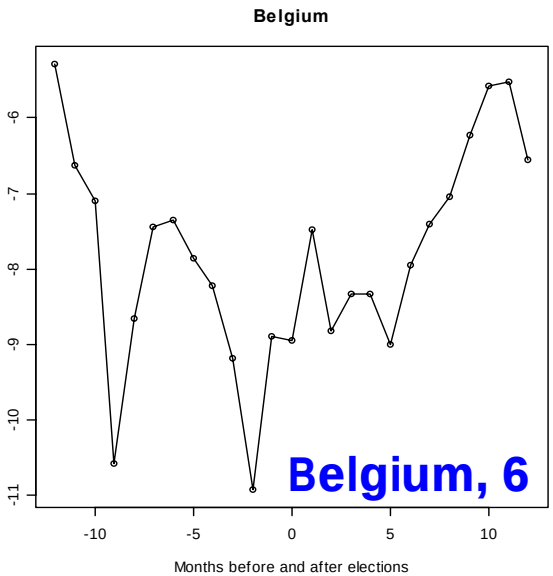
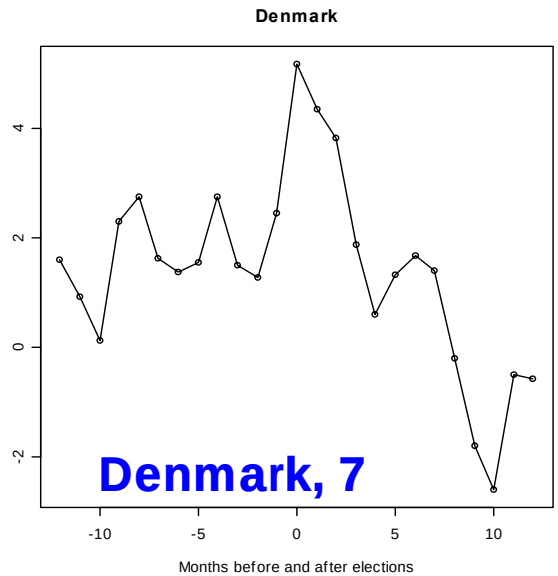
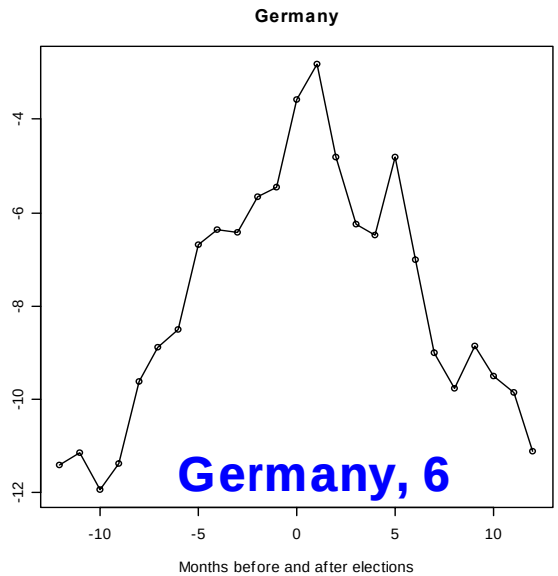
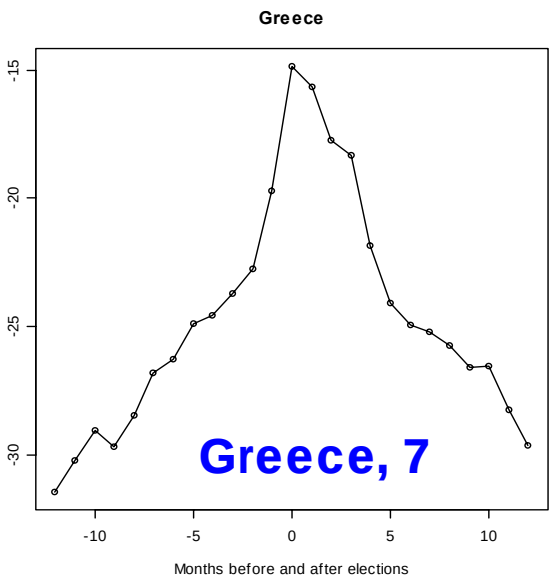


Figure 2: CC evolution from -12 to +12









CC monthly averages across number of elections per country

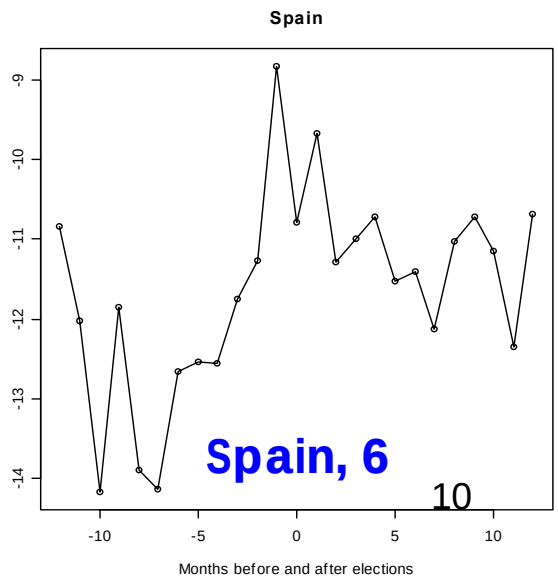
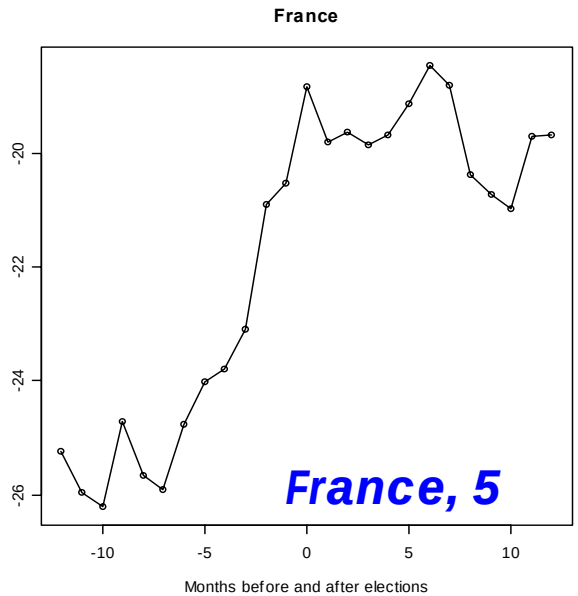
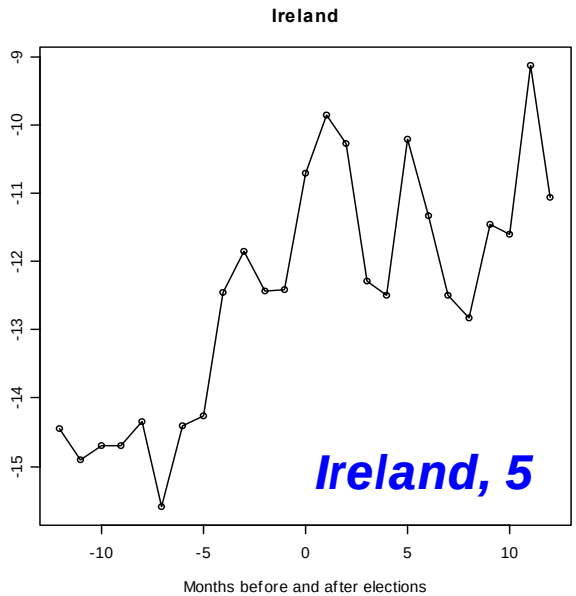
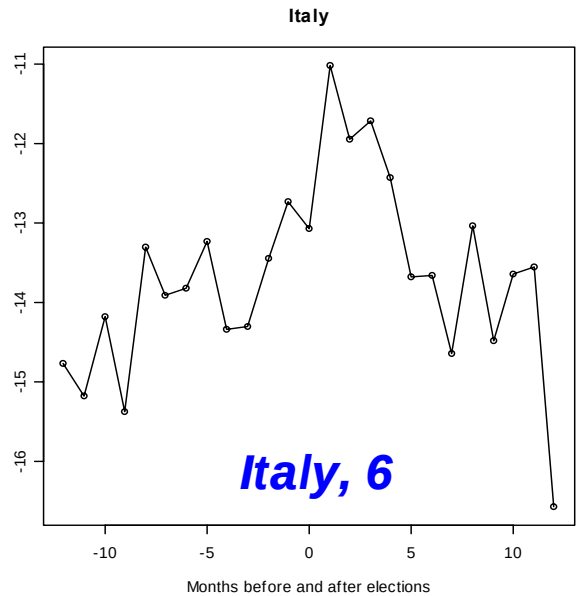
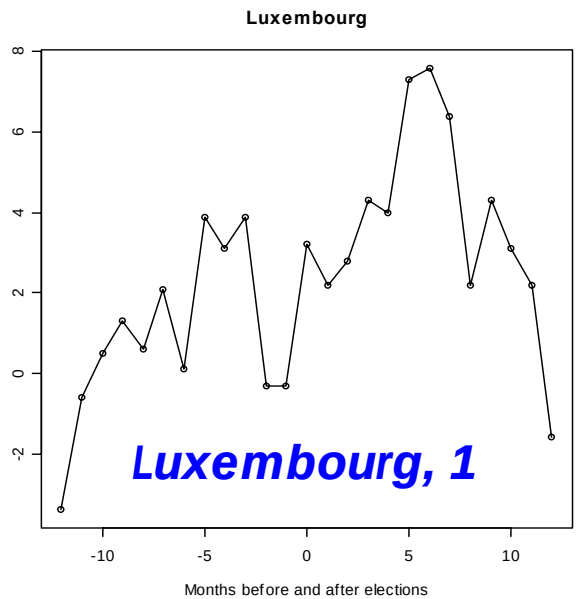


Figure 2, cont.









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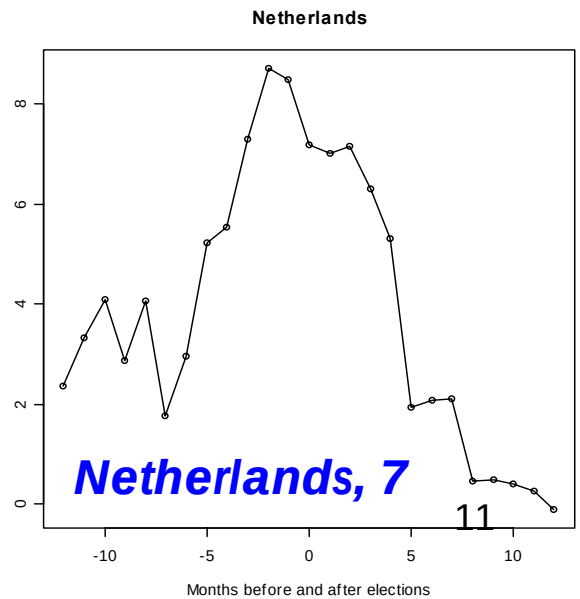

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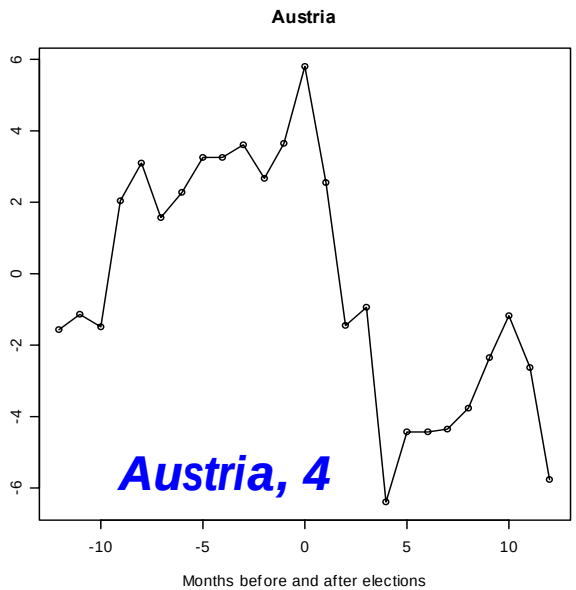
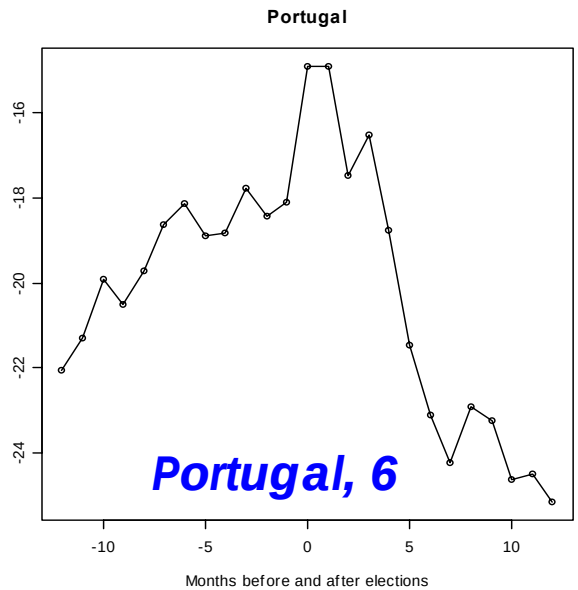
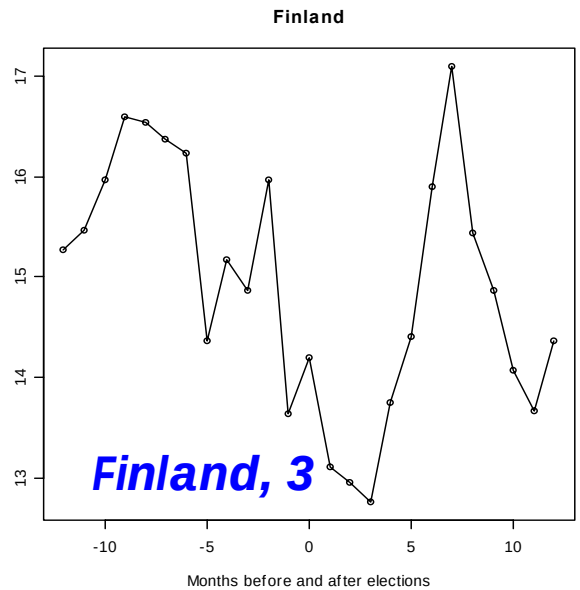
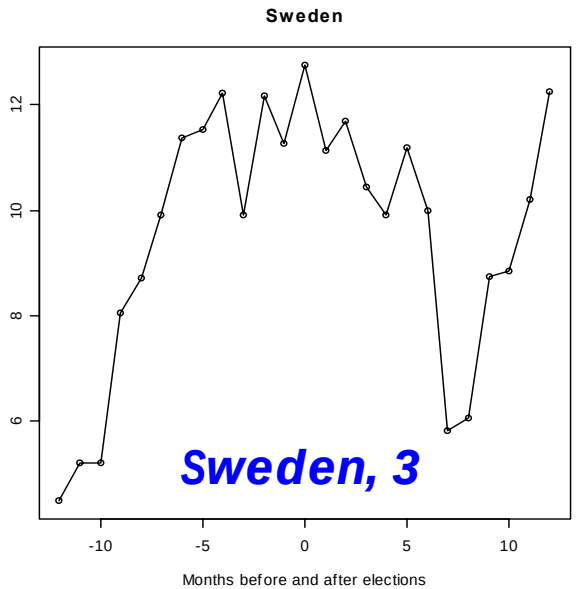








CC monthly averages across number of elections per country

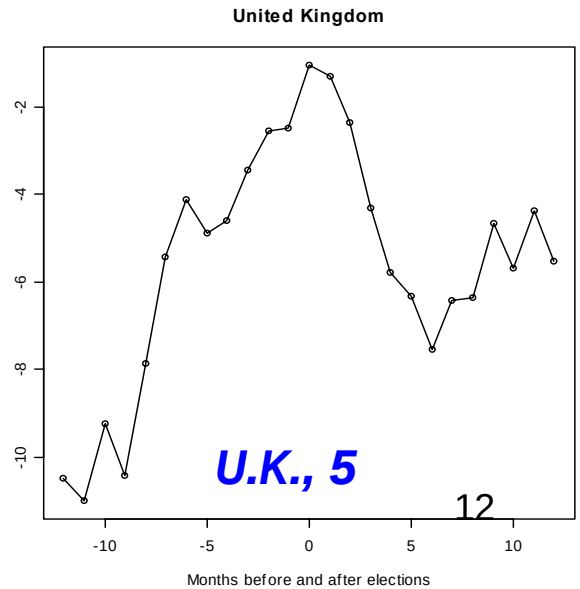


Figure 3

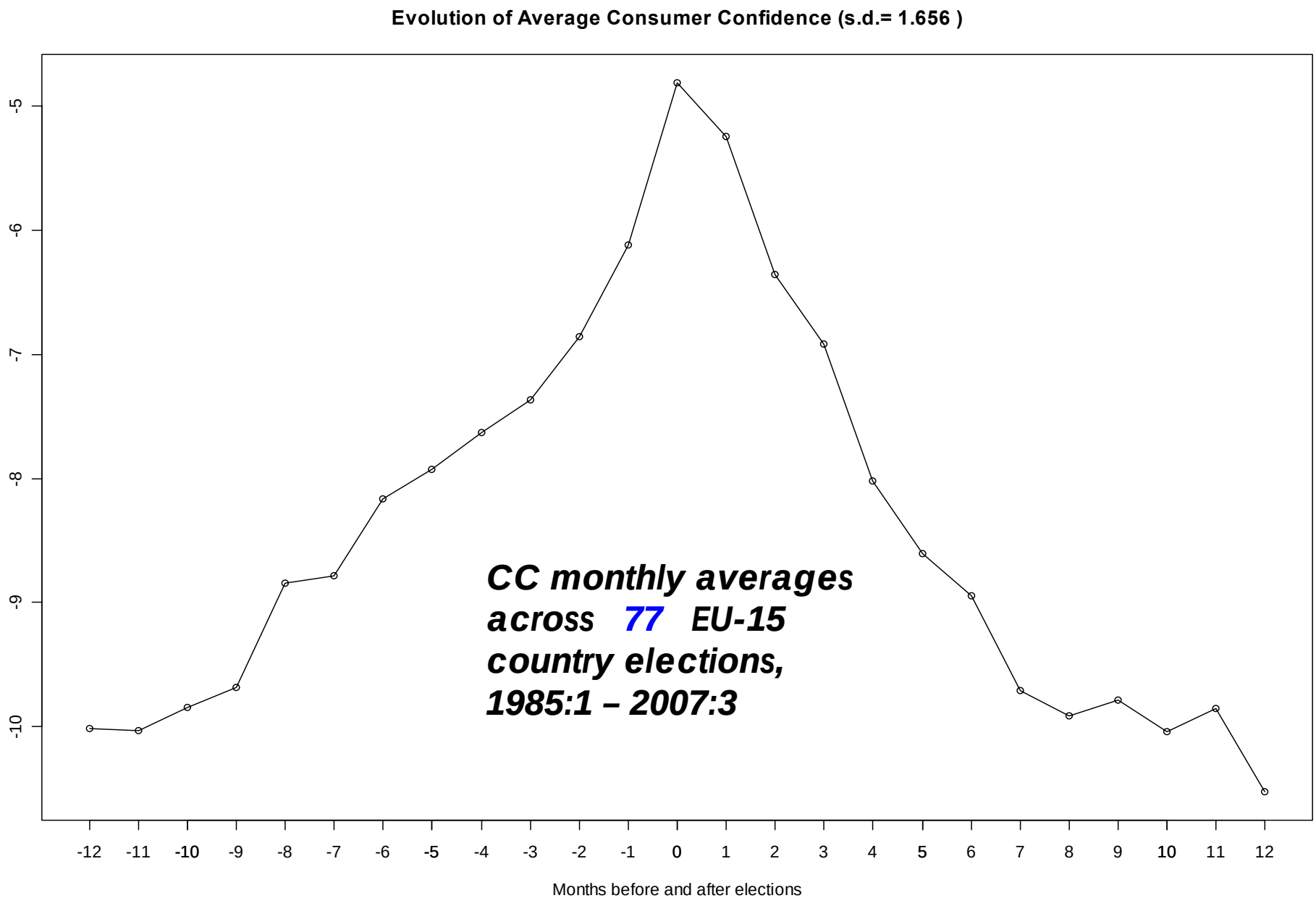

Evolution of Average Consumer Confidence (s.d.= 1.656)
-5
-6
-7
-8
-9
-10
CC monthly averages
across 77 EU-15
country elections,
1985:1 – 2007:3
-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12
Months before and after elections

Figure 4

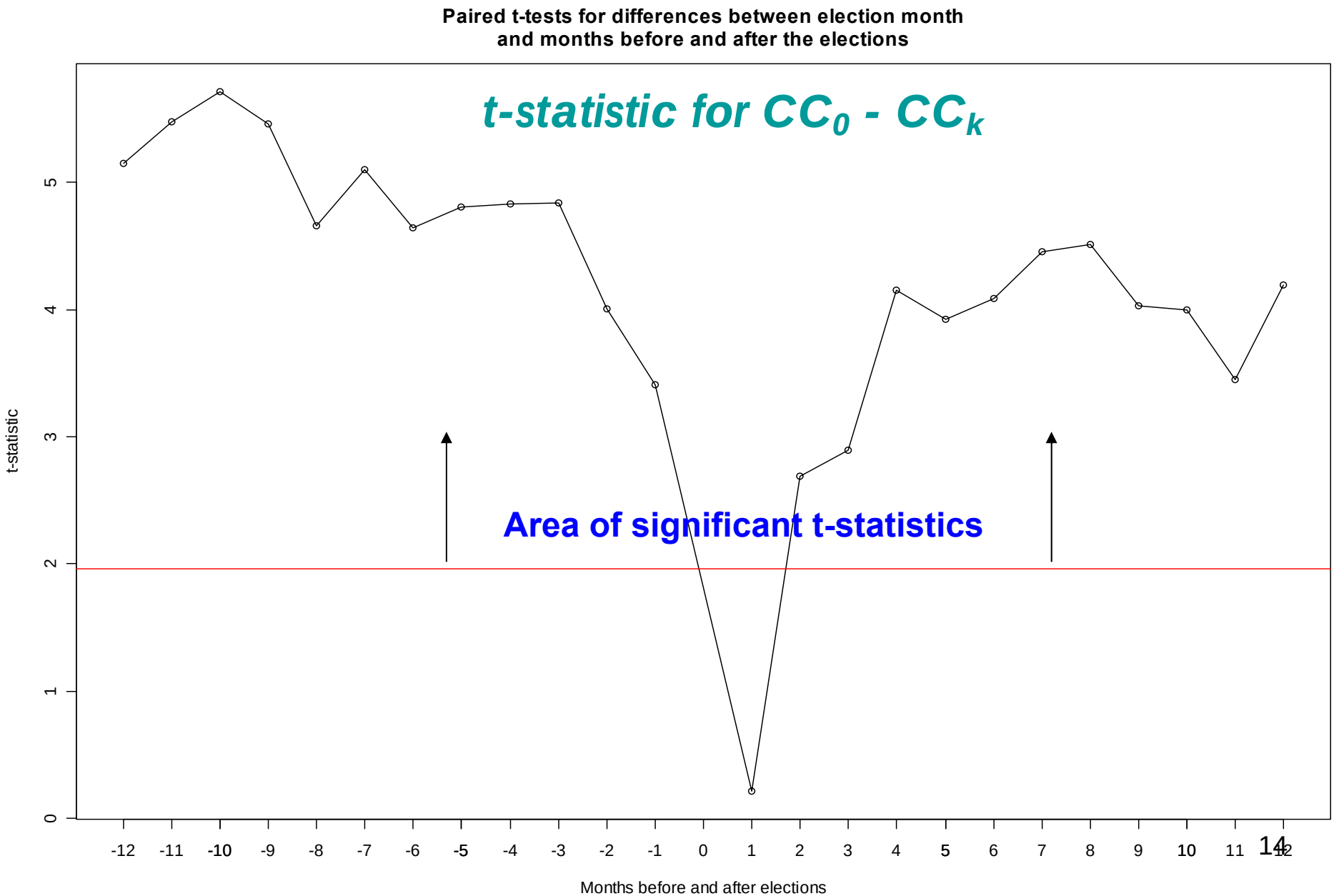
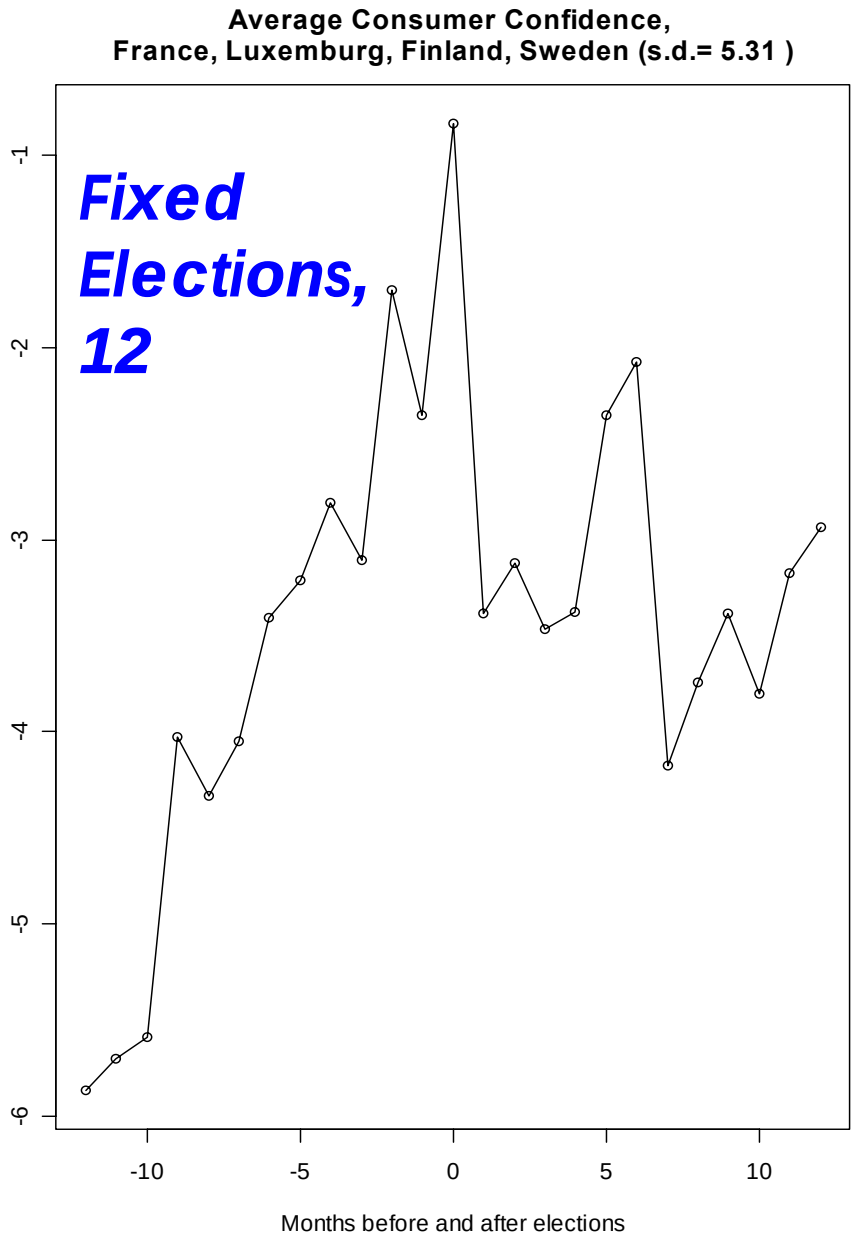
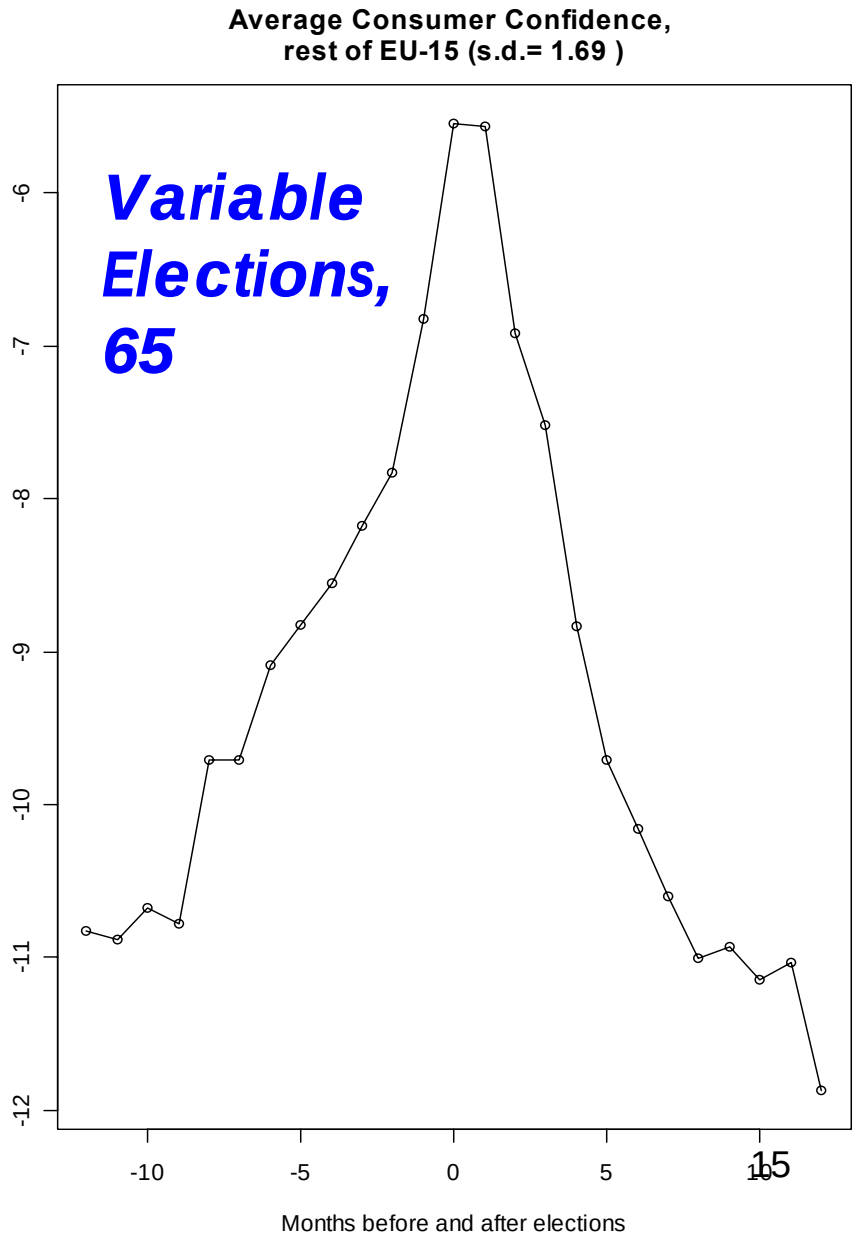

Paired t-tests for differences between election month
and months before and after the elections
t-statistic for $CC_0 - CC_k$
Area of significant t-statistics
t-statistic
0
1
2
3
4
5
-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12
Months before and after elections

Figure 5: Fixed vs. variable election dates





The linear time trends in fixed vs. variable election dates of Figure 5

$$\widehat{z}_m^{FIX} = \underbrace{-1.33_{(0.28)} \cdot I_{m,1} + 0.38_{(0.04)} \cdot m \cdot I_{m,1}}_{\text{months before the elections}}$$

$$\overbrace{-3.15_{(0.32)} \cdot I_{m,2} - 0.01_{(0.04)} \cdot m \cdot I_{m,2}}^{\text{months after the elections}}$$

$$\widehat{z}_m^{VAR} = \underbrace{-6.58_{(0.32)} \cdot I_{m,1} + 0.41_{(0.04)} \cdot m \cdot I_{m,1}}_{\text{months before the elections}}$$

$$\overbrace{-6.27_{(0.38)} \cdot I_{m,2} - 0.51_{(0.05)} \cdot m \cdot I_{m,2}}^{\text{months after the elections}}$$

Hypothesis of equal upward trends before elections,

H0: 0.38 = 0.41, p-value = 0.63

Figure 6: CC across winning & losing elections

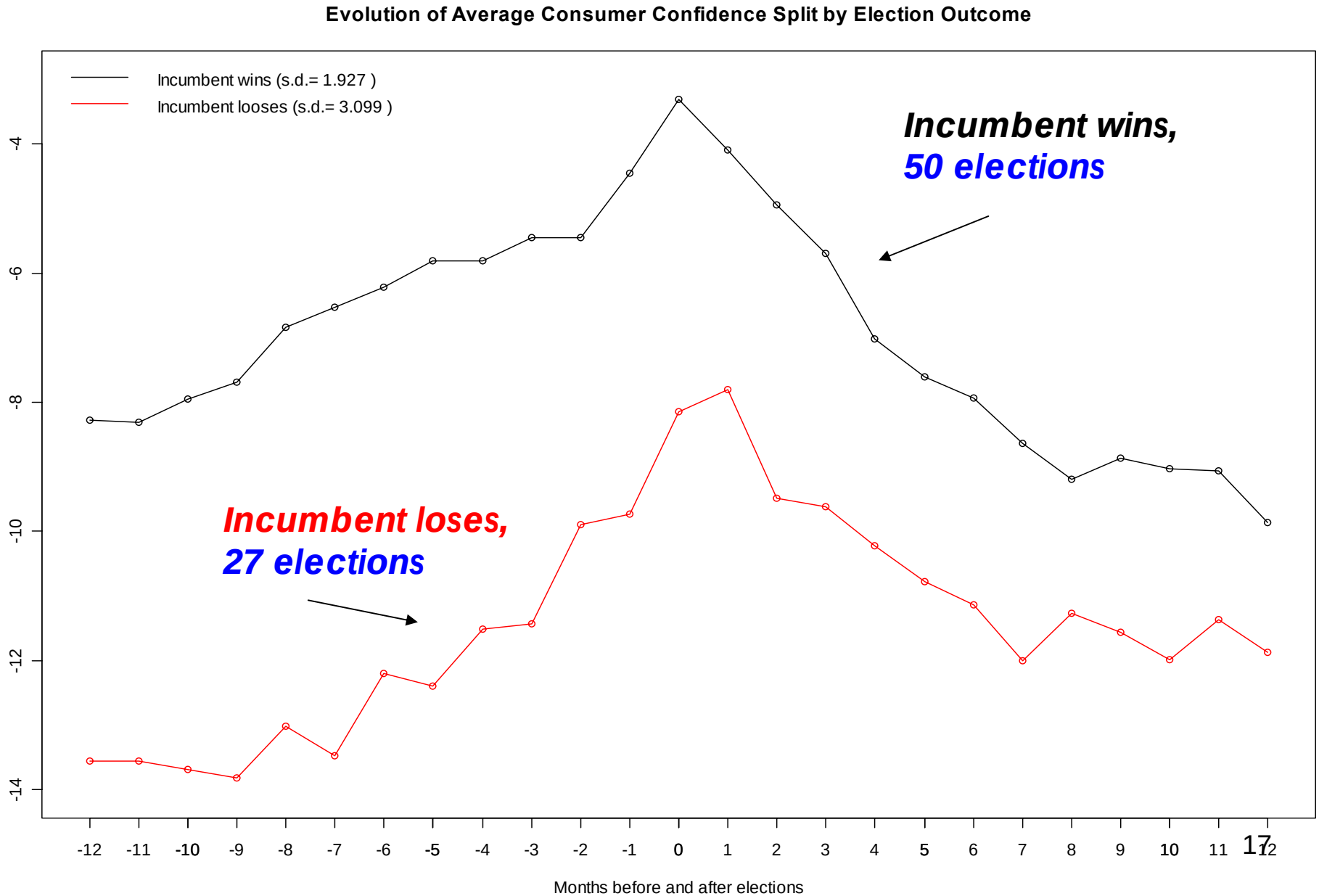
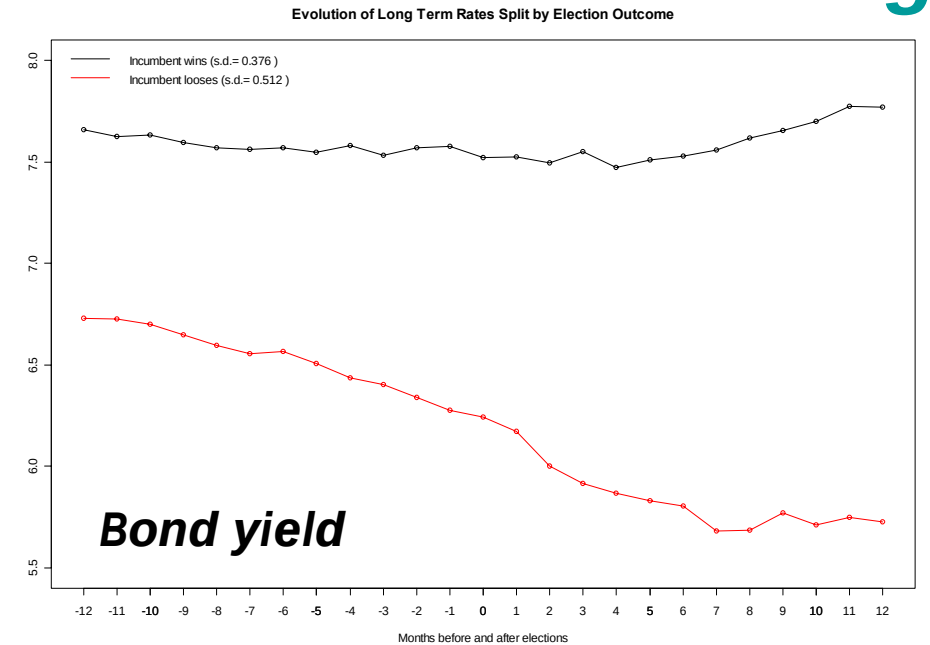
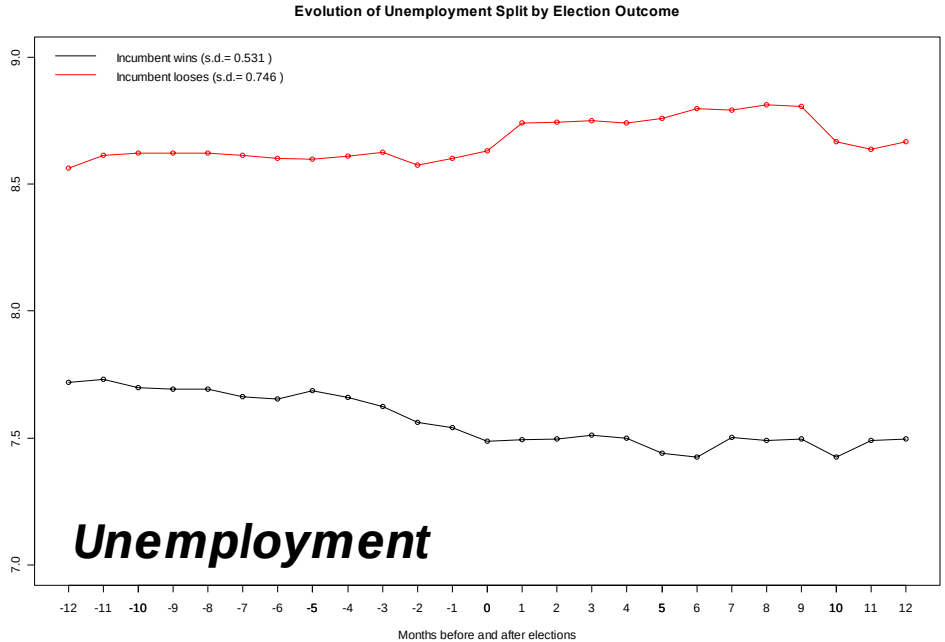
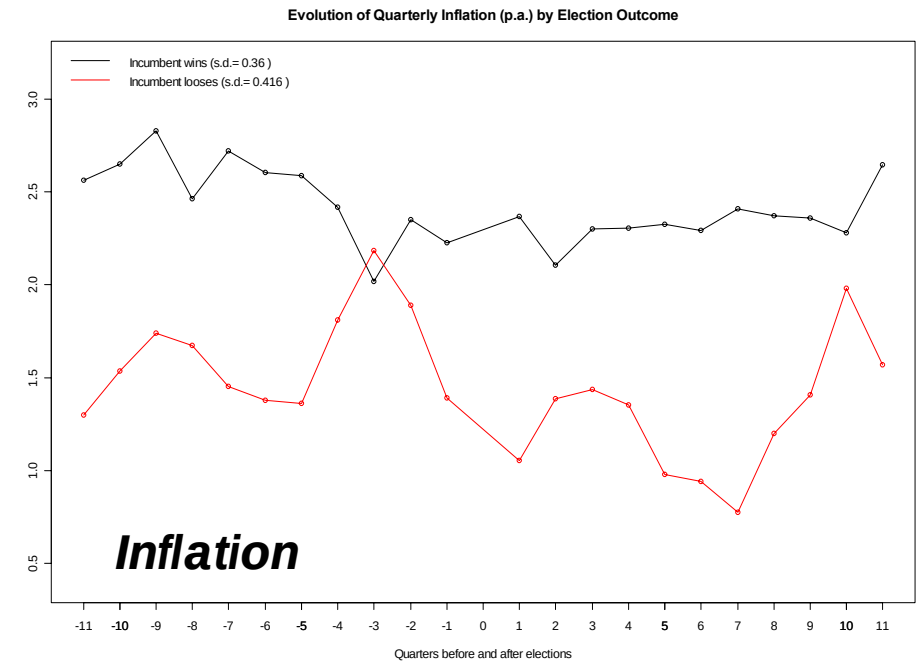


Figure 7


Evolution of Long Term Rates Split by Election Outcome
Incumbent wins (s.d.= 0.376)
Incumbent looses (s.d.= 0.512)
Bond yield
Months before and after elections


Evolution of Unemployment Split by Election Outcome
Incumbent wins (s.d.= 0.531)
Incumbent looses (s.d.= 0.746)
Unemployment
Months before and after elections


Evolution of Quarterly Inflation (p.a.) by Election Outcome
Incumbent wins (s.d.= 0.36)
Incumbent looses (s.d.= 0.416)
Inflation
Quarters before and after elections

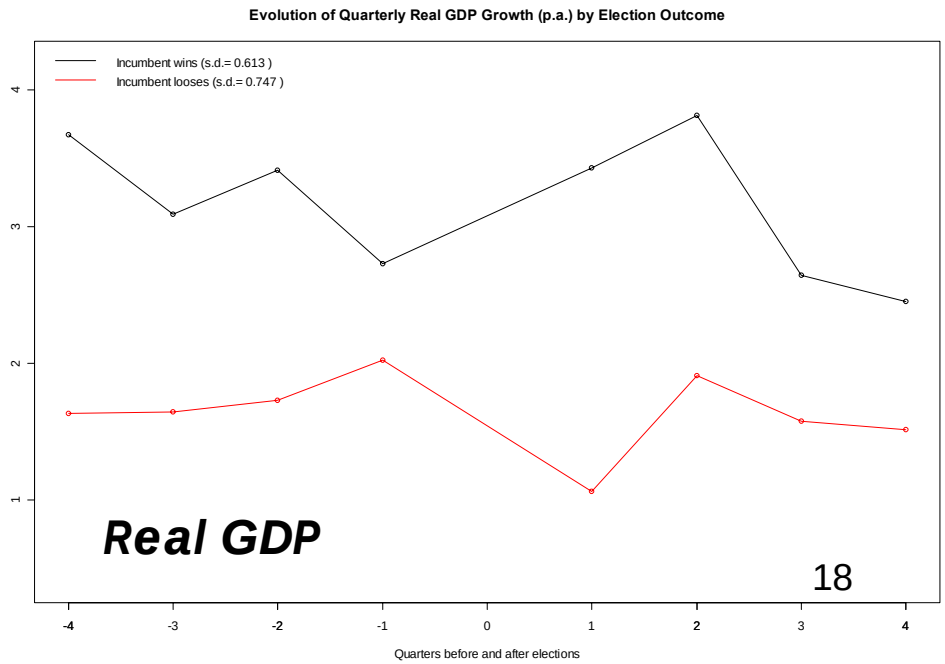
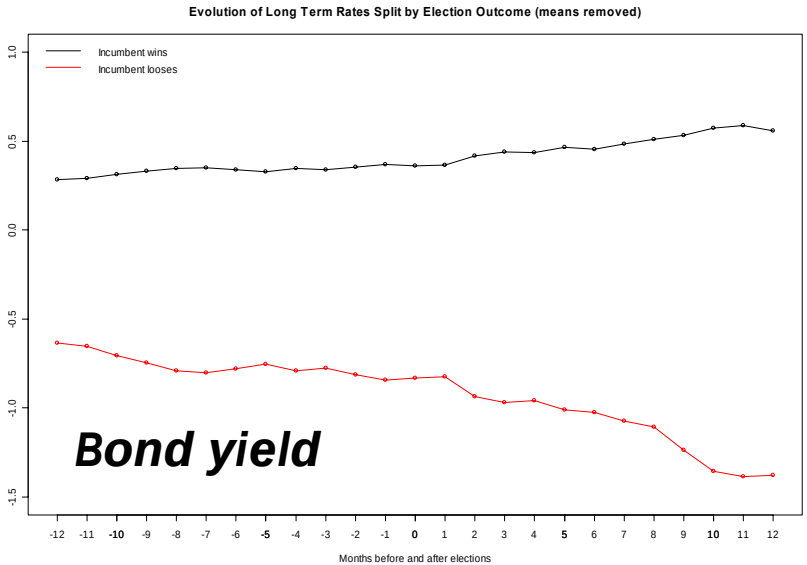
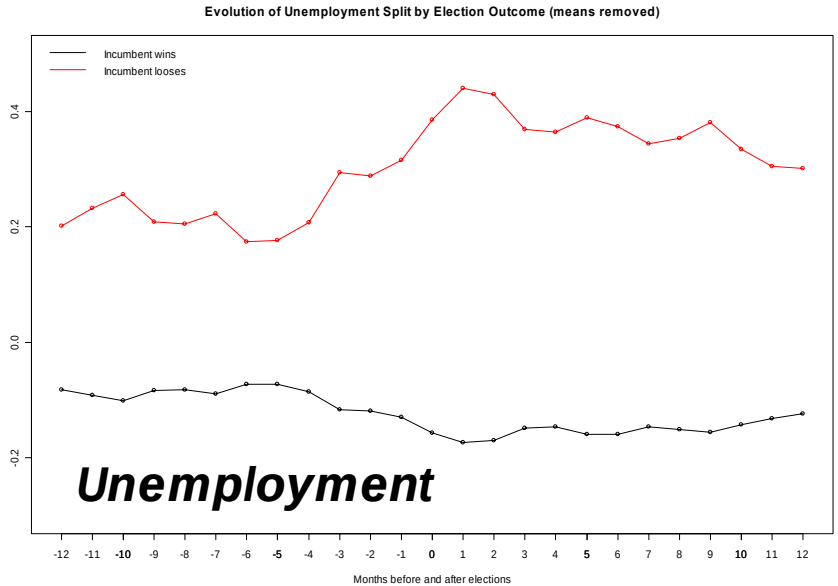
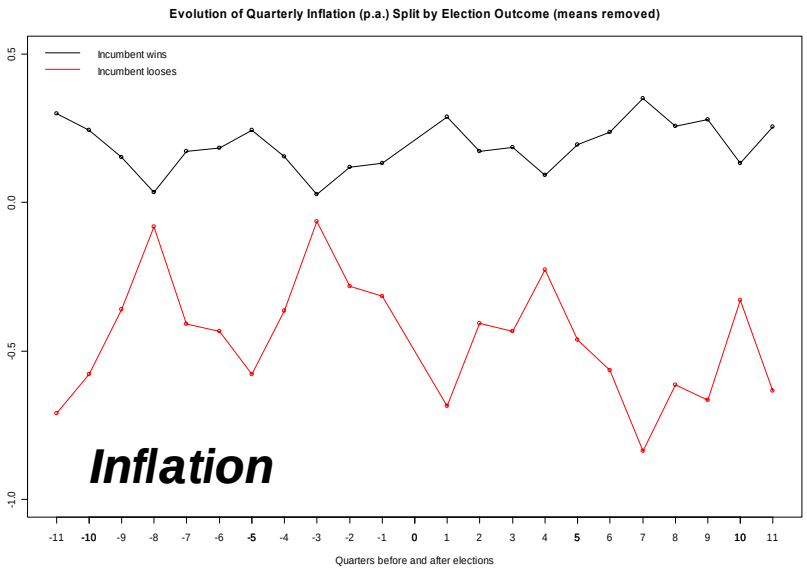

Evolution of Quarterly Real GDP Growth (p.a.) by Election Outcome
Incumbent wins (s.d.= 0.613)
Incumbent looses (s.d.= 0.747)
Real GDP
Quarters before and after elections

Figure 7

(with Fixed-Effects: Deviations from country means)







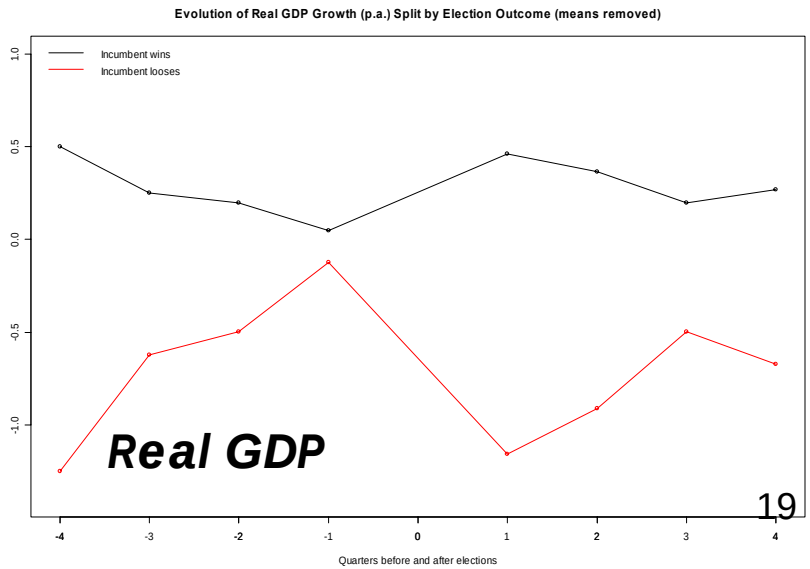
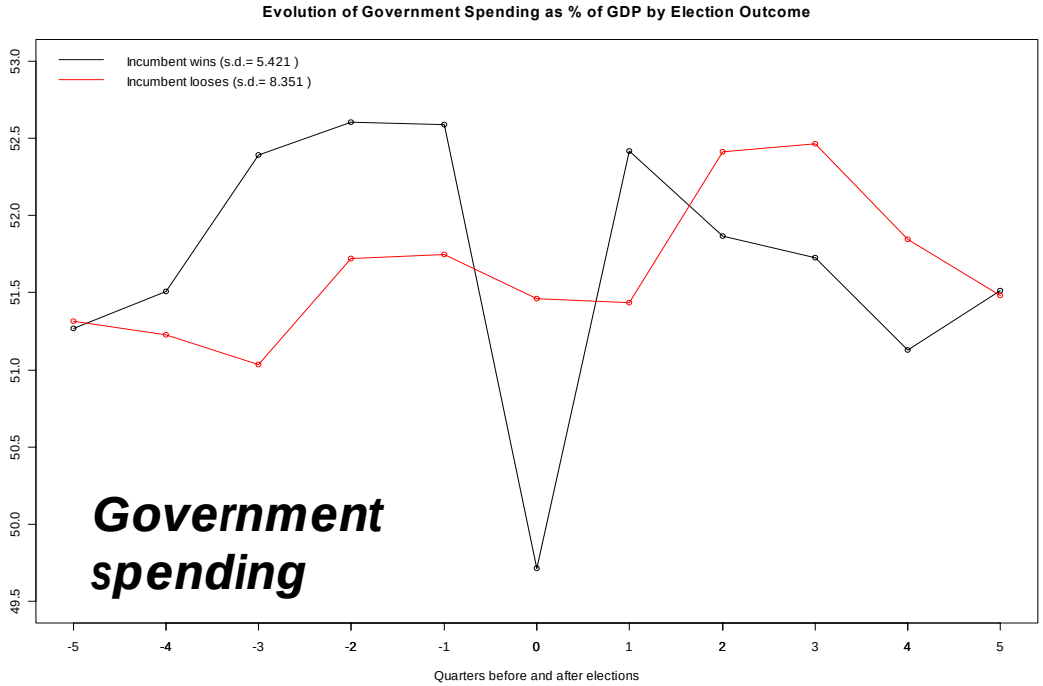
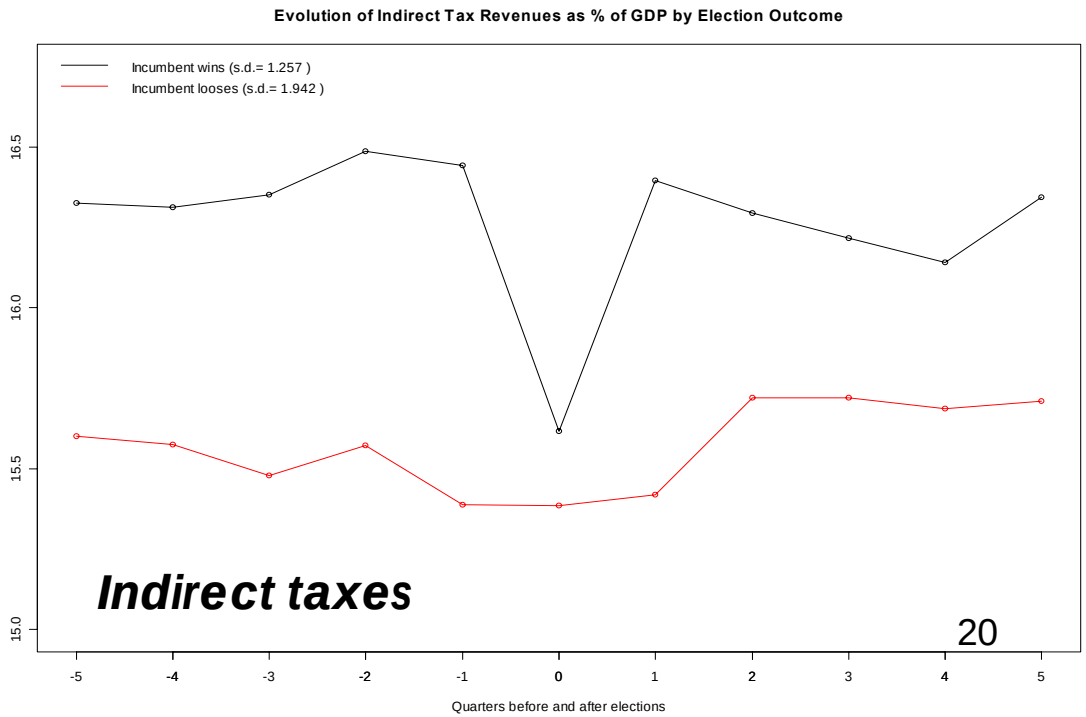


Figure 7
cont.





Econometric Analysis

- **Does consumer confidence have predictive power?**
  Dependent variables:
  1) Re-election of incumbent party, denoted by binary variable - Logit estimation
  2) Incremental share of votes of the incumbent relative to the best-performed alternative party, two estimation techniques

  Independent variables:
  - Level: CC(-1) & Trend: CC(-1) – CC(-7)
  - Macro-variables before the elections: GDP growth (from quarter -4 to 0), interest rate (-1), inflation rate (from month -2 to -1)
  - Fiscal variables before the elections: growth in government spending/GDP (from quarter -2 to -1), growth in indirect tax revenues/GDP (either from quarter -2 to -1)

- **What explains the post-election drop in CC?**
  - The previous upward trend CC(0) – CC(-7)
  - Political environment: Winner's shares, Winner's political orientation

Table 6, Panel 1

$\mathcal{M}_1$: *Only Consumer Confidence Variables*

Dep. Var./Model	$C1$	$C1 - C7$	LR/F-test	R^2
R_{itm}/Logit	0.03*	-0.07	0.103	4.89%
	(0.08)	(0.13)		
S_{itm}/Pool-GLS	0.09*	-0.36***	0.056	3.25%
	(0.10)	(0.00)		
S_{itm}/RE-GLS	0.14**	-0.27**	0.121	5.22%
	(0.05)	(0.02)		

1985:1 – 2007:3, 74 observations
p-values in parentheses

Table 6, Panel 2

$\mathcal{M}_2$: *Only Macroeconomic Variables*

	RGDP	*INF*	*BYLD*	*LR/F*-test	R^2
R_{itm}/Logit	0.44***	-1.64**	0.30**	0.001	16.60%
	(0.00)	(0.05)	(0.02)		
S_{itm}/Pool-GLS	1.25***	-1.14	1.22***	0.000	22.72%
	(0.00)	(0.56)	(0.00)		
S_{itm}/RE-GLS	1.03***	-0.35	1.20***	0.000	22.63%
	(0.00)	(0.89)	(0.00)		

1985:1 – 2007:3, 78 observations
p-values in parentheses

Table 6, Panel 3

$\mathcal{M}_3$: *Consumer Confidence + Macroeconomic Variables*

	$C1$	$C1-C7$	$RGDP$	INF	$BYLD$	LR/F-test	R^2
R_{itm}/Logit	0.05**	-0.09*	0.44**	-1.73*	0.46**	0.002	22.44%
	(0.02)	(0.10)	(0.04)	(0.09)	(0.02)		
S_{itm}/Pool-GLS	0.16***	-0.25***	0.95**	-2.44	1.67***	0.000	29.24%
	(0.00)	(0.00)	(0.03)	(0.29)	(0.00)		
S_{itm}/RE-GLS	0.17***	-0.35***	1.15**	-0.90	1.47***	0.000	31.51%
	(0.00)	(0.00)	(0.03)	(0.78)	(0.00)		

1985:1 – 2007:3, 66 observations
p-values in parentheses

Table 6, Panel 4

$\mathcal{M}_4$: *Consumer Confidence + Macroeconomic + Gov. Spending Variables*

	$C1$	$C1-C7$	$RGDP$	INF	$BYLD$	G/GDP	LR/F-test	R^2
R_{itm}	0.03	-0.10	0.59***	-2.37**	0.56**	0.03	0.015	25.21%
	(0.23)	(0.20)	(0.00)	(0.03)	(0.03)	(0.54)		
S_{itm} Pool-GLS	0.11*	-0.26**	1.29***	-3.14	1.69***	0.09***	0.000	29.73%
	(0.09)	(0.04)	(0.00)	(0.22)	(0.00)	(0.01)		
S_{itm} RE-GLS	0.10*	-0.32***	1.40***	-1.31	1.43***	0.14**	0.010	32.93%
	(0.10)	(0.00)	(0.00)	(0.65)	(0.00)	(0.02)		

1985:1 – 2007:3, 50 observations
p-values in parentheses

Table 6, Panel 5

$\mathcal{M}_5$: *Consumer Confidence + Macroeconomic + Ind. Taxes Variables*

$C1$	$C1-C7$	$RGDP$	INF	$BYLD$	T/GDP	LR/F-test	R^2
0.05	-0.14*	1.04***	-1.26	0.36	-0.61***	0.013	31.86%
(0.12)	(0.08)	(0.00)	(0.27)	(0.14)	(0.00)		
0.10*	-0.48***	1.98***	-3.24	1.68***	-0.88*	0.001	27.12%
(0.10)	(0.00)	(0.00)	(0.13)	(0.00)	(0.06)		
0.10	-0.39***	1.71***	-1.38	1.47***	-0.28	0.068	31.31%
(0.12)	(0.00)	(0.00)	(0.47)	(0.00)	(0.81)		

1985:1 – 2007:3, 40 observations
p-values in parentheses

Table 7: What explains the reversal in CC?

	Explanatory Variables					Summary		
Dep. Var./Model	*Const.*	$C0-C7$	*WSH*	*WO*	*WO*× $C0-C7$	Obs.	*F*-test	R^2
$Ca7-C0$/Pool-GLS	-2.50***	-0.31**				69	0.006	11%
	(0.00)	(0.02)						
$Ca7-C0$/RE-GLS	-2.67***	-0.28**				69	0.030	6.8%
	(0.00)	(0.04)						
$Ca7-C0$/Pool-GLS	11.74***	-0.14*	-0.43***			69	0.00	21%
	(0.00)	(0.07)	(0.00)					
$Ca7-C0$/RE-GLS	8.90***	-0.14	-0.34***			69	0.000	22%
	(0.00)	(0.16)	(0.00)					
$Ca7-C0$/Pool-GLS	11.73***	-0.33***	-0.38***	-3.83***	0.43***	69	0.000	25%
	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)			
$Ca7-C0$/RE-GLS	9.54***	-0.32***	-0.32***	-3.20**	0.33*			
	(0.00)	(0.01)	(0.00)	(0.02)	(0.10)	69	0.000	25%

Table 7B: Reversal in Consumer Confidence

Effects of 'Small' Winning Parties & Coalitions

	Explanatory Variables						Summary		
Dep. Var. /Model	*Const.*	$C0-C7$	WSH	WO	$WO\times C0-C7$	$D30$	Obs.	F-test	R^2
$Ca7-C0/$	-3.18***	-0.28**				2.90***	69	0.00	14%
Pool-GLS	(0.00)	(0.02)				(0.00)			
$Ca7-C0/$	-3.25***	-0.25**				1.90	69	0.03	7.8%
RE-GLS	(0.00)	(0.04)				(0.36)			
$Ca7-C0/$	10.74***	-0.12	-0.42***			2.37***	69	0.00	38%
Pool-GLS	(0.00)	(0.23)	(0.00)			(0.00)			
$Ca7-C0/$	8.38***	-0.09	-0.35***			2.26***	69	0.00	23%
RE-GLS	(0.00)	(0.24)	(0.00)			(0.00)			
$Ca7-C0/$	10.84***	-0.35**	-0.37***	-4.61***	0.51***	3.40***	69	0.00	47%
Pool-GLS	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)			
$Ca7-C0/$	9.02***	-0.27**	-0.32***	-3.35**	0.33	2.44*	69	0.00	27%
RE-GLS	(0.00)	(0.05)	(0.00)	(0.01)	(0.13)	(0.08)			

Summary of main findings

- Consumer confidence **rises** before the elections by an average of **5 points** and **falls** subsequently by a similar amount
  - The rise in pre-election CC is similar across fixed & variable election cases
  - The inverted U-pattern occurs both in the cases the incumbent wins and in the cases it loses the elections, but in the latter cases average CC is consistently lower over months (-12, +12)
- The **level of CC is positively related and its trend is negatively related** to the incumbent's incremental number of shares or the probability of the incumbent's re-election
  - This predictive ability of consumer confidence is over and above that of the state of the macro-economy or the fiscal position of the government.
- The **post-elections drop in CC** is partly related to the pre-elections rise, but also related to the **political environment**

Policy advice and open questions

- For the incumbent to win, CC has to be high at least 7 to 9 months before the elections, as a last minute push does not seem to help

- Future extensions:
  - Is there similar evidence in the US?
  - Do business people behave similarly around times of national elections?

US surveys on consumer expectations

University of Michigan

Sample: Monthly,
begins 1978

Q1: Family better-off or worse-off financially a year from now?

Q2: Country in good or bad times financially a year from now?

Q3: Country in good times in next 5 years or unemployment and depression?

Conference Board

Sample: Bimonthly,
1967 – mid-1977
Monthly, 1977:6 –

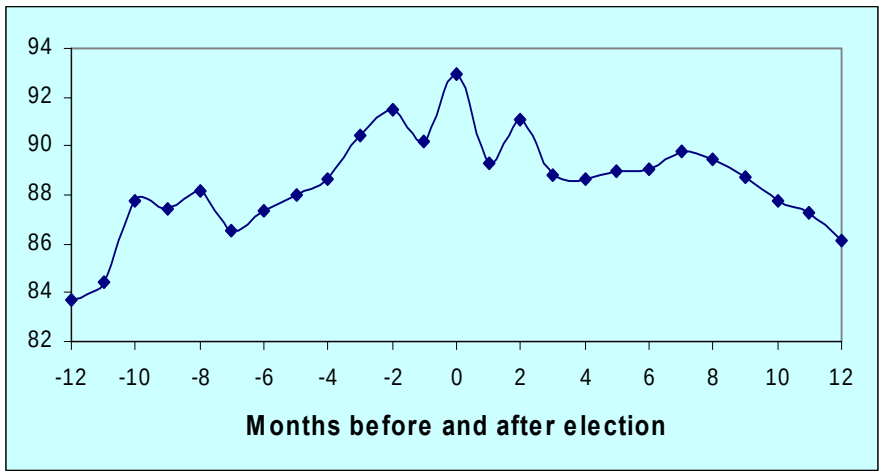
Q1: Family income in 6 months

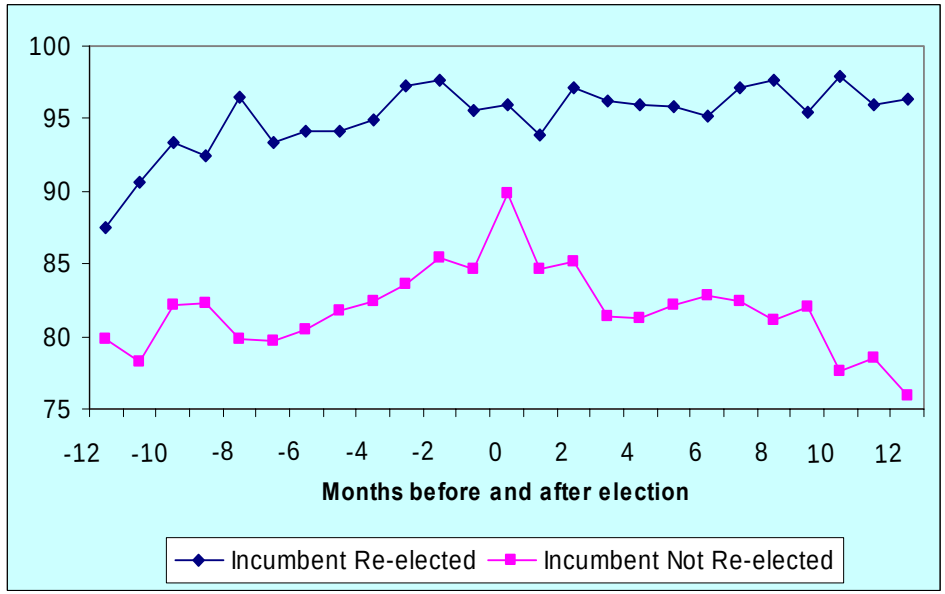
Q2: Business conditions in 6 months

Q3: Employment conditions in 6 months

Figure 9, Appendix: US evidence

University of Michigan: Since 1978, 7 elections





Conference Board: Since 1967, 10 elections