Election Forecasting

GRAD-E1234

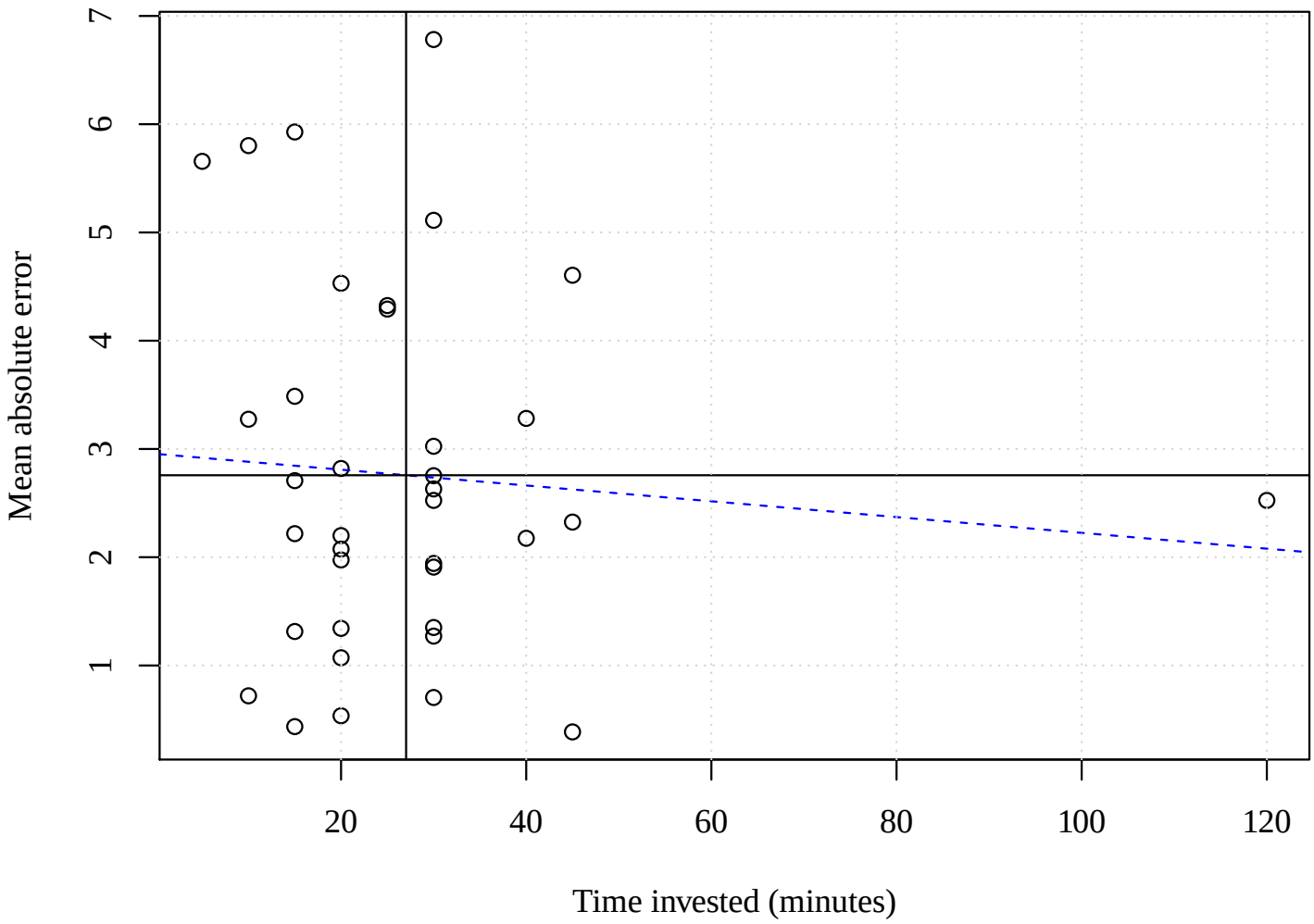
Do Forecasts Matter?

Simon Munzert

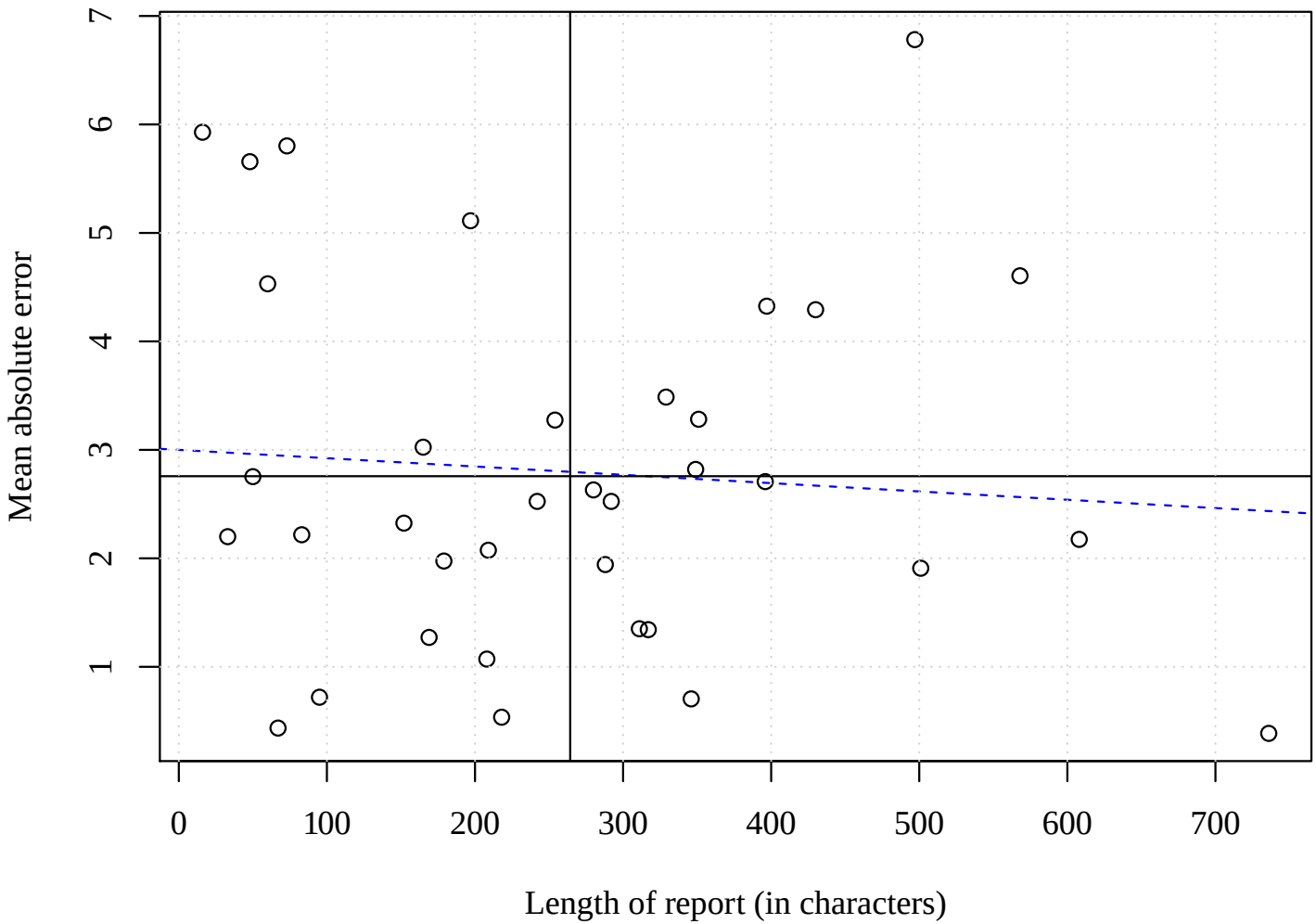
Spring Semester 2017
Hertie School of Governance

Session outline

Election forecasts



Election forecasts



Most frequent forecasters

	No. of forecasts
Moritz Hemmerlein	5
Alexander Sacharow	4
Christoph Abels	4
Hendrik Frank	4
Jeremie Bonnemort	4
Nadina Iacob	4
Akira Sasaki	3
Victoria Dykes	3
Michael Chaitow	2
Rafael Schmuziger Goldzweig	2
Dennis Schmargon	1
Nauel Semaan	1

Forecasting performance

Respondent	Mean MAE	No. of forecasts
Akira Sasaki	1.82	3
Moritz Hemmerlein	2.25	5
Nadina Iacob	2.43	4
Alexander Sacharow	2.52	4
Jeremie Bonnemort	2.82	4
Victoria Dykes	2.84	3
Christoph Abels	3.45	4
Hendrik Frank	3.61	4

Do forecasts matter?

Niedersachsen state election, Jan 2013

Institut	Datum	CDU	SPD	FDP	GRÜNE	LINKE	PIRATEN	Sonstige
GMS[19]	17.01.2013	41 %	33 %	5 %	13 %	3 %	3 %	2 %
INFO GmbH[19]	12.01.2013	38,0 %	31,5 %	4,5 %	14,5 %	6,0 %	3,0 %	2,5 %
Infratest dimap[19]	10.01.2013	40 %	33 %	5 %	13 %	3 %	3 %	3 %
GMS[19]	10.01.2013	41 %	33 %	5 %	13 %	3 %	3 %	2 %
Forschungsgruppe Wahlen[19]	10.01.2013	39 %	33 %	5 %	13 %	3 %	3 %	4 %

Niedersachsen state election, Jan 2013

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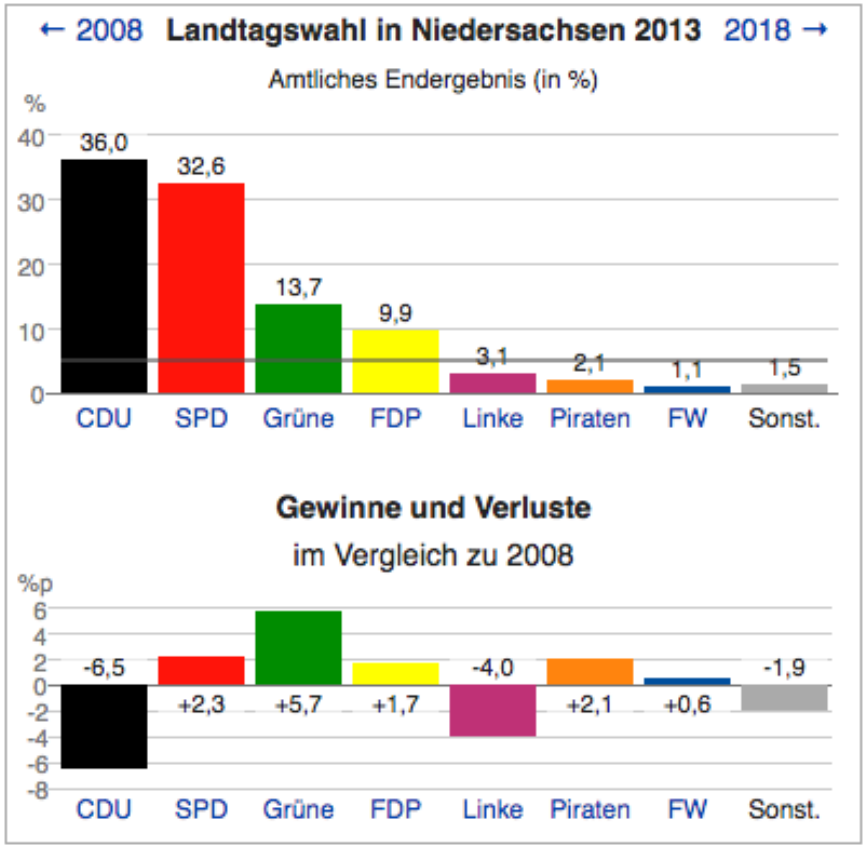
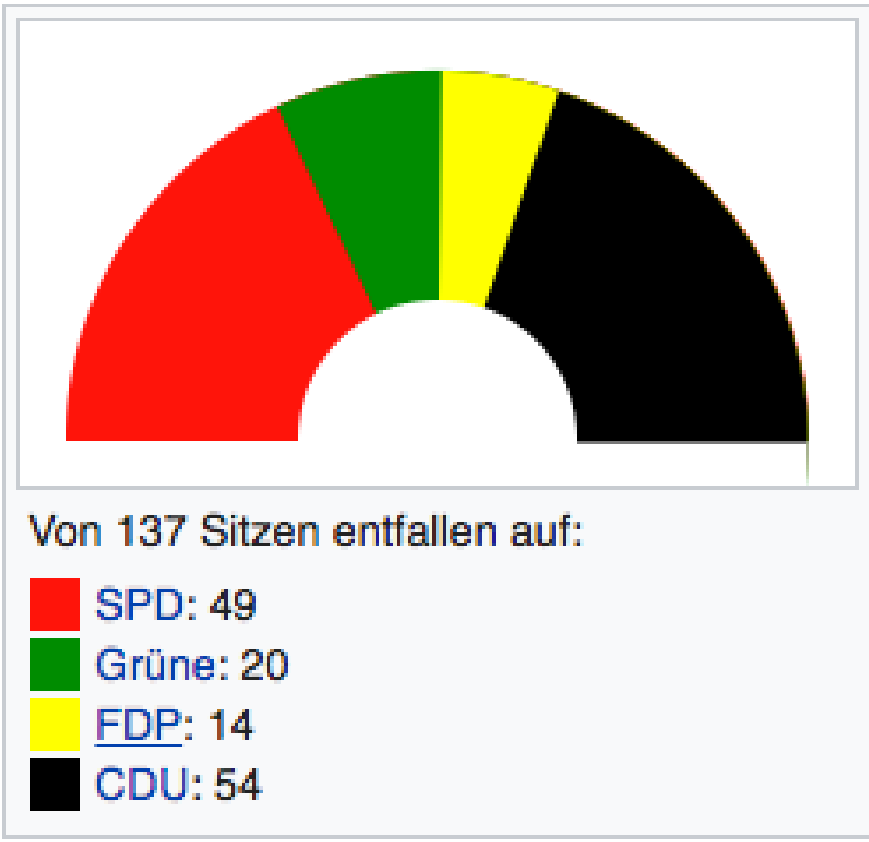
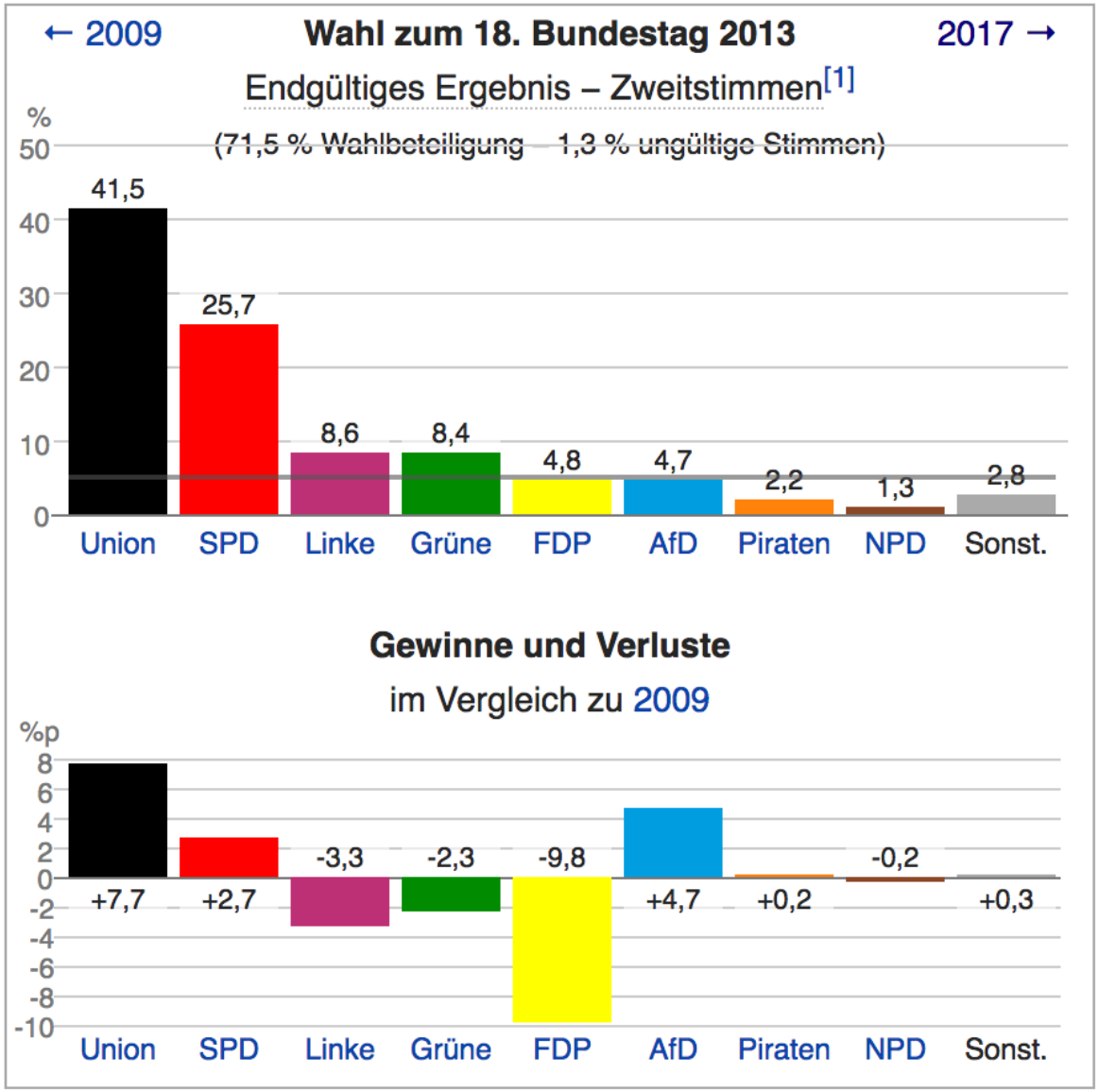




Bundestag election, Sep 2013

Institut	Datum	CDU/CSU	SPD	Grüne	FDP	Linke	Piraten	AfD	[Einklappen] Sonstige
Endergebnis[62]	*22.09.2013*	*41,5 %*	*25,7 %*	*8,4 %*	*4,8 %*	*8,6 %*	*2,2 %*	*4,7 %*	*4,1 %*
Emnid[63]	22.09.2013	39 %	26 %	9 %	6 %	9 %	—	4 %	7 %
Allensbach[64]	20.09.2013	39,5 %	27 %	9 %	5,5 %	9 %	2 %	4,5 %	3,5 %
Emnid[65]	20.09.2013	39 %	26 %	9 %	6 %	9 %	—	4 %	7 %
Forsa[59]	20.09.2013	40 %	26 %	10 %	5 %	9 %	2 %	4 %	4 %
Forschungsgruppe Wahlen[66]	19.09.2013	40 %	27 %	9 %	5,5 %	8,5 %	—	4 %	6 %
INSA[67]	19.09.2013	38 %	28 %	8 %	6 %	9 %	2 %	5 %	4 %

Bundestag election, Sep 2013



Countries with blackout period for pre-election polls (WAPOR 2012)

Country	Embargo (days)
Honduras	45
South Korea	21
Argentina	15
Ecuador	15
Greece	15
Italy	15
Macau	15
Ukraine	15
Taiwan	10
Colombia	7
Costa Rica	7
Cyprus	7
Peru	7
Romania	7
Sri Lanka	7
Turkey	7
Venezuela	7
Macedonia	5

Country	Embargo (days)
Russia	5
Spain	5
Burma	3
Canada	3
Czech Republic	3
Kuwait	3
Mexico	3
Bhutan	2
Brazil	2
Serbia	2
Uruguay	2
Herzegovina	1
Croatia	1
El Salvador	1
Norway	1
Poland	1
Portugal	1
Singapore	1

→ attractive data for design to identify effects of polls on voting behavior?

The relationship between polls, forecasts, and voting behavior

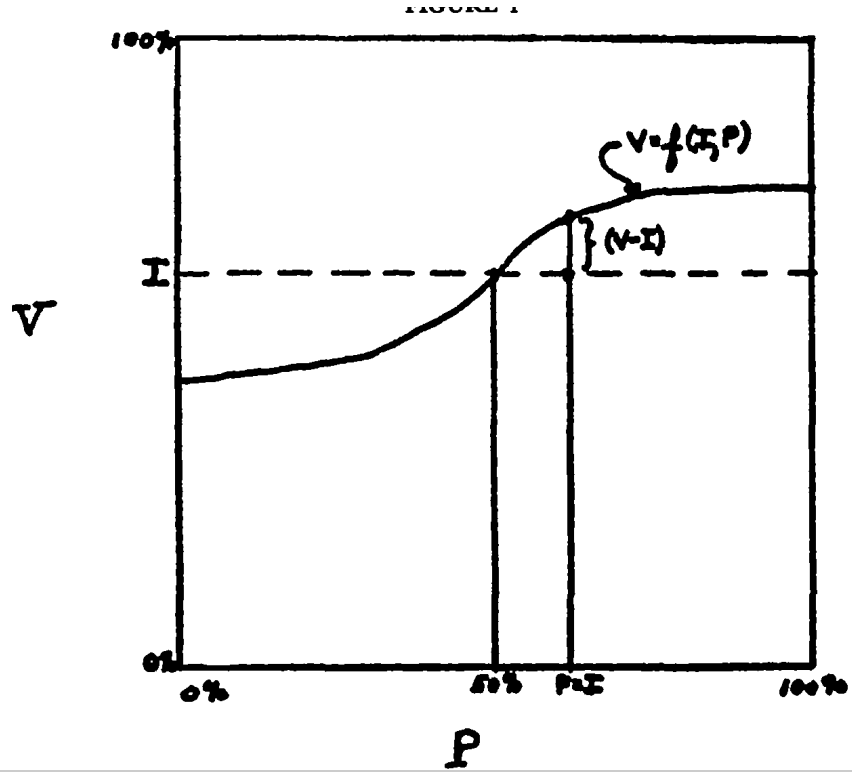
Discussion

1. What effects of published polls/forecasts on electoral outcomes are imaginable? Does polling performance matter?
2. What side-effects of published polls (i.e. effects that do not directly reflect in electoral outcomes) are imaginable?
3. How to identify such effects?

Potential effects of published polls on electoral outcomes

- normative social influence
  - bandwagon/underdog effects
  - people desire majority position to belong to winning team/feel liked
  - resolving cognitive dissonance by switching to the winning side
- informational social influence
  - people perceive polls as wisdom of the crowds; see polls as indicator of good choice
- informational behavioral (not attitudinal) influence
  - people update their belief about the likelihood P of being pivotal: $R = BP - C$ (Riker and Ordeshook 1968)
  - strategic voting $\rightarrow$ abandon first preference bc of strategic considerations
- non-electoral effects
  - political trust
  - political engagement
  - opinion expression (spiral of silence)
  - quality of political debate, media coverage of elections

Simon 1954: Bandwagon and Underdog Effects



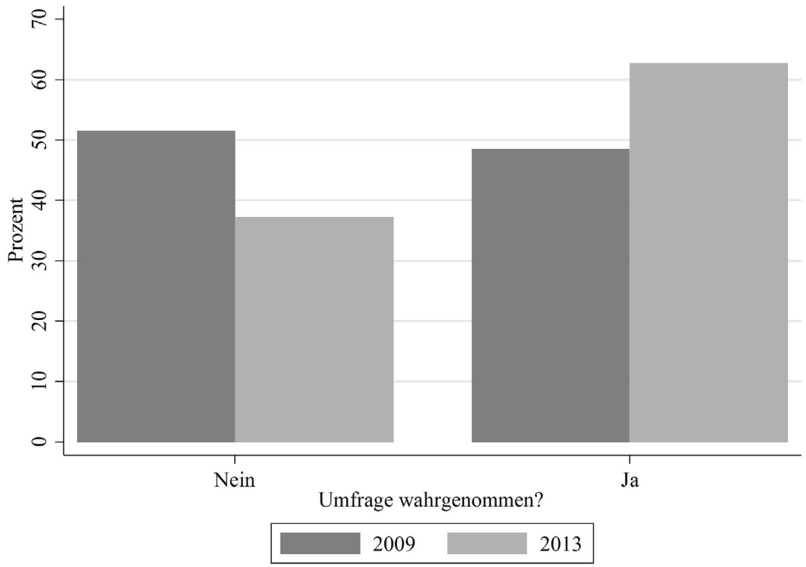
Bandwagon and underdog effects

- vote choice = f(preferences, strategic considerations)
- strategic considerations based on expectations about election outcome
- expectations shaped by polls

bandwagon effect → people more likely to vote for expected winner
underdog effect → people more likely to vote for expected loser

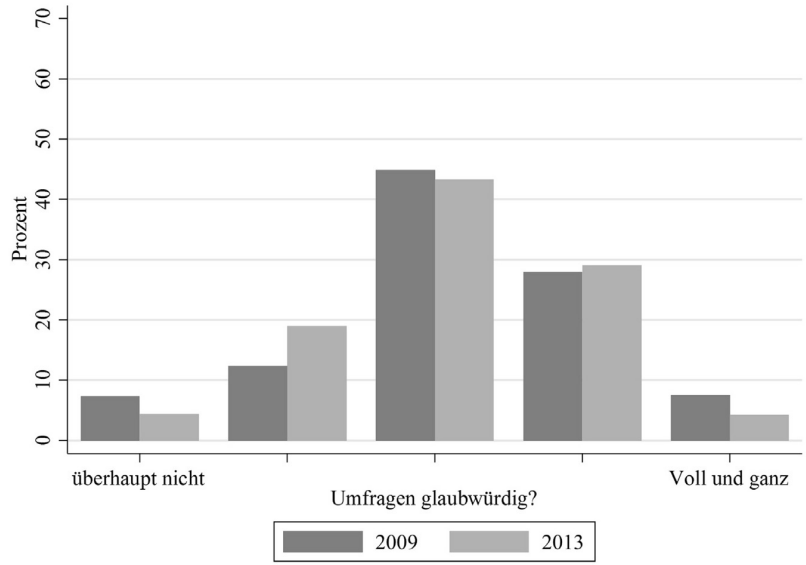
Faas 2015

Abbildung 1: Wahrnehmung von Umfragen vor den Bundestagswahlen 2009 und 2013



Quelle: ZA5339, eigene Berechnung und Darstellung.

Abbildung 2: Glaubwürdigkeit von Umfragen vor den Bundestagswahlen 2009 und 2013



Quelle: ZA5721, eigene Berechnung und Darstellung.

Faas 2015

Tabelle 2: Hintergründe der Wahrnehmung von Umfragen (Regressionskoeffizienten logistischer Regressionsmodelle)			
	2009		2013
	Basis	+ Needs	Basis
Geschlecht: Mann	0,37**	0,37**	0,20
Alter	0,48	0,45	0,53
Bildung: Realschule	0,22	0,23	0,20
Bildung: Abitur	0,45*	0,42*	0,43*
Politisches Interesse	3,54***	3,32***	2,57***
Öffentlich-rechtliches Fernsehen	0,88***	0,81***	0,75**
PI: CDU	0,56**	0,56**	0,46*
PI: SPD	0,59**	0,61**	0,38
PI: FDP	0,69*	0,71*	1,18
PI: Grüne	0,89**	0,92***	-0,00
PI: Linke	0,79**	0,76**	0,26
PI: Andere	0,79	0,73	-0,03
Need for Cognition		0,35	
Need for Cognitive Closure		-0,37	
Need to Evaluate		0,64	
Konstante	-3,67***	-3,93***	-1,97***
N	1.119	1.096	969
Pseudo-R^2 (McK)	0,36	0,36	0,22

Signifikanzniveaus: * $p < ,05$, ** $p < ,01$, *** $p < ,001$, alle unabhängigen Variablen auf einen Wertebereich von 0 bis 1 transformiert.
Quelle: Eigene Berechnung.

Faas 2015

Tabelle 3: Hintergründe der wahrgenommenen Glaubwürdigkeit von Umfragen (Regressionskoeffizienten linearer Regressionsmodelle)

	2009			2013	
	Basis	+ Wahrnehmung	+ Needs	Basis	+ Wahrnehmung
Geschlecht: Mann	-0,22***	-0,23***	-0,23***	-0,04	-0,03
Alter	0,22	0,22	0,28	-0,12	-0,11
Bildung: Realschule	0,01	0,01	0,01	0,10	0,10
Bildung: Abitur	-0,03	-0,03	-0,02	0,17*	0,17*
Politisches Interesse	0,24	0,20	0,22	0,13	0,10
Öffentlich-rechtliches Fernsehen	0,07	0,06	0,04	0,12	0,10
PI: CDU	0,33***	0,32***	0,30***	0,30***	0,31***
PI: SPD	0,30***	0,28***	0,27**	0,14	0,14
PI: FDP	0,38**	0,36**	0,34**	0,12	0,12
PI: Grüne	0,30**	0,28*	0,29*	0,18	0,19
PI: Linke	0,17	0,16	0,14	0,13	0,13
PI: Andere	-0,27	-0,28	-0,30	-0,20	-0,19
Wahrnehmung		0,07	0,08		0,05
Need for Cognition			-0,37***		
Need for Cognitive Closure			-0,25		
Need to Evaluate			0,39**		
Konstante	-0,17	-0,16	-0,10	-0,20	-0,22*
N	1.111	1.110	1.090	961	957
Korrigiertes R^2	0,04	0,04	0,05	0,02	0,02

Faas et al. 2008

TABLE 5 **Media polls and voting intentions for SPD and Leftist party: multivariate time-series analyses (unstandardized and standardized regression coefficients)**

	SPD			*Leftist party*		
	Model 1	*Model 2*		*Model 1*	*Model 2*	
	b	*b*	*β*	*b*	*b*	*β*
Polling shares [lag 3 days]	2.09*	2.04**	.52	1.28*	0.57	.18
Polling shares	0.85	0.17	.04	−0.26	0.33	.11
Voting intention [lag 3 days] (share of respondents)	−0.07	0.03	.03	−0.21	−0.21	−.24
Party identification (share of respondents)		0.59***	.50		0.68**	.54
Constant	−0.64**	-0.59***		-0.02	0.04	
R^2	0.47	0.69		0.20	0.43	
N	34	34		34	34	

***$p < .001$; **$p < .01$; *$p < .05$; +$p < .10$

Dependent variables: Aggregated daily shares of respondents intending to vote for respective party (coding at individual level: 1 = Intention to vote for respective party, 0 = any other party or 'don't know').

Faas/Huber 2015

Tabelle 1: Wahlabsichten zu Gunsten der FDP in Abhängigkeit von den präsentierten Umfrageinformationen und Präferenzen der Befragten (in Prozent)

	4 Prozent	5 Prozent	6 / 8 Prozent	Signifikanz der Unterschiede
Alle Befragten	12,5 (n = 415)	7,4 (n = 1.626)	5,1 (n = 1.170)	*** / *** / *
Befragte mit CDU-Präferenz	26,2 (n = 61)	11,1 (n = 234)	8,4 (n = 179)	** / *** / n.s.
Befragte mit FDP-Präferenz	92,3 (n = 13)	86,0 (n = 50)	81,6 (n = 38)	n.s. / n.s. / n.s.

Anmerkung: Die ausgewiesenen Signifikanzen beziehen sich jeweils auf den Paarvergleich von zwei Gruppen, zunächst zwischen Gruppen vier/fünf Prozent, dann vier/sechs beziehungsweise acht Prozent und schließlich fünf/sechs beziehungsweise acht Prozent.
Quelle: Eigene Berechnungen, www.wahlumfrage2013.de (n = 3.211).

Rothschild and Malhotra 2014

Pre-Treatment Dependent Variable

Suppose that there was a national referendum on American policy in Afghanistan and you were in the voting booth casting a ballot on the referendum.

If you were voting directly on whether or not the U.S. should meaningfully reduce the number of troops in Afghanistan by June 30, 2012, what is the probability that you would vote to reduce the number of troops in Afghanistan?

Treatment

Below is the percentage of Americans who support more free trade agreements with North, Central, and South American countries. ***This value is created by aggregating the best available polls.***

55%

Rothschild and Malhotra 2014

Table 1. The effect of polling information on individual-level policy support.

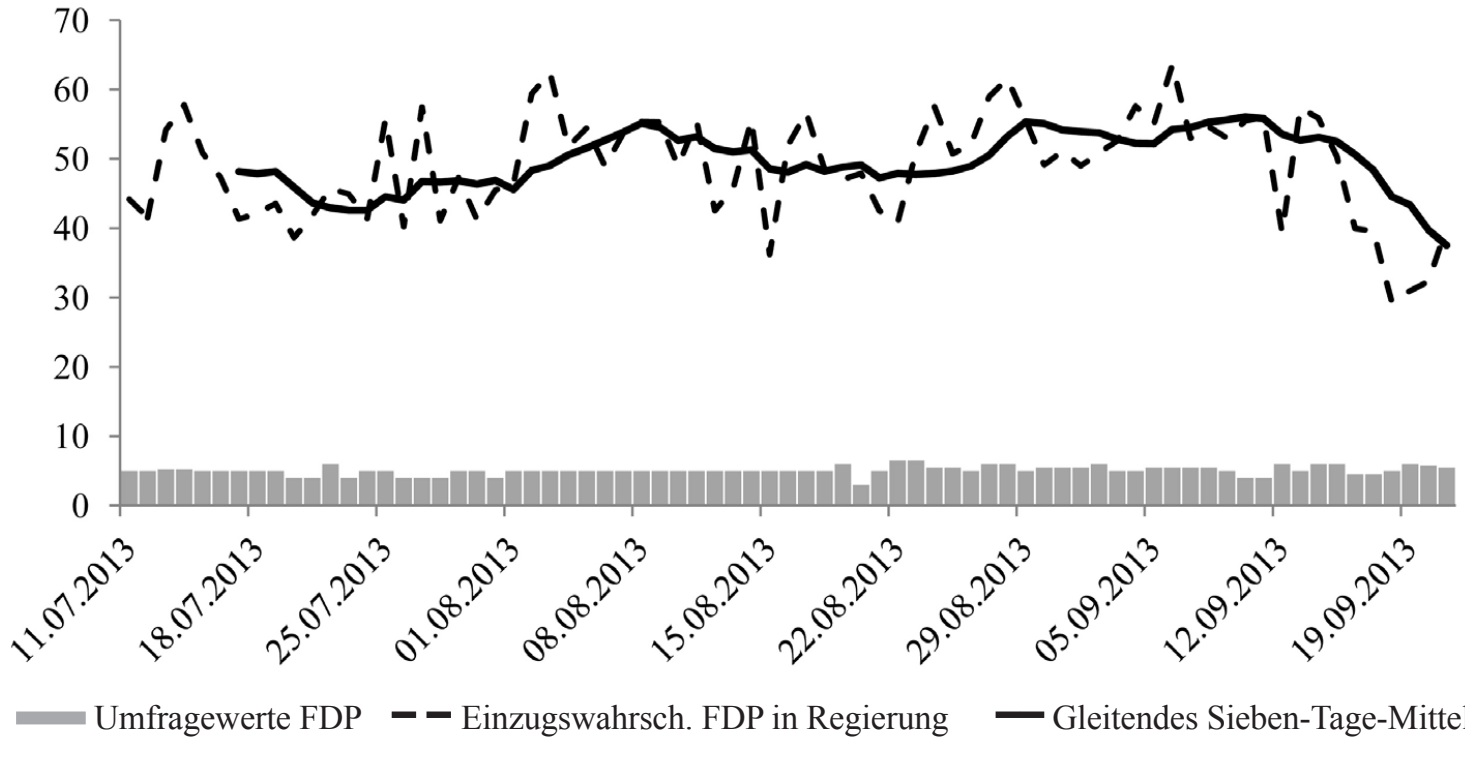
	(1) All issues	(2) Afghanistan	(3) Free Trade	(4) Public financing	(5) All issues	(6) All issues
Treatment value: β_2	8.11*	6.27	13.50*	3.53	8.55*	18.83*
	(2.27)	(4.15)	(4.30)	(4.31)	(2.49)	(4.02)
Pre-treatment support: β_1	0.79*	0.84*	0.78*	0.79*	0.75*	0.79*
	(0.03)	(0.04)	(0.05)	(0.04)	(0.03)	(0.03)
Afghanistan issue: α_1	7.09*	———	———	———	7.69*	6.30*
	(1.73)				(1.76)	(1.71)
Public financing issue: α_2	1.20	———	———	———	0.81	0.24
	(1.82)				(1.80)	(1.81)
Abs(pre-treatment support – 50)	———	———	———	———	———	0.35*
						(0.08)
Abs(pre-treatment support – 50) x treatment value	———	———	———	———	———	–0.38*
						(0.11)
Constant	1.71	6.27	-0.31	5.21	3.61	–7.45*
	(2.46)	(3.45)	(3.50)	(2.96)	(2.53)	(3.09)
R^2	0.652	0.644	0.550	0.643	0.652	0.665
N	702	234	234	234	702	702

*$p < 0.05$ (two-tailed).

Notes: Columns (1) and (5) present estimates from model (1). Random effects model in columns (1) and (6). Fixed effect model in column (5). Columns (2)–(4) present OLS estimates from model (2). Standard errors in parentheses. Standard errors clustered by respondent in columns (1), (5), and (6). The treatment value is recoded to lie between 0 (20% public support) and 1 (80% public support).

Hoffmann 2015

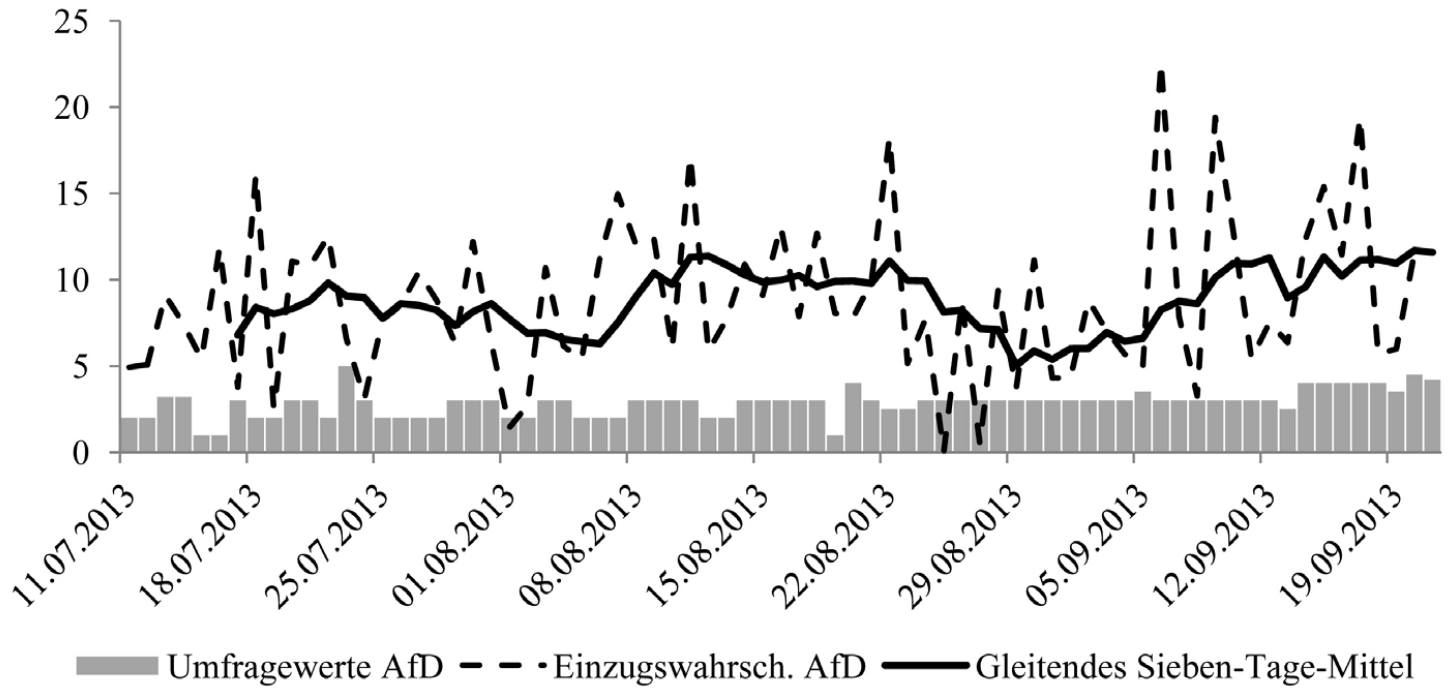
Abbildung 5: Entwicklung der Einschätzung der Einzugswahrscheinlichkeit für die FDP in den Bundestag vor der Bundestagswahl 2013 (in Prozent)



Quelle: Eigene Darstellung.

Hoffmann 2015

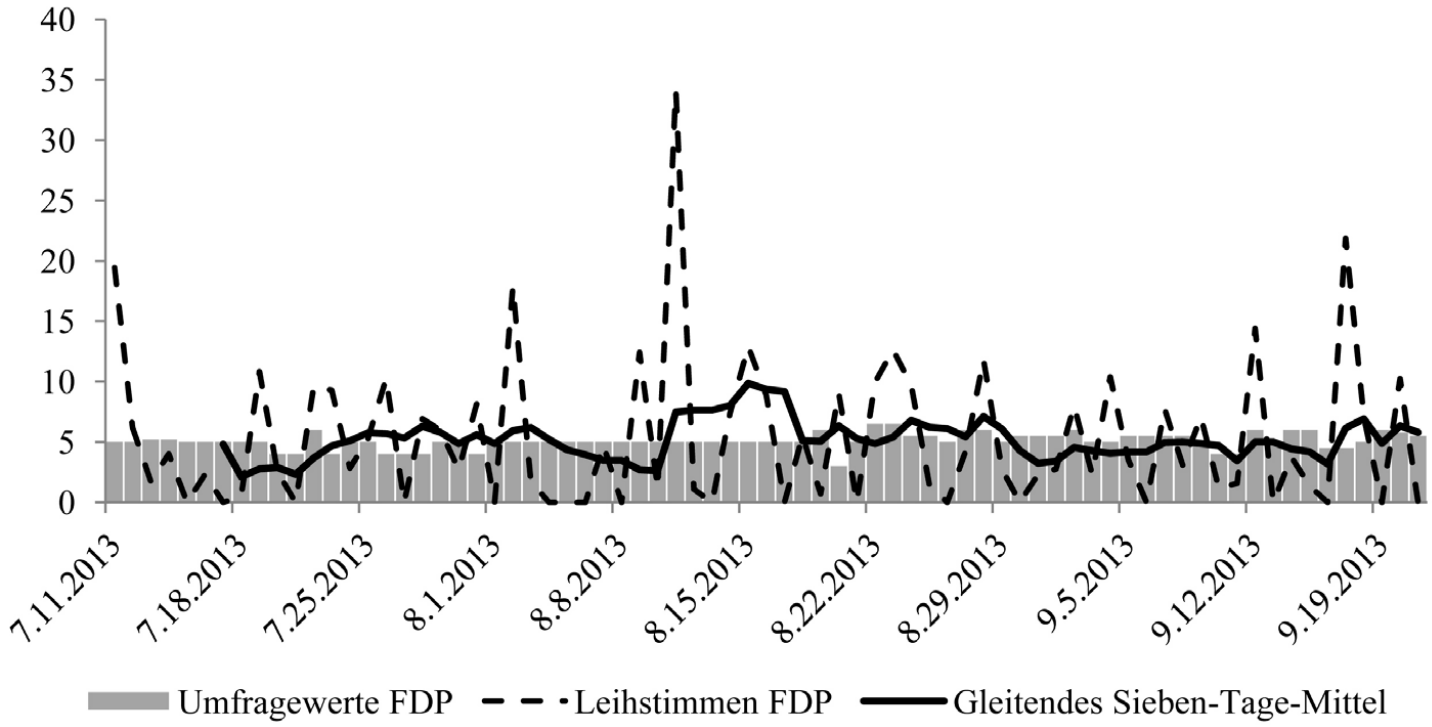
Abbildung 6: Entwicklung der Einschätzung der Einzugswahrscheinlichkeit für die AfD in den Bundestag vor der Bundestagswahl 2013 (in Prozent)



Quelle: Eigene Darstellung.

Hoffmann 2015

Abbildung 12: Entwicklung der Absicht einer Leihstimmenvergabe der Anhänger der Union für die FDP vor der Bundestagswahl 2013 (in Prozent)



Quelle: Eigene Darstellung.

Normative considerations

Discussion

Is the publication of pre-election polls or forecasts shortly before an election defensible from a normative point of view? Take four perspectives:

- citizen
- politician
- journalist
- CEO of a polling institute

Next week

Forecasting design paper

Evaluation criteria

- Is the setting well-motivated?
- Do you give a reasonable account of the current state of the literature and do you identify relevant gaps/room for extension in existing models?
- Is the method you suggest both innovative and adequate to forecast the quantity of interest?
- Is the description of your approach comprehensible?
- Do you comprehensively discuss pros and cons of your approach?
- Do you provide a realistic road map of the implementation of the model?
- Do you comply with the limit of 3,000 words?
- Is the paper in good shape?

Advice

- Orient yourself by the forecasting papers we read in class in terms of content, style, and scope (focus less on lit review, more on own model)
- Do you have to present descriptives already? Not necessarily.

Next week

- the forecast design paper can be submitted via Moodle until April 12, 23.59p.m. CET
- next week: course will take place on Thursday already in room 2.32 at 8-10a.m.
- we will start using R in that session
- if available, bring your laptop (details on how to prepare for the session to follow soon)
- http://r4ds.had.co.nz/

See you next week!