Anduiza and Pannico – Appendix

Table A1. 2011 and 2015 Spanish lower chamber general election results (Congreso de los Diputados)

	2011			2015				
Party	Votes	Valid %	Seats	Votes	Valid %	Seats	Change in votes	Change in seats
PP	10866566	44.6	186	7236965	28.7	123	-15.9	-63
PSOE	7003511	28.8	110	5545315	22.0	90	-6.8	-20
Podemos*	-	-	-	4375819	20.7	69	19.4	69
BNG	184037	0.8	2	-	-	-	-	-
Compromís	125306	0.5	1	-	-	-	-	-
C's	-	-	-	3514528	13.9	40	13.9	40
IU-LV	1686040	6.9	11	926783	3.7	2	-3.2	-9
UPyD	1143225	4.7	5	155153	0.7	0	-4.0	-5
CiU	1015691	4.2	16	567253	2.3	8	-1.9	-8
AMAIUR	334498	1.4	7	219125	0.9	2	-0.5	-5
EAJ-PNV	324317	1.3	5	302316	1.2	6	-0.1	1
ERC	256985	1.1	3	601782	2.4	9	1.3	6
CC-NC-PNC	143881	0.6	2	81917	0.3	1	-0.3	-1
FAC	99473	0.4	1				-0.4	-1
GBAI	42415	0.2	1	30642	0.6	0	0.4	-1
Others	711225	3.2	0	612716	3.2	0	0.0	0

* Including BNG and Compromís in 2015. Source: own elaboration with data from Ministerio del Interior.

Table A2. Polat Panel

Wave	Fieldwork	Original sample	Refresh 1	Refresh 2	Total N	General Election after wave
1	Nov 2010	2,100	0	0	2,100	
2	May 2011	1,813	620	0	2,433	
3	Nov 2011	1,514	465	0	1,979	20 Nov 2011
4	May 2012	1,322	395	0	1,717	
5	May 2013	1,376	381	0	1,757	
6	May 2014	825	246	0	1,071	
7	May 2015	775	239	0	1,014	20 Dec 2015
8	May 2016	790	250	0	1,040	26 June 2016
9	May 2017	994	170	996	1,990	

Source: Polat panel data 2010–2017. The sample of wave 1 included 2,100 individuals between 16 and 44 years old, resident in Spain and with Spanish nationality. The sample cannot be considered representative of non-internet users. For the recruitment of the respondents of this wave, two crossed quotas were applied: gender/age and region/size of municipality. In wave 2 a refreshment sample of 620 respondents with low education levels was added to correct for the overrepresentation of the population with a university degree in the original sample. A fresh sample of 996 individuals was added in wave 9, applying quotas for education, region, size of municipality and gender/age to compensate attrition. The total number of individuals included in the dataset is 3,712, and the total number of observations is 15,501.

Table A3. Old and new parties in Spain

Party	Creation	New (run in 2011 or later for the first time)
PSOE	1879	No
PNV	1895	No
ERC	1931	No
CiU	1978***	No
BNG	1982	No
CUP	1986	No
IU	1986**	No
CHA	1989	No
PP	1989*	No
CC	1993	No
UPyD	2007	No
Ciudadanos	2006	Yes
Equo	2011	Yes
Bildu	2011	Yes
Compromis	2011	Yes
Foro Asturias	2011	Yes
Partido X	2012	Yes
VOX	2013	Yes
Podemos	2014	Yes

* As a transformation of *Alianza Popular* (AP), created in 1976. ** Including the *Partido Comunista de España*, created in 1921. *** Dissolved in 2015.

Table A4. Response options for the party closeness question

Waves 1 to 5	Wave 6	Wave 7	Wave 8	Wave 9
PSOE	PP	PP	PP	PP
PP	PSOE	PSOE	PSOE	PSOE
IU/ICV	IU	IU	Podemos	Podemos
CIU	ICV	ICV	Ciudadanos	Ciudadanos
PNV	UPyD	UPyD	IU	IU
UpyD	CiU	Podemos	ICV	ICV
ERC	Bildu	Ciudadanos	UPyD	UPyD
BNG	PNV	CiU	Convergencia	PDeCAT (Convergència)
CC	ERC	Bildu	Bildu	Bildu
NABai	BNG	PNV	PNV	PNV
UPN	Coalición Canaria	ERC	ERC	ERC
Otros partidos	Compromís	BNG	BNG	BNG
None	Equo	Coalición Canaria	Coalición Canaria	Coalición Canaria
	FAC	Compromís	Compromís	Compromís
	Geroa Bai	Equo	Equo	Equo
	CHA	FAC	FAC	FAC
	Ciudadanos	Geroa Bai	Geroa Bai	Geroa Bai
	CUP	CHA	CHA	CHA
	Podemos	CUP	CUP	CUP
	Vox	Vox	Vox	Vox
	Partido X	Partido X	Partido X	Partido X
	Others	Others	Unió	Unió
	None	None	Others	Others
			None	None

Table A5. Descriptive statistics and question wording

	Min	Max	Mean	Between Variance	Within Variance
Interest	0	1	0.46	0.07	0.02
Trust	0	1	0.22	0.03	0.01
Female	0	1	0.49	0.25	0
Age	16	54	34	85.36	3.39
Income	0	1	0.32	0.03	0.01
Education	0	1	0.61	0.08	0.00
Government party evaluation	0	1	0.25	0.04	0.04
Left-right	0	1	0.43	0.03	0.01
Not close to any party	0	1	0.30	0.15	0.09
Close to an old party	0	1	0.60	0.17	0.11
Close to a new party	0	1	0.10	0.08	0.05

Interest in politics is measured with the standard question of whether the respondent is very, quite, a little or not at all interested in politics, with higher values indicating higher interest. *Trust in political institutions* is measured with an index that combines three scales from 0 (no confidence at all) to 10 (total confidence) indicating trust in government, parliament and political parties (alpha 0.86). Trust in institutions is measured in waves 3 to 9 of the panel. *Partisanship* is measured with the question "Among the following parties, which one do you sympathize with or consider closer to your own ideas?" followed by a list of parties including the option "None". This question is included in all waves of the panel, but with different response categories so as to reflect the changes in the party system and the emergence of new parties (see Table A4). Note that we do not track changes of party identification within new or old parties. So a person who identifies with PSOE in one wave and with IU in another wave, is considered as old party identifier just like someone identifying always with PSOE. *Income* is a ten-category variable ranging from "≤ 300 euros" to ">6000 euros"). *Education* is an eleven-category variable ranging from "less than 5 years of education" to "post-graduate education". *Satisfaction with party in government* is measured in a 11 point scale from "Very bad" to "Very good". *Ideological self- placement* is an 11 point scale from left to right. *Region* is a categorical variable for the Autonomous Community where the respondent lives. All the variables, apart from *Age*, have been recoded to range from 0 to 1.

Table A6. Individual fixed effects impact function models. Individuals that change partisanship

	From nopid to new party		From old party to new party	
	Interest	Trust	Interest	Trust
Time				
t(-8)	0.07		-0.04	
	(0.06)		(0.04)	
t(-7)	0.16***		0.03	
	(0.04)		(0.03)	
t(-6)	0.11***	0.17**	0.00	0.13***
	(0.03)	(0.07)	(0.02)	(0.04)
t(-5)	0.06**	0.11**	0.01	0.06*
	(0.03)	(0.05)	(0.02)	(0.03)
t(-4)	0.06***	0.12***	0.02	0.05**
	(0.02)	(0.04)	(0.02)	(0.02)
t(-3)	0.02	0.09***	0.01	0.04**
	(0.02)	(0.03)	(0.02)	(0.02)
t(-2)	0.03	0.04*	0.00	-0.01
	(0.02)	(0.02)	(0.01)	(0.01)
t(-1)	Ref	Ref	Ref	Ref
t(0)	0.05***	0.00	0.01	-0.01
	(0.02)	(0.02)	(0.01)	(0.01)
t(1)	0.01	-0.01	0.02	0.00
	(0.02)	(0.03)	(0.02)	(0.02)
t(2)	0.04	-0.04	0.01	0.03
	(0.03)	(0.05)	(0.02)	(0.02)
t(3)	-0.02	-0.03	-0.03	-0.02
	(0.05)	(0.07)	(0.03)	(0.03)
Left-Right	0.03	0.15***	-0.05	0.01
	(0.05)	(0.05)	(0.03)	(0.04)
Government party evaluation	-0.02	0.13***	-0.05***	0.19***
	(0.02)	(0.03)	(0.02)	(0.02)
Education	0.01	0.04	0.03	0.02
	(0.07)	(0.07)	(0.05)	(0.05)
Income	-0.03	0.04	-0.08***	-0.03

	(0.04)	(0.04)	(0.03)	(0.03)
Age	0.02**	0.02	0.01*	0.00
	(0.01)	(0.01)	(0.00)	(0.01)
Region of residence	Yes	Yes	Yes	Yes
Constant	-0.21	-0.84	0.18	0.06
	(0.24)	(0.51)	(0.19)	(0.23)
Observations	1307	1005	2026	1561
R^2	0.050	0.089	0.074	0.121

Standard errors clustered by individuals in parentheses * p<0.1, ** p<0.05, *** p<0.01

The value t(0) indicates the panel wave in which the respondent refers a new party identification, t(1) indicates the following wave, t(2) indicates the second wave after the new party identification appears, etc. Negative values indicate the panel waves prior to the moment of change in partisanship, with t(-1) as the reference category. We use the same regression model for both our dependent variables:

$$DV_{ti} = \beta_0 + \beta_1 * time\ distance_{ti} + \Phi X_{it} + u_i + e_{ti} \quad (1)$$

In equation (1), DV_{ti} refers to the value of our dependent variable (political interest or trust) for individual *i* at time *t.* As explained above, the $time\ distance_{ti}$ variable indicates, for the same individual at the same point in time, the distance from the moment of the change in partisanship. X_{ti} is a vector of control variables that change along time and includes: age, income, education, region of residence, satisfaction with party government and ideology. Finally, u_i includes all unobserved time‐constant characteristics of individual *i* that determine political interest or trust, whereas e_{ti} refers to all time‐variant characteristics. β_0, β_1 and Φ are parameters to be estimated.

Table A7. Individuals fixed effects impact function models. Individuals that remain constant

	Constant nopid		Constant old party	
	Interest	Trust	Interest	Trust
Time				
t(-8)				
t(-7)				
t(-6)				
t(-5)	0.09		-0.02	
	(0.08)		(0.02)	
t(-4)	0.07		-0.02	
	(0.06)		(0.02)	
t(-3)	0.05	-0.03	-0.01	0.10***
	(0.05)	(0.05)	(0.02)	(0.02)
t(-2)	0.04	-0.01	-0.01	0.05***
	(0.04)	(0.04)	(0.02)	(0.02)
t(-1)	Ref	Ref	Ref	Ref
t(0)	-0.05	0.04	0.00	0.07***
	(0.03)	(0.03)	(0.02)	(0.01)
t(1)	-0.08	0.03	0.02	0.08***
	(0.06)	(0.05)	(0.02)	(0.02)
t(2)	-0.05	0.05	0.03	0.10***
	(0.08)	(0.08)	(0.03)	(0.03)
t(3)	-0.03	0.10	0.01	0.11***
	(0.11)	(0.11)	(0.03)	(0.04)
Left-Right	-0.13	0.26**	-0.10**	0.02
	(0.12)	(0.12)	(0.04)	(0.04)
Government party evaluation	-0.01	0.24***	-0.03*	0.18***
	(0.04)	(0.04)	(0.02)	(0.02)
Education	0.35***	0.26**	0.10**	-0.02
	(0.12)	(0.12)	(0.05)	(0.06)
Income	-0.05	-0.04	0.02	0.12***

	(0.05)	(0.05)	(0.03)	(0.04)
Age	0.02	-0.02	-0.01	-0.02**
	(0.03)	(0.03)	(0.01)	(0.01)
Region of residence	Yes	Yes	Yes	Yes
Constant	-0.69	0.67	1.00***	0.72**
	(0.96)	(0.96)	(0.28)	(0.31)
Observations	461	351	1589	1194
R^2	0.051	0.131	0.019	0.201

Standard errors clustered by individuals in parentheses * p<0.1, ** p<0.05, *** p<0.01

The value t(0) indicates the wave 6, the first one in which the new parties appear, t(1) indicates the wave 7, t(2) indicates wave 8, etc. Negative value indicate the panel waves prior to wave 6, with t(-1), indicating wave 5 as the reference category. See table above for model details.

Table A8. First difference models with no party identification as reference

	Interest	Trust
New party id (ref. no pid)	0.07***	0.02*
	(0.02)	(0.01)
Left-Right	-0.02	0.07*
	(0.04)	(0.04)
Government party evaluation	0.08***	0.17***
	(0.02)	(0.02)
Education	0.02	0.03
	(0.06)	(0.04)
Income	-0.05*	-0.01
	(0.02)	(0.03)
Age	-0.00	-0.00
	(0.00)	(0.00)
Observations	2593	1945
R^2	0.017	0.047

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A9. First difference models with old party identification as reference

	Interest	Trust
New party id (ref. old pid)	0.00	-0.00
	(0.01)	(0.01)
Left-Right	-0.00	0.03
	(0.02)	(0.03)
Government party evaluation	-0.01	0.15***
	(0.01)	(0.01)
Education	0.06	0.01
	(0.04)	(0.03)
Income	-0.04**	0.05**
	(0.02)	(0.02)
Age	-0.00	-0.02***
	(0.00)	(0.00)
Observations	5999	3624
R^2	0.002	0.063

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A10. First difference models with no party identification as reference

	Interest	Trust
Old party id (ref. no pid)	0.05***	0.02***
	(0.01)	(0.01)
Left-Right	0.00	0.05*
	(0.02)	(0.02)
Government party evaluation	0.01	0.15***
	(0.01)	(0.01)
Education	0.08**	0.06*
	(0.03)	(0.03)
Income	-0.04**	0.02
	(0.02)	(0.02)
Age	-0.00*	-0.02***
	(0.00)	(0.00)
Observations	8803	5085
R^2	0.012	0.071

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A11. Individual fixed effects models with no party identification as reference

	Interest	Trust
New party id (ref. no pid)	0.07***	0.03***
	(0.01)	(0.01)
Left-Right	-0.04	0.05*
	(0.03)	(0.03)
Government party evaluation	0.03**	0.18***
	(0.02)	(0.02)
Education	0.04	0.02
	(0.04)	(0.04)
Income	-0.02	-0.01
	(0.02)	(0.02)
Age	-0.00	-0.00
	(0.00)	(0.00)
Region of residence	Yes	Yes
Constant	0.31***	0.14**
	(0.06)	(0.06)
Observations	5591	4396
R^2	0.030	0.067

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A12. Individual fixed effects models with old party identification as reference

	Interest	Trust
New party id (ref. old pid)	0.02***	0.01
	(0.01)	(0.01)
Left-Right	-0.01	0.09***
	(0.02)	(0.02)
Government party evaluation	-0.03***	0.18***
	(0.01)	(0.01)
Education	0.08***	0.01
	(0.02)	(0.03)
Income	-0.02	0.06***
	(0.01)	(0.02)
Age	0.00	-0.01***
	(0.00)	(0.00)
Region of residence	Yes	Yes
Constant	0.49***	0.46***
	(0.04)	(0.06)
Observations	10248	6962
R^2	0.012	0.107

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A13. Interest and trust as predictors of party identification (Logit - fixed effect)

	No pid / New party	Old party / New party
Political interest	2.58***	-0.08
	(0.65)	(0.52)
Trust in political institutions	0.68	-1.01*
	(0.79)	(0.56)
Left-Right	-0.73	-2.06***
	(1.10)	(0.71)
Government party evaluation	-0.37	-0.87*
	(0.72)	(0.46)
Education	-2.35	-2.26**
	(1.46)	(1.05)
Income	-1.02	-0.38
	(0.78)	(0.58)
Age	1.10***	1.11***
	(0.08)	(0.05)
Region of residence	Yes	Yes
Observations	1230	2571

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A14. Models with lagged dependent and independent variables (no party identification as reference)

	Interest	Trust
New party id (ref. no pid)	0.08***	0.01
	(0.02)	(0.01)
New party id (ref. no pid) (lag)	-0.01	0.01
	(0.02)	(0.01)
Political interest (lag)	0.48***	
	(0.03)	
Trust (lag)		0.33***
		(0.03)
Political interest (lag 2)	0.31***	
	(0.02)	
Trust (lag 2)		0.19***
		(0.04)
Left-Right	-0.04	0.03
	(0.04)	(0.04)
Left-Right (lag)	-0.01	-0.05
	(0.04)	(0.04)
Government party evaluation	0.06**	0.22***
	(0.03)	(0.03)
Government party evaluation (lag)	-0.07**	0.00
	(0.03)	(0.03)
Education	0.11*	0.01
	(0.06)	(0.04)
Education (lag)	-0.05	-0.00
	(0.06)	(0.04)
Income	-0.00	-0.01
	(0.03)	(0.03)
Income (lag)	-0.01	0.02
	(0.03)	(0.03)
Gender	-0.03***	0.00
	(0.01)	(0.01)
Age	0.00	-0.01**
	(0.01)	(0.01)
Age (lag)	-0.00	0.01**

	(0.01)	(0.01)
Region of residence	Yes	Yes
Region of residence (lag)	Yes	Yes
Wave	Yes	Yes
Constant	0.06**	0.02
	(0.03)	(0.03)
Observations	1974	1405
R^2	0.648	0.429

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table A15. Models with lagged dependent and independent variables (old party identification as reference)

	Interest	Trust
New party id (ref. Old party id)	0.01	-0.02**
	(0.01)	(0.01)
New party id (ref. Old party id) (lag)	0.01	0.00
	(0.01)	(0.01)
Political interest (lag)	0.47***	
	(0.02)	
Trust (lag)		0.37***
		(0.03)
Political interest (lag 2)	0.35***	
	(0.02)	
Trust (lag 2)		0.20***
		(0.02)
Left-Right	-0.02	0.00
	(0.03)	(0.03)
Left-Right (lag)	-0.03	-0.01
	(0.03)	(0.03)
Government party evaluation	-0.02	0.23***
	(0.01)	(0.02)
Government party evaluation (lag)	-0.00	-0.03
	(0.01)	(0.02)
Education	0.08**	0.03
	(0.03)	(0.04)
Education (lag)	-0.03	-0.01
	(0.03)	(0.04)
Income	-0.03	0.04*
	(0.02)	(0.02)
Income (lag)	0.03	-0.03
	(0.02)	(0.02)
Gender	-0.02***	-0.01
	(0.01)	(0.01)
Age	-0.00	-0.00
	(0.00)	(0.00)
Age (lag)	0.00	0.00

	(0.00)	(0.00)
Region of residence	Yes	Yes
Region of residence (lag)	Yes	Yes
Wave	Yes	Yes
Constant	0.11***	0.00
	(0.02)	(0.02)
Observations	4279	2269
R^2	0.615	0.523

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01