

Online Appendix A: Additional information on the measurement issues in the cross-national comparative analysis

Countries and electoral periods

As mentioned in the manuscript, to identify party splits, parties with at least 3 percent of seats in the first election of the electoral term in 25 countries (all of them currently member states of the EU) in the post-war period were examined. In total, 286 electoral periods were scanned for party splits. Specifically, the following time periods for each country was considered (the number of electoral periods in parentheses): Austria 1949-2008 (18), Belgium 1946-2010 (20), Bulgaria 1990-2009 (6), Croatia 1990-2011 (6), Czech Republic 1990-2010 (6), Denmark 1945-2007 (23), Estonia 1992-2007 (4), Finland 1945-2007 (17), France 1946-2007 (15), Germany 1949-2009 (16), Greece 1974-2009 (11), Hungary 1990-2010 (5), Ireland 1948-2007 (16), Italy 1946-2008 (16), Latvia 1993-2011 (6), Lithuania 1992-2008 (4), Netherlands 1946-2010 (19), Poland 1991-2007 (5), Portugal 1975-2009 (12), Romania 1990-2008 (5), Slovakia 1990-2010 (6), Slovenia 1990-2008 (5), Spain 1977-2008 (9), Sweden 1944-2010 (20) and United Kingdom 1945-2010 (16).

Measures on party competition

The importance of *party competition* is examined using three variables. The first one indicates whether the ideological families of the rump and splinter parties are different. As a proxy for the positional differences between the successor parties on key dimensions of party competition as well as the salience they attach to different issues, the variable captures the arguments about the importance of ideology of new parties for their electoral success. Its coding was based on the scheme of Döring and Manow (2015), who distinguish between 11 party families; they also provided the information on the families of most parties in the sample. The missing information was coded based on comparative handbooks on party politics, such as Bugajski (2002a), and various country-specific sources. In the absence of detailed information on the policies of most splinter parties because of their small size, it was not possible to construct more direct measures of the response of the established parties (including rump parties) to the emergence of splinter parties as used by, for example, Meguid (2005) or Hino (2012).

Higher number of issues that are not addressed by the main established parties in their pro-

grammes could also increase the support of the splinter party by providing it with more “political space” (Hino, 2012; Hug, 2001; Meguid, 2005). Following Zons (2015), this measure was constructed based on information from the Manifesto Project Database as the number of coding categories that were not addressed in established parties’ manifestoes at the time of the first election after fission. Additionally, higher party system fragmentation signals an open political market in which new parties may be serious contenders for legislative seats and government office (Kselman, Powell and Tucker, 2016; Mainwaring, Gervasoni and España-Najera, 2016). The effective number of parties (data provided by Gallagher 2016) captures this variable.

Sources of the data on party membership

- France:

Day and Degenhardt (1980); Ysmal (1989); Mair and Van Biezen (2001); Knapp and Wright (2006); Williams (1964); Römmele, Farrell and Ignazi (2005); Castagnez (2007); Humanite (1997); Pickles (1973); Römmele, Farrell and Ignazi (2005); Delwit (2015)

- Ireland:

Weeks (2014); Katz and Mair (1994); Gallagher (1985)

- United Kingdom:

Katz and Mair (1994); Lynn (2015)

- Hungary:

Van Biezen (2003)

- Germany:

Mair and Van Biezen (2001); Pridham (1977)

- Spain:

Van Biezen (2003); Hopkin (1999)

- Italy:

Van Biezen, Mair and Poguntke (2012); Katz and Mair (1994); Morlino et al. (1998); Istituto (2004)

- Denmark:

Katz and Mair (1994); Sundberg (1987); Backes and Moreau (2008); Kosiara-Pedersen (2015)

- Greece:

Van Biezen (2003); Morlino (1998); Spourdalakis (1988); Striethorst (2010)

- Austria:

Van Biezen (2003); Katz and Mair (1994); Ennser-Jedenastik (2015)

- Portugal:

Van Biezen (2003)

- Finland:

Katz and Mair (1994); Westinen (2015); Borg et al. (2013)

- Sweden:

Katz and Mair (1994)

- Poland:

Szajkowski (1994); Mair and Van Biezen (2001); Van Biezen, Mair and Poguntke (2012);
Szczurbiak (2001*a,b*); Gherghina (2014); Millard (2009)

- Czech Republic:

Van Biezen, Mair and Poguntke (2012); Linek and Pecháček (2007); Ágh (1998)

- Bulgaria:

Van Biezen, Mair and Poguntke (2012); Spirova (2005); Ishiyama (2001); Genov and Krasteva
(2001); Gherghina (2014)

- Estonia:

Bugajski (2002*b*); Estonian Centre (1995)

- Latvia:

Mednis (2007); Smith-Sivertsen (2004); *Jaunais Laiks* (N.d.)

- Lithuania:

Žvaliauskas (2007)

- Romania:

Ishiyama (2001); Gherghina (2014)

- Slovenia:

Szajkowski (1994); CSCE (1990); *Biografije političnih strank* (2004)

- Slovakia:

Szajkowski (1994); Mair and Van Biezen (2001); Van Biezen, Mair and Poguntke (2012); Zemanik (2015); Rybar (2006); Gherghina (2014); Bozoki and Ishiyama (2002)

- Netherlands:

Voerman (1996); Hippe, Lucardie and Voerman (2004); Koole and Voerman (1986); Hippe, Lucardie and Voerman (1995)

- Croatia:

Kocijan (2015); Erceg et al. (2009)

- Belgium:

Van Haute (2015)

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Online Appendix B: Additional analyses

Models for Western Europe and Central and Eastern Europe

Since the literature on new parties emphasizes important differences between established and new democracies, both linear multi-level and robust regression models are estimated for Western European and younger Central and Eastern European democracies (see Tables 1 and 2 below). The key results of these analyses are discussed in the manuscript.

Sample selection models

As mentioned in the manuscript, the literature on new parties indicates that the studies of new party electoral performance need to account for potential selection bias that arises because some of the factors that affect new party success could also impact on their emergence (Golder, 2003; Hino, 2012; Hug, 2001). To account for this possibility, Table 3 presents the results of Heckman’s sample selection models, where the selection equation models party splits in 25 EU countries in the post-war period while the outcome equation models the electoral support of rump and splinter parties. The unit of analysis in the first stage of analysis is party in an electoral period and the dependent variable is dichotomous, where 1 stands for the occurrence of one or more splits in a single electoral term. The analysis covers all parties with at least 3 percent of seats in the first election of the term.

To identify the factors that affect party splits, the analysis draws on the existing literature on splits, party switching and new parties. More specifically, the first variable indicates that the party was in government for at least some time during the electoral term. Government status was considered as one of the key factors of party splits and legislative switching by previous research, with the expectation being that factions or legislators that are endowed with government positions are less likely to risk losing them by breaking away from the party (Ceron, 2015; O’Brien and Shomer, 2013). Furthermore, Ceron (2015) argues that older parties are less likely to split due to the higher loyalty of their members to the party. Party splits should also be less likely under disproportional electoral institutions, which reduce the chances of splinter parties to achieve legislative representation (Ceron, 2015; Hug, 2001; Tavits, 2006; O’Brien and Shomer, 2013). Furthermore, the analysis includes the variable indicating the number of Manifesto Project categories not addressed by estab-

lished parties to control for the possibility that splinter parties are more likely to emerge when the existing parties attach high salience to a limited set of issues (Zons, 2015). The effective number of parties controls for the level of party competition to the new parties (Kselman, Powell and Tucker, 2016; Mainwaring, Gervasoni and España-Najera, 2016). The final two variables capture the costs of establishing a new party in terms of the number of petition signatures required for running in all electoral districts in the country per one thousand voters and the requirement of a monetary deposit in order for the party to present candidates. These two variables, unlike the other five, are included in the selection equation only, as they are likely to affect only the incentives to form a new splinter party, but not the party choice by voters. As such, they improve the identification of the model.

While the interpretation of the results in the selection equation is exploratory at best without a coherent theoretical framework of splits (which is not provided here due to the lack of space), some variables are important predictors of splits. First, parties are less likely to split when they are older, which is in line with the findings in the previous literature. Second, a higher number of issues not addressed by established parties actually makes party splits less likely, contrary to the theoretical expectations. Third, government status of the parent party, electoral system disproportionality, petition and monetary deposit requirements and the effective number of parties do not have a statistically significant effect on party splits, although some of these variables come close to statistical significance.

Most importantly for the purposes of the present study, the effects of the share of splinter MPs and the membership of the parent party on the support of rump and splinter parties remain very similar to those from the analyses reported in the manuscript. Specifically, the vote share of rump parties increases when the the share of splinter legislators decreases and the membership strength of the parent party increases. The vote share of splinter parties is higher when they are joined by more legislators and when the membership of the parent party increases. Additionally, the statistical significance of other predictor variables is also close to the findings reported in the manuscript. The vote share of rump parties is lower when they are in government during economic recession, when they experience multiple splits, and when the vote share of the parent party is lower. The institutional and party competition factors in contrast do not have a significant effect on the electoral support of rump parties. Splinter parties perform better when they are favoured

by the public funding regime for political parties and the effective number of parties is higher, but not when economic conditions are poor.

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Table 1: Electoral competition after splits: Western Europe

	Linear multi-level regression				Robust regression			
	Rump	Splinter		Rump+ splinter	Rump	Splinter		Rump+ splinter
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Intercept	0.42 (0.45)	-0.87 (0.75)	0.78 (1.12)	0.74* (0.37)	3.96 (2.67)	-0.31 (0.61)	-1.77 (1.59)	1.21 (2.69)
Share of splinter MPs	-0.17* (0.06)	0.65* (0.09)	0.35* (0.15)	-0.03 (0.05)	-0.84* (0.32)	0.47* (0.07)	0.40* (0.13)	-0.31 (0.32)
Member-electorate ratio (parent party)	0.15* (0.05)	0.11 (0.08)		0.13* (0.04)	0.09 (0.18)	0.09* (0.04)		0.08 (0.18)
Member-electorate ratio (splinter party)			0.24* (0.09)				2.61 (1.50)	
Socdem or communist & high trade union density	-0.01 (0.09)	0.01 (0.14)	0.35 (0.22)	0.03 (0.07)	-1.94* (0.91)	-0.01 (0.21)	0.44 (0.44)	-1.32 (0.91)
Parent party age	-0.04 (0.04)	0.09 (0.07)	0.21* (0.11)	0.00 (0.03)	-0.02 (0.01)	0.01 (0.00)	0.01* (0.01)	-0.00 (0.01)
Economic growth	-0.02 (0.03)	0.00 (0.05)	0.12 (0.11)	-0.02 (0.02)	0.04 (0.29)	-0.06 (0.07)	0.15 (0.23)	0.12 (0.30)
Rump in government	-0.36* (0.12)	0.13 (0.21)	0.10 (0.45)	-0.32* (0.10)	-3.26* (1.33)	0.07 (0.30)	0.62 (0.85)	-2.94* (1.35)
Rump in gov * economic growth	0.08 (0.04)	0.03 (0.07)	-0.04 (0.16)	0.08* (0.03)	0.59 (0.44)	0.13 (0.10)	-0.18 (0.32)	0.51 (0.44)
Effective electoral threshold	0.02 (0.06)	0.00 (0.10)	0.16 (0.10)	0.03 (0.04)	0.63 (3.94)	-0.87 (0.95)	0.49 (2.03)	1.74 (3.95)
Direct public funding for leg. parties only	0.10 (0.12)	-0.22 (0.21)	-0.41 (0.27)	0.07 (0.10)	1.83 (1.10)	-0.40 (0.26)	-0.27 (0.50)	1.54 (1.09)
Effective number of parties	-0.01 (0.03)	0.12* (0.05)	0.06 (0.08)	-0.01 (0.03)	-0.61* (0.29)	0.12 (0.06)	0.26 (0.15)	-0.30 (0.28)
No of zero categories	0.00 (0.01)	-0.00 (0.02)	-0.03 (0.02)	0.01 (0.01)	0.11 (0.10)	-0.00 (0.02)	-0.01 (0.04)	0.18 (0.10)
Different party families	0.02 (0.08)	0.08 (0.14)	0.32 (0.25)	0.05 (0.07)	-0.32 (0.90)	-0.03 (0.21)	0.20 (0.55)	-0.43 (0.90)
Splinter in government	0.32 (0.20)	0.24 (0.33)	-0.02 (0.44)	0.25 (0.16)	1.97 (2.30)	0.15 (0.58)	0.14 (0.97)	2.28 (2.32)
Multiple splits	-0.23 (0.13)	-0.17 (0.18)	0.25 (0.36)	-0.22* (0.11)	-2.41 (1.28)	-0.35 (0.25)	-0.12 (0.59)	-2.54 (1.29)
Previous vote	0.93* (0.08)	0.13 (0.14)	-0.02 (0.15)	0.81* (0.07)	0.95* (0.04)	0.01 (0.01)	0.01 (0.02)	0.98* (0.04)
Party-level variance	0.04	0.11	0.00	0.02				
Election-level variance	0.00	0.08	0.19	0.00				
Country-level variance	0.02	0.06	0.02	0.01				
Residual variance	0.10	0.29	0.35	0.07				
Number of parties	69	66	35	69				
Number of elections	76	76	39	76				
Number of countries	14	14	12	14				
N	107	118	46	107	107	118	46	107
Log Likelihood	-74.95	-133.40	-53.06	-57.39				

Note: dependent variables in Models 1-4 are logged vote shares of rump and splinter parties and the variables capturing the share of splinter MPs, membership-electorate ratio, party age and effective threshold are also logged in these models. MM-estimator used for robust regression models. * $p < 0.05$

Table 2: Electoral competition after splits: Central and Eastern Europe

	Linear multi-level regression				Robust regression			
	Rump	Splinter		Rump+ splinter	Rump	Splinter		Rump+ splinter
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Intercept	0.86 (0.59)	-1.06 (0.68)	-1.99 (1.35)	0.15 (0.51)	5.25 (4.18)	-0.60 (0.85)	-0.82 (2.61)	1.83 (4.88)
Share of splinter MPs	-0.10 (0.09)	0.40* (0.07)	0.19 (0.20)	0.05 (0.08)	-0.73* (0.25)	0.26* (0.06)	-0.04 (0.15)	0.02 (0.29)
Member-electorate ratio (parent party)	0.10 (0.07)	0.16* (0.08)		0.13* (0.06)	1.71* (0.50)	0.06 (0.09)		1.03 (0.58)
Member-electorate ratio (splinter party)			0.28* (0.10)				31.97* (3.68)	
Socdem or communist & high union density	0.38 (0.22)	-0.03 (0.24)	0.38 (0.55)	0.28 (0.19)	6.05* (2.23)	-0.24 (0.43)	3.05 (1.98)	3.93 (2.59)
Parent party age	-0.06 (0.10)	-0.08 (0.11)	0.03 (0.18)	0.00 (0.09)	-0.04 (0.05)	-0.02 (0.01)	-0.04 (0.03)	0.02 (0.06)
Economic growth	-0.00 (0.03)	0.03 (0.03)	-0.02 (0.07)	-0.00 (0.02)	-0.14 (0.26)	0.01 (0.05)	-0.26 (0.24)	-0.23 (0.30)
Rump party in government	-0.58* (0.18)	0.29 (0.18)	0.12 (0.41)	-0.42* (0.16)	-5.69* (1.85)	0.48 (0.36)	1.43 (1.56)	-6.18* (2.16)
Rump in gov * economic growth	0.05 (0.03)	-0.06 (0.04)	-0.01 (0.07)	0.02 (0.03)	0.64 (0.34)	-0.09 (0.07)	-0.20 (0.29)	0.65 (0.39)
Effective electoral threshold	0.11 (0.13)	-0.22 (0.17)	-0.43 (0.28)	-0.04 (0.11)	8.42 (10.42)	-1.26 (1.92)	-14.13* (5.90)	2.11 (12.21)
Direct public funding for leg. parties only	0.07 (0.22)	-0.85* (0.28)	-1.03* (0.40)	-0.28 (0.19)	1.36 (2.36)	-1.19* (0.52)	-4.21* (1.21)	0.19 (2.74)
Effective number of parties	-0.03 (0.05)	0.15* (0.06)	0.19* (0.09)	0.05 (0.04)	-0.22 (0.46)	0.11 (0.10)	0.62* (0.24)	0.03 (0.53)
No of zero categories	-0.01 (0.02)	0.01 (0.02)	0.01 (0.03)	0.01 (0.01)	-0.05 (0.17)	0.08* (0.03)	0.01 (0.10)	0.07 (0.20)
Different party families	0.07 (0.16)	0.24 (0.15)	0.50 (0.29)	0.29* (0.14)	1.45 (1.67)	0.28 (0.34)	-0.43 (0.94)	4.36* (1.95)
Splinter in government	-0.44 (0.29)	-0.07 (0.28)	-0.68 (0.54)	-0.36 (0.25)	-1.79 (3.06)	-0.16 (0.62)	-4.91* (2.05)	-2.92 (3.51)
Multiple splits	-0.57* (0.20)	-0.31 (0.19)	-0.01 (0.32)	-0.44* (0.17)	-5.09* (2.00)	-0.15 (0.33)	-1.40 (1.04)	-2.67 (2.35)
Previous vote	0.89* (0.14)	0.10 (0.14)	0.45 (0.23)	0.77* (0.12)	0.53* (0.08)	0.02 (0.01)	0.09* (0.04)	0.66* (0.09)
Party-level variance	0.00	0.21	0.12	0.00				
Election-level variance	0.00	0.07	0.36	0.00				
Country-level variance	0.00	0.01	0.00	0.00				
Residual variance	0.45	0.27	0.26	0.33				
Number of parties	66	62	41	66				
Number of elections	44	44	33	44				
Number of countries	11	11	11	11				
N	85	110	52	85	85	110	52	85
Log Likelihood	-103.06	-131.07	-68.68	-92.70				

Note: dependent variables in Models 1-4 are logged vote shares of rump and splinter parties and the variables capturing the share of splinter MPs, membership-electorate ratio, party age and effective threshold are also logged in these models. MM-estimator used for robust regression models. * $p < 0.05$

Table 3: Comparative analysis of party splits: Heckman's selection model

	Rump	Splinter	Rump+splinter
Intercept	-0.61* (0.24)	-0.61* (0.24)	-0.61* (0.24)
Government party	0.16 (0.09)	0.16 (0.09)	0.16 (0.09)
Ln (party age)	-0.16*** (0.04)	-0.16*** (0.04)	-0.16*** (0.04)
Ln (effective electoral threshold)	0.04 (0.05)	0.04 (0.05)	0.04 (0.05)
No of zero categories	-0.02** (0.01)	-0.02** (0.01)	-0.02** (0.01)
Effective number of parties	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)
Ln (petition)	0.11 (0.06)	0.11 (0.06)	0.11 (0.06)
Electoral deposit	0.16 (0.10)	0.16 (0.10)	0.16 (0.10)
Outcome			
Intercept	0.16 (0.77)	-0.45 (1.05)	-0.11 (0.68)
Ln (share of splinter MPs)	-0.16*** (0.04)	0.50*** (0.06)	0.00 (0.04)
Ln (member-electorate ratio)	0.12*** (0.03)	0.10* (0.05)	0.10*** (0.03)
Ln (party age)	-0.05 (0.07)	0.20 (0.10)	-0.03 (0.07)
Socdem or communist	0.08 (0.09)	0.08 (0.12)	0.11 (0.08)
Economic growth	-0.01 (0.02)	0.01 (0.02)	-0.01 (0.01)
Rump party in government	-0.39*** (0.12)	0.14 (0.16)	-0.24* (0.10)
Rump party in gov * economic growth	0.06** (0.02)	-0.04 (0.03)	0.03 (0.02)
Ln (effective threshold)	0.04 (0.05)	-0.05 (0.06)	0.04 (0.04)
Public funding for leg. parties only	0.06 (0.10)	-0.31* (0.13)	-0.07 (0.09)
Different ideological families	0.02 (0.08)	0.32** (0.11)	0.14* (0.07)
No of zero categories	-0.01 (0.01)	0.03 (0.02)	-0.00 (0.01)
Effective number of parties	-0.03 (0.03)	0.12** (0.04)	0.02 (0.03)
Splinter party in government	-0.11 (0.17)	0.19 (0.23)	-0.08 (0.14)
Multiple splits	-0.43*** (0.11)	-0.36* (0.15)	-0.35*** (0.10)
Ln (previous vote)	0.91*** (0.07)	0.04 (0.09)	0.83*** (0.06)
Inverse Mills ratio	0.36 (0.55)	-0.62 (0.76)	0.47 (0.49)
Sigma	0.61	0.88	0.61
Rho	0.59	-0.70	0.77
Adj. R ²	0.74	0.45	0.74
N	1506	1506	1506
Censored	1314	1314	1314
Observed	192	192	192

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$