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Power versus Ideology: Political Group Switching in the European Parliament

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Brief Bios:

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Abstract

Why do legislators switch party? We seek to identify whether 'party switching' is mainly determined by power (to join a more influential party) or ideology (to join a party with closer policy goals). We focus on the 557 cases of political group switching in the European Parliament between 1979 and 2014. We find that most of these cases were from smaller, more marginal, and oppositional groups, to larger, more pivotal, and governing groups. Nevertheless, we also find that ideological congruence (between an MEP and his or her prospective party) was an important determinant of political group switching.

Keywords: Party switching, legislative behavior, European Parliament, party system, power, ideology.

Introduction

Do politicians ultimately seek power or are they primarily driven by their ideological convictions? This is an age-old debate in political science. On one side are scholars like William Riker, who assume that politicians' actions are ultimately driven by their desire to maximise their influence over political outcomes (e.g. Riker 1962). On the other side are scholars like Keith Poole, who believed that politicians "die in their ideological boots" (Poole 2007; Poole and Rosenthal 1997: 100). In this paper we seek to shed some light on this debate by focussing on the determinants of why elected politicians switch between political parties. Do politicians change parties to gain more power or to join their ideologically-similar colleagues?

Most cases of politicians switching between political parties have happened in the legislative arena rather than in the electoral arena (cf. La Palombara and Weiner 1966). One interesting case of such 'party switching' is by the Members of the European Parliament (MEPs). The European Parliament is now a powerful legislative chamber in European Union (EU) decision-making; more akin to the U.S. Congress in the U.S. 'separated-powers' system of government than legislatures in 'fused-powers' parliamentary systems at the national level in Europe and elsewhere. As in the U.S. Congress, legislative majorities in the European Parliament have to be built issue by issue because neither the EU Commission nor the EU governments command an in-built majority in the chamber to push bills through. This gives the 'political groups' in the European Parliament significant legislative power, broadly in proportion to their size in chamber.

The European Parliament is a good case for focussing in on party switching because legislative bargaining inside the parliament is largely isolated from electoral incentives. In most countries in the EU, European Parliament elections are 'national second-order contests' – fought on the performance of national politicians and parties rather than on the performance of the MEPs or the political groups inside the

European Parliament (Reif and Schmitt 1980; Hix and Marsh 2007).¹ As a result, internal policy (ideological) and career (power) incentives inside the European Parliament are stronger drivers of political group switching than external electoral incentives. This enables us to isolate internal power and ideologically factors in MEPs' political group switching decisions, which is often not the case in studies of party switching in other democratic parliaments.²

Switching political groups inside the European Parliament also has relatively low transactions costs compared to some other legislatures. In addition to the low likelihood of domestic electoral punishment for switching parties inside the chamber, power inside the political groups (such as committee assignments or leadership positions) is allocated broadly in proportion to the size of each national 'party delegation' in a group (Benedetto 2007). This means that MEPs can reasonably accurately calculate the likely costs and benefits of switching when considering whether to stay in a particular political group or switch to another one.

Out of 5,179 individual MEPs in the seven elected sessions of the European Parliament between 1979 and 2014, 504 switched political group at least once (almost 10 per cent). At face value this might seem a high proportion of the members of a democratic parliament in a 35 year period. In most established democracies, unlike new democracies, switching between political parties is a rare occurrence. Yet, given the lack of potential electoral punishment of switching, the low transaction costs of joining another group, and the potentially high policy or career incentives to change groups, the fact that almost 90 per cent of MEPs remained in the same political group

¹ An interesting illustration of the disconnect between EU politics and national politics is the case of Alternative for Germany (AfD) and the ECR group. Following a statement by Von Storch, the AfD leader, about the use firearms against refugees, the leadership of the ECR group asked AfD to leave the group. Some commentators interpreted this decision as an attempt to damage AfD in upcoming state elections in Germany. However, Von Storch said she still expected her party to do well, as "people back in Germany don't know so much about the groups within the European Parliament". https://www.parlementairemonitor.nl/9353000/1/j9vvij5epmj1ey0/vk28nmx6vdxn?ctx=vgaxlcr0e017&tab=1&start_tab0=120

² Koop et al. (2017), however, show that, on final legislative codecision votes, proximity of planned national and European elections drives up disloyalty in the EP, particularly by delegations from member states with party-centred electoral rules.

for the duration of their careers in the European Parliament suggests that the political groups in the European Parliament do represent a certain equilibrium of the individual-level and collective incentives of the MEPs.

The rest of the paper is organized as follows. We first discuss the existing literature on party switching in legislatures before setting out our own theoretical understanding of why some members in the European Parliament would want to switch political group. In short, we see each European Parliament election every five years as an exogenous shock to the party system equilibrium inside the chamber: adding new MEPs and new national party delegations and usually new EU member states too; changing the balance of power between the existing political groups; and changing the balance of power between the national parties within the political groups. Individual MEPs and national parties then consider their policy goals and strategic career incentives and decide whether to stay or switch political groups, until a new equilibrium emerges. A key reason why some MEPs want to switch is related to learning. MEPs learn over time whether their incentives are compatible with their existing political groups or whether they would be better off joining a new political group. However, MEPs are likely to think carefully before giving up the policy and office benefits they derive from their existing political group.

We test these ideas in a statistical model of political group switching for the entire history of the European Parliament. This will allow us to look at time-series dimension of the data and explore how switching has evolved as the European Parliament has grown in size and become more powerful. We use roll-call voting data to measure actual divergence between individual MEPs and their groups' positions in votes. Using a pooled logit model we first compare switchers to non-switchers and show that power and ideology are important determinants of switching. Our conditional logit model then indicates that both power and ideology are also important determinants of political 'migration' in the European Parliament. The 'power difference' between two prospective political groups an MEP could belong to has a positive effect on the probability of switching, meaning that MEPs move to more

powerful political groups. MEPs are also likely to switch to ideologically closer political groups. Our results also indicate that loyalty, a measure of how often prior to switching a member votes with his or her party leader, decreases the probability of switching, indicating that loyal members are less likely to switch party.

General Literature on Legislative Party Switching

In a comprehensive review of existing research on legislative party switching, Carol Mershon (2014) points out that a common feature of most research is that “politicians switch in search of both office and policy rewards” (cf. O’Brien and Shomer 2013). In terms of office rewards, MPs with leadership positions inside parties or in governmental office are less likely to switch to another party than ‘backbenchers’ (e.g. Nokken 2000, Nokken and Poole 2004, Castle and Fett 2000 in the US, Desposato 2006 in Brazil), although this is not always true. Parties in government are more likely to retain members than parties in opposition, which again suggests that the office benefits that governing parties can distribute reduces the incentives to switch (Mershon and Heller 2003 on Spain, Desposato 2009 on Brazil, Heller and Mershon 2005 on Italy, Thomas 2007 on Ukraine, Young 2014 on Malawi). Related to this, MPs tend to switch from smaller parties to larger parties (or majority parties in US legislatures), presumably in search of greater influence over the legislative agenda and control of governmental and legislative positions (Castle and Fett 2000 on the US, Shor and Tomkowiak 2010 on US state legislatures, Thames 2007 on Ukraine, Heller and Mershon 2005 on Italy).

Existing empirical research also points to ideological or policy-based motivations for switching between legislative parties. Legislators tend to join and stay with parties with which they are ideologically closer and, as a result, are then more likely to follow in roll-call votes (e.g. Heller and Mershon 2008 on Italy, Herron 2002 on Ukraine, Desposato 2006 on Brazil). For example, Reed and Scheiner (2003) and Desposato and Scheiner (2008) find that support for political reform amongst

junior backbenchers was the key determinant of switching out of the Japanese Liberal Democrats. On the other hand, enforcing party discipline in an ideologically heterogeneous party can backfire, leading to switching out of a cohesive party to less disciplined parties, as Heller and Mershon (2008) find in Italy.

Most existing research on legislative party switching also points to electoral level incentives. For example, Mershon and Shvetsova (2008) find that in Italy and Russia different stages of the electoral cycle provide different sorts of incentives for legislative party switching; where switching increases as the next election approaches, as MPs try to increase their re-election chances by obtaining better positions on party lists. Zielinski, Slomczynski and Shabad (2005) find that in Poland voters in economically deprived districts rewarded politicians who switched out of the governing party. But, as party organizations stabilize at the electoral level in new democracies, party switching tends to decline, as Shabad and Slomczynski (2004) find in Poland and the Czech Republic. Nevertheless, in an analysis of party switching across 20 countries, O'Brien and Shomer (2013) find that institutional contexts – such as whether a country is a presidential or parliamentary system, or whether a country has a candidate-centred or party-centred electoral system – are less significant than (policy-based or office-based) “legislators’ motivations”.

Scholars of party switching face two common identification problems: (1) how to independently identify policy/ideological incentives from office/career incentives; and (2) how to identify internal legislative incentives from electoral incentives. On the former, it is often difficult to know whether an MP switches parties because she feels ideologically closer to another party or because she sees potential career benefits from switching (such as government office or better committee positions), as usually both factors are observed together. On the latter, it is often difficult to know whether an MP switches parties because she expects immediate policy or office benefits or future electoral rewards, as these two sets of factors are usually not possible for scholars to observe at the same time.

These factors are more easily isolated at a theoretical level. The earliest theoretical model of party switching we know of is William Riker's (1959) theory of what he called "party migration". Riker assumes that each individual legislator is primarily motivated by "power", although he acknowledges ideological motivations too. He assumes at the party level that power is determined by the probability of being pivotal in a majority vote, using the Shapley-Shubik (1954) power index. But, within each party, he assumes that power is divided equally amongst the party members: "Assuming that each member of a party has $1/m$ of the power of a party with m members, the power of a particular member, i , of a party, A , is defined thus: $P_i = P_A/m$." (pp. 123-4). He then hypothesizes that a legislator will choose to 'migrate' to another party if he/she can increase her/his 'power' in the legislature. This model suggests that legislators should leave weak smaller parties and join more 'pivotal' larger parties. Riker illustrates these findings with the case of party switching in the French Assembly in 1953-54.

More recently, Michael Laver and Ken Benoit (2003) have developed a theory of party switching based on cost-benefit calculations of individual legislators and potential recipient parties (cf. Laver and Sargent 2011). In their set-up, power is distributed between and within parties in a similar way to Riker's model: with majoritarian coalition bargaining between parties, and proportional power within parties. However, a switch between parties only occurs if there is (1) an exogenous "event" for a legislator in his/her current party which provides an incentive to switch, and (2) another party is more "attractive" for a legislator *and* this party is willing to accept the legislator (if it increases the party's overall power).

Since the number of possible alternatives and moves in such a game is so huge (and intractable using classical game theory), Laver and Benoit assume that party systems inside legislatures, and decisions by legislators to switch parties, evolve in an evolutionary, iterative way. Using a computational approach they discover that a dominant large party is highly attractive to other legislators, and significantly more attractive (and willing to accept switchers) than the second-largest party, but that

smaller parties will also be attractive and sustainable (against exit) if they are large enough to be pivotal in coalition bargaining.

Existing research on switching in the European Parliament has built on the general empirical research on party switching as well as these theoretical ideas. The most comprehensive studies to date of party switching in the European Parliament are by Gail McElroy and Kenneth Benoit (McElroy 2008, McElroy and Benoit 2007, 2009, 2010). A consistent theme in these papers is that party switching in the European Parliament is driven primarily by ideology/policy preferences of national parties and individual MEPs. McElroy (2008) argues that national parties try to maximize the policy congruence between their own positions and their European political groups, and so will join a group whose policies are closest to their own. This theory is tested in McElroy and Benoit (2010) using expert survey data on national party and European political group policy positions to show that only a very small number of national parties are in the “wrong” political group – where across all major policy issues, these parties would be closer to the average of another political group than the one they sit in. Furthermore, at the individual MEP level, McElroy and Benoit (2009) find that holding a senior office position in a political group does not necessarily reduce the likelihood that an MEP will switch to another group.

Nevertheless, Ana Maria Evans (2009) challenges McElroy and Benoit’s policy-congruence explanation. Based on extensive interviews of former MEPs and staff in the European Parliament as well as archival research, Evans finds that strategic incentives – such as better committee positions or more influence over the policy agenda – are powerful triggers of political group switching. Evans and Vink (2012) build on this approach, by providing detailed descriptive evidence of the types of office benefits MEPs have before and after switching, such as *rappoteurships* (legislative report authorships) and senior positions in committees, political groups, and the European Parliament as a whole.

We build on this existing research in several ways. By focusing on party switching in the European Parliament we aim to isolate, at least to some extent,

internal legislative incentives for switching from external electoral incentives. We also use an empirical estimation strategy to identify the independent effects of ideology (policy-driven) and strategic (office-driven) motivations for switching. Our measurement of ideology and policy-distance builds on Desposato (2006) and McElroy and Benoit (2007), while our measurement of strategic-incentives builds on Riker (1959) and Laver and Benoit (2003). We have also extended the time span of the existing research on the European Parliament, as we look at switching across a 35 year period, from 1979 to 2014. In addition, we make a distinction between different types of switching: first, between “individual switching” and “group switching”; and, second, between switching at the start of a legislature (between a Parliamentary session), and switching in the middle of a legislature (within a Parliamentary session). Bewteen switchers are those MEPs who belonged to one European political group at time $t-1$, and then at the start of the new parliament decided to join a different political group. On the other hand, the within parliament switchers are those who, in the middle of a given parliament, decide to join another political group. We separately analyze the within switches from the between switches because the samples are different, and also because the timing of the switching seems to affect whether the decisions are taken at individual rather than at group levels. For instance, one may argue that switching decisions between parliaments are taken primarily at group level, whereas decisions to switch within a parliament are taken at individual level.

Explaining Party Switching in the European Parliament

Table 1 illustrates the changing composition of the European Parliament as a result of EU enlargements, changes in the political groups, and MEP party switches in more detail. The number of MEPs increased between 1979 and 2014 as a result of successive enlargements and changes to the EU treaties, which reapportioned the

MEPs between the EU member states. The EU enlarged during every session of the elected European Parliament except 1989-94 (EP4).

Table 1. EP composition and MEP party switchers

EP (years)	Period	Size of EP	Member states	Political groups	ENP	Total MEPs	No. of switchers	% switchers
1 (1979-84)	Start	410	9	8	5.167	544	9	1.7%
	End	434	10	8	5.021			
2 (1984-89)	Start	434	10	9	5.278	634	33	5.2%
	End	518	12	9	5.286			
3 (1989-94)	Start	518	12	11	5.017	601	131	21.8%
	End	518	12	9	3.842			
4 (1994-99)	Start	567	12	10	4.601	729	126	17.1%
	End	626	15	9	4.209			
5 (1999-2004)	Start	626	15	9	4.133	872	89	10.2%
	End	788	25	8	4.039			
6 (2004-09)	Start	732	25	8	4.254	943	87	9.2%
	End	785	27	8	4.195			
7 (2009-14)	Start	736	27	8	4.510	856	82	9.6%
	End	766	28	8	4.508			
Total						5179	557	10.8%

Note: ENP = Effective number of parties (Laakso and Taagepera 1979). The number of political groups in a Parliament includes the non-attached members as a single group.

With the exception of 1999, each European Parliament election led to increased number of political groups (in other words, fragmentation of the party system) inside the Parliament compared to the end of the previous Parliament: either the number of political groups increased (in 1989), or the existing groups were more fragmented (in 2004 and 2009), or both (in 1984 and 1994). This increased fragmentation is largely driven by the second-order (protest) nature of European Parliament elections, which throws up new national parties and protest votes against governing parties. By adding new MEPs and new national parties, and by changing the balance of power between the political groups as well as inside the groups (between the national member parties in each group), each round of elections is an “exogenous shock” to the equilibrium of the party system that emerged during the previous session of the Parliament. A new party system is then formed at the

beginning of each new Parliament, based largely on the previous groups, but with new groups formed and/or existing groups slightly changed.

However, the new party system formed after each new election is not usually a stable equilibrium, as MEPs and national parties “learn” that they might be better off (closer in policy terms, or with more access to political power) in a different political group than the one they found themselves in at the start of a Parliament. This leads to switching between groups within a Parliamentary session. This process of switching during a session has tended to reduce party system fragmentation, as the fall in the Effective Number of Parties (ENP) index between the start and the end of each Parliament shows (cf. Bardi 1994). This declining fragmentation suggests that MEPs have tended to leave the smaller groups and join the larger groups, most dramatically in EP3 (1989-94) and EP4 (1994-99), which both experienced a high proportion of switchers and a large reduction in party system fragmentation.

The declining party system fragmentation already gives us an indication of what might be driving party switching in the European Parliament: that MEPs leave smaller groups and join larger ones. Larger political groups in the European Parliament have a greater influence over agenda-setting and policy outcomes in the chamber for two reasons: first, larger groups have greater bargaining power than smaller groups in coalition building before (majority) legislative votes; and, second, larger groups control more key committee positions (chairs and *rapporteurships*) than their simple size would suggest.

Where legislative bargaining is concerned, the larger groups are more likely to be on the winning side in legislative votes than the smaller groups. And, where committee positions are concerned, the number of committee chairs and vice-chairs each group obtains, as well as the order in which they are allocated, is determined by the d’Hondt divisor method of proportional representation. This method is broadly proportional, but nonetheless over-represents the larger groups in terms of the number of key committee positions they can obtain, and also favours the larger groups as they are able to “pick” all the best positions before the smaller groups have

a chance to choose theirs (e.g. Corbett, Jacobs and Shackleton 2011). Meanwhile, *rappoteurships* are allocated in committees by an auction system, where each political group has an allocation of points in proportion to its size in the chamber as a whole; which again means more points for the larger groups. Then, within the groups, power is allocated between the national delegations in a broadly proportional way, which means that the larger national delegations are able to obtain the key committee positions and *rappoteurships* won by a group.

In other words, where strategic incentives are concerned, national parties and individual MEPs often face a trade-off when deciding whether to switch groups. Is it better to be one of many relatively small national parties in a larger political group, or one of the largest national parties in a smaller group? To operationalize this trade-off we adapt Riker's (1959) index to calculate the power of a national party (P_n) within a political group as follows:

$$P_n = P_g q_n$$

where P_g is the power of political group g in the chamber as a whole – we use the Banzhaf (1965) power index to calculate this measure – and q_n is the size of a national delegation as a proportion of the MEPs in a political group. In other words, if a national party has 30 per cent of the MEPs in a political group, we assume that the national party controls 30 per cent of the overall power of that group.

Our discussion of Riker (1959) leads to the following hypothesis:

Hypothesis 1 (Power): All other things being equal, MEPs, individually or as a group, will switch political groups if their overall decision-making power will increase.

Of course, all other things are not equal! This is where policy preferences come in. National parties and MEPs prefer to be part of a group that shares their policy preferences. National parties are more likely to have their policies supported by their political group if the national party is ideologically close to the average member of the group. There are also costs for an MEP of being a member of a group that does not

share the MEP's policy preferences. Political groups issue voting instructions on key votes, monitor their MEPs' voting behavior, and employ "whips" to enforce the instructions. An MEP or a national party can be expelled from a group if the MEP/party votes against the group in a key vote (although this is rare). There is evidence, though, that an MEP is less likely to become a *rapporteur* if her national party is more ideologically distant from the average member of a group, as measured by how often the MEP's national party votes against the group (Yoshinaka et al. 2010). The political groups have also become highly cohesive in legislative votes as a result of policy homogeneity inside the groups and because of these incentive structures (Hix et al. 2005, 2007).

To operationalize these policy concerns we focus on the policy "distance" between an MEP's national party and the average member of his or her political group on the two main dimensions of EU politics: left-right, and pro-/anti-Europe (cf. Hix et al. 2006). We use the Chapel Hill Experts Survey (Bakker et al. 2015) and earlier related experts' surveys by Ray (1999) and Steenbergen and Marks (2007), to identify the left-right (1 to 10 scale) and pro-/anti-Europe (1 to 7 scale) positions of all national parties in each session of the European Parliament between 1979 and 2014. From these data and the numbers of MEPs from each national party in each group, we calculate the left-right and pro-/anti-Europe positions of the *median* member of each political group in each session between 1979 and 2014. We then calculate the absolute distance of each MEP's national party from the median left-right and pro-/anti-Europe position of his or her group in each session, as well as the MEP's national party distance from the median member of every other political group in a given session.

This leads to the following hypothesis:

Hypothesis 2 (Ideology): All other things being equal, MEPs, individually or as a group, will switch political groups if they are closer in policy terms to the average member of another political group than their current group.

There are, of course, multiple other intervening factors which influence whether a national party or an individual MEP switches political groups. The powers of the European Parliament have changed over time with the successive changes to the EU treaties. To control for this, as well as other European Parliament session specific factors, we add *dummy variables for each European Parliament session* (EP1 to EP7).

To illustrate power and ideology considerations, consider the position of UK Conservatives, who in the 2004-09 Parliament left the European People's Party-European Democrats (EPP-ED) and formed a new group (together with several allies) called European Conservatives and Reformists (ECR). At the end of the 2004-09 Parliament, the EPP-ED group had 288 of the then 785 MEPs, which meant a voting power of 38.60. Within the group, the UK Conservatives had 27 MEPs (9.4% of EPP-ED), which meant an overall power for this national party of 3.62. Then, at the start of the 2009-14 Parliament, the ECR group had 55 of the then 736 MEPs, which meant a voting power of 8.04. The UK Conservatives had 25 MEPs (45.5% of ECR), which meant an overall power of 3.65.

In other words, in pure power terms, the decision to leave the larger EPP, where the UK Conservatives were one of several mid-sized national parties, to join the smaller ECR, where the UK Conservatives were by far the largest national party, was finally balanced, as the difference between 3.62 and 3.65 is negligible. Interestingly, after switching groups, the UK Conservatives managed to hold on to the chairmanship of the Internal Market Committee, which is one of the most powerful committees in the Parliament. This is consistent with our power calculations, and suggests that this switch had only a marginal effect on the overall decision-making power of UK Conservatives.

Now, in ideological terms, the UK Conservatives were close to the EPP-ED average on a left-right scale but considerably less pro-European than the average member of that group: the UK Conservatives were at 6.56 on a 1-10 left-right scale compared to an EPP-ED median of 6.74, but at 2.56 on a 1-7 anti-/pro-Europe scale

compared to an EPP-ED median of 5.55. In fact, when averaging across all the policy positions of the national parties and European political groups, Benoit and McElroy (2010) found that the UK Conservatives were closer to the average member of the (more right-wing and Eurosceptic) Union for a Europe of the Nations (UEN) group than the average member of the EPP-ED. From a policy congruence point of view, then, it made sense for the UK Conservatives to leave the EPP-ED group and form a new more Eurosceptic group (ECR), which they did in June 2009 (cf. Benoit and McElroy 2011). In this new group in the 2009-14 Parliament, the UK Conservatives were much closer in policy terms to the average member: at 7.13 on a left-right scale compared to an ECR median of 7.42, and at a 2.27 on an anti-/pro-Europe scale compared to an ECR median of 2.79. In other words, the decision of the UK Conservatives to leave the EPP-ED and form a new group was less to do with power considerations and more to do with ideological considerations.

At the individual level there may also be personal or idiosyncratic reasons why an MEP may decide to switch groups, independent of strategic or ideological motivations. To control for these factors we include *MEP age, gender, past switch, and experience*: we are agnostic about whether age, gender, past switch, and experience are likely to lead an MEP to be more or less likely to switch groups.

We also include *loyalty*, defined as the frequency with which an MEP votes together with his or her political group in all roll-call votes in a particular European Parliament session.³ By construction, *loyalty* ranges from zero to one. Thus, if a given MEP almost always (never) votes the same way as her political group majority, her *loyalty* score will be near one (zero).⁴ This measure correlates with the policy distance between an MEP's national party and the average member of a group (Hix et al. 2005, 2006). Hence, because we already control for ideological distance with our policy distance measures, a significant amount of the remaining variance in each MEP's

³ Note that in the EP, not all votes are taken by roll call, which may lead to a selection effect. See Yordanova, and Mühlböck (2015) for a discussion and overview of the literature.

⁴ To compute Loyalty, we use "yes" and "no" votes of MEPs and exclude instances in which an MEP misses a vote.

loyalty to his or her group is likely to be explained by personal idiosyncratic factors. Presumably if an MEP votes against his or her group for non-policy or non-power idiosyncratic reasons (for instance due to lack of socialization or personal conflict with the group leader) then he or she may also want to switch to another group. We hence expect *loyalty* (the proportional of times an MEP votes *the same way* as the majority of his or her group) to be *negatively* correlated with switching groups, after controlling for national party-level policy distance and power.

Other reasons for switching between groups may be related to national-specific factors, such as the type of electoral system used, national political cultures, the level of institutionalization of a party system, or exogenous shocks to domestic party systems (e.g. Kreppel 2004, on Italy). We hence include, in some models, a dummy variable for each EU member state. In some models we also control for whether a national party is *in government* at the national level or has an *EU Commissioner*.

An Empirical Analysis of Switching using Pooled and Conditional Logit Model

The 577 political group switches by 504 MEPs between 1979 and 2014 constitute the dependent variable for our statistical model. Inspired by “migration flow” figures, Figure A1 in the Appendix shows the pattern of these switches. The two key determinants are both clearly observable: *power*, the relative volume of switching into the two largest groups, the EPP and SOC (as well into and out of the “group” of non-attached (IND) members); and *ideology*, the relative volume of switching between political groups adjacent to each other on the left-right spectrum.

Party group switching involves two levels of decisions to be taken by an MEP. First the MEP decides whether to switch party or stay put. That is, we look at motivations to switch away *from* a political group: the “demand” side of an MEP’s

decision to switch groups. Second, the MEP who decides to switch needs to choose between alternative political groups. This other side is the “supply” side: the existence of an alternative and more desirable group to join. Without a better group to join (for power or ideological reasons), an MEP will stay put.

The first choice of switching or not switching is modelled using a simple pooled logit model that compares switchers to non-switchers. We estimate a pooled logit model as follows:

$$\ln \left[\frac{S_{ijkt}}{1 - S_{ijkt}} \right] = \alpha + P'_{.jkt} \beta + I'_{.jkt} \gamma + CONTROL_{ijkt} + EP_t$$

where S_{ijkt} is a dummy variable indicating whether MEP i , who is a member of national party j switched from political group k , at time t . $P_{.jkt}$ and $I_{.jkt}$ are power and ideology variables for MEP i , national party j , political group k , at time t . The variables that measure *power* include *NP Proportion before*, *NP Power before*, and *EPG Power before*. Ideology includes *NP-EPG LR distance before*, and *NP-EPG EU distance before*. CONTROL is a vector of variables that either vary at MEP level (Loyalty, Female, Age, Past Switching, Experience), or at national party level (National party has a Commissioner, National party is in government). α , β , and γ are the parameters of the model to be estimated.

For the second decision of where to switch, following the recent literature we use a conditional logit model fitting switchers to available political groups (see Benoit and McElroy, 2010). The conditional logit model can be motivated by McFadden’s additive random utility model (ARUM):

$$U_{ijkt} = V_{ijkt} + e_{ijkt}$$

Here, the utility MEP i derives from staying with political group k at time t has two components: a deterministic component, V_{ijkt} ; and a random component, e_{ijkt} . If $U_{ijkt} > U_{ijk't}$ MEP i will stay with political group k at time t and will not switch.

Otherwise, the MEP will join the political group k' that is associated with the highest utility to the MEP. We then assume that our key independent variables are power

variables and ideological distances (party-specific) as well as MEP loyalty (MEP-specific).

To summarize, our dependent variable is whether MEP i , who is currently member of national party j , and political group k , switched party and moved to political group k' . Our key independent variables are as discussed above, namely: 1) the power of each political group and the power of an MEP's national party before a political group switch; and 2) the ideological distance between an MEP's national party and each political group on the left-right dimension and an anti-/pro-EU dimension.⁵

Results and Discussion

To compare political group switchers to non-switchers we first ran a series of pooled logit models with Parliament-session fixed effects. We look at four different types of switching: 1) individual MEPs switching during a session of the European Parliament (at any point between one election and the next) (21 percent of cases); 2) group switching where two or more members of a national party switch during a session of the parliament (43 percent of cases); 3) individual MEPs switching between the end of one parliament and the start of the next parliament (between the dissolution of one parliament before an election and the first plenary session of the next parliament after the election) (11 percent of cases); and 4) group switching where two or more members of a national party switch between the end of one parliament and the start of the next (32 percent of cases).⁶ We refer to types 1 and 2 as “within parliament switchers” and types 3 and 4 as “between parliament switchers”. Because most cases of switching involve a national party as a group, our data are unlikely to be

⁵ To fully relax the IIA assumption, we used a mixed logit model. The results (available up request) remained similar to those of the conditional logit model.

⁶ In about 8% of the cases, individual switching coincides with group switching. That is, out of 557 cases, 22 (4%) individual switches within a given parliament, and 24 (4.3%) individual switches between parliaments, coincide with group switching. We removed those cases in our regression analysis.

independent across observations. Decisions of MEPs in the same national party tend to be correlated because they share similar ideology, interest, constituency, and so on. Due to clustering nature of the data, conventional standard errors become misleading. To avoid overestimation of precisions, it is important to take clustering nature of the data into account. Consequently, in all models we relax the assumption of independence, and clustered standard errors by national party.⁷

**Table 2. Logit Models of Switching
(Within and Between Parliament Switchers by type: Individual and NP)**

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Within Parliament			Between Parliament		
	All	Group (NP)	Individual	All	Group (NP)	Individual
NP prop before	0.0412*** (0.0072)	0.0503*** (0.0154)	0.0149* (0.0090)	-0.0509*** (0.0188)	-0.0498** (0.0199)	-0.0349* (0.0191)
EPG Power before	-0.0729*** (0.0200)	-0.1457* (0.0808)	-0.0365** (0.0152)	-0.0758*** (0.0194)	-0.0714*** (0.0215)	-0.1291 (0.0877)
NP-EPG LR distance before	0.1784 (0.1658)	0.1073 (0.2894)	0.1812 (0.1255)	-0.0828 (0.2876)	-0.1371 (0.3241)	0.0132 (0.4551)
NP-EPG EU distance before	0.2478 (0.1695)	0.3929 (0.2499)	-0.0495 (0.1847)	0.9756*** (0.2370)	1.0764*** (0.2596)	0.3203 (0.4091)
Loyalty	-2.6457*** (0.6826)	-2.2336* (1.2670)	-2.8212*** (0.6918)	-3.8283** (1.5910)	-3.9438** (1.7004)	-1.3393 (2.0058)
Past Switch	0.5090 (0.4930)	0.5786 (0.7418)	0.5160 (0.4913)	0.0049 (0.4588)	0.0039 (0.4938)	0.3783 (1.0158)
MEP Experience	-0.3354 (0.3106)	-0.4414 (0.2915)	-0.3520 (0.3447)	-0.5516* (0.2823)	-0.6274** (0.3058)	-0.2302 (0.5892)
Female	-0.8854*** (0.2196)	-1.1856*** (0.3032)	-0.4882* (0.2890)	-0.8410** (0.3322)	-0.7051** (0.3190)	-1.7016 (1.0392)
Age	-0.0084 (0.0082)	-0.0216** (0.0107)	0.0063 (0.0120)	-0.0021 (0.0138)	0.0013 (0.0150)	-0.0229 (0.0260)
NP in Government	-0.0256 (0.4375)	0.1486 (0.8053)	-0.3997 (0.3745)	-0.0155 (0.5396)	-0.1283 (0.5523)	0.7632 (0.8189)
NP has a commissioner	0.3478 (0.4308)	0.7329 (0.8868)	0.0989 (0.3267)	0.0239 (0.5066)	0.0579 (0.5302)	-0.4081 (0.6752)
Constant	-3.2471** (1.5414)	-1.1509 (1.4954)	-2.0096** (1.0158)	1.9756 (1.7232)	1.5534 (1.8444)	0.1350 (3.3491)
EP Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,212	3,637	4,058	1,536	1,523	1,224
Pseudo R-squared	0.336	0.478	0.112	0.305	0.318	0.210

⁷ As a robustness check, we also estimated Table 2 while counting the wholesale switch of a national party from one group to another as a single event. The results, available upon request, were generally similar to those reported in Table 2.

Note: Standard errors clustered by national parties in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. EP1 is the baseline. The Appendix contains a full description of the variables, and descriptive statistics for all the variables. The number of observations are smaller for Between switchers as the samples in models 4, 5, and 6 are restricted just to those MEPs who were present in both EP(t) and EP(t-1).

The results are shown in Table 2, which include all types of switchers. Table 2a in the Appendix reports the results for different specifications of all within parliament switchers. Table 2b looks at within parliament switchers who switched as a group. Table 2c focuses on within parliament switchers who switched individually. Table 2d-2e report the results of between parliament switchers. In all of those models our key variables of interests are power and ideology. We focus on political group power and national party proportion, or national party power. Regarding ideology, we look at two dimensions of ideological distances between a national party and its political group: left-right as well as pro/Anti-EU. Our model control for variables such as loyalty, past switching (whether MEP switched in the past), experience (number of terms an individual was a former MEP), whether the MEP is female, MEP age, whether the national is in government, and whether the national party has a commissioner. In addition we include time (EP) dummies.

Looking first at power considerations, the results in Table 2 suggest that, for within parliament switchers, as the proportion of an MEP's national party increases, the probability that the MEP will switch groups also increases. For between parliament switchers, the opposite is true. Recall that we calculate national party power as proportion of a political group controlled by a national party, multiplied by the "power" of the group in the chamber as a whole. The political group power has a negative sign and is almost always highly statistically significant, meaning that it decreases the probability of switching. In other words, MEPs in more powerful (larger) political groups switch less than those in less powerful (smaller) groups.

In addition, MEPs who are more loyal to their group are less likely to switch. Note that here we measure the loyalty of an MEP (in roll-call votes) to his or her first political group. Although loyalty is driven by numerous factors, such as ideological affinity with a group, group pressure, lobbying by interest groups and so on, the way

we have estimated it here means that loyalty is not a direct consequence of switching. That is because we measure the loyalty of an MEP before a switch to another group, the loyalty of an MEP to his or her previous group is not endogenous to the act of switching.⁸

We also find that the gender effect is significant and decreases the probability of switching. Experience has a negative sign but is not generally significant. Age is insignificant, though in one case, for group-switchers who switched in the middle of a legislature, we find that older MEPs are more likely to switch than younger MEPs. But, whether an MEP's national party has a commissioner or is in government at the national level are not significant. Similarly, past switching does not explain the probability of current switching.

Turning to ideological considerations, the results in Table 2 suggest that policy congruence (between an MEPs' national party and the leader of a political group) on the anti-/pro-Europe dimension is more important than policy congruence on the left-right dimension. Interestingly, we find a few differences between MEPs who switch at the start of a parliamentary session and MEPs who switch during a parliamentary session: namely, greater anti-/pro-Europe distance increases the propensity to switch at the beginning of a parliament, except for individual switchers where the coefficient is not significant (see Table 2 column 6). The left-right policy distance is generally not significant regardless of the type of switching we consider. Loyalty decreases switching during, and at the start of a parliament for both types of switching with individual switching between parliament being an exception.

To check for robustness of our results, we replaced National Party Proportion by National Party Power (Table 2a-2e, Model 2); we included both National Party Proportion and National Party Power (Table 2a-2e, Model 3); we dropped Loyalty (Table 2a-2e, Model 4); we included political group fixed effects (Table 2a-2f, Model 5); we included Member State fixed effects (Table 2a-2e, Model 6). Finally, we

⁸ We cannot rule out that loyalty is endogenous to switching *decision* in presence of strategic behavior by MEPs and in absence of party pressure on MEPs. When excluding this variable our main results hold.

estimated a random effect with robust standard errors (Table 2a-2e, Model 7). Overall, we find that our main findings are robust. When we included member state fixed effects, we observed negative but insignificant coefficients for Western European countries. For southern and Eastern European countries we observed positive coefficients though they were generally insignificant. The only country with positive and significant coefficient was Poland.⁹

Figure 2a. Marginal effect of National Party Proportion on Probability of Switching

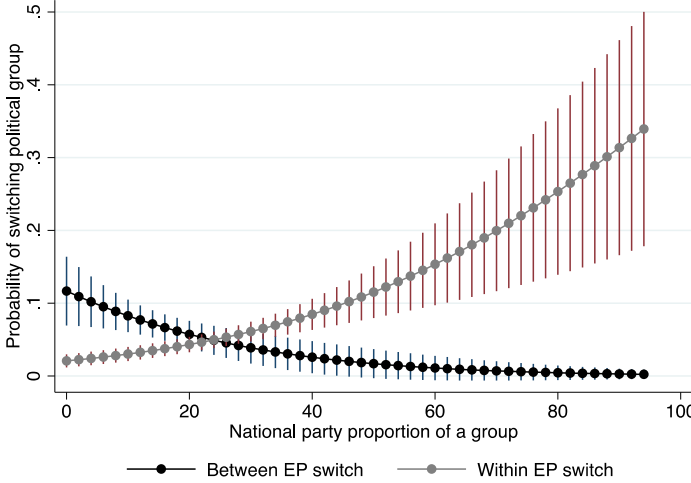
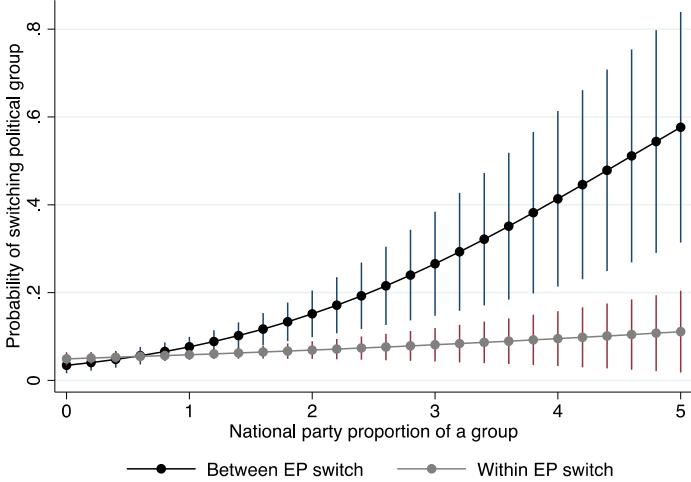


Figure 2b. Marginal effect of National Party Proportion on Probability of Switching



⁹ We also included national party fixed effects. Our results remain largely unchanged, though in that specification about one third of the cases were discarded as our national party dummies predicted failure perfectly.

These simple logit models only look at motivations to switch away *from* a political group. To analyze which alternative an MEP choose, we use a conditional logit model to analyse the effect of power differences and ideological distances between MEPs and all political groups as correlates of political group switching. The results of this analysis are presented in Table 3 (and Tables 3a and 3b in the Appendix report the results for the between parliament switchers and within parliament switchers separately). When replacing power difference by size difference we obtain qualitatively identical results: MEPs tend to switch to larger political groups (see Tables 3a and 3b in the Appendix). This is not surprising as size is the main component of power. In contrast to the findings based on the pooled logit model where we looked at all MEPs, the conditional logit model indicates that the left-right ideological distance is much more important than EU distance.

Table 3. Conditional Logit Models of Switching

Independent variables	(1)	(2)		(3)	(4)	(5)		(6)
	All	Group		Individual	All	Group		Individual
	Dependent variable: switched political group (1,0)							
EPG power difference	0.0127** (0.0053) [0.002]**	0.0220*** (0.0064) [0.003]**	-0.0023 (0.0093) [-0.0004]	0.0380*** (0.0070) [0.003]**	0.0397*** (0.0075) [0.003]**	0.0092 (0.0157) [0.0007]		
LR distance	-0.5181*** (0.0498) [-0.075]**	-0.5793*** (0.0649) [-0.075]**	-0.4098*** (0.0756) [-0.071]**	-0.6550*** (0.0786) [-0.049]**	-0.6535*** (0.0839) [-0.050]**	-0.6242*** (0.1665) [-0.046]**		
EU distance	-0.1077** (0.0494) [-0.015]**	-0.1423** (0.0606) [-0.018]**	-0.0658 (0.0832) [-0.012]	-0.2804*** (0.0794) [-0.021]**	-0.2548*** (0.0848) [-0.019]**	[-0.459]** (0.1962) [-0.034]**		
Observations	3,764	2,599	1,267	1,984	1,712	432		
Pseudo R-sq.	0.128	0.154	0.0873	0.234	0.236	0.208		

Note: Standard errors in parentheses. Marginal effects at means (dydx) in squared brackets.

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

As robustness check, we included MEP-specific variables such as loyalty, age, and gender (Table 3d in the Appendix). With the exception of gender, the other MEP-

specific variables were never significant. In addition, we included political group fixed effects (Table 3c in the Appendix). In these specifications, our ideological distances remain as before with the exception of EU distance now becoming statistically insignificant for within parliament switchers. However, our power and size variables now have a negative sign for those who switched in the middle of a parliamentary term. For between parliament switchers, power and size have a positive sign but only the latter remains significant. When looking at the coefficients of the political group dummies, one notices that the two largest political groups have a positive sign while all other parties have a negative sign. Non-attached takes also positive sign, indicating the fact that many MEPs transit from this “group” to join other political groups. To take into account that MEPs belong to a national party and then national parties belong to a political group, we estimated a mixed effect logit model. With the hierarchical mixed effect logit model we obtained results that were similar to that of conditional logit model.

The conditional logit results, which exclude non-switchers and hence compare switchers with other switchers, confirm the additive effects of power and ideology we find with the simple logit models. An MEP is more likely to switch to a more powerful (larger) political group. This result holds across different specifications here. When separating the sample of start switchers from those of mid switchers, we find similar results with two exceptions. The power difference is not significant for individual switchers regardless of when they switched. In addition, the EU distance is not significant for individual switchers who switched during a parliament.

Equally, an MEP is more likely to switch to an ideologically closer political group. In all specifications, the two policy distances variables have a negative sign, and both the left-right and EU policy distances are highly significant, although the effect of left-right distance is substantively larger. The results in (the Appendix) Tables 2a and 2b also show that the left-right effect is substantially larger for mid-session switchers than for between parliament switchers, although it is significant and in the same direction for both types of switching MEPs. In short, MEPs prefer to join

political groups in which they will be closer in policy terms to the average member of a group, as was the case with the UK Conservatives when they moved from EPP-ED to ECR.

Conclusions

Elected politicians leaving one political party and joining another is more common than many scholars think. Although party switching is a rare occurrence in established democracies, it is more common in new democracies or where political parties are weakly institutionalised. Party switching increases as politics becomes more personalised and the power of parties over individual politicians erodes.

We investigate party switching in the European Parliament as an interesting laboratory, both of an elected legislature in a part of the world where many national parties have long histories, as well as a legislature where the “political groups” in the chamber are relatively weak organisations and continue to evolve. The European Parliament is also interesting from a general perspective because there is some disconnection between the politics inside the chamber and the national-focussed European Parliament election campaigns. This lack of a strong electoral connection means that party switching inside the European Parliament is primarily driven by incentives internal to the legislature rather than potential electoral costs or benefits.

We find that both “power” and “ideology” play a role in MEPs’ decisions to leave one political group and join another. MEPs are more likely to switch if the national party to which they belong is likely to have more influence over the policy agenda by switching groups. We measure this “power” as the size of a national party weighted by the voting power of a political group in the chamber as a whole. For example, many national parties face a choice between being one of several medium-sized parties in a larger group or being a larger national party in a smaller, and less powerful, group. In general, these power incentives have led MEPs to switch from smaller groups to larger groups.

Ideology also plays a role. MEPs prefer to be in political groups that share their policy preferences. If an MEP is an ideological outlier in a group, she is more likely to find herself being asked by the group “whips” to vote against her ideological positions on key policy issues. Hence, MEPs who are ideological outliers tend to switch to groups whose policy positions are more congruent with their views. Looking at different measures of policy distance we found that both left-right and anti-/pro-Europe policy preferences matter.

More generally, we find strong evidence that internal legislative politics can be a powerful determinant of politicians changing parties in a parliament, independently of any electoral considerations. Once elected to a parliament, politicians aim to be promoted up the “slippery pole” of politics and to secure policy outcomes as close as possible to their own political views. A politician will consider moving to another party if it will further her political career and/or help her achieve her policy goals, particularly if the electoral costs of making such a move are likely to be low or non-existent, as is the case in the European Parliament. Overall, switching political groups played a positive role in consolidation of the party system in the European Parliament.

Several questions remain to be addressed. For instance, it would be interesting to analyze if the switch of any modestly sized national party delegation creates knock-on effects on other parties as the redistribution of power and perks inside the European Parliament may change. In addition, it is important to investigate if the timing of the switches can be explained by a particular event such as proximity to national elections. Likewise, we did not explore the degree to which career concerns of MEPs have an impact on political group switching. These are a few among many other questions that could be fertile avenues for future on this topic.

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APPENDIX

Description of the Variables

Switched political group (*dependent variable*)

Whether an MEP switched from one political group to another political group in a particular session of the European Parliament (1,0). If an MEP switched several times in a session, only the first and last group are counted. It varies at the individual MEP level.

NP power before

The power of an MEP's national party (P_n) in a political group (before an MEP switched groups), which is calculated as $P_n = \Theta_n P_g$, where P_g is the power of political group g in the chamber as a whole and Θ_n is the size of a national delegation as a proportion of the MEPs in a political group. It varies at the individual MEP level.

NP power difference

The difference in the power of an MEP's national party, between the national party's power in the MEP's current political group and the national party's power if it joined another political group. It varies at the level of the national party.

NP prop before

The size (number of MEPs) of an MEP's national party (0 to 1), as a proportion of the number of MEPs in the political group, before the MEP switched groups. It varies at the level of the national party.

NP size

The number of MEPs in an MEP's national party. It varies at the level of the national party.

NP size difference

The difference in the size of an MEP's national party, between the national party's size in the MEP's current political group and the national party's size if it joined another political group. It varies at the level of the national party.

EPG power before

The voting power of an MEP's political group (0 to 1), calculated as the average of the Banzhaf (1965) power index of a group at the beginning of a Parliament and at the end of a Parliament, using the number of MEPs at the beginning and end of a Parliament and a simple majority rule. It varies at the level of the national party.

NP-EPG LR distance before

The absolute distance between an MEP's national party and the median member of his/her political group on a 0-10 left-right scale before the MEP switched groups. It varies at the level of the national party.

NP-EPG EU distance before

The absolute distance between an MEP's national party and the median member of his/her political group on a 0-7 anti-/pro-EU scale before the MEP switched groups. It varies at the level of the national party.

LR distance

The absolute distance between an MEP's national party and the median member of a political group, on a 0-10 left-right scale. It varies at the level of the national party.

EU distance

The absolute distance between an MEP's national party and the median member of a political group on a 0-7 anti-/pro-EU scale. It varies at the level of the national party.

MEP loyalty

The proportion of times (0 to 1) an MEP voted with the plurality of his/her political group, in all roll-call votes in a particular European Parliament session. For the MEPs who switched groups, this is for all votes before an MEP switched groups. It varies at the individual MEP level.

MEP age

The age of an MEP, in years, at the start of a session of the European Parliament. It varies at the individual MEP level.

Female

A dummy variable indicating whether the MEP is female. It varies at the individual MEP level.

Experience

The number times an individual served as an MEP in the past. It varies at the individual MEP level.

Past Switching

A dummy variable indicating whether the MEP also switched in the past. It varies at the individual MEP level.

NP in government

The MEP's national party was in government at the national level for a majority of a session of the European Parliament (1,0). It varies at the level of the national party.

NP has a Commissioner

The MEP's national party had an EU Commissioner for a majority of a session of the European Parliament (1,0). It varies at the level of the national party.

NP switched

Dummy variable (1,0) for if an MEP switched between political groups as part of a national party delegation switching *en bloc* from one political group to another. It varies at the level of the national party.

EP1-EP7

Dummy variables (1,0) for each session of the European Parliament: 1979-84 (EP1), 1984-89 (EP2), 1989-94 (EP3), 1994-99 (EP4), 1999-2004 (EP5), 2004-09 (EP6), 2009-14 (EP7).

APPENDIX

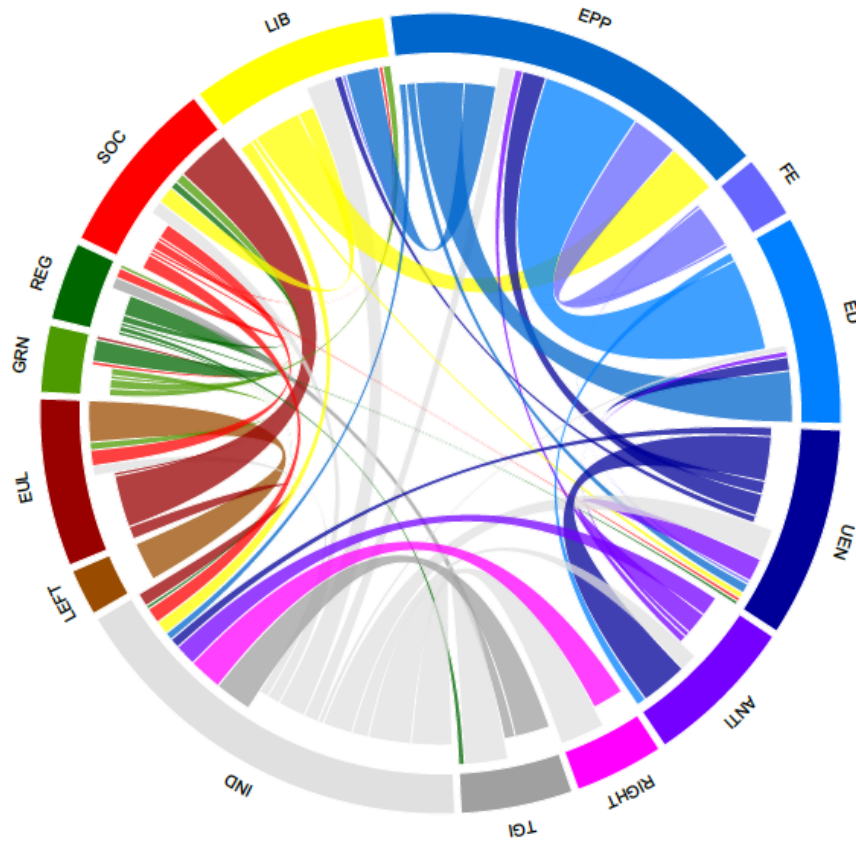
Table A1. Political Group Switches in the European Parliament, 1979-2014

To:	LEFT	EUL	GRN	REG	SOC	LIB	EPP	FE	ED	UEN	ANTI	RIGHT	TGI	IND	Total
From:															
LEFT	0	21	0	0	1	1	0	0	0	0	0	0	0	0	23
EUL	0	0	2	0	28	0	0	0	0	0	0	0	0	7	37
GRN	0	4	0	2	5	4	1	0	0	0	0	0	0	0	16
REG	1	0	11	0	4	1	0	0	0	2	0	0	3	2	24
SOC	0	8	2	5	0	2	1	0	0	2	0	0	1	8	29
LIB	0	0	0	0	9	0	26	0	0	3	0	1	0	7	46
EPP	0	0	1	1	0	17	0	1	26	5	1	1	0	4	57
FE	0	0	0	0	0	2	24	0	0	2	0	0	0	0	28
ED	0	0	0	0	0	1	50	0	0	0	5	1	0	0	57
UEN	0	0	0	1	1	4	12	0	7	0	24	0	0	5	54
ANTI	0	1	0	0	0	0	4	0	3	12	0	0	0	11	31
RIGHT	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
TGI	0	0	0	6	1	0	0	0	0	1	1	0	0	19	28
IND	0	5	1	1	7	15	8	0	3	16	9	23	22	0	110
Total	1	39	17	16	56	47	126	1	39	43	40	26	26	80	557

Key to political groups:

- LEFT = French Left and Allies (Communist and Allies Group, Left Unity)
- EUL = Radical Left (European United Left, European United Left/Nordic Green Left)
- GRN = Greens (Green Group, Greens/European Free Alliance)
- REG = Left Regionalists (Rainbow Group, European Radical Alliance)
- SOC = Socialists (Socialist Group, Party of European Socialists, Socialists and Democrats)
- LIB = Liberals (Liberal and Democratic Group, European Liberal Democratic and Reform Group, Alliance of Liberals and Democrats for Europe)
- EPP = Centre-Right (European People's Party, European People's Party-European Democrats)
- FE = Italian Conservatives (Forza Europa)
- ED = UK Conservatives and Allies (European Democratic Group, European Conservatives and Reformists)
- UEN = French Gaullists and Allies (European Progressive Democrats, European Democratic Alliance, Union for Europe, Union for Europe of the Nations)
- ANTI = Anti-Europeans (Europe of Nations, Independents for a Europe of Nations, Europe of Democracies and Diversities, Independence/Democracy, Europe of Freedom and Democracy)
- RIGHT = Radical Right (European Right, Technical Group of the European Right)
- TGI = Independents (Technical Coordination and Defence of Independents, Technical Group of Independents)
- IND = non-attached MEPs

Figure A1. MEP Political Group Switching (“Migration”) 1979-2014



Note: The groups are ordered left to right, with TGI and IND placed between the furthest left and furthest right party. The Appendix contains a table of the ‘from’ and ‘to’ switches between the groups, on which this figure is based. The colours indicate the party from which an MEP or group of MEPs is leaving. See the Appendix for the key to the political groups.

Table A2. Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Switched political group	5179	0.065	0.247	0	1
Power Difference	57741	-8.62	17.37	-37.5	35.67
Size difference/100	56762	-0.588	1.09	-2.39	2.41
NP power before	5171	2.486	3.013	0	16.16
LR distance	51297	2.70	1.83	0	9.5
EU distance	52930	1.97	1.46	0	5.73
NP prop before	5167	17.85	21.51	0	242.86
NP size	5170	14.87	13.96	0	62
EPG power before	5179	20.62	12.99	1.75	41.96
NP-EPG LR distance before	4683	0.628	0.641	0	7.39
NP-EPG EU distance before	4746	0.667	0.721	0	4.76
MEP loyalty	4718	0.889	0.133	0	1
MEP age	5177	50.03	10.19	18	88
NP in government	5179	0.439	0.488	0	1
NP has a Commissioner	5179	0.381	0.481	0	1
NP switched	5179	0.419	0.200	0	1
EP session	5179	4.352	1.952	1	7

Note: EPG = European political group. NP = national party.

Table A3. Individual vs. Group (NP) Switching

	Within an EP		At Start of an EP	
	NP switches	Ind. Switches	NP switches	Ind. Switches
EP1	3	6	0	0
EP2	9	12	9	3
EP3	68	23	32	8
EP4	54	22	30	20
EP5	35	20	20	14
EP6	5	54	18	10
EP7	7	22	0	53
Total	181	159	109	108
%	32.5%	28.5%	19.6%	19.4%

Table 2a. Logit Models of Switching (All Within Parliament Switches)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent variable: switched political group (1,0)						
NP prop before	0.0412*** (0.0072)		0.0644*** (0.0147)	0.0427*** (0.0073)	0.0293*** (0.0065)	0.0289*** (0.0070)	0.0412*** (0.0045)
NP power before		0.2288*** (0.0614)	-0.3289** (0.1618)				
EPG power before	-0.0729*** (0.0200)	-0.1546*** (0.0295)	-0.0324 (0.0220)	-0.0884*** (0.0228)	-0.0654*** (0.0225)	-0.0709*** (0.0230)	-0.0729*** (0.0155)
NP-EPG LR distance before	0.1784 (0.1658)	-0.0216 (0.1788)	0.1633 (0.1714)	0.2101 (0.1747)	0.0261 (0.1899)	-0.0097 (0.2386)	0.1784 (0.1093)
NP-EPG EU distance before	0.2478 (0.1695)	0.2630* (0.1573)	0.2362 (0.1817)	0.3977** (0.1621)	0.2906* (0.1743)	0.3843** (0.1821)	0.2478** (0.1102)
MEP loyalty	-2.6457*** (0.6826)	-2.2467*** (0.8000)	-2.9217*** (0.7122)		-1.5289** (0.6437)	-1.6126** (0.6747)	-2.6456*** (0.5960)
Past switcher	0.5090 (0.4930)	0.3399 (0.5243)	0.5646 (0.4717)	0.5371 (0.5209)	-0.0156 (0.6977)	-0.1349 (0.6877)	0.5090 (0.4416)
EP Experience	-0.3354 (0.3106)	-0.2457 (0.3479)	-0.2665 (0.3030)	-0.3785 (0.3129)	-0.3374 (0.2943)	-0.1593 (0.2659)	-0.3354** (0.1596)
Female	-0.8854*** (0.2196)	-0.8817*** (0.2107)	-0.8639*** (0.2264)	-0.7423*** (0.1872)	-0.7419*** (0.2338)	-0.5792** (0.2289)	-0.8854*** (0.2102)
Age	-0.0084 (0.0082)	-0.0078 (0.0078)	-0.0101 (0.0083)	-0.0036 (0.0083)	-0.0061 (0.0090)	-0.0023 (0.0087)	-0.0084 (0.0076)
NP in government	-0.0256 (0.4375)	0.0037 (0.3930)	0.0525 (0.4292)	-0.0431 (0.4588)	-0.1614 (0.4405)	-0.4109 (0.4445)	-0.0256 (0.2273)
NP has a Commissioner	0.3478 (0.4308)	0.5259 (0.4451)	0.5947 (0.4385)	0.3520 (0.4623)	0.0852 (0.4048)	0.3678 (0.4361)	0.3478 (0.2365)
Constant	-3.2471** (1.5414)	-1.8231 (1.5233)	-3.6664** (1.6828)	-5.6511*** (1.2501)	-3.0763** (1.3212)	-3.7856** (1.7550)	-3.2470*** (1.0071)
EP Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EPG Fixed Effect	No	No	No	No	Yes	Yes	No
MS Fixed Effect	No	No	No	No	No	Yes	No
Observations	4,212	4,212	4,212	4,471	4,212	3,962	4,212
Pseudo R-squared	0.336	0.289	0.347	0.335	0.379	0.403	-

Note: Standard errors clustered by national party in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Model (7) estimates random effect logit model with bootstrapped robust standard errors.

Table 2b. Logit Models of Switching (Group Within Parliament Switches)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables	Dependent variable: switched political group (1,0)						
NP prop before	0.0468*** (0.0142)		0.0698*** (0.0251)	0.0484*** (0.0134)	0.0333*** (0.0112)	0.0290* (0.0153)	0.0468*** (0.0091)
NP power before		0.4484* (0.2354)	-0.3352 (0.2756)				
EPG power before	-0.1457* (0.0769)	-0.2815*** (0.0715)	-0.0944 (0.0745)	-0.1743** (0.0838)	-0.2664 (0.2543)	-0.2720 (0.2798)	-0.1457*** (0.0542)
NP-EPG LR distance before	0.0729 (0.2870)	-0.0568 (0.2535)	0.0600 (0.3122)	0.0275 (0.3133)	-0.0476 (0.2660)	-0.0255 (0.3200)	0.0729 (0.1827)
NP-EPG EU distance before	0.4057 (0.2506)	0.3565 (0.2301)	0.4405* (0.2546)	0.5478** (0.2502)	0.3637 (0.2394)	0.3958 (0.2535)	0.4057** (0.1646)
MEP loyalty	-1.8778 (1.3077)	-1.3452 (1.2323)	-2.1092 (1.4225)		-1.1031 (1.4369)	-1.3174 (1.5180)	-1.8777*** (0.7782)
Past switcher	0.5076 (0.7182)	0.3971 (0.7494)	0.5526 (0.6941)	0.2751 (0.7348)	0.0415 (0.9858)	-0.0033 (1.1814)	0.5077 (0.5899)
EP Experience	-0.3460 (0.2819)	-0.3666 (0.3283)	-0.2621 (0.2928)	-0.3261 (0.2803)	-0.5708* (0.3059)	-0.2689 (0.2717)	-0.3460* (0.1823)
Female	-1.1538*** (0.2913)	-1.1223*** (0.2728)	-1.1372*** (0.2995)	-0.8876*** (0.2380)	-1.1254*** (0.2875)	-0.9020*** (0.2363)	-1.1537*** (0.3316)
Age	-0.0222** (0.0103)	-0.0201** (0.0094)	-0.0231** (0.0106)	-0.0181* (0.0103)	-0.0227** (0.0115)	-0.0168 (0.0104)	-0.0222* (0.0117)
NP in government	0.1272 (0.7814)	0.1356 (0.6798)	0.2058 (0.7932)	-0.1058 (0.8103)	-0.3228 (0.7640)	-0.5055 (0.8069)	0.1272 (0.3789)
NP has a Commissioner	0.7509 (0.8702)	0.8144 (0.8207)	0.9284 (0.8484)	0.9381 (0.9317)	0.1462 (0.7633)	0.2440 (0.7102)	0.7509 (0.4998)
Constant	-1.4462 (1.5069)	-0.2890 (1.3596)	-1.8693 (1.4744)	-6.3552*** (1.9716)	-1.5747 (1.6778)	-2.5128 (1.7896)	-1.4462 (1.0383)
EP Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EPG Fixed Effect	No	No	No	No	Yes	Yes	No
MS Fixed Effect	No	No	No	No	No	Yes	No
Observations	3,711	3,711	3,711	4,471	3,447	2,796	3,711
Pseudo R-squared	0.462	0.432	0.467	0.478	0.523	0.539	

Note: Standard errors clustered by national party in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Model (7) estimates random effect logit model with bootstrapped robust standard errors.

Table 2c. Logit Models of Switching (Individual Within Parliament Switches)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent variable: switched political group (1,0)						
NP prop before	0.0076 (0.0079)		0.0202** (0.0103)	0.0068 (0.0075)	0.0037 (0.0090)	0.0027 (0.0093)	0.0076 (0.0081)
NP power before		-0.0359 (0.0788)	-0.1893 (0.1358)				
EPG power before	-0.0327** (0.0140)	-0.0379*** (0.0141)	-0.0143 (0.0150)	-0.0451*** (0.0147)	-0.0029 (0.0162)	-0.0069 (0.0167)	-0.0341 (0.0251)
NP-EPG LR distance before	0.1890 (0.1169)	0.1453 (0.1229)	0.1728 (0.1211)	0.2749** (0.1166)	0.0536 (0.1118)	-0.0281 (0.1449)	0.2090 (0.1901)
NP-EPG EU distance before	-0.0938 (0.1678)	-0.0646 (0.1603)	-0.0991 (0.1737)	0.0397 (0.1626)	0.0171 (0.1936)	0.0974 (0.2047)	-0.0972 (0.2423)
MEP loyalty	-2.8016*** (0.7468)	-2.8071*** (0.7702)	-2.8684*** (0.7247)		-1.6213** (0.7354)	-1.5097** (0.7093)	-3.2052*** (1.1223)
Past switcher	0.4824 (0.5009)	0.4319 (0.5032)	0.5085 (0.4987)	0.8220 (0.5755)	0.3976 (0.5375)	0.2577 (0.4942)	0.4222 (0.9793)
EP Experience	-0.3260 (0.3109)	-0.3032 (0.3161)	-0.2875 (0.3069)	-0.4212 (0.3224)	-0.1975 (0.3314)	-0.1339 (0.3370)	-0.2999 (0.3805)
Female	-0.4021 (0.2894)	-0.4157 (0.2869)	-0.3917 (0.2909)	-0.3713 (0.2729)	-0.2778 (0.3250)	-0.2198 (0.3311)	-0.4383 (0.4746)
Age	0.0091 (0.0118)	0.0087 (0.0118)	0.0077 (0.0116)	0.0147 (0.0117)	0.0126 (0.0112)	0.0156 (0.0116)	0.0094 (0.0212)
NP in government	-0.4902 (0.3429)	-0.4844 (0.3284)	-0.4787 (0.3315)	-0.3363 (0.3603)	-0.3340 (0.3223)	-0.5200 (0.3402)	-0.5349 (0.4123)
NP has a Commissioner	0.0825 (0.3163)	0.1994 (0.3267)	0.2336 (0.3482)	0.0281 (0.3163)	0.2208 (0.4150)	0.4713 (0.4572)	0.0873 (0.5432)
Constant	-1.8532** (0.9183)	-1.3790 (0.9058)	-1.8701** (0.9430)	-4.5308*** (0.9396)	-1.4180* (0.8592)	-1.3380 (1.2601)	-2.2185 (2.3859)
EP Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EPG Fixed Effect	No	No	No	No	Yes	Yes	No
MS Fixed Effect	No	No	No	No	No	Yes	No
Observations	4,212	4,212	4,212	4,471	4,212	3,962	4,212
Pseudo R-squared	0.0972	0.0957	0.102	0.0742	0.141	0.165	

Note: Standard errors clustered by national party in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Model (7) estimates random effect logit model with bootstrapped robust standard errors.

Table 2d. Logit Models of Switching (All Between Parliament Switches)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent variable: switched political group (1,0)						
NP prop before	-0.0509*** (0.0188)		-0.1038*** (0.0325)	-0.0504*** (0.0175)	-0.0692*** (0.0240)	-0.1052*** (0.0295)	-0.0509*** (0.0114)
NP power before		-0.0035 (0.1137)	0.4790** (0.2308)				
EPG power before	-0.0758*** (0.0194)	-0.0653** (0.0275)	-0.1330*** (0.0482)	-0.0849*** (0.0200)	-0.0507 (0.0315)	-0.0898*** (0.0339)	-0.0758*** (0.0119)
NP-EPG LR distance before	-0.0828 (0.2876)	-0.0086 (0.3156)	0.0000 (0.2535)	-0.1534 (0.3003)	-0.2085 (0.3495)	-0.1392 (0.3079)	-0.0829 (0.2128)
NP-EPG EU distance before	0.9756*** (0.2370)	0.9991*** (0.2799)	0.9488*** (0.2254)	1.0800*** (0.2481)	0.6300** (0.2482)	0.9742*** (0.3089)	0.9756*** (0.1266)
MEP loyalty	-3.8283** (1.5910)	-3.8350** (1.6337)	-3.5534** (1.5729)		-3.4678 (2.1122)	-2.1383 (2.1322)	-3.8281*** (1.0067)
Past switcher	0.0049 (0.4588)	-0.2831 (0.4718)	0.1010 (0.4948)	0.0704 (0.4779)	-0.8378 (0.6176)	-1.5665** (0.6093)	0.0049 (0.3772)
EP Experience	-0.5516* (0.2823)	-0.4933* (0.2745)	-0.4680* (0.2539)	-0.9080*** (0.3105)	-0.9144*** (0.3187)	-0.9741** (0.4278)	-0.5516** (0.2660)
Female	-0.8410** (0.3322)	-0.7941** (0.3338)	-0.8352** (0.3378)	-0.8855*** (0.2876)	-0.6845** (0.3480)	-0.8960** (0.3535)	-0.8410** (0.3518)
Age	-0.0021 (0.0138)	0.0015 (0.0151)	-0.0040 (0.0140)	0.0097 (0.0140)	-0.0039 (0.0133)	-0.0001 (0.0150)	-0.0021 (0.0142)
NP in government	-0.0155 (0.5396)	-0.0212 (0.5853)	0.1436 (0.5333)	-0.0413 (0.5293)	0.2165 (0.5878)	0.3577 (0.8389)	-0.0155 (0.2198)
NP has a Commissioner	0.0239 (0.5066)	-0.1141 (0.5346)	-0.3268 (0.4687)	-0.1127 (0.4908)	0.1331 (0.5006)	-0.2468 (0.6637)	0.0239 (0.2425)
Constant	1.9756 (1.7232)	0.3983 (1.7174)	2.1484 (1.7692)	-1.0797 (1.5070)	1.5095 (2.0665)	0.3758 (2.2765)	1.9756 (1.4316)
EP Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EPG Fixed Effect	No	No	No	No	Yes	Yes	No
MS Fixed Effect	No	No	No	No	No	Yes	No
Observations	1,536	1,536	1,536	1,622	1,018	902	1,536
Pseudo R-squared	0.305	0.278	0.331	0.299	0.347	0.483	

Note: Standard errors clustered by national party in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Model (7) estimates random effect logit model with bootstrapped robust standard errors.

Table 2e. Logit Models of Switching (Group Between Parliament Switches)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent variable: switched political group (1,0)						
NP prop before	-0.0516** (0.0205)		-0.1145*** (0.0364)	-0.0505*** (0.0191)	-0.0688** (0.0294)	-0.1078*** (0.0392)	-0.0516*** (0.0112)
NP power before		0.0429 (0.1215)	0.5602** (0.2519)				
EPG power before	-0.0683*** (0.0208)	-0.0628** (0.0301)	-0.1355** (0.0528)	-0.0708*** (0.0204)	-0.0368 (0.0323)	-0.0871** (0.0400)	-0.0683*** (0.0155)
NP-EPG LR distance before	-0.1100 (0.3091)	-0.0273 (0.3395)	-0.0081 (0.2643)	-0.1459 (0.3181)	-0.2226 (0.3720)	-0.2377 (0.3315)	-0.1100 (0.2416)
NP-EPG EU distance before	1.0554*** (0.2524)	1.0908*** (0.3122)	1.0358*** (0.2426)	1.1161*** (0.2598)	0.6972*** (0.2658)	0.9425*** (0.2958)	1.0554*** (0.1563)
MEP loyalty	-4.0374** (1.6966)	-4.0718** (1.7598)	-3.6653** (1.7017)		-4.2475* (2.4595)	-1.9706 (2.4447)	-4.0373*** (0.9475)
Past switcher	-0.0090 (0.4852)	-0.3139 (0.5083)	0.0929 (0.5431)	0.1758 (0.4852)	-0.9847 (0.6975)	-1.7826** (0.7671)	-0.0089 (0.4801)
EP Experience	-0.5886* (0.3031)	-0.5259* (0.2892)	-0.4806* (0.2699)	-0.7448** (0.3143)	-1.0273*** (0.3480)	-1.2427*** (0.4545)	-0.5885** (0.2860)
Female	-0.6885** (0.3050)	-0.6316** (0.3093)	-0.6838** (0.3112)	-0.8251*** (0.2911)	-0.5069 (0.3122)	-0.7324** (0.3420)	-0.6885** (0.3433)
Age	0.0007 (0.0151)	0.0053 (0.0168)	-0.0018 (0.0156)	0.0026 (0.0166)	0.0013 (0.0154)	0.0078 (0.0198)	0.0007 (0.0139)
NP in government	-0.1251 (0.5512)	-0.1152 (0.5942)	0.0393 (0.5417)	-0.1198 (0.5402)	0.1251 (0.6127)	0.2602 (0.8665)	-0.1251 (0.2461)
NP has a Commissioner	0.0731 (0.5254)	-0.1204 (0.5612)	-0.3822 (0.5126)	0.0261 (0.4986)	0.1405 (0.5134)	-0.6082 (0.6992)	0.0731 (0.2526)
Constant	1.5720 (1.7972)	-0.1738 (1.7679)	1.7328 (1.8789)	-1.5148 (1.5232)	-0.0672 (2.3850)	-0.9136 (3.0762)	1.5720 (1.4664)
EP Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EPG Fixed Effect	No	No	No	No	Yes	Yes	No
MS Fixed Effect	No	No	No	No	No	Yes	No
Observations	1,536	1,536	1,536	1,622	1,018	857	1,536
Pseudo R-squared	0.312	0.286	0.347	0.288	0.377	0.516	-

Note: Standard errors clustered by national party in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Model (7) estimates random effect logit model with bootstrapped robust standard errors.

Table 3a. Conditional Logit Models of Switching (Within Parliament Switches)

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	Group	Group	Individual	Individual
Independent variables	Dependent variable: switched political group (1,0)					
EPG power difference	0.0127** (0.0053)		0.0220*** (0.0064)		-0.0023 (0.0093)	
EPG size difference		0.0027*** (0.0008)		0.0045*** (0.0010)		-0.0006 (0.0014)
LR distance	-0.5181*** (0.0498)	-0.5154*** (0.0497)	-0.5793*** (0.0649)	-0.5717*** (0.0643)	-0.4098*** (0.0756)	-0.4097*** (0.0755)
EU distance	-0.1077** (0.0494)	-0.1192** (0.0500)	-0.1423** (0.0606)	-0.1666*** (0.0623)	-0.0658 (0.0832)	-0.0648 (0.0832)
Observations	3,764	3,764	2,599	2,599	1,267	1,267
Pseudo R-squared	0.128	0.132	0.154	0.163	0.0873	0.0875

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3b. Conditional Logit Models of Switching (Between Parliament Switches)

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	Group	Group	Individual	Individual
Independent variables	Dependent variable: switched political group (1,0)					
EPG power difference	0.0380*** (0.0070)		0.0397*** (0.0075)		0.0092 (0.0157)	
EPG size difference		0.0077*** (0.0011)		0.0081*** (0.0012)		0.0022 (0.0024)
LR distance	-0.6550*** (0.0786)	-0.6544*** (0.0800)	-0.6535*** (0.0839)	-0.6516*** (0.0852)	-0.6242*** (0.1665)	-0.6285*** (0.1681)
EU distance	-0.2804*** (0.0794)	-0.3060*** (0.0827)	-0.2548*** (0.0848)	-0.2849*** (0.0886)	-0.4594** (0.1962)	-0.4534** (0.1963)
Observations	1,984	1,984	1,712	1,712	432	432
Pseudo R-squared	0.234	0.260	0.236	0.266	0.208	0.210

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3c. Conditional Logit Models of Switching with EPG Fixed Effects

Independent variables	(1)	(2)	(3)	(4)	(5)	(6)
	All Within Parliament Switchers			All Between Parliament Switchers		
	Dependent variable: switched political group (1,0)					
Power difference	0.012** (0.005)	-0.043*** (0.009)		0.038*** (0.007)	0.004 (0.014)	
Size difference			-0.0173*** (0.0029)			0.0110*** (0.0027)
LR difference	-0.518*** (0.049)	-0.600*** (0.066)	-0.612*** (0.066)	-0.655*** (0.078)	-0.733*** (0.091)	-0.734*** (0.097)
EU difference	-0.107** (0.049)	-0.021 (0.053)	0.008 (0.054)	-0.280*** (0.079)	-0.498*** (0.109)	-0.539*** (0.117)
CG		-3.719*** (1.058)	-3.279*** (1.064)		-17.051 (1,946.596)	-16.216 (1,034.137)
ED		-1.530*** (0.5105)	-0.730 (0.528)		2.151*** (0.651)	0.612 (0.737)
FE		-14.967 (498.651)	-15.459 (823.636)		-16.124 (2,793.681)	-16.191 (1,279.269)
GUE		-1.470*** (0.459)	-0.922** (0.457)		1.746** (0.704)	1.438* (0.744)
L		-0.524 (0.340)	-0.124 (0.349)		1.909*** (0.630)	1.424** (0.652)
NI		0.539** (0.239)	0.622*** (0.237)		1.669*** (0.556)	1.580*** (0.580)
PPE		1.647*** (0.304)	3.456*** (0.478)		2.306*** (0.687)	0.606 (0.752)
REG		-1.844*** (0.5049)	-1.704*** (0.503)		0.661 (0.792)	0.482 (0.821)
RIGHT		-15.414 (558.003)	-16.542 (1,046.127)		-17.382 (1,845.420)	-16.530 (936.434)
S		0.905*** (0.351)	2.854*** (0.556)		1.509** (0.752)	-0.083 (0.798)
TDI		-1.170*** (0.370)	-0.987*** (0.368)		-0.873 (1.151)	-1.075 (1.169)
UEN		-0.214 (0.2759)	-0.1263 (0.272)		0.0343 (0.741)	-0.0508 (0.774)
V		-2.484*** (0.641)	-2.188*** (0.640)		1.292* (0.710)	1.109 (0.744)
Observations	3,764	3,764	3,764	1,984	1,984	1,984
Pseudo R-squared	0.128	0.334	0.350	0.234	0.387	0.409

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3d. Conditional Logit Models of Switching with Controls

	(1)	(2)	(3)	(4)	(5)	(6)
	All Within Parliament Switchers			All Between Parliament Switchers		
Independent variables	Dependent variable: switched political group (1,0)					
Power difference	0.013** (0.005)	-0.044*** (0.010)	0.012** (0.005)	0.038*** (0.007)	0.004 (0.015)	0.038*** (0.007)
LR difference	-0.518*** (0.050)	-0.600*** (0.066)	-0.519*** (0.050)	-0.655*** (0.079)	-0.734*** (0.091)	-0.647*** (0.078)
EU difference	-0.108** (0.049)	-0.021 (0.053)	-0.101** (0.050)	-0.280*** (0.079)	-0.498*** (0.109)	-0.277*** (0.079)
EPG Fixed Effect	No	Yes	No	No	Yes	No
Control Variables	No	No	Yes	No	No	Yes
Observations	3,764	3,764	3,764	1,984	1,984	1,984
Pseudo R-squared	0.128	0.334	0.138	0.234	0.387	0.243

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.