DYNAMICS OF PARTY PREFERENCES

A study on the volatility and stability of individuals using household panel data from Germany, Great Britain and Switzerland

Thesis

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1 Introduction

In this thesis, we will address the stability and volatility of party preferences. How often do individuals switch parties and what patterns emerge? Which factors make citizens remain with the same party or change between parties? These questions are related to the heart of democracy. In particular in representative democracies, where citizens cannot directly influence political decisions, it is essential to understand what reasons bring citizens to change parties. For example, the key role of the electorate according to democratic theory is to reward or punish political actors for their performance. But if electoral change reflects randomness or manipulation instead, democracy does not function.

Dynamics are a fundamental aspect of electoral behaviour, with a long tradition of research. If we want to understand voting behaviour, political participation or electoral outcomes, we need to understand why individuals remain with a party or change to another one (e.g. Jennings and Niemi 1981; Bartolini and Mair 1990; Box-Steffensmeier and Smith 1998; Clarke and McCutcheon 2009). Although the longitudinal perspective is a fundamental aspect of voting behaviour and opinion formation, electoral research mainly takes a cross-sectional perspective. More recently, longitudinal studies on individuals have become more popular, due to the increasing concern of endogeneity in social science, but also due to the increasing availability of panel data.

But still, we know relatively little on why individuals change or remain stable in their party preferences. Does volatility occur mainly among young voters with little

experience of voting, or do citizens reconsider their preferences over their life course? Are volatile voters, for the most part, ill-informed citizens who are easily influenced or vote randomly? Or does volatility rather occur among highly sophisticated voters who follow political developments and constantly adapt their preferences according to circumstances? How do other individuals or electoral campaigns alter someone's preferences? Do cleavages (still) stabilise individual party preferences? Does volatility mainly occur between parties with similar ideologies? How frequent is ambiguity, meaning that citizens switch back and forth between two (or several) parties? These are some of the questions which we will discuss and investigate empirically in this thesis.

Volatility has been interpreted in different ways. Early contributions (e.g. Converse 1969) found voters to be badly informed, without meaningful attitudes and without consistent preferences. Volatility has been interpreted as a sign of uninformed and malleable citizens (Bartels et al. 2011) or as an indicator for instable political systems. In contrast, normative democratic theory and rational choice theories build on interested and informed citizens with clear preferences. According to these theories, volatility is the result of learning, of updating opinions due to new information and to new issues, or as a response to a changed environment. Volatility is thus a sign of an attentive or enlightened electorate, which reacts to political offerings, assesses the performance of parties and political leaders and holds them accountable. Depending on the perspective, volatile citizens may be seen, either as destabilising elements for a political system, or rather as sign of a vibrant and healthy democracy.

Volatility or stability has been mainly addressed on an aggregate level using the share of party votes in elections (net volatility). In contrast, gross volatility focuses on individual change in voting behaviour. Even though aggregate and individual dynamics are correlated, it is dangerous to infer from aggregate data to individual behaviour. First, stability at the aggregate level may mask volatility at the individual level. Secondly, aggregate level change is not necessarily caused by individual volatility. Electoral replacement or changing electoral participation can result in aggregate volatility, even if individuals remain stable. Thirdly, there is the danger of ecological fallacy when inferring from aggregate characteristics to individuals (Johnston and Pattie 2000). Finally, causal interpretations from aggregate-level analyses are often problematic for methodological reasons of endogeneity, multicollinearity and few degrees of freedoms. To understand individual behaviour, we therefore need individual data.

Currently, there are different streams of research on individual dynamics (using individual level data). The most prominent one is the debate on the stability of party identification, which opposes the traditional and the revisionist model of party identification. Another stream of research focuses on socio-psychological theories, and is interested in the mechanism of information processing. It looks at how political awareness, predispositions and characteristics of information (source, intensity, direction, familiarity) impact opinion formation and change. Theories on socialisation or life course look at how political opinions and preference are formed in the first place and how they evolve over the life course. Many recent studies address the interpersonal influence in general and the influence between household members in particular. Others address the effects of life events (e.g. unemployment, a new partner,

a new job, moving house) on political opinions. Finally, economic voting theory explains changes due to economic conditions.

So far, these different lines of research or perspective have remained largely unconnected and have had little influence on mainstream electoral research. Here, we will look into and connect these different streams of research on individual dynamics.

To analyse volatility, we will use household-panel data from Germany (Socio-Economic Panel SOEP, 1999-2010), Great Britain (British Household Panel Survey BHPS, 1991-2008), and Switzerland (Swiss Household Panel SHP, 1999-2010). These surveys are carried out annually with the same individuals and households. By now, the data covers at least 12 years and is thus well suited to study dynamics over a long time span. We will focus on areas where household panels can add to previous literature on volatility and stability. For example, aspects investigating aggregate level (party system, party characteristics) will not be our main focus of attention, although we will take account of this body of literature if necessary. To capture dynamics, we will use both descriptive statistics and panel data models (mainly event history analysis, random effect models).

The selection of the countries is first of all given by data availability. Germany, Great Britain and Switzerland are the only countries which run household panels containing information on political behaviour. Nevertheless, the comparison of the three countries also makes sense from a theoretical perspective. Switzerland, Germany and Great Britain are all western democracies, but represent very different electoral and party systems. Great Britain has a classical majoritarian system dominated by two major parties. The government has, in recent times, been formed by one of these two

parties. Germany has, until recently, been a classic case of a proportional electoral system dominated by two large parties. From 1970 to 2005, government has been formed by either the Christian Democratic Union (CDU) or the Social Democratic Party (SPD) and a smaller party (Liberal Party (FDP) or Green party) as their junior coalition partner. In Switzerland, the electoral system varies between cantons, but is mainly proportional. The number of parties in Switzerland is however much higher than in Germany. From 1959-2007, government has been formed by a coalition of the four largest parties which, between them, accumulate over 80 % of all votes. None of these parties are able to dominate the executive or the legislative. Other important aspects of the Swiss political system include strong federalism and direct democracy. Related to the electoral system and government coalition, the number of parties also differs greatly between the three countries. Thus, the three household panels allow the study of individual behaviour in three very different contexts. According to Lijphart (1999), Switzerland is the paradigmatic case of a consensus democracy, Great Britain is the paradigmatic case of a majoritarian democracy and Germany is somewhere in between. If we find similar patterns in these three countries, we can thus assume that results are not specific to a country or context.

In *Chapter 2* we will give an overview of theories and literature on volatility, and point to our contribution to literature. More details and development of hypotheses is included in the chapters 5-10.

In *Chapter 3* we will discuss concepts and their operationalisation to measure volatility. We will use the notion of party preferences as a general concept, encompassing party identification and voting intention. This is necessary, because the

data sources have different measures of party preferences. We will justify theoretically and empirically why we think a comparative approach is fruitful despite different indicators for party preferences.

We will also present our measures for individual volatility. In contrast to most studies on individual dynamics, we will concentrate on change between parties rather than on change in and out of party preference. Another difference to most previous research is that we distinguish change within and between party blocks, as suggested by Bartolini and Mair (1990). We will develop our measure of party blocks in detail.

In *Chapter 4* we will present data and methods, but also discuss in more general terms the use of household panel data in political science. We will also address potential problems from non-response and attrition and its implications for the analysis.

Chapter 5 addresses volatility and stability empirically. We will describe patterns of change using trajectories over 12 years. Apart from the traditional and the revisionist model, we will consider alternative models of long-term party preferences: Bounded partisanship, ambiguity, stability in party blocks and random changes.

The remaining chapters address potential explanations for volatility. In *Chapter 6* we will look at the role of the life-cycle, cohorts, period, and reinforcement effects. In *Chapter 7*, we will test for the influence of predisposition and political awareness. In *Chapter 8* we will address campaign effects, by assessing how change relates to the electoral cycle. In *Chapter 9*, we will look at the influences within the household, distinguishing influence between partners, mothers and their children, fathers and

their children and between siblings. In *Chapter 10*, we will address pocketbook voting and whether changes in the financial situation affect party preferences.

2 Overview of theories and literature review

2.1 Socio-structural characteristics, socialisation and party identification

Until the 1960's, the dominant perspective in electoral research was on socio-demographic characteristics and stability. Social-class and religious affiliation were seen as the main explanatory factors for voting choice (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee 1954). Because socio-structural characteristics are highly stable and influential, voting behaviour is generally stable.

Although age is a routine control variable in any model on electoral research, the underlying mechanisms why age matters is often neglected. Typically, volatility is found to decrease with age. Socialisation and cohort theories claim that the conditions of socialisation shape individual preferences (e.g. Inglehart 1977). In the extreme, these preferences persist over the life course. The other extreme is lifelong openness, meaning that citizens adapt to changing context over their entire life course (Jennings and Niemi 1981). In Chapter 6, we will disentangle life-cycle and cohort effects, and include reinforcement as a separate mechanism. To test and control for duration of party preference, we will apply an innovative way to deal with left-censoring in panels.

Also on an aggregate level, stability of party systems has been attributed to socio-structural characteristics, reflecting cleavages society. Parties are seen to represent different groups or subcultures. The most important cleavages are class and religion.

With “the American Voter” by Campbell, Converse, Miller and Stokes (1960), party identification has become the key concept in electoral research.[1] As the name suggests, the basic notion is that voters develop identification with a party. Party identification is mainly acquired during childhood and early adulthood. In its traditional form, identification refers to the affective attachment to a group. As for the Columbia studies and cleavage theories, the American voter focused on stability. But stabilisation occurs not only on the basis of socio-structural characteristics, but mainly through a psychological process of identifying with a party. Party identification also has a heuristic function. It provides orientation for ill-informed citizens or helps rational voters to take positions in complex issues at little cost (Key 1966).

From the 1970s, the focus shifted from explaining stability to explaining volatility. At the aggregate level, volatility was found to increase over time (e.g. Pedersen 1979; Pedersen 1983; Bartolini and Mair 1990; Drummond 2006). New parties appeared and established parties declined. These processes are seen as the result of dealignment, referring to the declining attachment of citizens to parties. The share of voters without party identification increased along with volatility in individuals’ voting preferences.

A main explanation for dealignment is the detachment of voters from previous cleavage structures. Many studies found that traditional cleavages lost importance. An exception is the book by Bartolini and Mair (1990), which covers the years 1885-1985. It argues that the traditional class cleavage has remained relevant. A main argument is that to assess volatility, particularly in changing party systems, the unit of

[1] For its origin, see also (Belknap and Campbell 1952; Campbell, Gurin, and Miller 1954).

analysis should not be a single party, but blocks of parties. More recent studies on cleavage theory agree on the decline of the traditional class and religious cleavages. However, they argue that traditional cleavages have been transformed or replaced by others (e.g. Oesch 2006; Lachat 2007; Kriesi 1998). When discussing the impact of the strength of predispositions in chapter 7, we will explicitly test for the stabilising effect of socio-structural characteristics and found that the strength of socio-structural predispositions still has a stabilising effect.

In parallel to the declining importance of traditional cleavages and party identification, electoral research focused increasingly on short term effects, such as candidates, party leaders, campaign activities, salient issues or economic conditions (e.g. Alvarez, Nagler, and Bowler 2000). If short-term influences have become more important over time, volatility should increase.

Apart from cleavages, another prominent theory to explain dealignment is cognitive mobilisation. It postulates that party identification has become less important because educational levels have increased and political skills improved. Citizens are better able to form their preferences without relying on identities (Dalton 1984; Dalton and Wattenberg 2000). However, analysis at the individual level clearly shows that the correlation between education and dealignment is not causal (Albright 2009). Highly skilled and educated citizens are more likely to hold a party identification. Moreover, party identifications of highly knowledgeable or educated citizens are generally stronger than party identifications of citizens with lower education or political knowledge. The cognitive mobilisation hypothesis has been clearly rejected.

2.2 The debate on the stability of party identification

The stability of party identification is an intensively researched field. According to the concept of the "American voter", party identification is a group affiliation similar to social class or religious affiliation. It is acquired during socialisation and remains largely stable over the life course. Party choice may temporarily diverge from party identification. The main reasons for such temporal divergences are political issues and candidates, which influence voting choice in the short term. Nevertheless, Campbell and his colleagues named several factors which potentially impact party identification in the long term: marriage, a new job, a change in neighbourhood or major policies like the New Deal (Campbell et al., 1960, p.150).

Fiorina (1981) has formulated an alternative view on party identification. Party identification is seen as a running tally, which is constantly updated according to issue positions, party performance or learning. This concept of party identification is usually referred to as the revisionist model, as opposed to the traditional model by Campbell et al. Van der Eijk and Franklin (2009) see party identification as simply a reflection of voting habits for a party or a group of parties. In the revisionist view, party identification is a rational rather than an affective phenomenon, serving mainly to reduce costs of continuously collecting and evaluating political information (Key 1966; Clarke et al. 2004, 7f.). Not only voting behaviour, but also party identification may be influenced by short term effects. Party identification is state dependent and endogenous to voting.

There are different ways to empirically test the traditional against the revisionist model. A popular test is to assess individual dynamics over time. Some studies found

high stability in party identification (Green, Palmquist, and Schickler 2002; Green and Yoon 2002; Bartels et al. 2011) and interpreted this as support for the traditional view. Others found considerable volatility (Franklin and Jackson 1983; Franklin 1984; Clarke and McCutcheon 2009; Wawro 2002), and interpreted this as support for the revisionist view.[2]

Several studies have analysed the stability of party identification with the German SOEP. Most found considerable volatility in party identification (Zuckerman and Kroh 2006; Schmitt-Beck, Weick, and Christoph 2006; Kroh and Selb 2009; Kohler 2002). Using the same source, others concluded that party identification is stable (Arzheimer and Schoen 2005), or that changes rarely occur between parties (Neundorf, Stegmueller, and Scotto 2011; Zuckerman, Dasovic, and Fitzgerald 2007).

The results strongly depend on the statistical model of choice. Many contributions focus on methodological aspects, e.g. on the appropriate dynamic model, the control of measurement error and the control of unobserved heterogeneity. However, the question on stability should not be reduced to a methodological issue only. Rather, the opposition of the traditional and the revisionist model might not be appropriate, because it assumes that the electorate is homogenous. Some individuals may simply be more stable than others.

More recently, the debate is shifting, as researchers start to acknowledge and take account of individual heterogeneity. There have been two main approaches to this.

[2] But (Achen 1992) has shown that empirical stability is compatible with the revisionist model. Similarly, (Green, Palmquist, and Schickler 2002) argue that empirical volatility may be in line with the traditional model because empirical volatility reflects measurement error.

The first attributes voters either to a group of stable partisans or to a volatile group (Clarke and McCutcheon 2009; Neundorf, Stegmueller, and Scotto 2011). In the second approach, volatility is treated as a (latent) continuous variable, where individuals vary in their degree of stability. Rather than testing whether party identification is state dependent, these approaches try to explain why some individuals change and others do not. The empirical models assess relationships between change and other variables (Kohler 2002; Arzheimer and Schoen 2005; Schmitt-Beck, Weick, and Christoph 2006; Kroh and Selb 2009) . The question is not so much whether party identification is stable or not, but how the individual level of volatility can be explained.

We will use both approaches. In Chapter 5, we will attribute individuals to different groups, but do not restrict the models to the traditional and revisionist view. The concept of bounded party identification (Zuckerman and Kroh 2006; Neundorf, Stegmueller, and Scotto 2011) claims that changes occur primarily in and out of supporting major parties, rather than between parties. There are several alternative models on dynamics, which are mainly ignored in the debate on stability of party identification. One is the stability in party blocks by Bartolini and Mair (1990), who claim that volatility occurs mainly between close parties, but rarely across important cleavage lines. Another is ambiguity (Zaller 1992) or simultaneous preferences for parties (Van Der Eijk and Franklin 2009).

2.3 Information flow, information processing and campaign effects

To form political opinions and preferences, citizens take account of information. Social psychological theories focus on how individuals process information and on

how information impacts opinions or preferences. Electoral research mainly focuses on the impact of mass communication.

An important reference in research on information and information processing is the book by Zaller (1992). It provides a clear and encompassing theoretical framework and has made socio-psychological theories known and popular in political science. The RAS-model is comprised of three parts in public opinion formation, which need to be looked at separately: Reception, Acceptance and Sample. In order to be influenced by information, individuals first have to receive the information and secondly to accept it. Whether reception and acceptance occur depends on the level of political awareness, predispositions, and characteristics of the information (familiarity, density, one-sided or two-sided). The last part of the RAS-model, sample, refers to information retrieval. It is assumed that individuals have different and also conflicting considerations stored in their memories. The probability of expressing a particular opinion depends on the proportion of considerations in favour of that particular answer. Respondents report the consideration off "the top of their head" when answering a survey question.

Many studies have focused on the influence of political awareness, predisposition and information type to better understand information processing. However, results on the RAS model are still ambiguous and seem to depend strongly on the study design, measures of variables and the specific context.

In Chapter 7 we will look at the influence of political awareness and predisposition strength on volatility in party preferences. By distinguishing socio-structural predispositions and psychological predispositions, change within block and between

party blocks, and reconsidering the interplay between predispositions and awareness, we found rather consistent results, offering a new explanation for the influence of political awareness or stability.

Much research on information flow and information processing focuses on electoral campaigns. Systematic research on campaign effects goes back to studies by the Columbia school on US Presidential Elections in the 1940s (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee 1954). The authors surveyed the same individuals at different times during the electoral campaign. Only a few voters were found to change their preferred party or candidate during the campaign, yet, several other campaign effects were discovered. First, campaigns reinforced those who made up their minds early in the campaign. Secondly, they helped undecided or unsure individuals to choose a party or candidate in line with their predispositions. Thirdly, campaigns made certain issues more salient for voting choice. However, because the study did not find persuasion effects, the result has been denoted as "minimal effects" and discouraged research on campaign effects for decades.

However, since the 1980s, campaigns have come back into the focus. At first, research focused mostly on framing and priming, but scholars have become increasingly interested in persuasion (Bartels 1993).[3] Current research mainly focuses on the mechanism and conditions of when and how campaigns matter (e.g. Bartels 1993; Arceneaux 2006; Brandenburg and Van Egmond 2012). Data sources used cover relatively short time spans, either involving an experiment or stretching over a campaign.

[3] For systematic reviews on campaign effects see Iyengar and Simon (2000) and Hillygus (2010).

To understand how campaigns affect citizens and what moderates campaign effects, it is important to distinguish the different types of campaign effects, such as activation, persuasion or priming (Claassen 2011). A prominent article by Gelman and King (1993) criticised the unsatisfactory distinction between activation and persuasion. In Chapter 8, we will deploy a new approach to distinguish persuasion and activation effects. Additionally, we will look at whether campaigns mostly influence highly aware citizens or those with little awareness.

2.4 Interpersonal influence

Communication and discussions with others is an important part of opinion formation and opinion change. Citizens have to be understood within a particular setting (Barber, 1984; Huckfeldt and Sprague, 1995; Beck et al., 2002).

There is a long tradition of research on personal contexts. In the 1940s and 1950s, reference group theory was a dominant approach to studying political attitudes and behaviour. The first major panel survey on attitudes interviewed women at Bennington College (USA). Most of them were from conservative families and had conservative attitudes when coming to the college. During their four years of college from 1935-1939, the majority adopted more liberal attitudes (Newcomb 1943). Those who maintained closer family ties and were less involved in college activities, were less likely to change. Follow up studies in 1960-1961 and 1984 showed that attitudes endured mostly over the life course (Newcomb et al. 1967; Alwin 1992). The stability of attitudes was facilitated by the maintenance of networks. Also, in the Columbia studies (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee

1954), social networks played a key role. Family, friends, church members and work colleagues were found to be the most important influences for the vote.

An important reference for interpersonal influence is the book by Huckfeldt and Sprague (1995), which provides a theoretical model for inter individual influence. It consists of three building blocks. The first addresses the *purposes* of individual citizens and their need to inform themselves. Instead of consulting mass media or party communications, individuals may turn to others. Asking someone usually takes less time and is more efficient. Furthermore, individuals may refer to a person they trust in and who shares the same viewpoints and, therefore, have more control over the potential bias of their information source than when recurring to other sources. The second part of the model is on inter-individual influence. Because individuals only have probabilistic and incomplete control over their information source, they cannot avoid receiving information which counters their predispositions. Information from someone may thus cause opinion change. The third part of the model is contagion. Individuals form an opinion and then share it with others. Their peers may react positively or negatively to opinions and so reward or punish the individual. Depending on the reaction, individuals reconsider and retest their opinion until agreement is reached. Consequently, contexts tend to homogenise. Change occurs through disagreement. If people are part of politically homogeneous populations, we expect stability, and, when change does occur, it typically increases the homogeneity of the micro context (Huckfeldt and Sprague, 1997, p.19).

Over many decades, interpersonal influence has received little attention or was considered as secondary.[4] In randomised population surveys, individuals are selected and surveyed independently of their context, so that such analysis is not even possible (Zuckerman 2005; Johnston et al. 2005). This has changed with household panels, which have been used in many recent contributions with a focus on the household context (Wernli 2006; Coffé and Voorpostel 2010; Zuckerman, Dasovic, and Fitzgerald 2007; Kroh and Selb 2009; Kohler 2002; Schmitt-Beck, Weick, and Christoph 2006; Fitzgerald 2011; Fitzgerald and Curtis 2012). But so far, this literature is not well integrated into electoral and public opinion research (Vreese and Boomgaarden 2006; Chaffee and Mutz 1998).

In Chapter 9 we will look at interpersonal influence and add to literature on interpersonal influence on several aspects. By focusing on change instead of comparing party preferences of different individuals, we will overcome the endogeneity problem which research on interpersonal influence is confronted with. Furthermore, we can disentangle the direction of the influence. We will distinguish influence between partners, from parents to children, from children to parents and between siblings. We will also address the mechanism on interpersonal influence. The role of political discussions and more informal channels is still not clear. It is assumed that influence occurs through political discussion. We will test the impact of political discussion empirically using information on the frequency of political discussion in the SHP.

[4] For example, Zaller states that "Even when we learn from friends or family members about some aspect of public affairs, often we may still be second-hand consumers of ideas that originated more distantly among some type of elite" (1992: p.6).

2.5 Rational choice models and economic voting

The rationalist framework is often seen as an alternative to sociological theories which focus on predispositions and socio-structural characteristics (Clarke et al. 2004). The rational framework goes (among others) back to Downs (1957). It assumes self-interest of politicians and voters. Voters compare parties and support the party which maximises their utility. For Downs, utility refers to "incomes from government activity" (Downs 1957, 138), usually operationalised with the left-right continuum. In the simple model, the position of the left-right continuum reflects preferences on the amount of public goods and services to be provided by the government. Put very simply, rich citizens should favour (economically) right-wing parties proclaiming little government spending, low taxes and weak income redistribution. Poorer citizens tend to support (economically) left parties, who favour high government spending, high taxes and strong income redistribution. In current electoral research, proximity models usually refer to ideological closeness (position on the left-right axis or in issue space) more generally rather than to personal income and direct utility maximisation.

However, income and economic conditions play an important role in economic voting theory which assumes that voters hold parties or candidates accountable for their performance. The accountability hypothesis postulates that citizens support the party with the best economic performance or expected performance. If the economic conditions are good, voters are assumed to support the incumbent party, if economic conditions are bad or worsening, voters are assumed to support the opposition.

Economic voting has given rise to extensive literature and several debates. One such debate is about whether the personal economic situation (egocentric voting) or the national economic situation (sociotropic voting) influences the vote. Although

sociotropic voting seems generally stronger in empirical studies, the role of the personal economic situation is less clear and varies between countries (Lewis-Beck and Paldam 2000). Another debate is on whether evaluation on economic performance is prospective or retrospective (MacKuen, Erikson, and Stimson 1992; Norpoth 1996).

A third debate in economic voting theory is about whether the objective economic situation or rather the perceived economic situation matters. At the aggregate level, objective economic measures, mostly economic growth, unemployment and inflation, have an impact on electoral outcomes (Kramer 1971; MacKuen, Erikson, and Stimson 1992). At the individual level, findings on the personal economic situation are inconsistent (Duch, Palmer, and Anderson 2000). When the perceived economic situation is used as a measure for the economic situation, also individual-level models work well. However, such models have been criticised as endogenous (Duch, Palmer, and Anderson 2000; Nannestad and Paldam 1994). Supporters of the incumbent party tend to perceive the economy more optimistically than supporters of the opposition. The perception of the economy may thus reflect rationalisation rather than a causal impact. The debate is on-going, as the exact mechanism of how economic conditions influence the vote is still unknown. It has also become clear that the extent of economic voting is context-specific. Recently, research has moved to explain cross-national (and cross-temporal) difference in economic voting (Duch and Stevenson 2008; Van der Brug, Van der Eijk, and Franklin 2007).

Both rational choice thoery and economic voting suggest thus that personal income affects voting, although the proposed mechanism are quite different. According to economic voting, personal income influences support for the government or

opposition. According to Down's proximity model, personal income influences support for left or right wing parties. Surprisingly, empirical research has largely neglected these two competing hypotheses when addressing the effect of the personal economic situation. In Chapter 10, we will look at how changes in the personal economic situation impacts change in party preferences.

3 Concepts and operationalisation of volatility

3.1 Party identification and vote

The relation between individuals and parties is central to electoral theory. Various concepts and labels describe these relations: party attachment, partisan predispositions, party identification, voting intention, and voting behaviour. While these terms are closely related, clear distinctions between them are rare and their use is often inconsistent and ambiguous.

It is crucial to define concepts not only for theoretical reasons, but also because they have direct implications for the interpretation of empirical results. This is, because the surveys analysed use different concepts. While the SOEP asks about leaning towards a party, the SHP asks about voting intention and the BHPS applies a mixture of the two concepts.

SHP: "If there was an election for the National Council tomorrow, for which party would you vote?"

SOEP: "Many people in Germany lean towards one party in the long term, even if they occasionally vote for another party. Do you lean towards a particular party? [If yes] Toward which party do you lean?"

BHPS: "Generally speaking do you think of yourself as a supporter of any one political party? Which?"

[If no:] "Do you think of yourself as a little closer to one political party than to the others? Which?"

[If no:] "If there was to be a General Election tomorrow, which political party would you vote for?"[5]

[5] In Great Britain 40 % name a party in the first question, a further 20 % name a party after the second question and a further 15 % after the third question. In total, 75 % name a party in the three questions.

We can only reasonably compare the three household panels, if these questions are similar. An assessment of the theoretical and empirical consequences of comparing these different questions is thus crucial. There are two main arguments which, as we will show, justify the comparison of the three panel surveys: the endogeneity of party identification and the empirical characteristics of the measures. We therefore think that the comparative approach is instructive if we keep the differences in mind when interpreting the results. Furthermore, our results can contribute to understanding the differences from a question of party identification and voting intention. Before addressing these arguments, it is important to discuss the concepts, in particular the theoretical and empirical differences of party identification, voting intention and voting choice.

We start with *voting choice*, which corresponds to an observable behaviour and therefore presents a relatively straight-forward concept .[6] Voting choice involves two interdependent decisions: whether I vote or not and – if I do vote – which party I vote for. Surveys which measure voting choice ask these two questions and are usually conducted shortly after an election.

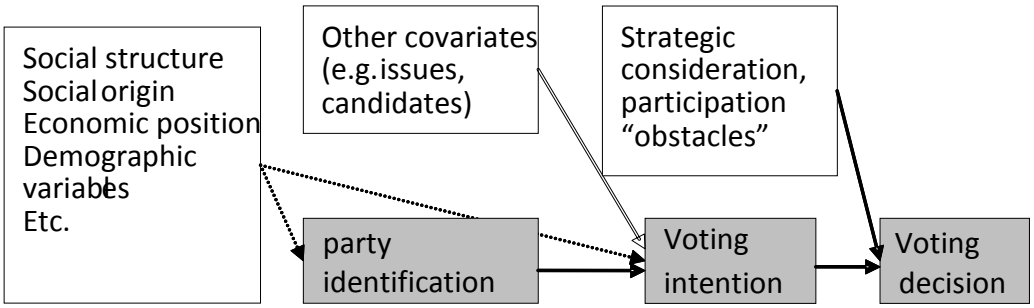
Voting intention is closely connected to voting choice. It does not refer to a directly observable behaviour but is hypothetical. It is usually asked in surveys which are not connected to any particular election or in surveys fielded during a campaign. If the question does not refer to a particular election, candidates, campaigns and strategic considerations should have a lesser influence than when asking about a particular

[6] Nevertheless, measuring voting choice may be rather complicated, e.g. in the case of split-ticket voting.

election. Another difference between voting choice and voting intention concerns non-voters. For voting intention, there is no separation between participation and party choice. Consequently, the measurement of voting intention usually involves only one question. Although respondents naming a party when asked about their voting intention are more likely to actually vote than those not expressing any party preference, this is not necessarily the case.

In standard models of electoral research, most importantly in the Michigan model, a causal relationship between *party identification* and electoral choice is assumed. An exemplary causal model, encompassing party identification, voting intention and voting choice is shown in *Figure 1*. Apart from voting intention, this is very close to the funnel of causality which can be considered as mainstream in electoral research. Party identification is usually seen – at least implicitly – as a causal influence on voting choice. But looking more closely at the relationship between party identification and voting, there are several questions and potential problems: endogeneity of party identification, the applicability of party identification outside the United States, and the measurement of party identification. They have given rise to extensive debates in literature. We will address these problems in the next two sections.

Figure 1: Standard causal model of party identification and electoral choice



Endogeneity of party identification

As discussed above, the traditional model sees party identification as a stable trait determined mostly during socialisation (A. Campbell et al. 1960, 147–48). Green, Palmquist and Schickler (2002) emphasise that party identification is a social identity similar to race, religion or social class, and is thus to a large part inherited. In this view, party identification is clearly exogenous, and its use as an explanatory variable is therefore unproblematic. But if party identification is not exogenous, it does present a problem. If we want to know whether party identification is truly exogenous, we need to understand how party identification is formed.

It is well known that socialisation, which can be considered as exogenous, plays an important role in the development of party identification (e.g. Greenstein 1965; Easton and Dennis 1969; Kroh and Selb 2009). Furthermore, innumerable empirical studies confirm that parents and childhood experiences influence party identification (Jennings and Niemi 1981; Alford, Funk, and Hibbing 2005). Lewis-Beck, Nadeau and Elias (2008, 138) have found that if parents share the same party identification,

they pass it onto their children about 75% of the time. Also the political environment during childhood and adolescence plays an important role (Hawkins, Pingree, and Roberts 1975; Jennings 2002). Even electoral campaigns have shown to increase the strength of party identification in adolescents (Sears and Valentino, 1997).

Although socialisation is crucial, many studies show that party identification is not stable after childhood and adolescence. Variables that influence party identification include e.g. a series of votes counter to identifications (Markus and Converse 1979), performance of the incumbent party (Fiorina 1981), relative policy distance between the voter and candidates (Franklin and Jackson, 1983), political awareness (Green and Yoon, 2002; Arzheimer and Schoen, 2005), party size (Schmitt-Beck, Weick, and Christoph 2006), or a new partner (Kohler 2002). Previous research therefore clearly suggests that party identification is not entirely exogenous.

In contrast to the traditional model, party identification is updated and influenced by party choice in the revisionist view (Fiorina, 1981). Or similarly, Van der Brug and Franklin (2009) see party identification as a habit of voting for the same party or the same group of parties. In this sense, party identification is endogenous by definition.

The endogeneity of party identification is problematic when introduced in regression models to explain voting behaviour. Assumptions of regression are violated and all coefficients may be biased. This problem is not new, for example Page and Jones (1979, 1079) state: “Thus the many studies of party identification as a determinant of candidate evaluations or voting choices, from the American Voter onward, may have overestimated its effect by ignoring the opposite possibility (Campbell et al., 1960). The Michigan Tradition dies hard”. In the sense that it is still relatively standard to

include party identification as an explanatory variable for electoral choice and thus implicitly assume exogenous party identification, this critique still holds today. The endogeneity of party identification to voting does not question the value of the concept, but its use a causal effect on voting choice in electoral research. There is clear evidence in the cited studies that party identification is not as independent from voting choice as is usually assumed.

Apart from the lack of consensus on what party identification stands for, there are problems with the measurement of party identification and its travelling capacity outside the USA (Budge, Crewe, and Farlie 1976; Scarbrough 1984; Fleury and Lewis-Beck 1993). Party identification may not be the same in the USA than in other countries. In the USA, voters have to vote for candidates of many different posts. Therefore, party identifications have to be translated into candidate support (Kroh and Selb 2009). In contrast, in most European countries, voters vote for parties or for fewer candidates, so party identification is less important as a guide in elections (Van Der Eijk and Franklin 2009). If both party identification and voting choice refer to parties, the problem of endogenous relationships between party identification and voting choice is more severe. Another important difference with the USA are multiparty systems. Many more survey questions and variables in a model are necessary if one wants to include strength of party identification for more than one party into a model.[7]

[7] There are scholars who argue that party identification is even multi-dimensional in the USA (e.g. (Weisberg 1980). Citizens are attracted to each party and to the category "independent" as symbols and may be separately favourably or unfavourably disposed to any of these three symbols.

Empirical differences between party identification and voting

Another approach when discussing the relation between party identification and voting intention is to compare their empirical properties. According to its definition, party identification should be more stable than voting intention or voting behaviour. Only then, the use of party identification to explain voting behaviour is justified.

If, in a simple test, we find that party identification is indeed more stable than voting choice, this confirms that party identification is different to voting choice (1) and that this difference can be captured - at least partially - by survey questions (2). If we do not find significant differences in the stability of party identification and voting intention, this either implies that party identification does not differ from voting intention or that the difference cannot be measured appropriately in surveys. Such a test has been conducted by Falter et al. (2000) for Germany. To their surprise, stability of party identification and stability of voting choice did not differ significantly in West Germany. Yet, party identification turned out to be more stable than voting intention in East Germany. This is against expectations, because East Germans rarely acquired party identification through socialisation, so party identification should have had a lesser stabilising effect in East Germany. Similarly, Meisel (1975) found that in Canada, party identification is as volatile as the vote itself.

With the two-wave Selects Panel from 1999 and 2003 in Switzerland, it is possible to apply a similar test to Switzerland. We analyse two different sub subsamples of this survey. The first consists of the respondents with party identification and party choice both in 1999 and 2003 (n=251). The second also includes individuals who did not

report a party preference or voting intention in 2003 (n=352).[8] *Table 1* shows stability rates of party identification for both samples. In the first sample, which limits the analysis to individuals who indicated a party identification and voting choice in both waves, the stability of the two measurements is very close and the difference is not significant (on the basis of 95 % confidence intervals). In the second sample, which includes those who abandoned their party identification or voting choice, stability in party choice turned out to be higher than stability in party identification, which is against theoretical expectations. 67 % expressed the same party choice but only 57 % expressed the same party identification in both waves. Party choice appears more stable because many respondents who voted for the same party in the second wave did not identify with this party any more. This confirms the result for West Germany by Falter et al. (2000) and suggests that stability levels of questions on party identification and questions on voting choice do not differ. Kohler (2002) came to a similar conclusion using a different approach. He found that stability of party identification as measured by the SOEP in two consecutive years is as strong as the relationship between party identification and recalled voting or voting intention. Analysing stability in the longer term, he found substantial volatility and concluded that either party identification in Germany is not stable, or that the question from the SOEP measures actual preferences rather than party identification (Kohler 2002, 118, 193).

[8] The difference between the two samples are respondents who, in 2003, had a party identification but no party choice or no party identification but a party choice. They are included in the second sample only.

Table 1: Stability of party identification and stability of electoral choice.

sample	party choice	party ident.	n
party identification and party choice 1999 and 2003	75.7 % stable pi 24.3 % other PI	78.8 % stable 21.2 % other PI	251
party identification and party choice in 1999	67.4 % stable party 5.8 % no party 26.8 % other party	57.0 % stable 27.4 % no PI in 2003 16.6 % other PI	352

Source: Selects Panel 1999-2003

Although stability levels of party identification and voting intention are similar, an important difference between the two measures remains: respondents are much more likely to name a party when asked about voting intention than when asked about party identification. With questions on party leanings in the SOEP, we are thus likely to have a sample of more stable individuals than in the SHP and BHPS, because party preference of non-identifiers is not measured. However, among respondents with a party identification, the stability or volatility should not be significantly different.

Recently, another test regarding the empirical equivalence of the dynamic properties of the two concepts was conducted by Fitzgerald and Curtis (2012), who justified the comparison of the SHP, the SOEP and the BHPS within these data sets themselves. They showed that stability in party preference over 10 years (per cent of respondents who still like the same party as they did at the beginning) is nearly identical across the three surveys. They conclude that the differently worded questions do not affect the results.

Party preferences as an encompassing concept

Because party identification is endogenous and has similar dynamic properties to voting intention, we consider it justifiable to compare data from the different household panels in terms of their stability, even though they have differently worded questions. The SOEP asks respondents about party identification, the SHP about voting intention and the BHPS asks a combination of those two concepts. For the rest of this contribution, we will use the term party preferences as a general concept which encompasses both party identification and voting intention.

Apart from the justifications, we think that there are also conceptual advantages of referring to party preferences. We use a neutral concept which is not linked to any particular theory or assumption. We do not assume any particular causality between party identification and voting intention. Furthermore, we can separate theoretical questions from measurement issues by referring to latent and manifest party preferences. By nature, latent concepts or variables remain unobserved. Party identification as a concept can thus be seen as a latent party preference Latent party preferences are relatively stable, but the extent of stability remains an empirical and not a theoretical question. In surveys, we can only measure manifest and not latent party preferences. In this perspective, voting intentions, voting choice, closeness to a party or identification for a party are different (manifest) indicators of party preferences.

3.2 Measuring change

Volatility refers to voters' instability. At the aggregate level, volatility is usually captured by an index referring to the net electoral change between two consecutive

elections and also referred to as net volatility (e.g. Pedersen 1983; Bartolini and Mair 1990).

At the individual level (gross volatility), the concept of volatility and its operationalisation is less standardised. This may be due to the specific research designs, or to the still relatively scarce literature on this topic. The ways in which individual volatility or stability are assessed in previous research is plentiful. The choice of measurement is crucial, because it influences results and the conclusions about the amount of volatility. Instead of enumerating all these approaches separately, we will discuss several issues which arise when measuring volatility. We discuss the treatment of no party preference, indirect changes between parties, and the number of parties. We will situate previous approaches according to these criteria and then present our measure of volatility. The first important decision to make when measuring volatility is the treatment of observations with no party preference. In the context of USA, citizens without party preference or identification are called independents but this may be misleading in other contexts. Many individuals do not express a party preference, particularly when individuals are asked about party identification. When asked about voting intention, more reveal a party preference. In the SOEP, more than half of the respondents (53 %) do not name a party. This share is high compared to other data sources in Germany (e.g. Arzheimer 2006), but compares to party identification in the BHPS data (38 % are non-identifiers). With voting intention, the share of respondents with no preference amounts to only 3 % in the BHPS. In the SHP in Switzerland, 20 % do not name a voting intention and an additional 19 % claim to vote for candidates and not for parties. Together, this adds to 39 % who do not name a party.

When measuring volatility, we have to decide whether to treat no preference in the same way as having a preference for parties. Many studies illustrate that change between parties and change between having and not having a party preference are fundamentally different. For example the empirical analysis by Schmitt-Beck et al. (2006) shows that very different mechanisms lie behind these two types of change. Also the concept of bounded party identification (Zuckerman and Kroh 2006) stresses the importance of separating the decision whether to name a party and which party to name. It emphasises that voters only consider a restricted choice set when asked to name a party preference. They usually do not choose among all alternatives available. Respondents rather choose between naming or not naming a major party, but rarely change to the other major party (Zuckerman, Dasovic, and Fitzgerald, 2007; Clarke and Suzuki, 1994). Zuckerman and Kroh argue that party preference should be considered as a two-stage process, separating the decision whether to name a party from the decision of which party to name.

Despite this, many studies on dynamics of party identification treat no party preference as a category like any other party. In Markov models, no preference and preferences for small parties are sometimes even coded into the same categories. Although rarely discussed, this is mostly done to restrict the number of categories of the dependent variable or to avoid small categories. For example, the dependent variable in studies applying Markov Models typically distinguish only two or three categories: movers and stayers, or the two major parties and all other choices respectively (e.g. Clarke et al. 2004; Neundorf, Stegmueller, and Scotto 2011). With this coding, preferences for smaller parties and no preference are implicitly considered as equivalent.

The treatment of no party preference has important implications on the understanding of volatility and stability. Treating no preference like any other preference for a party means that those who remain without party preference are then considered stable, and are not distinguished from respondents who remain with the same party. Moreover, changes between having and not having a party and changes between two parties cannot be distinguished. For our empirical analysis, we believe that the difference between having and not having a party preference is fundamental.

The second issue on the measurement of change which we will discuss is indirect changes between parties. By indirect change, we mean trajectories from a party to no party and then to another party (e.g. party A – no party – party B). To take account of such transitions, we need to look at more waves than just transitions between two points of observations. Ignoring indirect change underestimates the amount of change. Indirect changes are quite frequent, particularly when the probability of not having a party preference is high. In Germany for example, we observe twice as many indirect changes than direct changes between parties (see also Kohler 2002). Previous analyses did not take account of indirect changes. This applies to Markov models, autoregressive regression models, but also to the event history analysis by Schmitt-Beck et al (2006), who have considered abandoning a party preference and party switches as competing events. In contrast, we consider it important to take account of direct and indirect changes between parties when analysing change between parties.

The last point we will address in the discussion of the measurement of volatility is the number of parties included in the analysis. Studies mainly focus on major parties only, typically two major parties (e.g. Zuckerman and Kroh, 2006; Zuckerman,

Dasovic, and Fitzgerald, 2007; Clarke and McCutcheon, 2009; Neundorf, Stegmueller, and Scotto, 2011). Kroh and Selb (2009) distinguish five parties in Germany. While this is often reasonable and necessary for methodological reasons, it becomes problematic in multiparty systems. In Germany, the share of small parties amounts to 18 %, and in Switzerland it is even greater. To also capture small parties or to include Switzerland into the analysis, we need a measure or method including possibly all parties. However, when we use the parties as the dependent variable in a regression (particularly in multi-level modelling), the number of response categories should be limited.

Taking account of these different concerns, we present our measure of (gross) volatility. For the statistical models, we distinguish whether a change has occurred or not. Because we think it is crucial to capture indirect changes between parties, change refers not necessarily to the previous wave of observation but refers to the last wave where a party has been named. If no party preference has been named before, observations are dropped. The exclusion of observations before a party preference has been named is also necessary for event history models. Individuals who did not indicate a party preference in a previous wave cannot switch parties and are therefore not in the risk set. The selection also implies that only individuals who mentioned a party preference at least once are in the sample.

An example of the coding of the dependent variable for a hypothetical individual is provided in column 4 in *Table 2*. The same can be done for changes between party blocks, which we will address below

Table 2: Illustration of coding the variable "change between parties" (1 change 0 no change)

wave	Party	Change (0= no change; 1=change)	Comment
1	No pref.	.	Excluded because no party named before
2	A	.	First time party named. Excluded because no party has been named before.
3	A	0	No change since last party named (A in wave 2).
4	B	1	Change since last party named (A in wave 3).
5	No pref.	0	No change since last party named (B in wave 4).
6	B	0	No change since to last party named (B in wave 4).
7	A	1	Change since last party named (B in wave 6).

A consequence of this coding is that we do not capture change between having and not having a party preference. As argued before, we think that change between parties and in and out of party preference are fundamentally different from party switches. Here, we are mainly interested in changes between parties.

3.3 Party blocks

The concept of party blocks

A change between parties in two-party systems is not equivalent to a change in multiparty systems. Similarly, a change between ideologically similar parties is not equivalent to a change between parties with opposing ideologies. When measuring change, and comparing levels of volatility across countries (or time), we are inevitably confronted with the question on how to account for these differences

Bartolini and Mair (1990) argue that the important units in (Western) Europe are party blocks rather than parties. Although party blocks have been used in electoral research there are no established standards on how parties should be grouped into blocks.

Studies using party blocks apply different criteria, which are generally not further justified.

Criteria to build party blocks

Pennings, Keman and Kleinnijenhuis (2006, 190) name party families, left and right, new and old, as well as opposition and government as examples of possible criteria to build party blocks. Bartolini and Mair, who argue strongly in favour of applying party blocks as units of analysis, see the class cleavage as the relevant structure. They distinguish parties with a socialist or communist origin on the one hand and all other parties on the other. However, this definition is not suited for the present analysis. First, we are not primarily interested in the class cleavage, but refer to political space in general. Secondly, Bartolini and Mair have looked at dynamics up until 1985. Since then, new parties, most importantly the Green parties, have become established. Bartolini and Mair's criteria would result in counter-intuitive and unusual groups: Green parties and socialist parties would belong to different blocks, but Green parties and extreme right parties to the same block. Lachat (2007) uses party blocks for Germany and Switzerland to study individual level dynamics. In Germany, he builds party blocks according to government coalitions, which implies that the configuration of party blocks varies over time. For Switzerland, Lachat distinguishes four blocks and Nicolet and Sciarini (2006) three party blocks.

To construct party blocks for our analysis, we will start with the definition of party blocks as ideological closeness. For this, we have to measure ideological closeness between parties, decide on the number of party blocks and assign each party to a block.

Measuring ideological closeness for party blocks

A common way to capture ideological positions is the left-right dimension (Fuchs and Klingemann 1990; McDonald, Mendes, and Kim 2007). Another approach refers to the political space determined by cleavages. While the vast literature on the evolution of cleavages agrees that the traditional cleavages (class and religion) have become less relevant since the 1950s or 1960s (Dalton, Flanagan, and Beck 1984; Inglehart 1990; Kriesi, Saris, and Wille 1993), there are various different views on how the political space is now structured. Many scholars describe new cleavages, which have been referred to as new politics (M. N. Franklin 1992; Müller-Rommel 1984), new value (Inglehart 1977; 1990), new classes (Kitschelt 1994; Evans 1999; Kriesi 1998; Lachat 2007; Oesch 2006) or globalisation (Kriesi et al. 2006).

There are several studies which provide empirical groundings for the dimensionality of the political space. There is no consensus on the number of dimensions of party competition. Van der Brug and van Spanje (2009) point out that the dimensionality depends on the data source. While political space of the demand side (voters) is clearly two-dimensional, party competition may take place on a single dimension. The different accounts vary not only in the number of dimensions, but also on what these represent. Among analysis finding two dimensions, the first is usually labelled as a socio-economic dimension (Kriesi et al. 2006; Kriesi et al. 2008) or as the traditional left-right axis. The second dimension is called the "authoritarian-libertarian dimension" (Kitschelt, 1994), cultural dimension (Kriesi et al., 2006 and 2008) or a

dimension opposing the Green/Alternative/Libertarian (GAL) versus Traditional/ Authoritarian/ Nationalist (TAN).[9]

Data sources to measure ideological closeness

There are different potential data sources for the construction of party blocks: expert surveys, the comparative manifesto project (CMP), newspaper articles or self-placement of voters. Each has its strength and weaknesses regarding data validity and reliability, dimensions of political space, coverage for small parties, and coverage of time periods. We will address each data source in turn.

Expert surveys ask several experts to classify the parties of a country on a left-right scale or by other dimensions. Expert surveys are available for a wide range of countries and different time periods (e.g. Castles and Mair 1984; Laver and Hunt 1992; J. Huber and Inglehart 1995; Benoit and Laver 2006, Chapel Hill Expert Survey (CHES)). Because they are relatively inexpensive, they not only cover the major parties but also the small parties of countries. The dimensions on which parties have to be classified are designed before the survey takes place. Expert surveys could therefore miss some relevant issue dimensions or may contain dimensions that are politically irrelevant. Party positions of expert surveys have shown to be valid and highly reliable, because uncertainty in estimations is taken into account by relying on several experts. Compared to other sources on party positions, they are highly stable over time. Depending on the research interest, this can be seen as an advantage or

[9] Van der Brug and van Spanje (2009) found that on the basis of expert surveys that the second dimension only represents the EU integration while all other issues are contained in the first dimension.

disadvantage. For our purpose of constructing party blocks, the long-term stability of expert surveys is a very good quality. The party blocks should, if possible, remain constant for the period of observation (from 1999 to 2009). For the countries and time-period of our analysis, the CHES (Hooghe et al. 2010; Steenbergen and Marks 2007) offers left-right placements as well as positions on the economic left-right and the GALTAN dimensions for Germany and Great Britain in 1999, 2002 and 2006.

The *comparative manifesto project* (CMP) dataset codes the proportion of an electoral manifesto that is devoted to favourable and unfavourable quasi-sentences on various issues. Because parties' positions are derived from party programmes, the positions represent the priorities of parties rather than diverging positions on political issues (Budge and Farlie 1983, 281). Changes of positions within political space therefore reflect not only ideological changes but also changes in the political agenda (Van der Brug and Van Spanje 2009). For this reason, parties' positions are for the most part more volatile in CMP data than in expert surveys. McDonald, Mendes and Kim (2007) estimate that about two third of this volatility is due to real movements, while the other third represents random noise. They recognise the strength of CMP records to discover dynamics of party positions and to discover meaningful differences across nations.

For several reasons, the CMP is not well suited to construct party blocks for our purpose. First, we are neither interested in short-term movements of political parties nor in comparing party positions across countries. Secondly, ideological positions are more important than capturing the actual political agenda. Thirdly, CMP data requires additional assumptions to carry out factor analysis (Kriesi et al., 2006). On empirical

grounds, the CMP data does not result in a two-dimensional space. Cole (2005) limited his analysis to two factors despite having found more than two dimensions. For these reasons, we will not consider CMP data for the construction of party blocks.

Another approach to studying political space is *media coverage*. Kriesi et al. (2006) code the positioning of parties of six countries (Germany, Austria, Switzerland, Netherlands, France, Britain) on the basis of newspaper articles during the electoral campaigns in the 1990ies and in early 2000s. Party positions reflect both issue-specific positions as well as the salience attributed to the different issues. Positions of the major parties are measured on all policy categories that are discussed in the media. These positions reflect how parties are presented in the mass media. Political space and the parties' positions within this space were constructed using Multidimensional Scaling (MDS). Because this method does not require previous assumption on political space, they are well suited for the construction of party blocks. In each country, the authors identified two dimensions and three party blocks.

As for manifesto data, the ideological movements of parties are likely to be exaggerated in media coverage (Van der Brug and Van Spanje 2009). The data is thus a good basis on which to assess the dimensionality of the political space and the number of party blocks. For these reasons, and because the study by Kriesi et al. (2006) covers the countries considered here, it is well suited for our analyses. However, because the approach is less suited for exact party positions, as there is a large volatility of parties' positions over time, and because only large parties are covered, we will also rely on other sources.

Self-placement of voters is a frequently used proxy for parties' positions, although it reflects the demand side of politics. An advantage of self-placement is that voters choose parties according to how they perceive them and not according to how political experts perceive them. Of the panel data used here, only the SHP contains a regular question on the left-right placement. The SHP also includes questions on issue positions, which will we use to construct political space. We will conduct a principal component analysis of respondents' issue positions using the pooled data from the SHP from 1999 to 2009. According to Kaiser's criterion, which is often used, we retain factors with Eigenvalues greater than 1. This leaves us with two factors, as in many other similar accounts. For more interpretable factors, we rotate the factor scores (Varimax rotation). The first factor represents economic issues (tax progression, government expenses) and ecological issues (environmental protection, nuclear energy). The second factor represents cultural issues (foreigners, European Union). The question on the Swiss army is not clearly attributed to any of the two dimensions. The Kaiser-Meyer-Olkin measure of sampling adequacy amounts to 0.705 overall, which is considered as satisfactory.

Building party blocks from ideological closeness

Although there is a broad literature comparing these data sources and discussing political space, studies rarely connect these analyses to the construction of party blocks. An exception is Kriesi et al. (2006 and 2008), who found a tri-polar configuration of the main parties in all six countries. The three poles are generally represented by the three most important traditional political camps: the Social Democrats, the Liberals and the Conservatives, or Christian Democrats. In France, the

populist right constitutes a new third pole, and in Austria and Switzerland the conservative parties have become the equivalent of the Front National in France. For Switzerland, several empirical analyses on various data sources confirm the picture of three party blocks among the large parties: Hermann and Leuthold (2003) on the basis of referendum votes, Suter et al. (2009) on the basis of recommendations of parties for referenda and Kriesi (2001) on the basis of voting behaviour of the members of the National Council.

These empirical grounded party blocks have however the problem that they only take account of large parties. The assignment of small parties to blocks is not always clear. To which party blocks should we for instance assign radical right parties such as the German Republikaner? Do they belong to a right-conservative party block or do they rather constitute an altogether different party block, which would increase the number of blocks? Other examples of difficult assignments are small parties which lie on the border of two party blocks.

There are different options on how these difficulties may be addressed. The strategy most frequently used is to exclude small parties from the analysis (e.g. Nicolet and Sciarini 2006). The option we will apply here is to assign small parties according to their ideological distance to other parties and to strictly build party blocks according to the ideological distances between parties.

Another difficulty on building party blocks is the dynamics of party positions. Because of the varying degrees of saliency of issues, changes between a governing role and an opposition role or for other strategic reasons, parties adapt ideological positions. Furthermore, the political space itself may change as a function of the

parties' positions. Finally, the measured volatility of party positions depends to a large extent on the data source used to assess party positions and may also be due to measurement error.

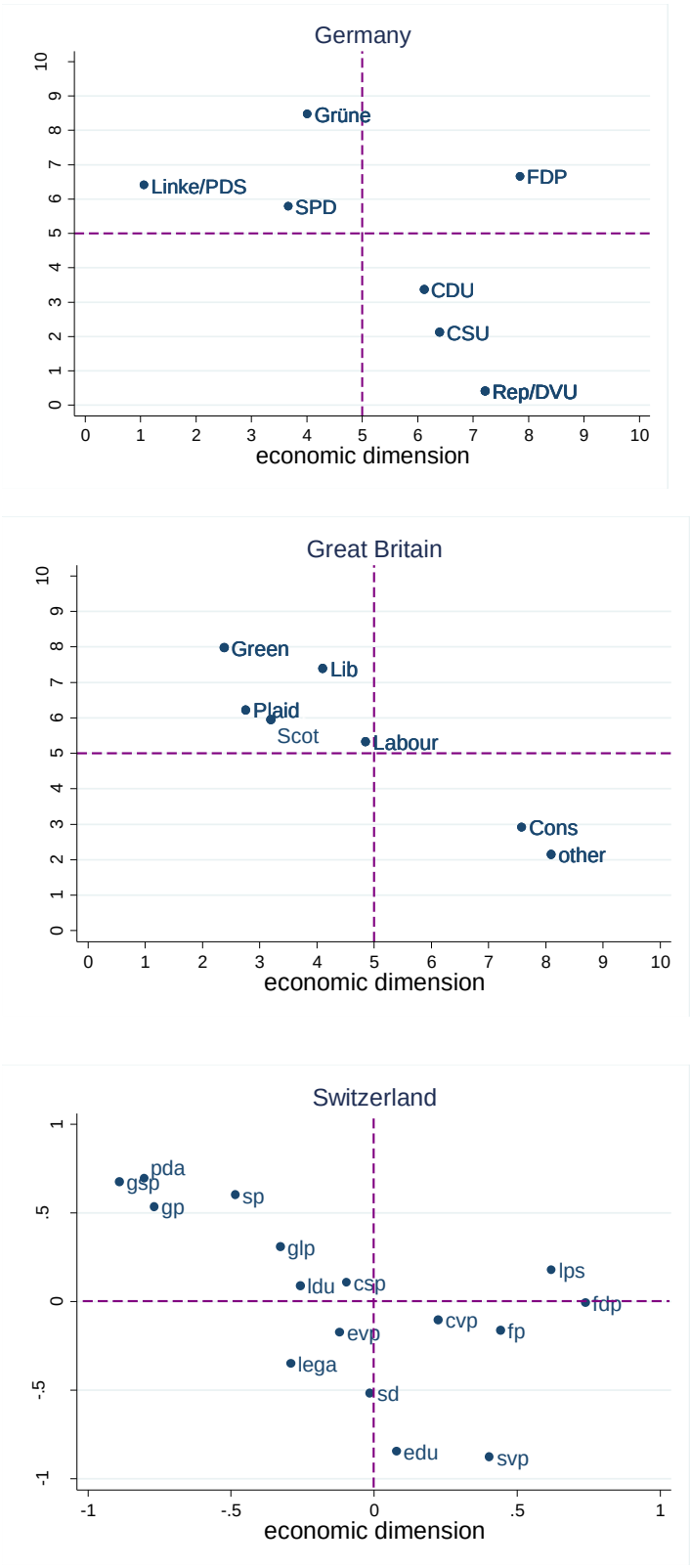
For party blocks established through ideological closeness, dynamics in parties' positions may result in incoherent party blocks over time. Changes between the same two parties would therefore be sometimes considered as a within-block change and sometimes as a between-block change. Or in the extreme, an individual can change between party blocks while remaining faithful to the same party. For this reasons, we use static positions of parties for the analysis. Because we do not analyse party systems over several decades (but over about one decade) these decisions seems further justified.

Based on these discussions, we will proceed as follows to construct party blocks in our analysis: First, we rely on a two-dimensional ideological space. For the demand-side of politics, which we will study here, scholars almost always find two dimensions (Van der Brug and Van Spanje 2009). Furthermore, the two dimensional space is confirmed by media content analysis (Kriesi et al., 2006) which does not rely on strong assumptions and by the SHP, and thus within the data used itself. Secondly, we will use the following data sources. For Germany and Great Britain, we will rely on CHES data. The economic axis and the GALTAN axis, correspond to the economic and cultural dimension found by Kriesi et al. (2006, 2008). For Switzerland, we will use the respondents' positions according to SHP issue positions. This is, because CHES-data is not available for Switzerland and only the SHP allows the parties to be positioned within the data used to analyse individual-level dynamics. Thirdly, we will

use static party blocks. For the CHES data, the mean positions of the surveys conducted in 1999, 2002 and 2006 will be considered. For Switzerland, we will pool the data from 1999 to 2009.[10] The concept of party blocks and the distinction of within- and between-block changes would become too vague if parties are allocated to different blocks over time. The parties' ideological positions according to this procedure are presented in *Figure 2*.

[10] In 2010, issue opinions have not been collected.

Figure 2: Party positions in Germany, Great Britain and Switzerland



Three measures of party blocks in Germany, Great Britain and Switzerland

We will present three different measures of party blocks: three party blocks, two party blocks and flexible party blocks. This should help to achieve valid and reliable results so that we can be assured that conclusions are stable across different definitions.

The first measure distinguishes three party blocks. The resulting groups of parties are presented in *Table 3*. In Switzerland, each block comprises at least one of the four biggest (and governmental) parties. In Germany, according to this classification, within-block changes mainly occur within the left party block. In Great Britain, each of the three largest parties is in a separate block. The assignment of the large parties to blocks is in line with groups found by Kriesi et al. (2008).

The second measure of party blocks consists of two party blocks. In all three countries, most parties are either positioned in the second or forth quadrant in *Figure 2*, and thus they either take a right position in both dimensions or a left position in both dimensions. For these parties, the attribution to either the left or the right block is straight-forward. The remaining parties are assigned to the left or right block according to a diagonal between the economic and cultural left and the economic and cultural right.

In Great Britain, all parties are either left or right on both dimensions, so that the construction of two blocks is easy. For Germany, the FDP is integrated into the right party block (compared to 3 party blocks), because it lies on the right side of the diagonal separating left and right positions. In Switzerland, the LdU, CSP and GLP and EVP are attributed to the left block, the FDP, LPS, and CVP to the right block.

Table 3: Party blocks in Germany, Great Britain and Switzerland

CH	3 blocks	Left: SP, PdA, GP Centre-right: FDP, LPS, CVP, LdU, CSP, EVP, GLP Cons.-right: SVP, EDU, FP, SD, LEGA, BDP.
	2 blocks	Left: SP, PdA, GP, LdU, CSP, GLP, EVP Right: FDP, LPS, CVP, SVP, EDU, FP, SD, LEGA.
	flexible	Within block: FDP-CVP, FDP-LPS, FDP-CSP, CVP-LPS, CVP-CSP, SP-LDU, SP-EVP, SP-CSP, SP-PDA, SP-GP, SVP-SD, FDP-BDP, SP-GLP, LPS-EVP, SVP-EDU, SVP-FP, SVP-Lega, EVP-CSP, EVP-GP, EVP-EDU, EVP-GLP, EVP-BDP, CSP-GP, CVP-EVP, CSP-GLP, PDA-GP, GP-GLP, SD-EDU, FP-GLP, CVP-GLP, SVP-BDP,
DE	3 blocks	Left: PDS/Linke, Grüne, SPD. Centrist-right: FDP. Right: CDU/CSU, Republikaner
	2 blocks	Left: PDS/Linke, Grüne, SPD. Right:, CDU/CSU, Republikaner, FDP
	flexible	Within block: Grüne-SPD, PDS/Linke-SPD, Rep-CDU
GB	3 blocks	Left: Liberal party, Plaid, Green Parties, Scottish National Party Centrist-right: Labour Right: Conservative party, UK Independence Party, Brit.National Party
	2 blocks	Left: Labour, Green Parties, Scottish National Party, Liberal party, Plaid Right: Conservative party, UK Independence Party
	flexible	Within: cons-other, scot-lab, lib-scot, lib-plaid, lib-green, plaid-green, lab-lib

The previous two constructions of party blocks consisted in deciding on the number of party blocks and assigning each party to one of these blocks. A problem of this approach is that for some parties the attribution to a block is somewhat arbitrary. For instance in Switzerland, the EVP is placed very close to the diagonal and changes between the CSP and the CVP are considered as a between-block change despite their closeness.

A possible solution to this problem is to apply a purely data driven or statistical assignment of parties to blocks. For this, we abandon the notion of fixed party blocks, and consider the actual ideological distance between two parties. This will be our

third measure for party blocks following a flexible approach. For this, placements of all parties have to be considered. On the basis of parties' positions in *Figure 2*, we calculated the distances in political space between any pair of parties. In a second step, we then classed each possible change between two parties as either a within or a between-block changes.

To decide whether a change between two parties (e.g. a change between the Christian Democratic People's party (CVP) and the Liberal party (LPS) in Switzerland) is a within-block change or a between-block change, we have to define a threshold. Ideological distances above the threshold are considered as between-block changes and distances below that threshold are considered as within-block changes. Fixing the threshold is arbitrary, although objective criteria are sed. We set the threshold pragmatically in the sense that it should be in line with the categorisations of large parties in other constructions of party blocks. For Switzerland, we set the threshold so that changes between CVP and the Swiss Peoples' Party (SVP) are considered as between-block changes (distance of 0.79, but the absolute value is not important). All changes between parties with an ideological distance less than 0.79 are considered as within-block changes.[11] By choosing distance between the CVP and the SVP as a threshold, we obtain classifications of large parties consistent with other classifications of party blocks.

If we had, for an example, chosen the threshold as the distance between the Liberal (Radical) Party (FDP) and SVP (0.93), this would imply that changes between CVP

[11] The percentage of within-block changes depends on the threshold point chosen. We experimented with varying thresholds, but the substantial conclusions from hypothesis testing remain the same.

and SVP are coded as a within-block change, but FDP and SVP changes are considered as a between-block change. This would contradict almost all other constructions in party blocks. Because we do not have strong arguments for why this should be so – as we have no hard criteria for choosing the threshold – we set the threshold as mentioned as between CVP and SVP. Consequently, changes from FDP-SVP are a between-block change and changes from CVP-FDP are a within-block change.

For Germany, we set the limit so that changes between Social Democratic Party (SPD) and Christian Democratic Union (CDU) are classified as between-block changes (distance of 3.44). All changes between parties which are closer than 3.44 are classified as within block changes. This results in only very few within-block changes. Only changes between SPD and the Green Party and changes between CSU and Republikaner/DVU are considered as within-block changes. Changes between CDU and CSU are not coded as changes, but as stability, because the two parties do not compete within the same regions. So the only possibility to switch between CDU and CSU is a geographical move.

The procedure for Great Britain is similar to the one used for Germany. We classify changes between the two major parties, the Conservative Party and Labour, as a between-block change (distance of 3.64). All larger distances are classed as between-block changes and all smaller distances as within-block changes. The resulting classification turned out to be identical to the two-blocks defined before. The conservative party and other parties (mainly the independent party) are in the right block and all other parties constitute the left block.

Frequencies of the change variable (see section 3.1) for the three measures of party blocks are illustrated in *Table 4*. For the BHPS we show measures for voting intention (VI) and measures for party identification (PI). We see that stability levels vary between 82 and 94 %. Not surprisingly, stability levels are higher for measures of party identification than for measures of voting intention. As discussed (see section 3.1), the reason is a selection effect: when asking about party identification we observe party identification only for a more stable subsample of the electorate. However, independently of the wording of the questions and definitions of party blocks, changes between blocks are not marginal. However, the extent of change depends on the definition of party blocks. The measures of flexible blocks (according to measured ideological distance) take an intermediary position between those of two and three party blocks. We will discuss stability and change in detail in Chapter 5.

Table 4: Frequencies of variable „change between parties"

	DE (PI)	GB (PI)	GB (VI)	CH (VI)
No change	93.3	93.7	88.2	81.7
Change between party	6.7	6.4	11.9	18.3
Change between 2 party blocks	2.7	3.1	5.8	5.8
Change between 3 party blocks	3.7	5.9	10.8	9.8
Change between flexible party blocks	3.6	3.1	5.8	5.8
Total	100.0	100.0	100.0	100.0
n	240'950	135'285	150'003	43,364

Source: SOEP (1984-2010), BHPS (1991-2008), SHP (1999-2010)

3.4 Conclusion

This chapter presented key concepts and their measurement, which are crucial for the empirical analyses in the next chapters. First we discussed the comparability of the SOEP, BHPS and SHP. While the SOEP asks respondents about party identification, the SHP asks about voting intention and the BHPS a combination of these two

concepts. However, taking account of the endogeneity of party identification and the similar empirical properties of the different concepts, we consider these different variables as indicators for party preferences. Nevertheless, there are important empirical differences between party identification and voting, which have to be taken into account. Most importantly, fewer individuals have a party identification than a voting intention and those with a party identification are more stable than those without a party identification. But comparing stability levels of party identification and voting intention for the same individuals, reveals very similar stability levels. For our study, this implies that in Germany we observe party preference only for individuals with relatively strong partisan predispositions. Bearing the differences in the question wordings in mind, the three panel studies offer a unique possibility to study dynamic aspects of voting behaviour.

Second, we discussed the measurement of change between parties. Many seemingly contradictory findings on the stability of party preference in literature can be attributed to explicit or implicit choices about the measurement of change. Most importantly, we think that movements between a party and no preference should be distinguished from movements between parties. Our main dependant variable for regression models (chapters 6 – 10) captures whether a change between parties has occurred or not (binary variable). Change refers not necessarily to the previous wave of observation, but to the last wave a party has been named. With this measurement we do not take account of the preferred party is preferred, but capture whether the same party is preferred as in the past. An important advantage of our measure compared to previous studies is that we can take account of small parties. Furthermore, we can use the same dependent variable for each country and facilitate

so the comparison between Switzerland, Germany and Great Britain. Nevertheless, a change between two ideologically close parties in a multi-party system (such as Switzerland) may be very different in nature than a change between the two main parties in a competitive system (such as Great Britain). To make changes between parties more comparative between different party systems, we distinguish changes within party blocks and between party blocks. We defined party blocks according to the ideological closeness of parties in a two-dimensional political space distinguishing an economic and cultural dimension. Empirically, we used data from the CHES in Germany and Great Britain and from the SHP in Switzerland to assign each party to a block. We developed a coding with two party blocks in each country, a coding with three party blocks in a country and a coding relying on the closeness of each pair of parties within the two-dimensional space.

4 Data and Methods

4.1 Household panel data

Comparison to other surveys

With the collection of survey data, researchers have started to study individual level dynamics. Most widely available is data on recalled electoral behaviour, where citizens are not only asked about voting in the current election, but also about the previous election. Recalled voting behaviour allows the study of many countries and relative long time periods (e.g. Dalton, McAllister, and Wattenberg 2000; Lachat 2007). The problem of retrospective questions is that they overestimate consistency and underestimate change (Weir 1975; Himmelweit, Biberian, and Stockdale 1978; Van der Eijk and Niemoller 1983; Waldahl and Aardal 2000). Furthermore, they capture dynamics between only two points of observation.

Because of the problems of recalled voting behaviour, panel data are better suited to studying dynamics and vote switching. Panel surveys collect information from the same individuals at different points in time. Panels are often carried out within national electoral studies. Typically, such electoral panels cover two consecutive elections and sometimes include intermediate observations. Additionally, there are many panel surveys covering (electoral) campaigns.

Here, we use household panel studies which interview the same households and individuals on an annual basis. Three countries conduct household panel studies, which include questions on political behaviour: The German Socio Economic Panel (SOEP), the British Household Panel Survey (BHPS), and the Swiss Household Panel

(SHP). The SOEP has been running since 1984 and added new samples in 1990 (from East Germany), 1998, 2000, and 2006.[12] The BHPS started in 1991 and has included an additional sample for Scotland and Wales since 1999. Because of the distinct party system, we have not included the sample from Northern Ireland in our analysis. The BHPS ended in 2008 but the samples have been integrated into a new panel: Understanding Society.[13] The SHP started in 1999. A refresher sample was added in 2004. All these household panels are scientifically driven and based on random population samples. They provide detailed documentation on the data collection (e.g. sample selection, following rules, modes, and incentives) and data preparation (e.g. checks, weighting, and attrition). Although political scientists are beginning to use household panels, particularly the SOEP, they are still underused in electoral research.[14]

We will use panel waves up to 2010 (2008 for the BHPS) which were available at the time of analysis. An exception is chapter 9, where we also consider SHP data from 2011, because this wave contains additional variables. We restricted the sample to citizens with the right to vote and therefore excluded observations of individuals below 18 years of age or without the country's citizenship.

We will now discuss the main characteristics of household panels relevant for their use in political science. First of all, household panel data present a rare opportunity to

[12] The high-income sample from 2002 (sample G) has been excluded for this analysis.

[13] At the time of analysis, data from the old BHPS sample within Understanding Society has not yet been available.

[14] For example, Bartels et al. (2011) noted: "Ideally, panel data tracking even broader time spans would also be studied, though high quality panel data with several waves covering, e.g., a decade are sorely lacking in political science".

study the same individuals over a relatively long time span. This is interesting for studying dynamics but also for the study of relatively rare events (e.g. divorce, having a child, and geographical moves) by pooling data.

Secondly, household panels are designed for different disciplines of social science. They do not focus primarily on political behaviour, but cover a wide array of topics including work, health, leisure, psychological traits, income, well-being, housing and much more. They contain only a limited number of strictly political variables. The SOEP and BHPS include annual questions on party preference (see section 3.1), strength of party identification and interest in politics.[15] The SHP includes additional variables on left-right placement, opinions on several political issues, forms of protest, overall satisfaction with democracy, confidence in the federal council and the feeling of political influence.[16] Despite the relatively broad coverage of political variables, the SHP has been used only by a few scholars interested in dynamics (Fitzgerald 2011; Fitzgerald and Curtis 2012; Kuhn 2009).

While household panels include relatively little information on political behaviour, they do contain many variables which are not typically included in electoral surveys. This presents opportunities to address research questions that could not be empirically addressed otherwise, such as intra-household influences (see chapter 9 and section

[15] The SOEP contains annual questions on worries (e.g. the environment, peace, job security) and a few irregular questions (e.g. electoral participation, personal influence in 2005 and 2010, left-right position in 2005 and 2009). The BHPS asked about unionist vs. nationalist positions (2002, 2003, 2006, 2007, 2008), and vote choice in previous election. In 1991, 1993 and 1995 the BHPS als collected a six-item battery of questions for a left-right ideological scale. The SHP asks all respondents about the left-right position of their parents. All panels contain variables on party membership.

[16] From 2010 on, the political module has been revised. Voting intention, interest in politics and the left-right placement are still collected annually. In 2011 and then every 3 years, the survey contains a detailed module on politics, including political issues, party identification, or preferences for government spending.

2.4), life events (Kohler 2002; Schmitt-Beck, Weick, and Christoph 2006), area of living (Ströbele 2012), or social class (Oesch 2006).

The third characteristic of household panels worth mentioning is their data quality. Because of their long experience and the resources invested in data collection and preparation, household panels are of high quality although they are confronted by the same challenges and potential sources of errors as all surveys. The problem of attrition is peculiar to panels, referring to temporary or permanent drop-outs from the survey. Attrition is more obvious than other sources of errors and cannot simply be ignored; however, it can be more easily corrected than other errors. Nevertheless, attrition remains a problem, in particular for political characteristics, which is why we will address non-response and attrition in more detail below.

A fourth particular characteristic of household panels is their complexity. The survey design with personal and household interviews, its longitudinal structure, as well as its fight against attrition, all require large efforts for data collection but also for data analysis in terms of data management and statistical methods, factors which we will address below. For these reasons, entry-costs for the analysis of household panel data are relatively high, which may explain the small number of political scientists working with this data.

The last characteristic of panel data to mention is its comparability across countries. Each household panel is run independently but collaboration between countries is organised within the Cross National Equivalence File (CNEF) which currently

contains eight countries (Frick et al. 2007).[17] But political variables are not (yet) a part of the CNEF. Therefore, it is up to the data user to assess the comparability of the data and establish harmonisation. Because the questions and scales on political variables vary considerably between the countries, we have to take account of this for data analysis and interpretation. So far, only Zuckerman and his colleagues (2007), and Fitzgerald and Curtis (2012) have used household panels comparatively in political science.

Levels of non-response and attrition

First, we will look at initial non-response (in cross-sectional surveys or in the first wave of a panel). This occurs if individuals cannot be contacted or do not cooperate. If non-response is due to health or language reasons, respondents are usually considered as neutral drop-outs.

For household panels, computation and comparison of wave 1 response rates is difficult. First, nonresponse occurs both at the household and at the individual level. Secondly, survey and sample designs vary across countries and despite established standards, methods used to compute response rates vary.

In Germany, the willingness to participate in surveys has declined over time. This is reflected in wave 1 response rates in the SOEP. From 1984 to 2006, the participation rate decreased from 61 % to 40 %. In the BHPS, wave 1 response rates amounted to

[17] Other household panels included in the CNEF are Panel Study of Income Dynamics (PSID, since 1970), the Canadian Survey of Labour and Income Dynamics (SLID, since 1993), the Russia Longitudinal Monitoring Survey (RLMS-HSE, since 1995), the Korea Labor and Income Panel Study (KLIPS, since 1998), and the Household, Income and Labour Dynamics in Australia (HILDA, since 2001).

and 74 % for the original sample (1991) and 63 % for the Scottish and Welsh samples from 1999. For the SHP, computation of the response rate for the 1999 sample is only possible with assumptions because not all of the addresses sampled were exploited.[18] For the 2004 refreshment sample, the household response rate amounted to 63 %, which is good in comparison with other cross-sectional surveys in Switzerland.[19]

We now turn to attrition. To assess attrition, the survey design plays a crucial role. Individuals may stop participating because they become ineligible through death, moving out of the country, moving to an institution (e.g. care home), or according to following rules.[20] Alternatively, individuals are still eligible for interviews but cannot be contacted or refuse to participate. To compute attrition rates, only the drop-out of eligible individuals should be taken into account. Unfortunately, the reasons for drop outs are not always known. For example, if a person in a single household cannot be contacted, it is often not clear whether this person has moved to an institution, has died or simply could not be reached.

We will first use a simple measure to illustrate attrition: we will look at the number of interviews without taking account of the eligibility status. Usually, the number of interviews in a sample decreases over time. However, new individuals may enter the

[18] First wave non-response lies somewhere between 49 % (treating all the remaining households as non-contact and thus assuming that none of them would have participated in the survey) and 64 % (assuming that the remaining households would have the same refusal rates as those already contacted).

[19] For example the response rates in the Swiss Electoral Studies Selects amounts to 51 % in 1999, 47 % in 2003, 49 % in 2007 and 35 % in 2011 at the household level.

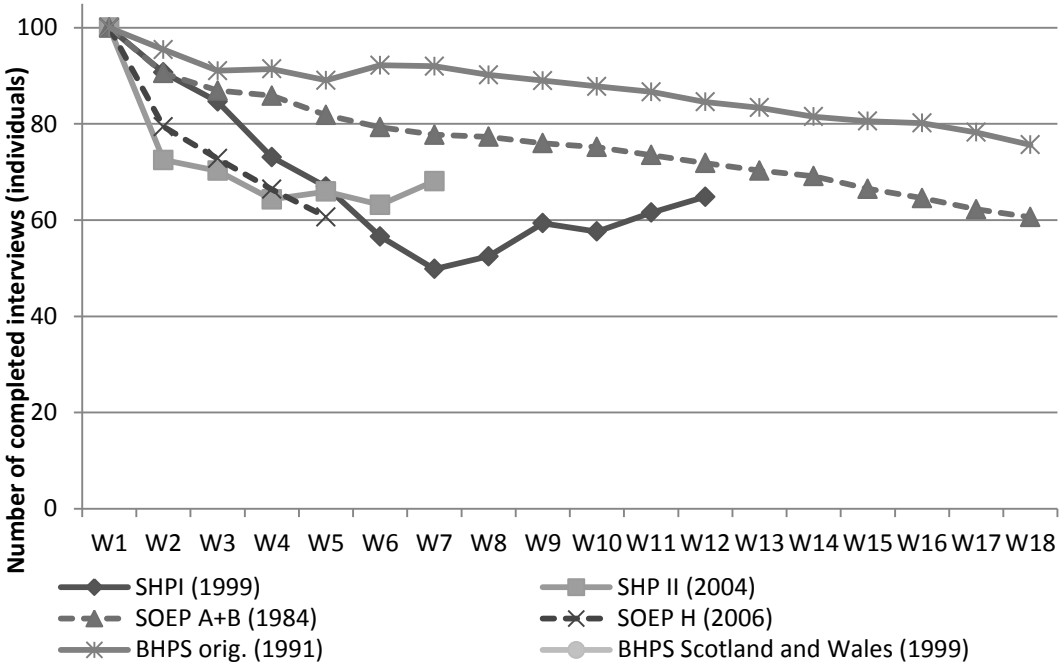
[20] In some cases, only households where all individuals participated in the survey have been retained in later waves (SOEP sample from 1984, SOEP East-German sample from 1990, SHP sample from 1999). Also the following rules applicable to individuals differ between surveys or have changed over time (Frick et al. 2007). Some individuals may not be re-interviewed once they leave the household (because they are Non Original Sample Members).

sample by reaching the minimum age to be interviewed or by moving into a household in the sample. In addition to definite drop-outs and new sample members, individuals may participate irregularly.

Figure 3 shows the number of interviews as a percentage of interviews in wave 1. Two samples of each survey are shown: the original sample and a more recent refreshment sample. Usually, participation rates drop relatively strongly at the beginning of a panel and stabilise after four to five waves In later waves, loss is typically smaller than 5 %. We also see that participation in more recent samples is lower.

The evolution of the SHP differs from the SOEP and BHPS and needs further explanation. Attrition was strong in the first few years but after 2006, the number of interviews increased in absolute numbers. The interview mode is one of the reasons for this difference. The SHP is conducted by telephone, while the SOEP and the BHPS are Face-to-Face surveys (personal visits of interviewers). Telephone respondents may be less committed to further participation than those receiving personal visits by an interviewer (Lipps 2009). In telephone surveys, it is also more common that not all household members participate (partial unit non-response) and that individuals participate irregularly. However, refusals seem to be less prevalent than in Face to Face surveys. In the longer term, mode seems to play a smaller role. After, 2006 the number of interviews in the SHP increased as a result of various measures, mainly the introduction of financial incentives, contacting earlier drop-outs, improved communication with households and improved tracking of addresses.

Figure 3: Attrition in household panels: number of interviews by survey wave



Note: Number of interviews in first wave as 100%.

Bias from non-response and attrition

Response rates are widely used as a quality measure for surveys. Although many studies confirm that initial non-response leads to bias (e.g. Behr, Bellgardt, and Rendtel 2005; Groves and Peytcheva 2008), low response rate does not necessarily mean a high non-response bias and vice versa (e.g. Groves 2006). Not the level of non-response, but the size of bias is decisive for data quality. The size of the bias depends on the extent to which non-response occurs systematically, and on the extent to which it can be controlled by observed variables (Little and Rubin 2002). Literature has shown that non-response is strongly related to social involvement, integration and isolation (Stoop 2005; Watson and Wooden 2009; Groves and Couper 1998). Additionally, young respondents and immigrants are underrepresented in surveys.

The assessment of bias differs for initial non-response and for attrition. For initial non-response, only a little information is available. Usually, some socio-demographic characteristics are known from the sampling frame. Other information sources for assessing non-response bias are contact data (e.g. number of contact attempts, description of house or environment), non-response surveys, or aggregate demographic statistics from the population to compare to the sample. Therefore, it is difficult to assess bias from initial non-response.

Analysis of attrition is easier because individuals have participated in earlier waves and many characteristics of drop-outs are known. Various studies address attrition effects in household panels (Lipps 2007; Voorpostel 2010; Spiess and Kroh 2008; Burton, Laurie, and Lynn 2004; Lipps 2009). Interest in politics, participation in associations, voluntary work or unemployment are main explanatory variables for attrition. The underrepresentation of foreigners is not a problem for this analysis, because we are only interested in individuals with the right to vote and thus with the country's nationality.

To correct for unequal sampling probabilities and non-response, household panels provide weights which are usually built on the basis of socio-demographic factors. These weights are general and not targeted to specific topics. Consequently, bias in political variables is only partially corrected.[21] Because we know that political variables are strongly affected by non-response and attrition, we have to look at potential bias more closely. We computed correlation coefficients between panel

[21] Documentation on the construction and use of weights can be found in the User Guides of the surveys (Haisken-DeNew and Frick 2005; Taylor 2010; Voorpostel et al. 2011).

participation and several variables of interest (cf. *Table 5*). Panel participation is measured in relative terms as the number of interviews with a respondent divided by the number of interviews for which the respondent would have been eligible. The correlations are systematically stronger in the BHPS than in the SOEP and SHP. This is, because eligibility status is well documented in the BHPS and therefore, relative panel participation has only a small measurement error. In the SHP and SOEP, it is more difficult to exclude individuals who are no longer eligible for the survey (most importantly due to death). Therefore, we cannot compare relative participation across the panels but we can compare correlations of variables within the same survey.

Correlation coefficients in *Table 5* confirm that survey participation is related to social participation and political participation. In all three panels, survey participation increases with age and interest in politics. Individuals who participate in household panels are also more likely to have a party preference. Of particular interest for us is the variable change, which measures party switches (see section 3.2). Those who stay in the panel tend to be more stable than those who drop out, but the association and potential bias is weak. Apart from this, we see from the SHP that participation in the survey is related to participation in referenda and left wing political positions. In the SOEP and the BHPS faithful respondents tend to have stronger party identification.

Table 5: Attrition bias: correlations with panel participation in the SOEP, BHPS, and SHP

	SOEP		BHPS		SHP	
	no weight	weighted	no weight	weighted	no weight	weighted
Age	0.20	0.20	0.26	0.33	0.09	0.08
Interest in politics	0.06	0.05	0.09	0.09	0.12	0.12
Has party preference	0.04	0.04	0.10	0.11	0.08	0.07
Change of party preference	-0.01	-0.01	-0.02	-0.03	-0.01	-0.01
Strength of party identification	0.04	0.03	0.08	0.10		
Left-Right position					-0.03	-0.03
Vote participation					0.14	0.13

Note: Pearson correlation coefficients. Cross-sectional weights provided by the panels are used. Source: SOEP 1984-2010, BHPS: 1991-2008, SHP: 1999-2010.

We computed correlations with and without the weights provided by the surveys. Weights have only a marginal effect on correlations and hardly reduce bias. In the SHP and the SOEP, the corrections through weighting go in the right direction but in the BHPS weighting seems to increase bias for our application.

Measures to account for non-response and attrition

Non-response and attrition have several implications for our study. First, attrition does cause bias, particularly for political variables. The more we restrict the sample to faithful respondents, the more bias we could have. Thus, we have included as many individuals in the sample as possible and use an unbalanced panel for analysis. Secondly, the potential attrition bias varies between variables. Because we focus on volatility rather than political preferences itself, bias should be limited. However, for studies on political participation or on whether individuals have a party preference, the bias could be stronger. Thirdly, we know the direction of the bias. For volatility, we are likely to overestimate stability and underestimate volatility. Regarding the other variables considered, we are likely to underestimate changes in and out of party preference, and to underestimate the proportion of citizens without party preference.

When interpreting results we have to take potential bias into account, in particular when we look at descriptive statistics. Fourthly, weighting hardly corrects the bias of political variables. Nevertheless, we will use weighted results for descriptive analysis to correct for unequal sampling probabilities. For analytical models, weighting is less obvious and academics disagree on its necessity. Correlations between variables are assumed to be less biased than descriptive statistics. Variables related to non-response and attrition can be added as control variables to limit bias. Furthermore, not all statistical software and models allow for weighting. We checked the effects of weights for several models and found that it does not affect the conclusions. Therefore, multivariate models presented in this thesis are not weighted. Finally, we will use the variable on panel participation (number of observations of an individual / potential number of observations) as a control for attrition in regression models.

4.2 Data management

The complex survey design of household panels is reflected in the data structure. Apart from the longitudinal structure, information is collected at both the individual (for all household members) and at the household level. As a result, the data is made available in many different data files. For example, the first 12 waves of the SHP produced 29 data files, not including complementary files (e.g. containing cross-national harmonised variables, interviewer data, and imputed income). In the SOEP and the BHPS, researchers are confronted with over 100 data files.[22]

[22] More recently, the SOEP offers data in the long format, but there are still 14 data files, plus the files with unique (biographical) information.

Compared to cross-sectional analysis, household panel data requires a lot of data management.[23] Different levels and units have to be combined (household and individuals, individuals over time, partners, parents and children). Also, for the construction of variables, it is sometimes necessary to combine information from several waves.[24]

The comparability of data across waves is not trivial. For example, new parties may appear; some parties may change their name, or their political orientation, may merge with other parties or become irrelevant. It is therefore not always straight forward to track changes between parties. Data preparation for longitudinal analysis also involves many decisions on how to recode or harmonise variables.[25]

A fundamental distinction for panel data analysis is whether the units of analysis are individuals or single observations clustered in individuals. In the former case, data is typically organised in wide format (see *Figure 4*), where one row corresponds to one individual and all variables from different waves are combined in the same row. In the latter case, data is organised in long format (also called stacked data, pooled data or a person-period file). There are many more observations, but fewer variables. Two variables are needed to uniquely identify an observation: a person identifier and a year

[23] To provide guidance, strategies and syntax examples using Stata, the Swiss Household Panel provides a document entitled "Swiss Household Panel – Data management with Stata", which can also be applied relatively easily to other panels. It can be found under -> Teaching/Support-> SHP Data Management ->Stata.

[24] An example here is social class based on job characteristics. If respondents are not working, we have to take information from previous waves. If respondents have not been working in the first panel wave, information on last job is collected and can be used to construct social class.

[25] In the SOEP the categories on parties changed over time. For our analysis, we used the harmonised data of the long file.

identifier (person identifier *pid* and *year* in the example). The wide and long formats are two ways of organising the same information.

Figure 4: Wide and long data format

pid	party2004	party2005	party2006	party2007
41	A	A	A	B
42	B	A	.	.
56	C	.	B	B

Wide format

pid	year	party
41	2004	A
41	2005	A
41	2006	A
41	2007	A
42	2004	B
42	2005	A
56	2004	C
56	2006	B
56	2007	B

Long format

4.3 Statistical methods

We will briefly present the different methods for panel data analysis. We do not intend to give a general introduction to panel data analysis: there are many good textbook and journal articles which do this (e.g. Wooldridge 2010; Cameron and Trivedi 2009; Baltagi 2008; Rabe-Hesketh and Skrondal 2008). Rather, we will discuss the use of these methods in research into the volatility of party preferences and their suitability for our research questions and data.

Non-linear regression models

Because party preferences and change of party preferences are clearly categorical variables, we should use non-linear models for estimation. But non-linear regression is far more complex than linear regression. First of all, there is no closed form solution for regression coefficients. Models have to be obtained with iterative algorithms, using Maximum Likelihood, Restricted Maximum Likelihood estimation

or Bayesian algorithms. Often, specialised software is needed and convergence may take a very long time. The second disadvantage of non-linear models lies in the interpretation of regression coefficients. Coefficients show the direction of an effect but not the effect size.[26] We can compare coefficients within a model only if explanatory variables are equally scaled (e.g. dummy variables) but we cannot compare coefficients across models (Mood 2010; Best and Wolf 2012). Also interaction effects (even their direction) can be misleading when looking at coefficients (Ai and Norton 2003). For these reasons, we illustrate the effects of non-linear models with predicted probabilities.[27]

Cross sectional analysis versus panel data methods

For regression analysis with panel data, data is usually organised in long format. The unit of analysis are observations clustered in individuals. The clustering has two main implications for data analysis. First, we lose statistical power, because observations of the same individual are not independent. The effective sample size to consider is therefore smaller than the number of observations. Consequently, the standard errors of regression coefficients increase. If clustered data is analysed with cross-sectional methods (e.g. OLS, logistic regression), standard errors have to be corrected for clustering.

But by using standard regression approaches, we do not take advantage of the second peculiarity of clustered data. With panel data, we have two different types of variance:

[26] Sometimes, odds-ratios are reported and interpreted instead of coefficients. But odds-rations are mostly interpreted incorrectly (see (Best and Wolf 2012) against the use of odds-ratios).

[27] For practical reasons, we do not show confidence intervals for predicted probabilities. In most models, we have to compute predicted variables manually, because algorithms provided in Stata (margins, clarify, spost) do not work.

variance *between* individuals and variance *within* individuals over time. To analyse variance between individuals, we compare groups. To analyse variance within individuals, we look at changes of individuals over time. The two types of variance thus address different research questions. Apart from the substantive difference, variance within individuals has a methodological advantage: it allows for control of unobserved heterogeneity among individuals.

Unobserved heterogeneity is usually related to unobserved variables. It is rare that all relevant variables for a model are observed. If a regressor is related to an omitted variable in a regression model, the regressor and the residual are correlated and coefficients are likely to be biased. A classic example is the effect of education on wages (Wooldridge 2010). Regression coefficients for education may not only reflect the causal impact of education, but also ability, motivation, or social background. Because these other (stable) impacts are rarely observed and controlled for in empirical models, we say that there is unobserved individual heterogeneity.

Using variance within individuals, we can (almost) exclude the possibility that stable characteristics explain variance in the dependent variable. If, for example, we observe the same person before and after marriage, we can better explain the effects of marriage than when comparing married and unmarried individuals. Or, if we observe a person before and after education, we are better able to explain the causal effect of education than when comparing individuals with a particular education and without that education. The advantage of within variance is that we can control the stable characteristics, even if they are not measured. When applying conventional cross-sectional methods to panel data, we do not distinguish within and between variance.

Within variance models: fixed effects regression

Fixed effects regressions exploit only the variance within individuals. The main advantage is that stable individual characteristics are controlled, even if they are unobserved. Fixed effects regression estimates how *changes* in the independent variables affect the dependent variable. Fixed effects are thus better indicators for causality than OLS. Statistically, fixed effect regression can be derived in different ways. One possibility is to include a dummy variable for each individual. This is illustrated in the following model for a bivariate regression,

$$y_{it} = a_i + bx_{it} + e_{it} \qquad (1)$$

where y_{it} represents person i's dependent variable in year t, x represents an explanatory variable and e the residual. In contrast to standard OLS regression, the intercept a is indexed by i, designating a different intercept for each individual (which is constant over time).

A second possible way to derive the fixed effect regression (equivalent to equation 1) is the within-transformation. For each individual, the mean of the dependent and independent variables is calculated and subtracted from each observation. The effect of the intercept (a_i) is eliminated, because it is constant across waves:

$$\begin{aligned} y_{it} - \bar{y}_i &= (a_i - \bar{a}_i) + b(x_{it} - \bar{x}_i) + (e_{it} - \bar{e}_I) \\ &= b(x_{it} - \bar{x}_i) + (e_{it} - \bar{e}_i) \qquad (2) \end{aligned}$$

For non-linear regression, the within-regression is not identified. However, for logistic models (and poisson models), conditional logistic estimators can be used to

estimate within-variance (Wooldridge 2010). Kohler (2005) has used conditional fixed effects regression to estimate the stability of party identification in the SOEP.

With an increasing concern for causality, fixed effect models have become popular in social science. But whether they are well suited depends on the research question and data. Fixed effects models can only assess effects of time-variant variables. Effects of gender, socialisation or cohorts cannot be estimated, because there is no variance of individuals over time and their effect cannot be separated from the intercept. Nor are fixed effects models suitable if we want to understand differences between groups, e.g. those who change between parties and those who do not.

Fixed effects models do not use variation between individuals at all. If there is only little variation of individuals over time, estimates are unstable. This applies to short panels and relatively stable dependent variables. For logistic regression, within models imply that only individuals who vary in the dependent variable are included in the analysis.

For our main dependent variable "change" (0 for no change, 1 for change) fixed effects regression is not suited, because the variable already refers to within-variance. Apart from this, all stable individuals would be excluded from the sample. However, we will use fixed effects regression in chapter 10, where we look at whether change in financial situation affects party preferences.

Random effect models

Random effect models are also known as multilevel models (with random intercept) or hierarchical models. Random effect models distinguish variance within individuals

and variance between individuals. The residual is decomposed into a separate intercept for each individual (u_i, constant over time for each individual) and a person- and time specific residual (e_{it}).

$$y_{it} = a + bx_{it} + u_i + e_{it} \quad (3)$$

The random effect u_i estimates unobserved heterogeneity. But in contrast to fixed effects, random effects do not estimate individual-specific effects but their distribution. In fixed effects regression, unobserved heterogeneity is eliminated from the model. In random effect models, it remains part of the residual and the potential problem of endogeneity persists. Only if we assume that the regressors are independent from unobserved heterogeneity (*Cov(x,u)=0*), can coefficients be interpreted as causal effects. In reality, this assumption is rarely met. But if it holds, random effect models are more efficient than fixed effect models, because fewer parameters have to be estimated and also variation between individuals is taken into account.[28]

Comparing random and fixed effects models, the main problem of random effect regression is potential bias from unobserved heterogeneity. The advantages of random effects regression are that variance between individuals is also taken into account and stable characteristics can be modelled. But the choice between models (random or fixed effects) should not mainly involve statistical criteria. Rather, fixed and random

[28] In this respect the Hausman test is often used. This test compares estimates from fixed effects and random effect models, assuming that the fixed effect model is correct. If estimates of the two models do not significantly differ, the random effect model is preferred.

effect models address different research questions (differences between groups, within variation).

We will use random effects regression in most statistical models in the empirical section. First, by looking at change as the dependent variable, we have already focused on within variance. We actually estimated an event history model which we will discuss next. Endogeneity should therefore not be a main concern. Secondly, we are not only interested in individual changes over time, but also in comparing individuals who change with those who do not. Thirdly, we can use the whole imbalanced sample of individuals with at least two observation points and do not have to restrict the sample to those who those who switched parties (which would be necessary in a fixed effects model). Finally, the model takes account of clustering in the data (there are several observations per individual).

Event history models

In event history models, the dependent variable is the hazard rate (risk) of an event occurring. The event studied is change in party preferences. Schmitt-Beck, Weick and Christoph (2006) have applied event history models to studying the stability of party identification, distinguishing stability, direct switches between parties and abandoning party identification.

The hazard rate (h_t) is conditional on the duration of a spell (*dur* in equation 4) and other variables. Technically, (discrete time) event history models are estimated using logistic (or probit) regression in long data format.[29] By using random effects, we take

[29] An less-common alternative is the complementary log-log function.

account of the clustering of the data and unobserved heterogeneity (u_i in equation 4).[30] To distinguish changes within party blocks and changes between party blocks, we estimate a competing risk model, which has to be estimated with multinomial logistic regression or multinomial random effects models.

$$\log(\frac{h_t}{1-h_t}) = a + b_1 dur + b_2 x_{it} + u_i + e_{it} \qquad (4)$$

With event history analysis, we should only include individuals in the sample who have a positive risk for the event happening (risk set). In our application, individuals without a party preference or unknown party preference cannot switch parties. We therefore exclude observations until a party preference has been named (see construction of the variable change in section 3.2, *Table 2*).

Dynamic models

Dynamic models include lagged dependent variables ($y_{i,t-1}$) on the right-hand side of a regression model:

$$y_{it} = a + b_1 y_{i,t-1} + b_2 x_{i,t} + e_{it} \qquad (5)$$

There are two main purposes for using dynamic models. First, dynamic models are used to estimate true state dependence (coefficient b_1 in equation 5); they have frequently been used to assess stability of party identification (Converse, 1964; Fiorina, 1981; Franklin and Jackson, 1983; Alwin and Krosnick, 1991; Kohler, 2002; Green and Yoon, 2002; Wawro, 2002; Kroh and Selb, 2009; Bartels et al., 2011). The

[30] In event history analysis, those models taking account of unobserved heterogeneity are also called frailty models.

second aim of dynamic models is to use the lagged dependent variable as a control or proxy for otherwise unobserved variables (Wooldridge 2010). In time-series analysis (small *n*, large *t*) and time-series-cross-section data, controlling for previous outcomes is standard. But in panels (large *n*, small *t*), dynamic models are biased.[31] The problem is that the lagged variable ($y_{i,t-1}$) and the residual (e_{it}) are correlated and all coefficients potentially biased. To illustrate the problem, we have re-written the model from equation 5 for t-1

$$y_{it-1} = a + b_1 y_{i,t-2} + b_2 x_{i,t-1} + e_{i,t-1} \quad (6)$$

and substituted (6) into (5):

$$y_{it} = a + b_1(a + b_1 y_{i,t-2} + b_2 x_{i,t-1} + e_{i,t-1}) + b_2 x_{i,t} + e_{it} \quad (7)$$

Because e_{it-1} is part of the independent variable in equation 7, the correlation between $y_{i,t-1}$ and the residual becomes obvious. The shorter a panel is, the larger the bias from this built-in endogeneity (Nickell 1981).

Another difficulty of dynamic models is the distinction between true state dependence and individual heterogeneity (Bartels et al. 2011). For party choice, true state dependence means that previous party preference has a causal effect on current party preference, rather than being influenced by the same (exogenous) factors. To distinguish individual heterogeneity and true state dependence, dynamic models typically include fixed effects or random effects for individuals:

$$y_{it} = a + b_1 y_{i,t-1} + b_2 x_{i,t} + u_i + e_{it} \quad (8)$$

[31] But the use of a lagged dependent variable (Beck-Katz standard) is also debatable for time-series-cross-national data (Keele and Kelly 2006).

Despite the control for unobserved heterogeneity, the problem of the initial condition remains. The lagged variable refers ultimately to the initial condition, which cannot be separated from the individual effect (unobserved heterogeneity) if the process has already been in observation at the first observation (Heckman 1981; Hsiao 2003, 208). Dynamic models thus have to assume that the first observation is exogenous.

To obtain consistent estimators despite the endogeneity problem, several estimators have been developed (see, for example Baltagi (2008) or Wooldridge (2010)) and have been used to estimate the stability of party identification (Green and Yoon 2002; Wawro 2002). But these estimators assume continuous dependent variables, which is a problem for party preferences. The use of dynamic models is less well-established for categorical variables.

So far, two main strategies have been applied to estimating dynamic non-linear models. The first is the Heckman approach (Heckman 1981) which assumes that the dynamic process is in equilibrium (see Contoyannis et al., 2004: p. 490). For party preferences, assuming that dynamics are time-invariant is clearly not appropriate. The second approach has been suggested by Wooldridge (2005) and applied by Kroh and Selb (2009) and Bartels et al. (2011) on stability of party preference. The distribution of the unobserved effect is modelled conditional on the initial value and any exogenous explanatory variables. A practical advantage of this approach is that it can be estimated using standard software. Although dynamic models are widely used and present a straight-forward way to study dynamics of party preference, we do not consider them as appropriate for our research question. Most importantly, we are not primarily interested in the true state dependence of party identification and do not

intend to add to the extensive literature opposing the traditional and revisionist models of party identification. As argued before, we think that we have to address volatility more fundamentally without assuming that one of the models is correct for everyone. Secondly, dynamic panel models are very sensitive to misspecification (Wooldridge 2010; Contoyannis, Jones, and Rice 2004, 491; Wawro 2002), as they require strong assumption which are likely to be violated in the case of party preferences. For example, the models assume that there is no second order correlation of party preference, which is misleading if individuals are ambiguous between two or more parties. Using the Wooldridge approach, we would have to assume that the first party preference recorded captures the initial condition. Considering that the timing of the first panel wave is defined only by the survey design and not related to party preference, the interpretation of the first observation as an initial condition seems problematic. Thirdly, the dependent variable in dynamic models are parties, which require therefore many categories. The more categories there are, the more complex model estimation and interpretation becomes.[32] Here, we are interested in dynamics more generally and do not intend to focus on particular parties. Grouping parties together (as would be necessary, particularly in Switzerland), means that the dynamics between these parties is ignored (see section 3.2).

Grouping individual trajectories and sequence analysis

The regression models for panel data discussed above (fixed effects, random effects, dynamic models, and event history models) use observations and not individuals as

[32] Convergence problems are non-negligible. So far, standard statistical software (e.g. SPSS, Stata) do not allow random effects models for more than two categories. Kroh and Selb (2009) considered five response categories in their dynamic model of Germany using gllamm software (Rabe-Hesketh, Skrondal, and Pickles 2004).

units of analysis (long format). They capture dynamics only to a limited extent. Fixed and random effects models do not model dynamics at all, but use the longitudinal structure to better estimate causal effects. Event history analysis detects duration dependence; dynamic models assess state dependence and individual heterogeneity. These approaches are well suited to studying the effects of explanatory variables on volatility. However, to study dynamic processes in more detail and to capture more complex patterns, it is better to focus on individuals as the units of analysis (wide format) and to look at trajectories over many panel waves. Because there are millions of different possible trajectories, they have to be grouped. For example, assuming five parties and ten waves, we would have 50 billion different possible sequences.

Another possibility is to define the groups theoretically and to use statistical algorithms to attribute individuals to groups. There are several examples for this. (Clarke and McCutcheon 2009) distinguished stable party identifiers and changers. They used a Markov Mover-Stayer model and found that about half of the citizens belonged to the group of movers. (Neundorf, Stegmueller, and Scotto 2011) extended their analysis using the SOEP and distinguished support for CDU/CSU, support for SPD and changers. Similarly, and also using the SOEP, Arzheimer and Schoen (2005) distinguish CDU/CSU, SPD, PDS and other parties using latent transition analysis. (Hill and Kriesi 2001) looked at the trajectories of opinions on environmental policies. They distinguished stable individuals, vacillating changers and durable changers, and attributed individuals to one of these three groups using Finite Mixture Models with a Bayesian approach.

To assess trajectories descriptively and in their complexity for our purpose (chapter 5), we grouped individuals according to their trajectories. We defined groups

theoretically, according to different models on dynamics of party preferences. For two reasons, we did not use a statistical approach to attribute individuals to groups but assigned each individual according to specified coding criteria: first, statistical models require strong assumptions on dynamics and it is not practical to test the many different possibilities in a model. They are well suited to comparing a few alternatives but are blind for other patterns. Secondly, manual coding is much simpler and more transparent.

All approaches based on grouping individuals have two main methodological disadvantages. First, the sample of individuals has to be restricted to long term respondents, because individuals are grouped according to their trajectories over many waves. This not only reduces sample size but also increases attrition bias (see section 4.2). The second methodological disadvantage of grouping individuals is that the groups should not be used as a dependent variable for further analysis, because the independence of irrelevant alternatives (IIA) assumption is violated.

In multinomial logistic regression, the probability for each outcome is estimated relative to the base category independently of other outcomes. The IIA assumption requires that if a new alternative becomes available, odds between the other outcomes should not be affected. Multinomial models are not suited if the alternatives are similar, depend on each other, or if they are substitutes (Long 1997). The IIA assumption is violated if groups have been created in order to reduce complexity in the data, as we do for trajectories of party preference. The criteria, by (McFadden 1973), that the outcome categories "can plausibly be assumed to be distinct and weighed independently in the eyes of each decision maker" (Long 1997, 183) is

clearly not met.[33] To compare the groups, we will use descriptive approaches (mean for each group, cross tabulation).

4.4 Conclusions

In this section, we will summarise the advantages and difficulties of household panel data for political science in general and our research question in particular. We will also discuss the implications and strategies for analysis.

First, household panels contain only a limited number of political variables. Many variables we would wish to have used are simply not available. However, these rich surveys allow the investigation of aspects not covered in electoral surveys. We focussed the analysis on topics where panel data is complementary to previous research and can add to existing literature.

Secondly, household panels put a lot of effort into data collection, data preparation and data documentation and are of high quality. However, attrition is a particular problem for panel data. In general, political variables are strongly affected by non-response and attrition. To limit bias, we used an unbalanced sample, which allows the inclusion of drop-outs and irregular participants in the analysis. However, for volatility between parties, attrition bias is very weak. If there is bias, we are likely to underestimate volatility. The weights provided by the survey did not correct for the bias in our specific case. We will therefore use the weights only for descriptive analysis in chapter 5, where different sampling probabilities are important. To control

[33] Different formal test have been proposed for the IIA assumption. But (Cheng and Long 2007) conclude that these test based on the estimation of a restricted choice set are unsatisfactory for applied work.

for panel participation, we will include the variable relative panel participation into the models as a control

Thirdly, we discussed different methods for panel data and addressed advantages and disadvantages for our purpose. Depending on the topic, we will use different strategies. In chapter 5, we will look at the trajectories of individuals, grouping individuals into different types. This allows us to contrast different models on dynamics without having to impose strong assumptions. When we focus on explanatory factors of volatility, most previous studies used dynamic models. We do not follow this approach because we think that the (implicit) assumptions about the initial conditions are not fulfilled in the case of party preference. Furthermore, using parties as dependent variables would require ignoring or grouping small parties and therefore being blind for a potentially important type of change between parties. Instead of dynamic regression models, we will mainly use event history models.

The dependent variable is binary and distinguishes change and no change. We will estimate these using the xtlogit command in Stata. Sometimes, we will additionally distinguish change within and between party blocks, which then presents a competing risk model. We will use the baysian mcmc-estimator of the mlwin-software (Rabash et al. 2009; Browne 2009).[34] In chapter 10, when assessing the impact of changes in economic conditions, we will also apply fixed effects models.

[34] As a robustness check, we estimated some models using the adaptive quadrature estimator of the gllamm-software (Rabe-Hesketh et al., 2005). Although coefficient estimates are not identical, they are similar and give the same conclusions regarding significance levels and relative effect sizes. For practical reasons (time for convergence), we present results from the mlwin algorithm.

5 Descriptive Analysis: Capturing dynamics over many waves

In this chapter, we test different models concerning the dynamics of party preferences. Although scholars increasingly address individual heterogeneity, previous research has neglected alternatives to the traditional and revisionist view of party identification, such as ambiguous preferences or stability within party blocks (see chapter 2). We will contrast the different models and then use descriptive approaches to study party preferences over eleven panel waves.

5.1 Contrasting theories on the dynamics of party preferences

In Chapter 2, we addressed the debate over the traditional and revisionist model of party identification. Regarding volatility, the traditional model expects that individuals have stable party identification. Observed changes should only be temporary. In the revisionist model, party identification is updated constantly and durable changes of party preference are not exceptional. We also briefly discussed the model of bounded party identification, which suggests that change occurs mainly in and out of party identification, but rarely between parties (see also section 3.2).

An alternative to these models is Zaller's model, which assumes that individuals are ambiguous in their opinions and have conflicting views on political issues and preferences. From this perspective, a survey response reflects opinion "off the top of the head", in the moment the question is asked, and thus depends on randomness and circumstances. Zaller (1992) applies this model to several opinion issues, as well as to candidate support in elections. We can extend Zaller's model relatively easily to party preferences. From this perspective, citizens may have considerations in favour of

different parties in parallel, instead of having a single preference. Party preferences are thus allowed to be ambiguous. Even though the preferences of ambiguous individuals do not change over time, responses in a panel survey may change. Ambiguity results in several switches between preferred parties.

Although not directly linked to Zaller's theory, several scholars have addressed the idea of multiple party identifications. Weisberg (1980, 36) criticises the fact that the standard question wording on party identification does not allow for multiple identification. Van der Eijk and Niemoller (1983) tested multiple party identifications in the Netherlands. After asking about party identification, they explicitly asked respondents whether they feel attracted to any other party. About one third of respondents (and about half of those identifying with one party) named a second identification.

This evidence has been criticised, because ambiguity may not arise naturally but may be provoked by the question. Schmitt (2002) tested for simultaneous preferences by allowing multiple preferences in a survey without explicitly asking about it. The study on fourteen European countries still found that about 10 % of respondents identified with more than one party. Other approaches measure the probability of voting for each of the main parties (party potential) or ask about positive and negative identification for all major parties. With the later approach, Garry (2007) found, for Northern Ireland, that 16 % of Protestants and 18 % of Catholics identified with the two parties on their side of the religious divide.

A general critique of these measures of multiple party preferences is that they do not say anything about why one party has finally been chosen above another. If voters

always choose the same party in elections despite ambiguous preferences, then multiple preferences may simply be irrelevant for elections. Panel data offers a way to measure multiple party preferences not affected by this. By asking each year about party preference, we can exclude the possibility that multiple preferences are provoked by the question wording or that they are not relevant to the final party choice. Panel data therefore creates a new opportunity to assess simultaneous preferences in a more natural setting.

Bartolini and Mair (1990) offer another hypothesis for dynamics which suggests that voters have stable preferences for a party block rather than for a single party (cf. section 3.3). While changes within a party block might occur frequently, changes between blocks should be rare. Using aggregate data from 1885 to 1985, Bartolini and Mair (1990) found high stability between party blocks. Similarly, van der Eijk and Niemoller (1983) suggest – particularly for Europe – that voters have ideological identification rather than party identification. They observed that multiple party identifications usually arise for parties which are ideologically close. The focus on party blocks improves the comparison of stability across countries, because it (partly) controls for the different party systems.

Another model on dynamics is that party preferences are random, in line with Converse's black and white model, stating that one group of voters has stable preferences and another group random preferences. In "the nature of belief systems", Converse (1964) found that the majority of citizens do not have an ideological

framework or coherent opinions. He claims that most observed change is due to randomness or incoherent answers rather than meaningful change.[35]

We looked at six different models for party preferences: the traditional model expecting temporary changes in preferences, the revisionist model allowing for durable change, bounded partisanship expecting change mainly in and out of party preference, stability between party blocks, ambiguity and random answers. These models are not mutually exclusive. We cannot expect that all individuals are stable or that all individuals are ambiguous. Rather, the different models may apply to different groups of voters.

5.2 Descriptive Results: Trajectories in party preferences

The different models for party preferences discussed cannot be tested in a single model. We applied several descriptive analyses on different subsamples of the panel to look at many different aspects of the trajectories.

For the comparability of results across surveys, it is important to use the same number of waves and possibly the same time period. Because the SHP started in 1999 and the BHPS ended in 2008, we use a subsample of eleven waves from 1999 to 2009 for Switzerland and Germany, and from 1998 to 2008 for Great Britain for this chapter (*Figure 5* is an exception).

[35] For some issues, Converse (1964: p. 243) suspects a third group, which shows meaningful change or conversion. But for mathematical reasons, he did not consider this third "gray" group in the empirical analysis. Hill and Kriesi (2001) did consider such a third group explicitly in their statistical model.

Transitions between two waves

Maybe the most frequent approach to present the dynamics of party preferences are cross-tabulations of preferences at two time points (*t-1, t*). Typically, such turnover tables find relatively high stability rates. Pooling data over the waves from 1999 to 2009 (or 1998 to 2008 for Great Britain) and looking at transitions from *t-1* to *t*, this is also what we find for household panel data. In the SOEP, stability amounts to 77 % for the CDU/CSU and 71 % for the SPD. In the BHPS, stability is highest for the Conservatives with 77 %. In the SHP, the socialist party has the highest stability rate with 65 %.

For better comparability between countries and surveys and because we are not interested in single parties, we have classed transitions into four categories. In *Table 6*, we distinguish stability of party preferences (1), changes between parties (2), changes between having and not having a party preference (3), and no party preference in both waves (4). As discussed in section 3.1, the question wording for party preference differs between the surveys. The German data refer to party identification (PI), and the Swiss data to voting intention (VI). Great Britain shows results for both party identification (PI) and voting intention (VI) and we display these separately, to better assess the effect of the different wording of the questions. Stability rates between Switzerland and Germany cannot be directly compared. But we can compare Switzerland and Great Britain regarding voting intention and Germany and Great Britain regarding party identification.

Table 6: *Transitions in party preferences between two waves in DE, GB and CH*

	DE (PI)	GB (PI)	GB (VI)	CH (VI)
Stability (same party)	33.7	54.0	62.9	42.6
Change between parties	3.1	4.6	10.2	13.5
Party - no party	20.0	25.0	19.0	23.6
No party - no party	43.2	16.4	7.9	20.2
Total	100.0	100.0	100.0	100.0
n	173'066	57'637	57'637	50'519

Note: PI: party identification, VI: voting intention. Source: SOEP (1999-2009), BHPS(1998-2008), SHP(1999-2009).

From *Table 6*, we can see that stability between two parties is highest in Great Britain, regardless of the indicator of party preferences. But as mentioned before, the stability rates vary considerably between parties. We also can see that changes between a party and no preference are frequent and much more common than change between parties. No party preference in both waves is particularly frequent in Germany. In Switzerland, "no preference" also includes respondents who say they vote for candidates and not for parties. This is, because voters can select a mixture of candidates from many different parties on their ballot.

Changes between two parties are most frequent in Switzerland, followed by Great Britain and finally Germany. It is rather surprising that changes are more frequent in Great Britain than in Germany, despite the more concentrated party system in Great Britain. The reason is the relatively high share of respondents without party identification in the SOEP, which is also higher than in comparable data sources in Germany (Neundorf et al., 2011, Arzheimer, 2006). More than half of the respondents do not have a party identification. Once we exclude respondents without party preference in both waves (no party – no party), the rate of party changers in Germany and Great Britain are about the same. Another reason for more frequent changes in Great Britain compared to Germany may be the government or opposition status of

the parties in the period of observation. In Great Britain, one of the two major parties was in the government role and the other the opposition role, whereas in Germany, the two major parties formed a coalition from 2005 to 2009.

Most changes occur between ideologically close parties, such as the socialist and green parties in Switzerland and Germany, or between the two liberal parties in Switzerland (LPS and FDP, which merged in 2009). But in Great Britain, most changes occur between the large parties, even if they are not ideologically close. Among respondents who switched parties, 31.2 % switched between Labour and the Liberal Party, 21.7 % switched between Labour and the Conservatives, and 18.2 % between the Liberal Party and the Conservatives.

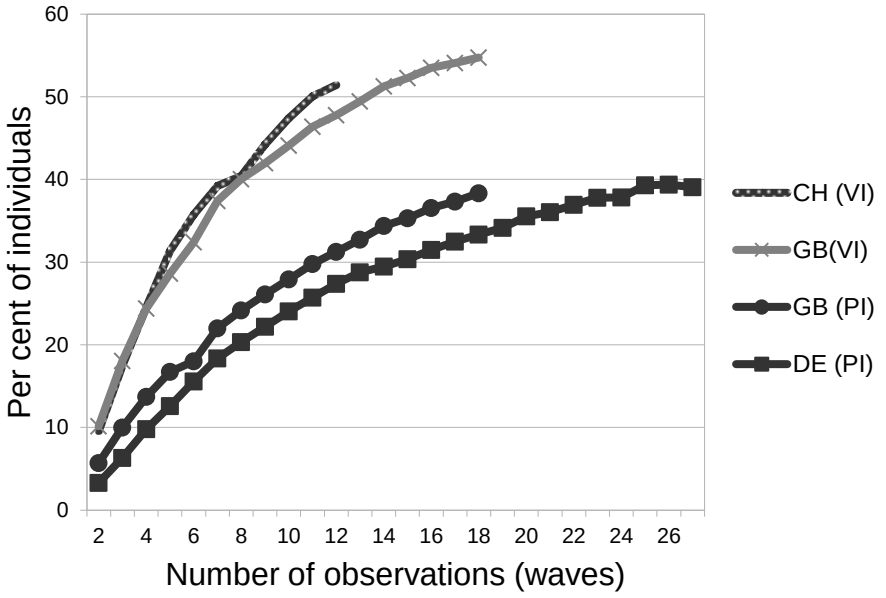
Using transitions between two annual waves we find high stability rates. Most change occurs in and out of party preference and not between parties. Several scholars have therefore concluded that partisanship is bounded (e.g. Zuckerman and Kroh, 2006, Neundorf et al., 2011). But Fitzgerald and Curtis (2012) show that the stability rates in two-wave transitions drop with increasing time distance between the two waves. Party switches also become more visible, when we look at longer trajectories, which we will turn to now.

Trajectories over many waves

As a first step, we looked at the probability of switching parties by the number of observations (*Figure 5*). In contrast to other analysis in this chapter, we used data of all the available panel waves. Already, when analysing three observations per person instead of the transition between two waves, the share of party switches almost

doubled. This is because indirect changes (e.g. party A – no party – party B) are also captured. When we considered trajectories over ten waves, we find that about one quarter switched parties when measured on party identification (DE and GB) and nearly half switched parties when measured on voting intention. If we consider 25 observations or more per person, which is only possible in Germany, 39 % of respondents have switched parties. These shares are far from marginal: changes between parties are thus not as rare as studies focusing on transitions suggest. We should also remember that through non-response and panel attrition, volatility is likely to be underestimated rather than overestimated.

Figure 5: Probability of switching parties by length of trajectory in DE, GB and CH



Note: PI: party identification, VI: voting intention. We analyse the first observations per individual. Source: SOEP (1984-2010), BHPS (1991-2008), SHP (1999-2010).

A similar analysis by Clarke and McCutcheon (2009) used panel surveys of the British Election Study over three or four waves and also found considerable volatility. For example, in a three-wave panel from 2004 to 2006, 16 % switched parties.

In the next step, we investigated trajectories more fundamentally. As *Figure 5* illustrates, the amount of volatility depends strongly on the length of the trajectory considered. We therefore have to select individuals with the same or similar number of observations. But if we look at the balanced panel only (concerning respondents who participated in all eleven waves), we will have stronger selection bias and a much smaller sample than when we also consider respondents who did not participate in one or more of the waves. We have therefore selected individuals who participated at least ten times within the eleven waves of observations. This seemed a reasonable compromise, in order to have a rather long period of observation (at least ten waves of participation) but to limit selectivity bias, because individuals who did not participate in one of the waves are still included. This leaves us with 11'138 individuals in Germany (6'037 completed all 11 waves and 5'101 competed 10 waves), 5'259 individuals in Great Britain (4'668 completed all 11 waves and 591 completed 10 waves) and 2'282 individuals in Switzerland (1'789 completed all 11 waves and 493 completed 10 waves).

We grouped individuals into five groups:

1. Stable party preference: the respondent named the same party in all waves.

2. No party preference: the respondent never indicated a party preference but responded with any of the following in all waves: does not know, votes for no party, does not vote, votes for candidates and not for parties.[36]

[36] "Vote for candidates and not for parties" is chosen relatively frequently in Switzerland. In elections, voters can choose and combine candidates of many different parties.

3. Bounded party preference: the respondent expressed at least once no party preference (see group 2) and at least once a party preference. Whenever he or she named a party preference, it was for the same party.

4. Change between party blocks: respondents changed at least once between party blocks. Answers not containing a particular party (see group 2) were possible at any time.

5. Change within party blocks: respondents switched parties, but remained within the same party block. Answers not containing a particular party (see group 2) were possible at any time.

Table 7 presents the frequencies of each group occurring in the three countries studied. For Great Britain, we again display results for both party identification (PI, similar to Germany) and for voting intention (VI, similar to Switzerland).

First of all, we see that the group of individuals who always name the same party in the ten or eleven waves ranges from 14 % in Switzerland, to 16 % in Germany to 28 % (PI) or 33 % (VI) in Great Britain. The relatively high stability in Great Britain is most likely due to the party system with very few parties. The low stability in Switzerland is most likely due to the multitude of parties. In Germany, the stability is low compared to Great Britain. The impact of the question wording is clearly visible in the group of bounded partisans who move in and out of party preference. For Great Britain, their share is much larger if only party identifiers are taken into account than if voting intention is considered. Also in Germany, the share of bounded partisans is rather high.

If we add together the two groups who have a party preference and do not switch parties (stable and bounded party preference, groups 1 and 3), this adds up to 39 % of individuals who remain stable in Switzerland and 59 % in Germany. In Great Britain, 68 % remain stable for party identification and 57 % remain stable for voting intention. Overall, party identification is most stable in Great Britain and lowest in Switzerland, as would be expected due to the party systems and in line with literature on volatility on the aggregate level.

Table 7: Trajectories of party preferences over eleven years by groups in DE, GB and CH

	DE (PI)	GB (PI)	GB (VI)	CH (VI)
Always Same party	15.9	27.8	33.1	13.7
Weak stable (Party-no party)	42.5	39.7	23.4	25.2
Change within block (3 blocks)	9.2	1.3	2.6	18.1
Between block (3 blocks)	13.2	20.9	36.4	32.3
No party	19.2	10.3	4.6	10.7
Total	100.0	100.0	100.0	100.0
n (individuals)	11'138	5'259	5'259	2'282
Between 2 blocks	9.9	13.5	24.1	21.3
Between flexible blocks	9.2	13.5	24.1	26.4

Note: PI: party identification, VI: voting intention. Sample: individuals with 10 or 11 observations; weighted statistics. Source: SOEP (1999-2009), BHPS (1998-2008), SHP (1999-2009).

As for the transitions between two waves, the differences in the question wording are also reflected in the group who has never had a party preference, which, with 19 %, is by far largest in Germany. However, due to sample selection and attrition bias, it is likely that the share of respondents without party preferences is underestimated (see section 4.1).

Together, the two groups of respondents who switch parties (within and between blocks, groups 4 and 5) amount to 50 % in Switzerland, 23 % in Germany and 22 % (PI) or 39 % (VI) in Great Britain. Again, the relatively high volatility in Switzerland can be explained by the fragmented party system. But also in Great Britain, the share

of voters who switch parties is remarkable, considering the dominance by two large parties. In Germany, we only have measurements for party identifiers, which results in a lower share of party changers. The amount of change is comparable to Great Britain for party identification. Overall, we clearly see that once a longer time-span at the individual level is taken into account, party preferences turn out to be rather volatile and do not support the model of bounded party identification.

The focus on party blocks can also be seen as a control for the different number of parties in the countries, as we fixed the number of blocks in each country (see section 3.3). Therefore the changes between party blocks are suited for between-country comparisons. *Table 7* shows the percentage of change for both three party blocks and two party blocks. Of course, changes between three party blocks are more frequent than changes between two party blocks. In Switzerland, assuming three party blocks, 32 % of all respondents change between blocks. With two party blocks, 21 % change between blocks and with flexible blocks, 26 %. In Germany, 13 % change between three party blocks, 10 % between two party blocks and 9 % between flexible party blocks (the two measures are equivalent, see section 3.3). In Great Britain, using voting intention, 36 % change between three party blocks and 24 % between two or flexible party blocks. This is similar to Switzerland. When looking only at party identifiers in Great Britain, 21 % change between party blocks and 14 % between two or flexible party blocks. Interestingly, with the control for party blocks, change is most frequent in Great Britain. This is because most of the change occurs between the main parties, which are mainly (and for Labour and the Conservatives, always) in different party blocks. In Great Britain, 30 % of the changers (or 11 % of all

individuals in the sample) have changed between the Conservatives and Labour between 1998 and 2008.

But regardless of the definition of party blocks, between-block changes are far from marginal. We cannot explain the volatility of party preferences by the stability of party blocks. With three party blocks, between-block change is by far more frequent than within block change. Also, for two party blocks, between-block changes are far from negligible. We thus find no support for Bartolini and Mair's hypotheses of stable party blocks.

There are different explanations for our divergent findings to Bartolini and Mair (1990). First, Bartolini and Mair covered an earlier time span (1885-1985) than our analysis. It is possible that a de-ideologisation and dealignment has taken place since. However, the study by Lachat (2007) found no clear time-trend for volatility in Switzerland and Germany since the 1970s at the individual level. Secondly, Bartolini and Mair looked at aggregate data, which may hide volatility at the individual level. A third reason for divergent findings may be the different operationalisation of party blocks. However, this is unlikely, as many changes between parties occurred between new parties (particularly the Green parties) and socialist parties.

Although these patterns give an idea on the trajectories of party preferences over time, the groups do not distinguish the theoretical models well. Switches between parties could be in line with the traditional model, the revisionist model or the ambiguous model. To be able to distinguish these models better, we have to look at those respondents who indicated a party preference several times. To facilitate the analysis

slightly, we will not consider party blocks and bounded party identification anymore, because they do not seem to generally explain the observed patterns.

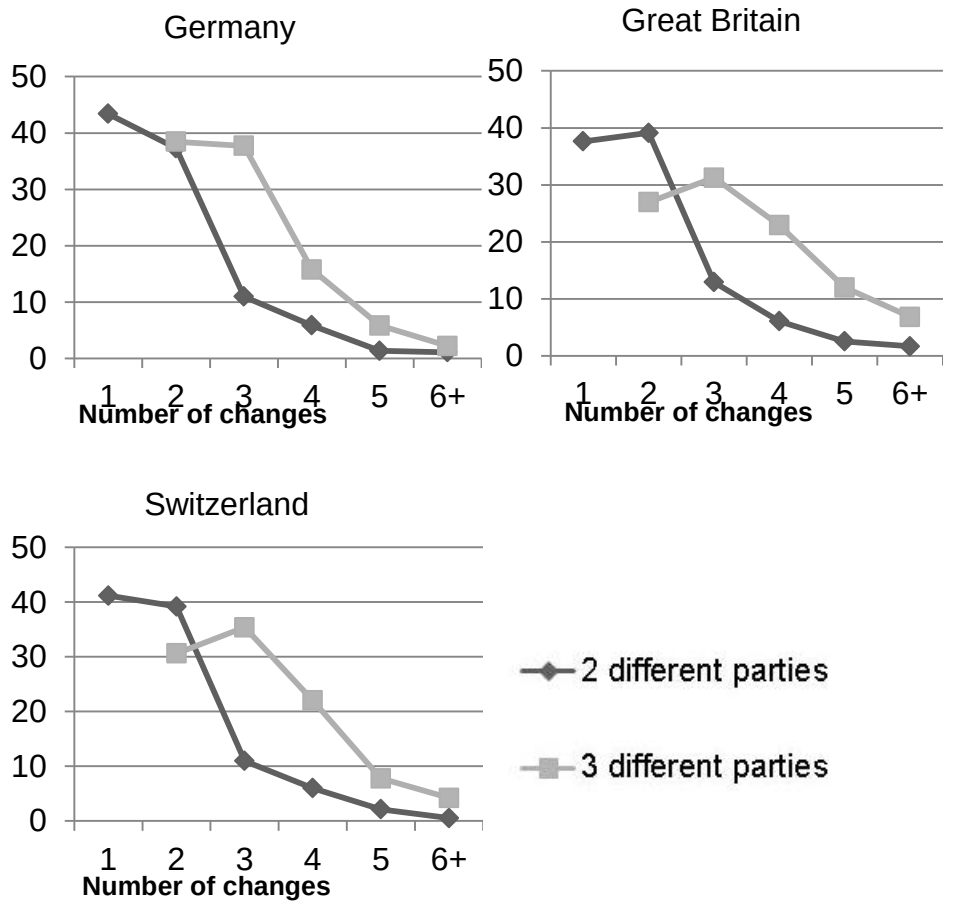
A closer look at party switchers

To assess which of the hypotheses fits the observed trajectories of party switchers, we will focus on a different sub-sample than in the analysis above, but again taking panel waves from 1999 to 2009 (or, for GB, from 1998 to 2008). We will select citizens who reported a party preference at least five times. All observations with missing party preferences have been dropped. Of course, the selection of individuals who named a party at least five times is somewhat arbitrary. On the one hand, more party preferences per individual would be preferable for a better distinction of the different models. On the other, more party preferences per individual would reduce the sample size considerably and increase bias from panel attrition. Requiring at least five party preferences seems a reasonable compromise. In Switzerland, the selection of citizens with at least five party preferences leaves us with 3'434 individuals, of which 1'917 switched parties. In Great Britain, we have 9'131 individuals (of which 3'907 switched parties) for voting intention and 7'121 individuals (of which 1'868 switched parties) for party identifiers. In Germany, the sample amounts to 8'872 individuals, of which 2'551 switched parties.

First, we looked at the number of party switches (among those who changed) and find that 74 % of respondents in Switzerland, 70 % in Great Britain and 65 % in Germany switched parties more than once. Party switches are thus rarely unique events. However, to see whether these multiple changes involve just two parties or many different parties, we additionally considered the number of parties that have been

named (cf. *Figures 6*). We so can directly check whether party switches occur back and forth between the same parties, as would be the case for ambiguous preferences or temporary changes. In Germany, switches back and forth between the same few parties are quite common. For example among the respondents who named two different parties, 56 % changed more than once between them. Among respondents naming 3 parties, 65 % changed more than twice, and so returned to a party previously named. In Switzerland and among respondents who named two parties, 59 % switched several times between them, whereas 41 % changed their preference just once. Among respondents naming three parties, 70 % changed back and forth between the same parties. In Great Britain (for voting intention), the situation is similar. Among those who named two parties, 62 % go back and forth between these parties and with three parties even 73% go back and forth.

Figure 6: Changes between parties: number of changes by number of parties named



Note: Reading example: Among German respondents who prefer two different parties over time, 41% changed only once, 39% twice, 11% three times between parties. Sample: Individuals who named a party in at least 5 waves and switched parties. Results for Great Britain refer to voting intention. Source: SOEP (1999-2009), BHPS (1998-2008), SHP (1999-2009).

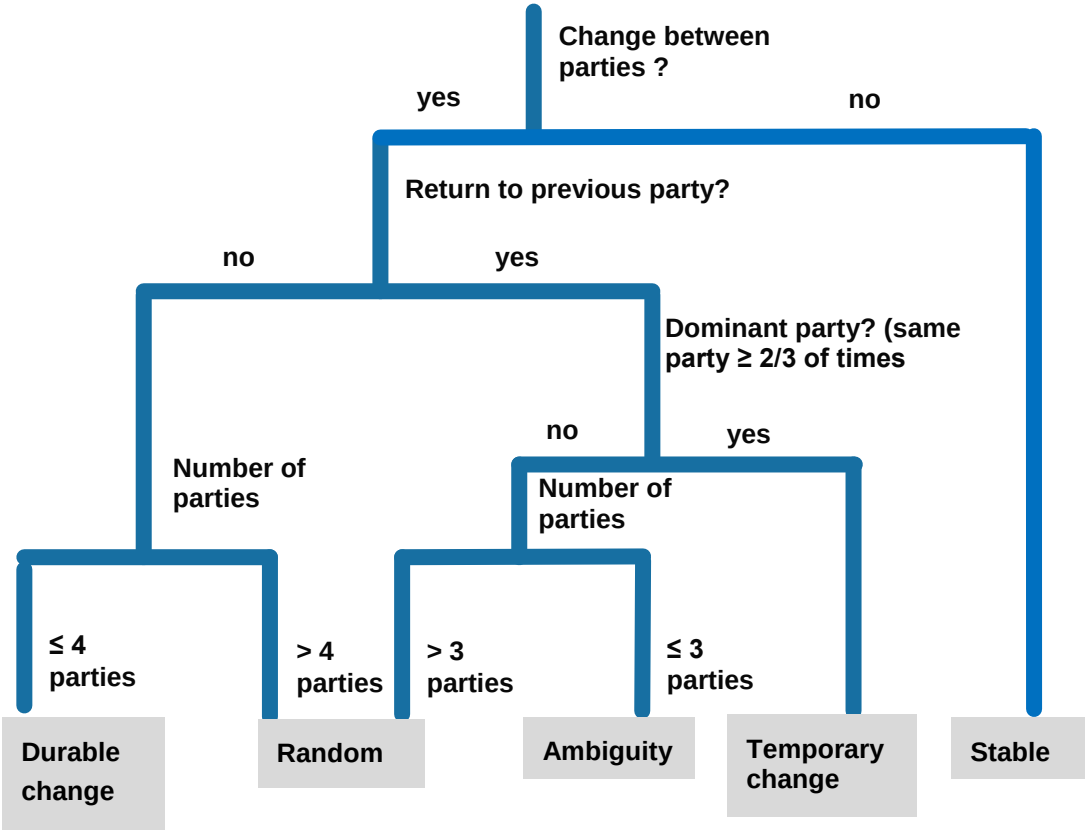
Although these analyses are a sign of ambiguity, we need to look even closer at changes. We can attribute the changers to five types, which are mutually exclusive. Coding criteria are presented in *Figure 7*.

1. Temporary changers according to the traditional model: individuals who have a latent party preference (a dominant party), which they temporarily abandon.
2. Durable changers according to the revisionist model: respondents update their party preference and remain with the newly preferred party. This group consists of respondents who named two parties and changed once, named

three parties and changed twice, or named four parties and changed three times.

3. Ambiguity model: respondents switch back and forth between preferred parties and do not have a dominant party.
4. Random answers.
5. Stability: whenever respondents named a party preference, it was for the same party.

Figure 7 : Decision tree to attribute trajectories to types of switches



Of course, the criteria used to discriminate between the groups illustrated in *Figure 7* are somewhat arbitrary. For example, the revisionist model excludes the possibility to return to a party preferred before. Another example is that of individuals who changed only in the last wave of observation: we cannot know whether they will return to the

previous preference in the future (temporary change) or will stay with the new party (durable change). We cannot know what happened before and what will happen after the observed time-span. In this example, the trajectory would be classed as durable change according to the revisionist model. Furthermore, responses also contain an unknown amount of measurement errors.

Table 8 shows the frequencies of the four types of party switches plus the group with stable preferences. Stability is by far most frequent. We cannot directly compare these results with the groups from *Table 7*, because the analyses rely on a different sample of respondents and focus on different aspects. Here, we are interested in comparing different types of changers. Among changers, short term changers with latent stable party preference are the most frequent. Short-term change is in line with the traditional model of party identification. Taking stability and temporary change together, a vast majority can thus be seen to show stable latent preferences. But the other groups are non-negligible. Together, durable changers, ambiguity and random preference, amount to 18 % in Germany and 34 % in Switzerland. In Great Britain, the groups amount to 12 %, if only party identifiers are considered, which is lower than in Germany. Including voting intention, 17 % do not fit the traditional model. This confirms the previous finding that voters in Great Britain are the most stable. Overall, even by singling out short term changes, a considerable share of respondents do change between parties. We found a considerable amount of durable changes and, to a lesser extent, some ambiguity. Random patterns are observed only marginally, but this may be due to the coding criteria. However, none of the models can explain dynamics in general.

Table 8: Types of party switches in DE, GB and CH

	DE (PI)	GB (PI)	GB (VI)	CH (VI)
Stable	71.2	75.8	59.4	44.7
Short term changes	10.9	12.0	17.2	21.2
Durable changers	12.1	7.6	13.9	19.2
Ambiguity	5.3	4.4	8.2	10.5
Random	0.4	0.2	1.3	4.4
Total changers	100.0	100.0	100.0	100.0
n (individuals)	8985	7121	9131	3434

Note: PI: party identification, VI: voting intention. Sample: individuals with party preferences in at least five waves. Source: SOEP (1999-2009), BHPS (1998-2008), SHP (1999-2009).

5.3 Conclusions

In this chapter, we discussed six theoretical models of dynamics: the traditional model, the revisionist model, bounded party preference, stability of party blocks, ambiguity and randomness. None of these explains the dynamics in general. Rather voters can be attributed to different types represented by these models.

Although we did not focus primarily on the debate between the traditional and the revisionist view of party identification, we can interpret these findings with respect to the debate. Although stable party preference is the pattern most frequently observed, there is still a considerable amount of individuals who changed party preference and not just temporarily. Over eleven years, many have remained with the party they switched to. Others are ambiguous between two or three parties and switch back and forth between them. Because the size of these groups depends strongly on the sample selection and the question wording for party preference, it is difficult to quantify the size of the groups. But it becomes clear that party preference is more volatile than usually assumed in electoral research.

Furthermore, preferences are not stable when party blocks instead of single parties are considered. There is no evidence for stability within party blocks, as claimed by Bartolini and Mair. Our finding that there is a considerable amount of volatility does not imply that changes occur randomly or that citizens are inconsistent. Most frequently, citizens switch between a limited number of parties and most citizens have a dominant party.

Despite differences in question wording, data sources and party systems, the conclusions outlined here are valid for all three countries studied. However, because both data and political context varies between the countries, it is difficult to interpret differences between these countries. Nevertheless the results clearly show that stability is strongest in Great Britain, which has the smallest number of parties. This is in line with findings from aggregate data. But when we look at between-block changers, which are more comparable between countries, Great Britain turned out to have the highest volatility.

Although such descriptive approaches give interesting insights into the dynamics of party preferences at the individual level, two limitations of the data have to be kept in mind. First, the data is left and right censored. Even though individuals were followed over time and the data cover a longer time span than most other sources, we see only a sequence. Those who are classified as stable or who made temporary changes may have changed many times before the start of the survey or they may change their party preference in the future. Secondly, any pattern may also be the result of randomness or measurement error. However, the numerous analyses suggest that most trajectories are not the result of random answers but rather show clear patterns.

The fact that different models hold for different groups of citizens demonstrates the considerable heterogeneity between individuals regarding the dynamic processes. It is therefore straight forward to look more closely at explanatory factors that explain which individuals remain stable and which individuals change over time.

6 Reinforcement, life-cycle, cohorts and periods

The analysis about volatility so far has revealed a considerable amount of change between parties and marked heterogeneity in the observed patterns and types of change. Rather than finding the right model to explain individual dynamics, we focus on different potential influences explaining why some citizens switch parties and others do not. In this chapter we will investigate the influence of life-cycles, cohorts, period and reinforcement on volatility in party preferences. These processes are related because they involve changes over time and cannot be easily distinguished. We will discuss each of them in turn and then test for them, empirically.

6.1 Life-cycle effects

Life-cycle effects arise from the idea that political preferences and opinions evolve over a person's life span. Most important is the phase of adolescence and early adulthood, when individuals learn about and first experience the political world. Young adults learn what each party stands for and which parties to support (C. H. Franklin and Jackson 1983; Van Der Eijk and Franklin 2009, 19). During this phase of learning, citizens adapt their political positions and change party preferences relatively frequently. Several authors find the age range from about 18 to 26 to be crucial for forming political consciousness or for structuring political orientation (Mannheim 1952; Erikson 1968; Lambert 1972) but this period may be extended since the writings of these early authors. After this phase of learning, citizens develop a habit of voting, accumulate political experience and knowledge and change their positions less frequently (e.g. Jackson 1975; Markus 1979; Glenn 1980; Jennings and Niemi 1981; Sears 1983). In addition to getting to know the political world, changes in personal life may be a potential additional mechanism which increases volatility in

young age (Jennings and Niemi 1981, 7). Young adults move more frequently, change jobs more frequently, experience transitions to working, to living with a partner or to parenthood. Generally, they change their roles more often than older citizens. Usually, a life-cycle is measured by years of age. Another theory on life-cycle effects postulates that it is not years since birth that are relevant but rather the number of years of electoral eligibility, which accounts for the accumulation of political experience (Converse 1969).

While some scholars argue that the level of stability remains at a similar level after young adulthood (Jennings and Markus 1984; Krosnick and Alwin 1989), others find that volatility decreases over the entire life-cycle (e.g. Sears 1981). Krosnick and Alwin (1989) identify lower capacity to incorporate new information, decreasing social engagement and increasing homogeneity of the environment as mechanisms for increasing persistence over the life-cycle.

There are reasons to expect that life-cycle effects differ for change within and change between party blocks. Between-block change is more fundamental, because it involves a change in ideological position. Thus, older citizens, who have already formed their political or ideological positions, may switch party blocks less frequently. Because such ideological obstacles do not exist for within-block change, life cycle effects should be particularly strong for between-block change. However, another argument suggests that rather within-block change should be particularly affected by the life cycle. Within block change occurs often due to salient issues, candidates, or campaigns. Young adults are generally more open and may be more easily influenced by such short-term influences and therefore switch to a party within the same block more easily due to such short-term influences. Because there are

different arguments, it is not a priory clear whether life cycle effects differ strongly for changes within and between party blocks. But because a different mechanism is expected to link the life course to volatility within and between party blocks, it is important to test for them and see which one holds true.

Similarly, life-cycle effects may not apply similarly to all the types of changers discussed in the previous chapter. Durable changes should be more strongly affected by the life-cycle, because such fundamental changes should be most frequent when political orientations are not yet fixed. But temporary changes may also decline over the life-cycle because, as for within-block changes, younger individuals may be more susceptible to short-term influences. We will therefore also look at age and the types of changes discussed in chapter 5. Van der Eijk and Franklin (2009) examined the relationship between age and ambiguous voting preferences in the Netherlands and found that younger voters were more frequently ambiguous than older voters.

6.2 Cohort effects and other effects of socialisation

Closely related to the learning phase in young age are *cohort effects*. The key assumption of cohort effects is that the context in which an individual grows up and experiences their learning phase has a lasting influence on their entire life. As argued for life-cycle effects, young individuals are particularly vulnerable to outside influences (Jennings and Niemi 1981, 21) but in contrast to life-cycle effects, cohort effects remain over the course of a life. Events, salient issues and the historical context are crucial for shaping political characteristics. Van der Eijk and Franklin (2009, 17) argue that the particular election when individuals become eligible to vote shapes their political orientations or motivation for their entire life course. Therefore, individuals born around the same time share some political experiences and political

character, which may differ from that of other generations. While political generations have been important in early electoral research (A. Campbell et al. 1960; Nie, Verba, and Petrocik 1976), they have been neglected later on (Miller and Shanks 1996, 34f.; Van der Eijk and Franklin 2009). More recently, generations, particularly the effect of general replacement, are again being discussed in electoral studies, for example in the special symposium "Generational Differences in Electoral Behaviour" in the Journal of Electoral Studies from 2012 edited by Van der Brug and Kritzinger (2012).

Turning from cohort effects in general to volatility, cohorts may differ with respect to their stability level. Many specific cohort effects can be imagined, due to events, issues, circumstances, elections or a referendum that occurred when citizens were young and marked them. Such effects may also vary between countries. It is difficult to speculate on any specific cohort effects a priori, but we allow such effects in our model.

Cohort effects may be progressive, meaning that the birth year's influence on volatility is more or less linear. Particularly, it has been claimed that younger generations are more volatile than older generations independently from age (Glenn 1972; Abramson 1976; Abramson 1978; Abramson 1992; Dalton, McAllister, and Wattenberg 2000). A first reason for the increasing volatility of younger cohorts is the declining importance of traditional cleavages, which weakens predispositions of the population (van der Brug 2010). Related to this, pluralisation of society has increased over time. Numerous studies have shown that a heterogeneous environment causes cross-pressures; for example, if influences from the home, friends, schools, work or neighbourhood point in different directions. Cross-pressured individuals are more volatile than individuals living in a homogenous environment where influences are

mutually reinforcing. Because of the increasing heterogeneity, older cohorts are expected to be more stable than younger cohorts, independently of age. Another progressive cohort effect mentioned is educational expansion (Dalton 2000).

If the period of socialisation is important for the formation of political preferences, other circumstances of socialisation should also have lasting influences, such as the place of socialisation. Particularly, it may matter whether someone has grown up in the current political system or not. Immigrants may be more volatile, because they have grown up in another country and lack the important stabilising effect of socialisation in the context they now live in. Germany presents a particularly good case to study the effects of place-socialisation. Not only immigrants but also the oldest cohorts and former citizens of the former GDR have been socialised in a different political system to the one they currently live in.

Furthermore, the political system could impact individuals through intergenerational transmission. Converse (1969) claimed that the onset of democracy causes a forgetting process, which means that older generations have less party loyalty than equivalent younger generations who mature after democracy has been introduced.

6.3 Period effects and dealignment

Period effects are closely related to age and cohort effects. They occur if an entire electorate changes its mind or behaviour. In contrast to cohort effects, events not only impact young adults but the entire population. Usually, such events have to be dramatic, such as economic crises, a war or a nuclear accident (Van Der Eijk and Franklin 2009; Nardulli 1995).

Dealignment can be seen either as a period effect or as an effect of cohort replacement. Dealignment refers to the weakening attachment of voters to parties and has been covered by a large body of literature. An important consequence of dealignment is higher electoral volatility (Dalton 1984; Dalton and Wattenberg 2000). There are several causes for dealignment: rising educational levels, growing social and geographic mobility, the transformation of the employment structure, the growing influence of media and interest groups, as well as the modernization of electoral campaigns (Lachat 2007). If dealignment is a period effect, it affects the entire electorate. If dealignment is a cohort effect, it occurs because younger cohorts are less affected by cleavages and are better educated. Recent studies found contrasting results as to whether or not dealignment is caused by cohort replacement. Tilley (2003) found that the decline in party identification in the 1970s (and to a lesser extent in 1997) can be explained by period rather than by generation effects. Other studies found evidence of cohort effects as well as period effects (van der Brug 2010; Walczak, van der Brug, and de Vries 2012).

Within this study, we cannot test for dealignment effects, since we cover a relatively short time period for this matter (from 1984 in Germany, 1991 in Great Britain, 1999 in Switzerland). However, it is important to control for period effects in general. We do not consider single effects or elections, but discuss the effect of the electoral cycle in chapter 8.

6.4 Reinforcement effects

Finally, we consider reinforcement effects which are, again, related to life-cycle. Party identification stabilises over time. Once an individual has formed a party attachment, it serves as a lens through which politics is perceived (A. Campbell et al. 1960;

Converse 1969; Converse 1976). A partisan interprets an ambiguous event to the advantage of the adopted party and to the disadvantage of the opposite party (Lewis-Beck, Nadeau, and Elias 2008, 148f.). Party preference increases selective exposure, selective acceptance and selective retention of information. The longer a party preference has been held, the more solid it should become. Butler and Stokes (1974) claimed that once an individual has voted three times for the same party, this person is immunised and would rarely change in the future. Immunisation arises through the affirmation of identities. Repeated affirmation of support for the same party eventually leads to a psychological identification with that party. Because young adults cannot be immunised yet, this process is related to the life-cycle. The process of immunisation also works in the absence of parental transmission of party identification, by way of peer-group influence, careful consideration of choice options, post rationalization of an impulsive choice, or other mechanisms (Miller and Shanks 1996, 131; Van Der Eijk and Franklin 2009, 50).

According to several scholars, the reinforcement effect also explains why older citizens have generally stronger and therefore more stable party identifications than younger citizens (A. Campbell et al. 1960; Converse 1969; Butler and Stokes 1971). But others find that life-cycle effects persist even once the reinforcement effect is controlled for (e.g. Schmitt-Beck, Weick, and Christoph 2006).

6.5 Methods and operationalisation

We will test hypotheses involving life-cycle, cohort, period and socialisation effects mostly by regression models with probability to switch parties as dependent variable. For this, we use all available waves from the panel (SOEP 1984-2010, BHPS 1991-2008, SHP 1999-2010). For Great Britain, we present only the results which include

voting intention. Before presenting the coding of the different variables used, two measurement issues need to be discussed in more detail: the identification problem between age, cohort and period and the measurement of reinforcement.

The identification problem

The well-known identification problem of the variables age, cohort and period arises because period = cohort + age.[37] Consequently, we cannot study one of these effects without consideration of the others. The three effects cannot be simultaneously estimated with conventional statistical analysis. Social sciences and biological sciences have long debated this problem and tried to find solutions (e.g. K. O. Mason et al. 1973; Glenn 1976; W. M. Mason and Wolfinger 2002; Yang et al. 2008).[38]

The problem cannot be solved mathematically. For our analysis, we can illustrate the problem as follows. With cross-sectional data, we usually find that stability increases with age. From this, we cannot tell whether the relationship reflects life-cycle or cohort effects or even both. In cross-sectional data, age and cohort are perfectly correlated. To interpret results, theory and side information, which makes some explanations more plausible than others, are important (e.g. Converse 1976; Glenn 2005). To reach identification, constraints can be introduced into the estimation, based on side information. Other approaches to addressing the problem involve nonlinear transformations, use of proxy variables, or an intrinsic estimator proposed by Yang and his colleagues (Yang, Fu, and Land 2004; Yang et al. 2008).

[37] Period refers to the time when the measurement was taken. Cohort refers to the time when an individual was born. Age refers to the amount of time passed since birth.

[38] To make things even more complicated, there may be interactions between age, period and cohort effects. For example, period effects may have different effects among the different age groups. And some generations may experience the life-cycle differently (e.g. they may react differently to retirement).

With panel data, the identification problem presents itself differently (see Miyazaki and Raudenbush 2000; Yang 2007). Because we follow the same individuals over time, it is possible to separate age and cohort effects. The birth year remains constant for an individual, so that an individual's changes can only be attributed to age. But period and age effects are indistinguishable in panel data. Often, period effects are assumed to be trivial and are therefore neglected in models, because panels typically cover a relative short time period (particularly compared with the age range). However, the period may be a concern for political variables, so we have to test for them.

We can break the linearity between age, period and cohort by grouping cohorts into ten-year periods according to birth year. This allows the simultaneous estimation of age, period and cohort effects. The assumption is that individuals born within a period of a few years have been exposed to more or less the same context. This procedure is relatively standard in literature. But even with cohort groups, difficulties arise due to multicollinearity between cohorts, period and age variables. In the data used here, the correlation between age and birth year depends on the duration of the panels. It is lowest in Germany with 0.91, followed by GB with 0.97 and Switzerland with 0.98. Although the grouping decreases multicollinearity, the problem remains. Multicollinearity has two consequences. First, it inflates standard errors of regression coefficients, so that coefficients may not be significant even though there is a relationship between the independent and the dependent variable. Because the household panels are relatively large, this should not be a major concern. More important is the second consequence of multicollinearity. Models may become unstable because the influence of the collinear variables cannot be clearly separated.

Effect sizes may thus change considerably with different model specifications. In order to test the robustness of our models, we will test different specifications.

Reinforcement effects: the problem with censoring

To measure reinforcement effects, we use duration of party preference, referring to the time someone has kept the current party preference. The spell begins when a party preference is formed or when party preference has changed. The spell ends with a subsequent change in party preference. An individual may have several spells of party preference. Ideally, we would have observed individuals since they formed a party preference for the first time in their life and measured time until change. This is not possible in household panels. When individuals enter the panel, they may already have a party preference. The data is thus left-censored and we simply cannot measure duration of party preference.

Another problem is that duration is strongly correlated with other variables. Only individuals who participate in the panel for a long time can have long durations. Similarly, long stability spells are not possible at the beginning of the panel survey and for the youngest respondents. Therefore, years of party preference reflects not only stability but also age, period and panel participation. Although we can include these variables as controls in the model when estimating the reinforcement effect, the reinforcement effect may be biased.[39]

[39] The problem cannot be solved by using a balanced subsample, where all individuals have the same number of observations. This would increase selection and attrition bias and strongly reduce the sample size.

There are different possibilities on how to deal with left-censoring and correlation. Firstly, we can exclude left-censored spells, which implies excluding all respondents with stable party preferences and restrict analysis to those who have changed parties. Apart from this selection bias, excluding censored spells reduces the sample size enormously. A second possibility is to ignore censored spells and measure observed duration, as implemented by Schmitt-Beck et al. (2006).[40] This is equivalent to assuming that respondents formed party preference in the first wave of observation. A third possibility is to include relative duration, which relates the number of years a party preference has been kept to potential duration, measured by the number of years of panel participation so far. The coding of relative duration is illustrated or for a (hypothetical) respondent in *Table 9* (extension of *Table 2* which illustrated the measurement of change). We divide the number of observations since the last change (column 4 in Table 9) by the number of observations since a party has been named for the first time during the panel (column 5 in Table 9). The relative duration varies between 0 and 1.

Table 9: Measuring duration of party preferences

wave	Party	Change (1=change)	Years of party preference (since last change)	Number of observations since first party named	Relative duration since last change
1	No pref.	.	.	.	
2	A	.	.	.	
3	A	0	1	1	1/1=1
4	B	1	2	2	2/2=1
5	No pref.	0	1	3	1/3=0.33
6	B	0	2	4	2/4=0.5
7	A	1	3	5	3/5=0.66

[40] Additionally, results were checked for exclusion.

The concept of relative duration has advantages and disadvantages compared to the years of party preferences. The major drawback is that being stable one year is considered as equal to being stable 10 years. Similarly, the maximum stability (value of 1) is most frequently observed in the first panel waves. And once a party preference has been changed, a value of 1 cannot be reached any more (for the example in Table 9, relative stability of 1 is not possible after wave 4). In fact, the measurement of relative stability implies that stability in earlier panel waves are given higher importance than stability in later panel waves, which is not justified theoretically. Another problem of the measure of relative duration is the first observation of each individual (wave 3 in *Table 9*). Relative duration is equal to 1 irrespectively of whether a change has occurred or not. Relative duration may thus wrongly suggest high stability. To take account of this, we could exclude the first observation of each individual, but this comes at the price of loss of sample size and more attrition bias, because we would exclude individuals with few observations from the sample. To take account of the first observation, we will rather add a binary variable indicating the first observation for each individual as a control.

Having seen the major problems of a relative duration measure, we compare it to the standard way of measuring duration, which is years of duration. Table 10 shows the correlation of these two measures with key variables (panel participation, age, period). The correlation coefficients of relative duration are weaker than for years of party preference. Relative duration is almost independent from age. Besides taking account of censoring, the relative duration has therefore the advantage of being less collinear to other explanatory variables.[41] At the same time, the correlation coefficients point to

[41] Top-coding the years of party preference alters the correlation only to a small extent.

the opposite direction for the two measures. Relative duration is negatively correlated with age, period and panel participation, while the correlation is positive for years of stability.

Table 10 : Correlation between duration of party preferences and other variables

	Years of stability			Relative duration		
	CH	DE	GB	CH	DE	GB
Panel participation (relative)	.28	.23	.26	-.15	-.07	-.11
Age	.19	.25	.23	-.04	-.01	-.01
Period (year of data collection)	.36	.30	.43	-.28	-.11	-.21
Change	-.18	-.13	-.19	-.27	-.22	-.26
Years of stability				.34	.27	.37

Regarding the relationship between the duration measures and change in party preference, change is associated with short durations for both measures. The bivariate relationship is even stronger for relative duration than for years of party preference. But we will assess the variables in terms of model performance in the multivariate models in more detail.

To sum up the discussion on the measurement of duration of party preference, we have two main variables: The years a party preference has been kept and relative party preference. Considering the drawbacks of both measures, the best strategy for the empirical model is not a priori evident. Rather, we will estimate different model specifications.

Variables and statistical method

We will look at three different dependent variables. The first is the dummy variable distinguishing change between parties and no change, as introduced in section 3.2. We estimate the probability to switch parties with a logistic random effect regression to

take account of the clustering of observations within individuals and partly control for unobserved heterogeneity. To do this, we used the xtlogit command of Stata.

The second dependent variable further distinguishes change within party blocks and between party blocks. It has three outcomes: no change (base category), within-block change and between-block change. This is a competing risk model, which we estimated using the baysian mcmc-estimator of the mlwin-software (Rabash et al. 2009; Browne 2009) and the runlmwin-command from Stata (Leckie and Charlton 2011).

The third dependent variable distinguishes the types of change discussed in the previous chapter: durable change, temporary change, ambiguity and randomness. This analysis has only one observation per individual (wide format) and is based on the same sample as used in chapter 5 (eleven waves of each survey, individuals who expressed at least five party preferences over time). We simply cross tabulated the types of change and age groups. We could not assess reinforcement effects or distinguish age and cohort effects, because there is only one observation per individual and therefore no variance within individuals.

For the independent variables, we have two measures of duration for the reinforcement effect, as discussed above. Firstly we use the years a party preference as binary variables. Longer durations have been coded into the same category, as the change levels off altered after some years of duration. In the SOEP (27 waves in total) we grouped stability from 10 years and longer together (27% of observation), in the BHPS (17 waves in total) stability longer than 7 years and longer and in the SHP (12 waves in total) stability from 6 years and longer (11%). The thresholds have been defined according to model performance. Findings are robust to alterations in these

thresholds. The second measure of duration is the years of stable party preference divided by the maximum duration that would have been possible at that point as discussed above (*Table 9*). This relative measure varies between 0 and 1. We add a dummy variable for the first observation to control for the problem that relative duration is always 1 at the first observation.

Also for life-cycle effects we have two potential measures: years of age and years of voting eligibility. In contrast to the duration variable, we cannot include both measures at the same time. The correlation is strongest in GB (coefficient of 0.99), because there have been very few changes in enfranchisement. In Switzerland, the correlation amounts to 0.92. The most important changes in enfranchisement involved the right to vote for women in 1971 and the lowering of enfranchisement to 18 in 1991. In Germany, correlation is lowest with 0.8. The current German system was only installed after the Second World War, so that older cohorts became eligible to vote later than younger cohorts. The former citizens of the German Democratic Republic only entered the electorate in 1990. Additionally, enfranchisement was lowered from 21 to 18 years of age in 1970.

To test whether we should measure life-cycle effects rather by the years of age or years eligible to vote, we compare simple univariate models of these two variables (*Table 11*Table 11). For better readability of coefficients, years of age and years of eligibility to vote have been divided by ten. The comparison of the log likelihoods shows a very similar model performance. In Germany, where age and years eligible to vote can be distinguished best, the model for age is slightly better. Because age is more commonly used and more intuitive to interpret, we retained only years of age for multivariate models.

Table 11 : *Measuring life cycle effect: bivariate models for age and years of eligibility on probability to switch parties in CH, DE and GB*

		b	se	log likelihood	var re
DE	age	-0.14***	(0.08)	-51'535	1.52
	eligible	-0.15***	(0.01)	-51'537	1.52
GB	age	-0.12***	(0.08)	-50'392	1.43
	eligible	-0.13***	(0.01)	-50'391	1.43
CH	age	-0.05***	(0.01)	-19'417	1.33
	eligible	-0.05**	(0.02)	-19'420	1.33

Note: Bivariate logistic random effect models. The dependent variable takes the value of 1 if respondents switched parties since the last party preference named (base category: no change). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. Source: SOEP 1984-2010 (n=230'4014 clustered in 25'269 individuals), BHPS 1991-2008 (n=149'984 clustered in 16'476 individuals), SHP 1999-2010 (n=43'364 clustered in 8312 individuals).

The operationalisation of the other independent variables is straight forward. Cohort effects are measured by the birth year. We grouped individuals into ten-year cohorts (1939 and before, 1940-1949, 1950-1959, 1960-1969, 1970-1979, 1980 and after). In Germany, we additionally distinguish the cohort 1929 and before. For Germany, this oldest cohort is theoretically important because of their socialisation before and during the 2nd world war. And because the SOEP started already in 1984, there are enough observations to separate this cohort, in contrast to the BHPS and the SHP. Period effects are measured by the year of data collection and included as dummy variables to allow for non-linear effects. Finally, we included dummy variables for immigrants (born in another country) and former East Germans in Germany to test whether the political system of socialisation has an effect. To control for attrition, we included a variable for panel participation (number of waves of participation divided by the potential number of waves of participation, see section 4.1). Continuous variables have been centred for computational reasons and in order to reduce collinearity when squared terms are included in the model. Because we estimated non-linear models, we will assess effect size by predicted probabilities.

6.6 Results

We start by discussing the regression models on the probability to change parties. *Table 12* presents the results of four logistic random effect models (1change, 0 no change). To compare model performances, we recorded not only the log-likelihood but also the Bayesian Information Criteria BIC, which takes account of the varying number of degrees of freedom and penalises complicated models. Model 1 does not control of duration of party preferences, while Model 2 includes years of party preference to test reinforcement effects and Model 3 adds the variable for relative duration (years of stability/years of observation) and a binary variable for the first observation. The inclusion of the years of party preference (M2) strongly improves the model and the addition of the relative duration (M3) improves model fit further.[42] Furthermore, the effects of period and age are more plausible once the relative duration measure has been included. We will refer to these differences when discussing the specific coefficients. Finally, Model 4 adds cohort effects. To avoid collinearity between period and cohort variables, period effects are included as a linear trend, as for example the youngest cohort cannot be observed before 1999. In all three countries, the inclusion of cohorts does not improve the model, which means that cohorts do not add substantially to the explanation of volatility. Apart for cohort effects, we will therefore refer to the results of Model 3 for the interpretation.

We also estimated two competing-risk models, which distinguish change within party blocks and change between party blocks. They have been estimated as multinomial random effect regression. Model 5 includes period fixed effects but no birth cohorts. Model 6 includes birth cohorts and linear period effects. We organise the discussion

[42] Model performance of model 3 in Table 12 is also superior to a model including relative duration (and its square term) only.

of the results by type of effect (period, life-cycle, reinforcement, cohort, and socialisation). For each effect, we discuss first results from the binary model and then from the competing risk model. Estimation results for party blocks (*Table 13*) are presented together with the discussion on life-cycle effects.

Table 12: Change between parties: Age, cohort, period and reinforcement in Germany, Great Britain and Switzerland

Germany	**M1**		**M2**		**M3**		**M4**	
Age (/10, centered)	-0.148***	(.01)	-0.076***	(.01)	-0.081***	(.01)	-0.106***	(.03)
Age squared	0.014**	(.00)	-0.004	(.00)	0.007*	(.00)	0.012**	(.00)
Cohort: Ref 1929 and older								
1930-1939							-0.003	(.06)
1940-1949							0.025	(.08)
1950-1959							-0.049	(.10)
1960-1969							-0.104	(.12)
1970-1979							-0.144	(.15)
1980 and younger							-0.028	(.18)
Immigrants	-0.132	(.07)	-0.187**	(.06)	-0.094*	(.05)	-0.100*	(.05)
Former East German citizen	0.185***	(.04)	0.068*	(.03)	0.101***	(.02)	0.082***	(.02)
Duration: Ref. 1 year stable								
2 years stable			-0.430***	(.03)	-0.350***	(.03)	-0.321***	(.03)
3 years stable			-0.704***	(.03)	-0.579***	(.03)	-0.470***	(.03)
4 years stable			-0.893***	(.04)	-0.744***	(.04)	-0.686***	(.04)
5 years stable			-1.012***	(.05)	-0.775***	(.04)	-0.700***	(.04)
6 years stable			-1.054***	(.05)	-0.843***	(.05)	-0.739***	(.04)
7 years stable			-1.224***	(.06)	-0.893***	(.05)	-0.835***	(.05)
8 years stable			-1.228***	(.06)	-1.064***	(.06)	-1.036***	(.06)
9 years stable			-1.197***	(.07)	-1.064***	(.06)	-1.036***	(.06)
10 -26 years stable			-1.417***	(.04)	-1.322***	(.04)	-1.254***	(.04)
Duration: relative					-1.451***	(.04)	-1.509***	(.04)
First observation					0.007	(.03)	0.029	(.03)
Panel participation	-0.091	(.07)	-0.023	(.06)	-0.080	(.05)	-0.056	(.05)
Constant	-3.627***	(.09)	-3.312***	(.08)	-2.670***	(.07)	-2.433***	(.07)
Variance constant	1.524	(.02)	1.113	(.02)	0.494	(.03)	0.484	(.03)
Log likelihood	-55528		-51924		-50046		-50239	
BIC	102944		101419		100492		100528	

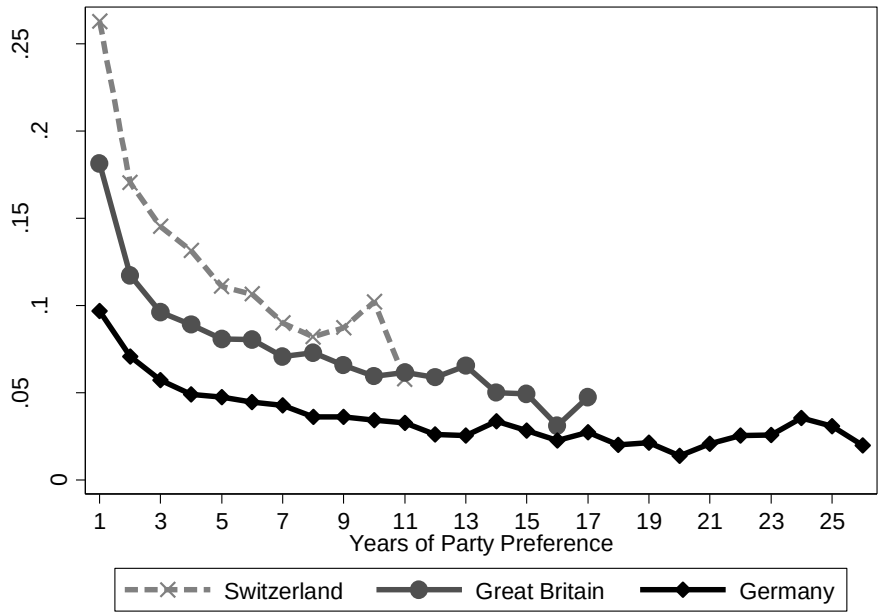
Great Britain	**M1**		**M2**		**M3**		**M4**	
Age (/10, centered)	-0.118***	(.01)	-0.050***	(.01)	-0.058***	(.01)	-0.118***	(.02)
Age squared	0.025***	(.00)	0.007	(.00)	0.016***	(.00)	0.017***	(.00)
Cohort: Ref 1939 and older								
1940-1949							-0.130**	(.05)
1950-1959							-0.159*	(.06)
1960-1969							-0.263**	(.08)
1970-1979							-0.299**	(.11)
1980 and younger							-0.295*	(.14)
Immigrants	0.101	(.09)	0.096	(.07)	0.039	(.05)	0.043	(.05)
Duration: Ref. 1 year stable								
2 years stable			-0.650***	(.03)	-0.607***	(.03)	-0.603***	(.03)
3 years stable			-0.947***	(.03)	-0.844***	(.04)	-0.828***	(.04)
4 years stable			-1.098***	(.04)	-0.939***	(.04)	-0.986***	(.04)
5 years stable			-1.254***	(.04)	-1.056***	(.05)	-1.103***	(.05)
6 years stable			-1.266***	(.05)	-1.063***	(.05)	-0.969***	(.05)
7 years and longer stable			-1.525***	(.04)	-1.339***	(.05)	-1.386***	(.05)
Duration: relative					-1.303***	(.05)	-1.252***	(.05)
First observation					-0.226***	(.05)	-0.282***	(.04)
Panel Participation	-0.066	(.07)	0.316***	(.06)	-0.125*	(.05)	-0.084	(.05)
Constant	-2.537***	(.09)	-2.560***	(.07)	-1.436***	(.08)	-1.257***	
Variance constant	2.054	(.02)	0.925	(.02)	0.127	(.02)		
Log likelihood	-54266		-49039		-48540		-48707	
BIC	100658		98412.1		97395		97609	
Switzerland	**M1**		**M2**		**M3**		**M4**	
Age (/10, centered)	-0.081***	(0.01)	-0.031**	(0.01)	-0.041***	(0.01)	-0.009	(0.04)
Age squared	0.010	(0.01)	-0.003	(0.01)	0.007	(0.00)	0.019*	(0.01)
Cohort: Ref 1939 and older								
1940-1949							0.173*	(0.08)
1950-1959							0.204	(0.10)
1960-1969							0.208	(0.14)
1970-1979							0.222	(0.18)
1980 and younger							0.206	(0.23)
Immigrants	0.065	(0.08)	0.024	(0.07)	0.047	(0.05)	0.049	(0.05)
Duration: Ref. 1 year stable								
2 years stable			-0.554***	(0.04)	-0.571***	(0.05)	-0.619***	(0.05)
3 years stable			-0.777***	(0.05)	-0.764***	(0.06)	-0.742***	(0.06)
4 years stable			-0.901***	(0.06)	-0.883***	(0.07)	-0.848***	(0.07)
5 years stable			-1.100***	(0.08)	-1.083***	(0.09)	-1.171***	(0.09)
6 years and longer stable			-1.255***	(0.07)	-1.288***	(0.08)	-1.321***	(0.08)
Duration: relative					-1.146***	(0.09)	-1.091***	(0.09)
First observation					-0.255***	(0.07)	-0.350***	(0.06)
Panel participation	-0.375***	(0.09)	-0.102	(0.08)	-0.287***	(0.06)	-0.257***	(0.06)
Constant	-2.072***	(0.09)	-1.992***	(0.08)	-1.154***	(0.09)	-1.321***	
Variance constant	1.337	(0.03)	0.898	(0.03)	0.247***	(0.08)	0.251	(0.08)
Log likelihood	-20404		-19185		-18772		-18861	
BIC	38604		38118		37787		37921	

Note: Logistic random effect models. Base category: no change. Models include dummy variables for the period effects. Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. Reference category: no change. Source: SOEP 1984-2010 (n=229'414, 25'269 individuals), BHPS 1991-2008 (n=149'984, 16'476 individuals, SHP 1999-2010 (n=43'364, 8312 individuals).

Reinforcement effects

We start by discussing to reinforcement effects, which we estimated through years of stability and the relative duration of party preference. As expected, we find that that the longer a party preference has been held, the more solid it becomes. Years of party preference is highly significant in (models 2 and 3) and contributes strongly to model performance. Also relative duration (model 3) reveals a significant reinforcement effect and improves the model. The effect of the years of stability in party preference on the probability to change is presented in *Figure 9*8, which has been computed as in model 3 but without top-coding of the years of party preference. This illustrates that the effect of years of party preference is clearly non-linear. The longer a party preference has been held, the smaller is the effect of an additional year of stability. For example in Great Britain, at one year of stability, an additional year reduces the probability to switch parties by 6.5 percentage points, but less than one percentage point from three years of stability on. Generally and in all countries, volatility is not reduced further after five years of stability.

Figure 8 : Probability to switch parties by years of party preference in CH, GB, DE



Also the relative measure of duration of party preference shows a strong reinforcement effect in model 3, which adds to the absolute duration effect. We do not show predicted probabilities for the relative duration of party preference as this measure is difficult to interpret, especially once duration in years is controlled for, and as the exact shape of the relationship depends on the model specifications.[43] Besides improving the model, the inclusion of relative duration brings a better distinction of period and age effects and reduces the unobserved heterogeneity (comparing variance of constant in Model 2 and Model 3). For these reasons, we will refer to model 3, which includes both absolute and relative duration of party preference for the discussion of the other variables.

We have underlined in the literature review that the contrasting results of previous studies can be mainly attributed to methodological issues. Our finding of strong

[43] In Model 3 in Table 12 we included relative duration only in its linear form. In an alternative model including relative stability and its square term but not duration in years, volatility declines steepest for short durations which is in line with findings for years of party preference. But if we include both duration measures, the probability to change declines steepest for long durations.

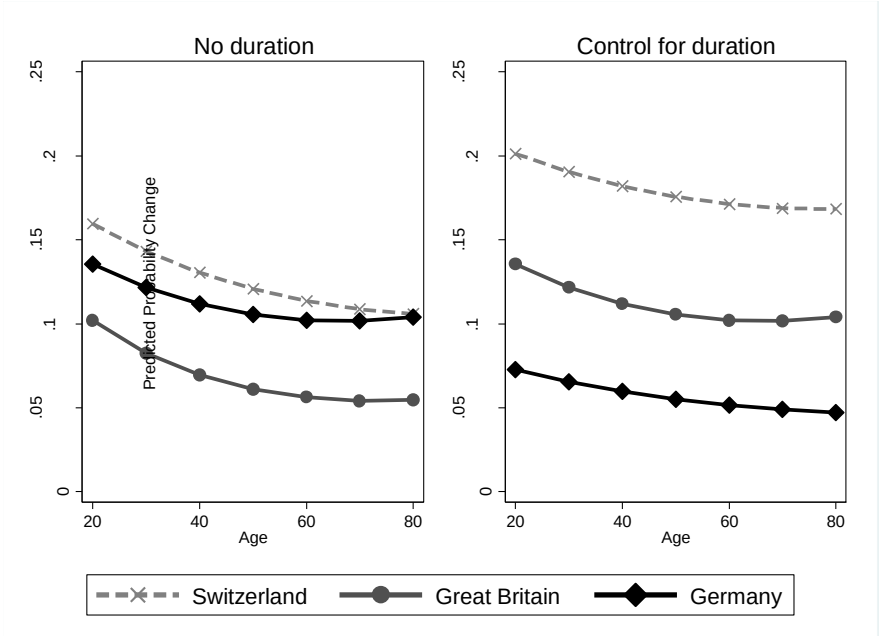
reinforcement effects is in line with the methodologically similar analysis by Schmitt-Beck et al. (2006) based on the SOEP. But our findings counter the interpretation of Green and Yoon (2002), who argue that the stability of party identification is all attributable to stable individual effects and not to a strong auto-regressive process. Although we found that the inclusion of reinforcement effects indeed reduces unobserved heterogeneity strongly, our results show that there is more to reinforcement than unobserved heterogeneity. Given that all models rely on relatively strong assumptions, we are aware that our model cannot solve the issue on separating trait and reinforcement either. Nevertheless, there are several indications which suggest that stability in years reflects both a stable trait and reinforcement. Firstly, unobserved heterogeneity remains relatively high even after controlling for duration, which suggests the presence of a trait effect. Secondly, the age effect depends on whether and how duration of party preference is controlled for. Because a stable trait should not alter coefficients of time-varying variables strongly, duration cannot reflect only a stable trait. Finally, we often have several spells of party preference per person, meaning that also duration varies within person.

Life cycle effects

We next turn to life-cycle effects, measured by the age variable. The hypothesis of increasing stability over the life-cycle is clearly supported in all models. *Figure 9* shows predicted probabilities to assess effects sizes for models controlling and not controlling for duration of party preference (M1 and M3 in *Table 12*). We find a consistent pattern across countries and model specifications: Volatility is highest among the youngest citizens, up to about 30 years of age. The older citizens are, the less likely they are to change between parties, but the effect is not linear over their life-cycle. Although the age effect is reduced once we control for duration of party

preference, it remains clearly significant. Without controlling for duration, 20 year olds are 34% (Switzerland) to 58% (Germany) more volatile than 80 year olds. Once controlling for duration of party preference (absolute and relative), the difference between 20 and 80 year olds is much smaller (17 percent in Switzerland, 35 percent in Germany). But we can be quite sure that this remaining difference is driven by the life-cycle rather than by reinforcement as suggested by Converse (1969: p. 44). Our findings confirm the importance of young adulthood in shaping and stabilising political preferences. Even though most changes occur in young age, we still observe increasing persistence in later age. Party preferences stabilise increasingly up to the age of about 60, after which little further stabilisation of preferences is observed

Figure 9: Predicted probabilities of switching parties by age in DE, GB and CH

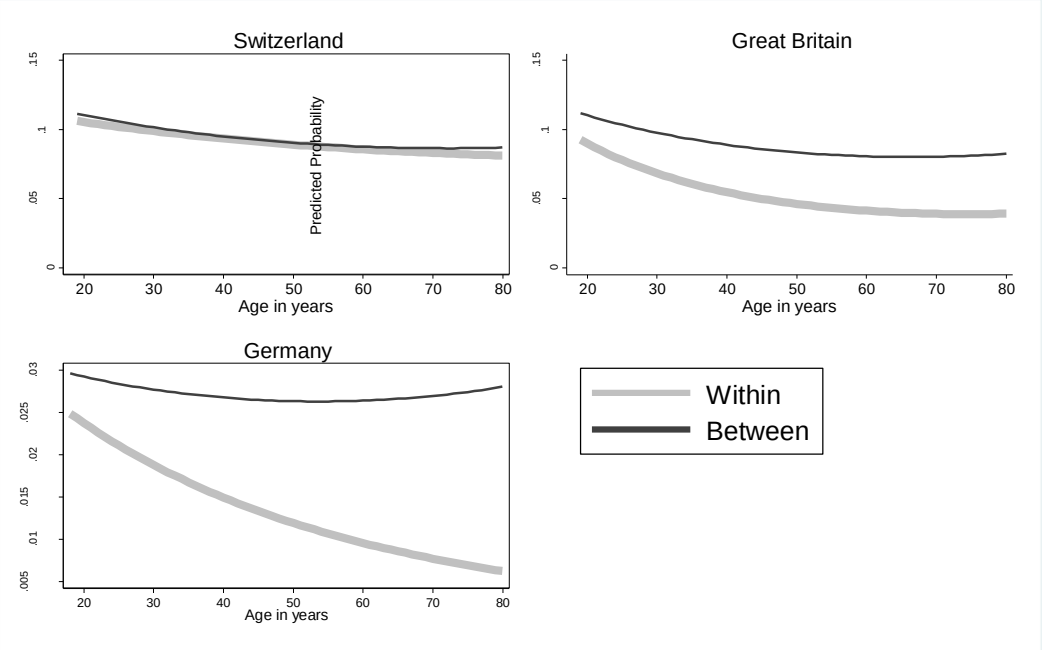


Note: Predicted probabilities calculated from Models 1 (left) and 3 (right) in Table 12. Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

In the next step, we distinguish within-block and between-block changes in a competing risk model (Table 13). Predicted probabilities in *Figure 10* show for Great Britain and Germany that within-block change occurs manly among young voters. The stabilisation effect over the life-cycle seems to be more pronounced for within-

block change than for between-block change. In Switzerland, party blocks are not relevant for life-cycle effects. In all three countries, age remains important for both types of change. We find thus support for the two arguments on the mechanism of life-cycle effects. Young voters are more likely to change between party blocks because they have less established ideological positions. And young voters are more likely to change within party blocks because they are more easily influenced by short-term forces. But for between-block change, the stabilisation occurs more gradually over the entire life-cycle and the effect remains weaker than for within-block change.

Figure 10: Predicted probabilities for switching parties by age and distinction of block in DE, GB and CH



Note: Y-scales are not harmonised. Predicted probabilities calculated from M5 in Table 13. Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

Table 13 : Within-block and between-block change: age, period, cohort and reinforcement in DE, GB and CH

	M5				M6			
Germany	**within**		**between**		**within**		**between**	
Age (/10, centered)	-0.225***	(.01)	-0.009	(.01)	-0.296***	(.05)	-0.064*	(.03)
Age squared	-0.000	(.01)	0.008	(.00)	0.028***	(.01)	-0.000	(.01)
Cohort: Ref 1929 and older								
1930-1939					0.118	(.10)	-0.116	(.06)
1940-1949					0.188	(.13)	-0.163*	(.08)
1950-1959					0.136	(.18)	-0.330**	(.10)
1960-1969					-0.004	(.22)	-0.394**	(.13)
1970-1979					-0.363	(.26)	-0.280	(.16)
1980 and younger					-0.352	(.32)	-0.177	(.19)
Immigrants	-0.595***	(.10)	0.186**	(.06)	-0.572***	(.09)	0.160*	(.06)
Former East German citizen	0.392***	(.05)	-0.084*	(.04)	0.134	(.09)	-0.123	(.07)
Duration: Ref. 1 year stable								
2 years stable	-0.337***	(.03)	-0.337***	(.03)	-0.307***	(.03)	-0.307***	(.03)
3 years stable	-0.552***	(.03)	-0.552***	(.03)	-0.444***	(.03)	-0.444***	(.03)
4 years stable	-0.709***	(.04)	-0.709***	(.04)	-0.647***	(.04)	-0.647***	(.04)
5 years stable	-0.725***	(.04)	-0.725***	(.04)	-0.653***	(.04)	-0.653***	(.04)
6 years stable	-0.781***	(.05)	-0.781***	(.05)	-0.679***	(.05)	-0.679***	(.05)
7 years stable	-0.826***	(.05)	-0.826***	(.05)	-0.765***	(.05)	-0.765***	(.05)
8 years stable	-0.983***	(.06)	-0.983***	(.06)	-0.961***	(.06)	-0.961***	(.06)
9 years stable	-0.978***	(.06)	-0.978***	(.06)	-0.950***	(.06)	-0.950***	(.06)
10 -26 years stable	-1.198***	(.05)	-1.198***	(.05)	-1.139***	(.04)	-1.139***	(.04)
Duration: relative	-1.216***	(.06)	-1.216***	(.06)	-1.301***	(.06)	-1.301***	(.06)
First observation	0.005	(.03)	0.005	(.03)	0.027	(.03)	0.027	(.03)
Panel participation	0.076	(.06)	-0.138*	(.07)	0.391***	(.04)	-0.117**	(.04)
Constant	-4.795***	(.12)	-3.439***	(.07)	-4.152***	(.19)	-3.026***	(.10)
Variance constant	1.918***	(0.10)	0.931***	(0.07)	1.854***	(0.11)	0.877***	(0.07)
Cov constant (within-between)	-0.838***	(0.03)			-0.860***	(0.04)		
DIC	111917				112585			

	M5				M6			
Great Britain	**within**		**between**		**within**		**between**	
Age (/10, centered)	-0.159***	(.02)	-0.056***	(.01)	-0.564***	(.11)	-0.096***	(.02)
Age squared	0.030*	(.01)	0.016***	(.00)	0.061***	(.02)	0.015**	(.00)
Cohort: Ref 1939 and older								
1940-1949					-0.612**	(.23)	-0.099*	(.05)
1950-1959					-0.708*	(.30)	-0.126*	(.06)
1960-1969					-1.460***	(.40)	-0.189*	(.08)
1970-1979					-1.872***	(.52)	-0.206	(.11)
1980 and younger					-2.263***	(.64)	-0.185	(.14)
Immigrants	-0.445	(.27)	0.071	(.05)	0.075	(.05)	0.075	(.05)
Duration: Ref. 1 year stable								
2 years stable	-0.594***	(.03)	-0.594***	(.03)	-0.597***	(.03)		
3 years stable	-0.825***	(.04)	-0.825***	(.04)	-0.816***	(.04)		
4 years stable	-0.915***	(.04)	-0.915***	(.04)	-0.967***	(.04)		
5 years stable	-1.028***	(.05)	-1.028***	(.05)	-1.080***	(.05)		
6 years stable	-1.027***	(.06)	-1.027***	(.06)	-0.942***	(.05)		
7 years and longer stable	-1.285***	(.05)	-1.285***	(.05)	-1.343***	(.05)		
Duration: relative	-1.281***	(.05)	-1.281***	(.05)	-1.217***	(.05)		
First observation	-0.215***	(.05)	-0.215***	(.05)	-0.283***	(.04)		
Panel Participation	0.352	(.21)	-0.166**	(.05)	-0.131*	(.05)	-0.131*	(.05)
Constant	-6.182***	(.16)	-1.650***	(.06)	-5.076***	(.27)	-1.512***	(.06)
Variance constant	3.844***	(.22)	0.186***	(.03)	3.815***	(.23)	0.191***	(.02)
Cov constant (within-between)	-0.287***	(.05)			-0.293***	(.05)		
DIC	103970				104312			
	M5				**M6**			
Switzerland	**within**		**between**		**within**		**between**	
Age (/10, centered)	-0.047**	(.01)	-0.046***	(.01)	-0.017	(.07)	0.032	(.07)
Age squared	0.004	(.01)	0.009	(.01)	0.027	(.01)	0.014	(.01)
Cohort: Ref 1939 and older								
1940-1949					0.254*	(.13)	0.217*	(.11)
1950-1959					0.302	(.18)	0.257	(.16)
1960-1969					0.300	(.24)	0.312	(.21)
1970-1979					0.290	(.31)	0.382	(.29)
1980 and younger					0.166	(.40)	0.469	(.38)
Immigrants	-0.037	(.09)	0.137	(.07)	-0.032	(.09)	0.133	(.07)
Duration: Ref. 1 year stable								
2 years stable	0.746***	(.06)	0.746***	(.06)	0.734***	(.06)	0.734***	(.06)
3 years stable	0.178***	(.05)	0.178***	(.05)	0.115*	(.05)	0.115*	(.05)
4 years stable	-0.112	(.06)	-0.112	(.06)	-0.098	(.06)	-0.098	(.06)
5 years stable	-0.307***	(.08)	-0.307***	(.08)	-0.417***	(.08)	-0.417***	(.08)
6 years and longer stable	-0.491***	(.07)	-0.491***	(.07)	-0.556***	(.06)	-0.556***	(.06)
Duration: relative	-0.976***	(.09)	-0.976***	(.09)	-0.976***	(.08)	-0.976***	(.08)
First observation	-0.272***	(.07)	-0.272***	(.07)	-0.362***	(.06)	-0.362***	(.06)
Panel participation	-0.008	(.10)	-0.483***	(.09)	0.079	(.10)	-0.501***	(.09)
Constant	-3.081***	(.08)	-2.926***	(.08)	-3.425***	(.15)	-3.118***	(.14)
Variance constant	0.977***	(.09)	0.626***	(.07)	0.849***	(.06)	0.585***	(.06)
Cov constant (within-between)	-0.564***	(.05)			-0.594***	(.04)		
DIC	46391				46663			

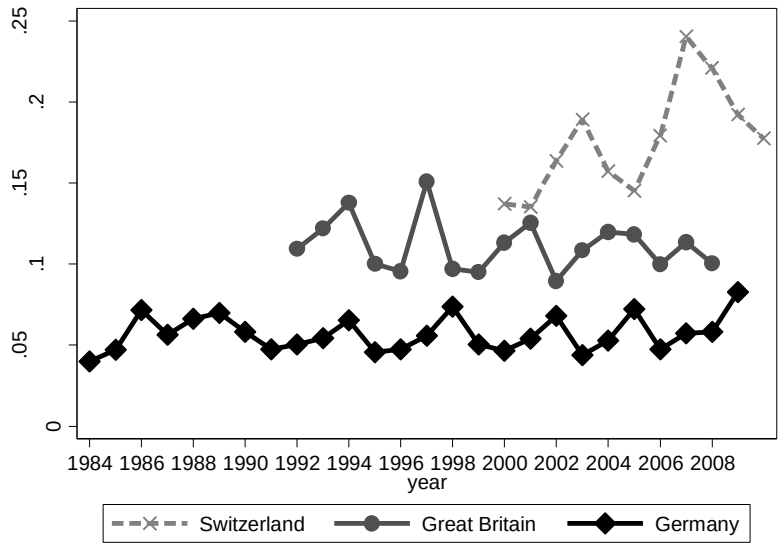
Note: Multinomial random effect models. The dependent variable takes the value of 1 for within-block party switches and the value of 2 for party switches between blocks (base category: no change). (Base category: no change). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. Reference category: no change. Var re: variance of random effect. Source: SOEP 1984-2010 (n=204'145 clustered in 22'275 individuals), BHPS 1991-2008 (n=133'508 clustered in 15'207 individuals, SHP 1999-2010 (n=35050 clustered in 7140 individuals).

Period effects

Next, we discuss period effects, which are shown in *Figure 11* as predicted probabilities (computed from Model 3 in *Table 12*)[44]. Period effects are significant in all three countries, which underlines that they cannot be ignored for this type of analysis. But the effects are not linear and vary strongly over years. Volatility peaks in election years, which we will address in detail in Chapter 8. The effect of elections was particularly strong for 1997 in Great Britain, 2009 in Germany and 2003 and 2007 in Switzerland. More generally, the strong differences in volatility across years illustrates that there are important context effects specific, which we do not cover with our more general comparative approach here. Rather than explain particular effects for a country and year, we are interested in the more general time trend. Our results show that an increasing volatility over time as claimed by dealignment theories has occurred only in Switzerland. In Great Britain, volatility seems to decrease slightly and in Germany, volatility shows no clear trend. But even in Switzerland, the increase is more likely to reflect the transformation of the party system since the mid-1990s than dealignment process. The rise and transformation of the Swiss People's Party (SVP) as well as new parties (BDP, Green liberals) are important aspects of this fundamental change. More detailed analysis show that respondents who support the SVP are indeed more volatile than supporters of other parties. But volatility for respondents preferring the SVP declined over time, probably because the transformation of the party has been mostly completed. The volatility increased over time for supporters of other parties.

[44] The period effect is similar in Model 1 and Model3. But in Model 2, which includes years of duration but not relative duration, volatility appears to increase more strongly over time in all three countries. The results of model 2 for period effects can be rather attributed to multicollinearity of absolute duration measure.

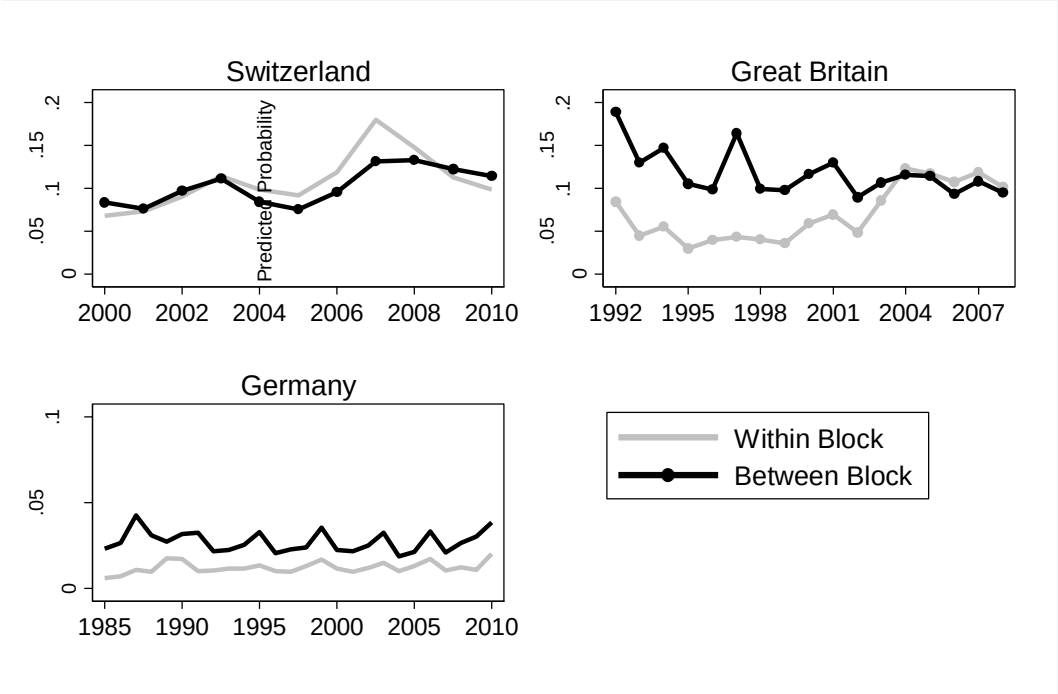
Figure 11 : Party switches: period effects in CH, GB and DE



For period effects, the distinction of party blocks was revealed to be important. *Figure 12* shows the year-to-year volatility level, separately for within- and between-block change. In all three countries volatility within blocks increased.[45] In Great Britain, the increasing volatility within party blocks is due to the growing importance of small parties (regional parties from Scotland and Wales, and the Green party). Even though they still play a minor role, their share increased from 2.7 % in 1993 to 5.1 % in 2008. In contrast to within-block changes, the evolution of volatility between party blocks shows very different patterns across the countries: changes between party blocks became more important in Switzerland over time, decreased in Great Britain and remained stable in Germany (linear time trend in the model is not significant). In Switzerland, the high volatility level since 2007 observed in the binary model is thus due to both to within and between-block changes. In Great Britain, the overall decline of volatility is due to fewer changes between party blocks.

[45] This is confirmed by models with include a linear time trend rather than dummy variables as in Table 13.

Figure 12 : Period effects and party blocks



Cohort and socialisation effects

Next, we discuss cohort effects, which are more difficult to interpret. Due to the problem of multicollinearity between cohort, age, period and duration, results are sensitive to model specifications. Besides the models presented in *Table 12* we tested many other model specification (different coding for duration and period). We will refer to such alternative models if findings are not robust. In Switzerland, where the panel is shortest, age effects become insignificant once cohort variables are included into the model. The only cohort effect in Switzerland is the higher volatility of the cohort born between 1940 and 1949 compared to older cohorts. In Germany, with the longest running panel, cohort effects depend on the model specification. In M4 presented in *Table 12*, the cohort variables are not significant. But without controlling for period effects, the youngest cohort (born after 1980) and the cohort born between

1940 and 1949 are more volatile than the other birth cohorts.[46] In Great Britain, the older cohorts appear generally more volatile. But rather than reflecting cohort effects, the instability of the coefficients of age suggest that this is likely to result from multicollinearity between age and cohort. Although we have to be cautious in interpreting results due to the instability of the models, it is striking that in both Switzerland and Germany the cohort born between 1940 and 1949, which is the "68 cohort", shows a relatively high volatility level. A potential explanation could be the highly politicised environment during the socialisation of this cohort. However, in Great Britain we could not find this pattern. A consistent result for all countries is that standard errors of regression coefficients for cohorts increase with cohort age. This means that younger cohorts are more heterogeneous than older cohorts in their stability level.

The distinction of party blocks does not reveal clearer cohort effects. In Switzerland, cohorts are not significant and do not reveal meaningful effects in Great Britain. For Germany, we find only one effect: the oldest generation switches more often between party blocks than most younger cohorts. We here find limited support for stronger volatility of the pre-war generation as expected.

In sum, cohort effects are not coherent and robust. Maybe our data does not cover a long enough time span to appropriately separate cohort and age effects. But considering that cohorts do not increase model performance in any of the three countries analysed, they seem to matter very little. The hypothesis of higher volatility of younger cohorts claimed by many authors is not supported in our models.

[46] While for the youngest cohort, the result could still be an age effect (we observe this cohort only at young age), the explanation for the cohort 1940-1959 could lie in its socialisation. It is the "68 cohort" socialised in after-war Germany.

Nevertheless, the weak or absent cohort effects mean that we can be confident that the age effects discovered reflect a true life-cycle effect.

We next address the effect of citizens who grew up in another political system: immigrants and former East German citizens in Germany. We expected higher volatility for these groups. However, immigrants are not more volatile in any of the countries and models distinguishing change and no change. On the contrary, German immigrants seem even to be more stable than German-born citizens. In Switzerland and Great Britain, the migration background has no significant impact on volatility. But for former citizens of the GDR, we do find higher volatility than for other German citizens.

Party blocks are important for the volatility of immigrants in Germany. While immigrants appeared to be less volatile in the overall model, a closer looks reveals that this is due to within-block change only. Immigrants change more frequently between party blocks than citizens born in Germany. In Switzerland and Great Britain, results for migration background remain insignificant once we distinguish party blocks. An interesting insight give models on migration background once we control for interest in politics (see results in Chapter 7). The result of higher between-block volatility of immigrants to Germany is reinforced, and the immigration variable becomes significant for Switzerland. The different results in the different models are interesting because they reveal the underlying causalities. The higher between-block volatility of German immigrants cannot be explained by a lower interest in politics of immigrants. Rather, interest in politics masks somewhat the direct effect of political socialisation in another political system on between-block volatility in Switzerland and Germany. Because immigrants have, on average, a lower political interest than

citizens born in the country and because low political interest is related to lower volatility (as we will see in the next Chapter 7), the volatility-reducing effect of political interests offsets the volatility-increasing effects of socialisation partly or entirely. In Great Britain, immigrants change less within party blocks than citizens born in the country once we control for interest in politics.

Surprisingly, the result for former citizens of the Germany Democratic Republic has the opposite pattern than for immigrants. The higher volatility of citizens who have lived in East Germany is uniquely due to within-block volatility. Former East German citizens do not change more frequently between party blocks than Former West German citizens. While former East-German citizens change more often within blocks, immigrants change more often between party blocks. Because both these groups have not been socialised in the current political system, our socialisation hypothesis cannot explain the results. We therefore have to look at the parties involved in these changes. For immigrants, the most frequent change occurred between SPD and CDU (47.8 % of all changes), whereas East Germans were more likely to choose little parties, particularly the Left party. 19 % of all changes occurred between the SPD and the left party and only 18.3 % between SPD and CDU. Overall, the hypothesis of higher volatility among citizens who have been socialised in another political system could not be supported by the empirical models.

Age and types of changers

We come back to the types of changes discussed in section 5.2: temporary change, durable change, ambiguity and random change. The focus here is not on comparing stable individuals and volatile changers as before, but on the differences between the groups of changers, which could not be addressed with regression analysis. As in section 5.2, the sample consists of individuals who named at least five parties during twelve waves of observations. However, the perspective and interpretation depends on whether we include the individuals with stable preferences in the frequency tables. Including stable individuals, we find that volatility declines over the life cycle which confirms our previous findings. But having compared changers and stable individuals already in detail in the multivariate models, it is more interesting to focus on the different types of volatility and thus look closer on the subsample individuals who change between parties by age groups. *Table 14* presents cross tabulations of types of changes by five age groups, excluding the majority individuals who keep the same party preference over all waves. Generally, results show that age not only impacts the probability for change, but also the type of change.

Among young adults who change parties, durable change is relatively frequent in all three countries. This confirms that the years following electoral eligibility are indeed formative years, where individuals find their party position. The relatively low frequency of temporary change among young citizens underlines further that they rarely have an established party preference. The formative years do however not reveal a particular high level of ambiguous party preferences or random change. However, random changes differences over the life-cycle are hard to interpret for random change, as they are marginal.

In the oldest age group (65 years), temporary change is clearly the most important type of volatility. This suggests that older citizens are not only the least likely to change (as the previous analysis has shown), but if they change it is usually for a temporary departure from their latent party preference. Moreover, the oldest age group is also the least likely to have ambiguous preferences in Switzerland and Germany.

For the intermediate age groups, the relationship between life cycle effects and type of change varies strongly between countries. In Switzerland, there is no difference between the three age groups between 30 and 64 years. In Great Britain, the 30 to 49 year olds are similar to the youngest age group and the 50-64 year olds are similar to the oldest age group. In Germany, there are relatively continuous life-cycle effects for temporary change, while durable change shows relatively high volatility level up to 39 years and relatively lower volatility levels after 40 years.

Table 14: Types of party switches by age in DE, GB and CH

DE	18-29	30-39	40-49	50-64	65+	Total	n
Temporary change	30.1	36.7	38.6	42.0	47.6	39.1	992
Durable change	48.7	44.1	39.0	37.6	38.0	41.1	1082
Ambiguity	19.1	18.9	20.1	17.3	12.9	17.9	463
Random change	2.2	0.3	2.3	3.1	1.5	2.0	40
Total	100.0	100.0	100.0	100.0	100.0	100.0	8985
GB	18-29	30-39	40-49	50-64	65+	Total	n
Temporary change	38.7	38.7	43.7	45.9	46.1	42.5	1631
Durable change	37.0	36.6	37.0	30.5	31.1	34.4	1354
Ambiguity	21.3	21.4	16.1	20.0	21.0	20.0	788
Random change	2.9	3.3	3.3	3.6	1.8	3.0	134
Total	100.0	100.0	100.0	100.0	100.0	100.0	
CH	18-29	30-39	40-49	50-64	65+	Total	n
Temporary change	34.8	38.4	41.4	37.9	46.4	39.3	745
Durable change	37.8	33.9	34.3	34.3	28.5	34.1	655
Ambiguity	18.8	18.4	19.4	20.4	15.0	18.8	362
Random change	8.7	9.3	4.8	7.4	10.1	7.8	155
Total	100.0	100.0	100.0	100.0	100.0	100.0	3434

Sample: Individuals with party preferences in at least five waves and who changed party preference. Source: SOEP (1999-2009), BHPS (1998-2008), SHP (1999-2009).

6.1 Conclusions for age, cohort and period effects

To conclude this chapter, we briefly address age, reinforcement, cohort and period effects in turn. We found strong life-cycle effects showing stabilisation of party preferences with age. The effect is non-linear, as change is most frequent in young age groups until the age of about 30. From about 60 years of age, the volatility level remains constant or declines only little. This supports theories which argue that political characteristics are shaped in early adulthood in a learning phase and remain rather stable afterwards. However, change cannot be mainly attributed to socialisation. We found increasing persistence after these formative years over the entire life-cycle. Furthermore, the level of change remains considerable in later years. More detailed analyses of different types of change suggest that the life-cycle is more important for change within party blocks than for change between party blocks. The learning phase is thus not only about finding an ideological position but also a phase of openness and

stronger response to external influences. The important role of the formative years is further underlined by the distinction of the types of change. Young adults are particularly likely to change their party preference durably, whereas temporary departures from latent party preferences are more common for the elderly. Finally, the life-cycle effect remains robust, even if cohorts, period or reinforcement effects are controlled for. In contrast we found no consistent evidence for cohort effects. In particular, volatility of younger cohorts is not higher than for older cohorts, as would be expected by theories of dealignment.

The evidence for reinforcement effects is impressive, so that we can almost talk about an immunisation process. The longer a party preference has been held, the less likely becomes a change to another party. Whether this reflects a true autroregressive process or a stable trait is controversial. Our results suggest that both contribute to stabilisation.

For period effects, we found that volatility levels vary strongly over the years and peak at election years. Only Switzerland shows an increasing volatility over time, in particular since 2007. But once party blocks are distinguished, we found raising within-block volatility in all the three countries, which reflects the growing importance of small parties. Between block volatility however has evolved very differently in the three party systems: it decreased in Great Britain, increased in Switzerland and has not changed in Germany. As for cohorts, we find no support that dealignment causes higher volatility. The most plausible explanation for the trend in Switzerland is the transformation of the Swiss party system during this period of observation.

We have expected that socialisation outside the current party system causes a higher volatility level. However, we found only weak support for this. We have found immigrants to Germany to be more volatile between party blocks than citizens born in Germany. The same applies for Switzerland once we controlled for interest in politics. In Germany, former citizens of the German Democratic Republic are more likely to change within party blocks, because they often switch between the Left party (die Linke, PdS) and other left parties.

In sum, we found very strong life-cycle and reinforcement effect in all three countries. Considering the different party systems, and particularly the different question wordings for party preference, the robustness of the findings is remarkable. For cohort and period effects, as well as the role of immigrants, results differ between countries, but these differences are likely to depend on the specific context, such as parties and events during the period of observation.

7

Political awareness and predispositions

7.1 Political awareness

Political awareness is one of the key explanatory variables for opinion change and crucial for change in party preferences. Political awareness refers to individuals' psychological involvement and skills, which help to understand and participate in the political world (e.g. Jennings and Niemi 1981). Many different aspects relate to political awareness: political involvement, political knowledge, political interest, or education.[47]

Many theoretical approaches offer explanations for the effect of political awareness on opinion change. Psychological models on information processing are most prominent and can be applied to opinion formation or volatility of party preferences (e.g. Zaller 1992, Chapter 12, or Lachat 2007). Information processing includes individuals' information reception, interpretation, storage, retrieval, selection and use in political decisions. Models relying on *memory based processing* assume that individuals have different considerations stored in memory. One of the most influential models in political science has been formulated by Zaller (1992). He argues that we have to look at and distinguish information reception and information acceptance when assessing information processing.

We will first discuss information reception. The relationship between information *reception* and opinion change is ambiguous. Political awareness increases the

[47] Political awareness is also referred to as political sophistication and political expertise, or in the literature on dealignment, as cognitive mobilisation. Similar to political awareness, Converse (1964) refers to levels of conceptualisation, which measure the level of constraints in belief systems, or in other words, the ability to associate issues in a broader ideological framework.

probability of information reception, because highly aware citizens are more exposed and pay more attention to surrounding information. In Zaller's model, information reception increases the probability to change. However, the opposite may also be true, because the highly aware should also receive more information in line with predispositions, thus reinforcing existing opinions. Selective exposure may even increase the reinforcement effect. We could therefore imagine different relationships between political sophistication and information reception.

The effect of political sophistication on information *acceptance* is clearer. Individuals with low levels of political awareness are more responsive to information about parties than individuals with high levels of political awareness. Those who are less aware have fewer bases from which to form political judgements and to assess whether new information is in line with their predispositions or not. In contrast, highly aware individuals are able to assimilate new information to their predispositions and to counter argue it (Iyengar and Kinder 1987; Zaller 1992). The highly aware may therefore be especially resistant to the influence of any single dose of information. For these reasons, political awareness should make change less likely.

In Zaller's model, the probability to change is the product of the probability to receive information and the probability to accept information. Moreover, the shape of the relationship depends on the familiarity of the issue, its intensity and the direction of information flow. For two-sided information flow, the relationship between political awareness and opinion change is non-linear. Citizens with intermediate levels of political awareness are most likely to change their preference. Voters who are less aware remain relatively stable because they do not receive information which might cause a preference change. Also highly interested voters are relatively stable.

Although they receive a lot of information, they are also more likely to reject information that contradicts their predispositions or values. Voters with intermediate levels of awareness are most volatile because they receive information through media or conversations and are likely to accept this information.

However, if we assume a different effect of information reception, such as reinforcement effects, volatility would decline with political awareness. In experiments, the role of information reception is usually not assessed at all because information reception is almost always controlled by the experiment design. Studies based on experiments can therefore not be compared to real-world data, as they only reflect the effect of information acceptance and not the overall effect.

Zaller's theory has been applied to many circumstances, mainly to issue opinions (e.g. Krosnick and Brannon 1993; Kriesi 2002; Bützer and Marquis 2002; Sciarini and Kriesi 2003; Goren 2004; Dobrzynska and Blais 2008). Empirical evidence on Zaller's model is mixed. It confirms that the effect of political awareness depends strongly on the context, notably on the intensity, familiarity and direction of information flow. But despite mixed findings and limited empirical support, Zaller's model has been very powerful, also because it is parsimonious and gives clear testable hypothesis. There are two critical points we would like to discuss. The first is Zaller's treatment of predispositions (see also Sciarini and Kriesi 2003; Goren 2004). Zaller uses predispositions only when assessing the direction of opinion change or direction of information flow, e.g. distinguishing effects for democrats and republicans, but he does not control for predisposition strength. We will discuss the role of predisposition in detail in the next section. Another critique applies to Zaller's view of information flow. Information is seen as top-down, from elites via mass media to the public. The

model does not take account of interpersonal communication either. With internet and other new media, the assumption of elite controlled information flow has become a very strong simplification.

An alternative to memory based information processing is on-line processing (Hastie and Park 1986; Lodge, McGraw, and Stroh 1989). People who are highly attentive to the flow of political news are likely to think a lot about political affairs and evaluate this information. Although they forget the specific information content, the evaluation of the information is stored in memory. When new relevant information is acquired, their evaluations or opinions are updated. Therefore, if asked about their voting intentions, these individuals retrieve and report their on-line evaluations. On-line evaluations are relatively stable, because they are based on large sets of previously acquired information; therefore new pieces of information only have small impact on them. Consequently, recent news media content should have relatively little effect on highly attentive citizens. In contrast, citizens who pay little attention to the flow of news are unlikely to have such general political evaluations stored in memory. When asked about their voting intention, they rather apply memory based processing and recall whatever they can about parties on the spot. Online processing thus presumes greater stability for highly aware citizens.

Taken together, socio-psychological theories expect either a non-linear or a negative relationship between political awareness and change, depending on whether memory based or online based information processing is considered, and depending on the role of information reception.

Also, dealignment theory discusses the relationship between awareness and volatility. The hypothesis of cognitive mobilisation sees increasing education, sophistication and

the easier availability of information as cause for the decline of party identification (Dalton 1984; Dalton 2000). But the causality between a more enlightened electorate and the decline of party identification has clearly been rejected by empirical analysis (Albright 2009).

Although there are many studies which measure the effect of political awareness, almost all look at issue opinions. Only Lachat (2007) and Zaller (1992) focus on political awareness for the volatility of party preferences. Lachat studied Germany and Switzerland, which we also cover here. In Germany, political awareness had no significant effect on changes within party blocks, but had a non-linear effect on changes between party blocks. In Switzerland, the relation for within-block changes was non-linear. For between-block change in Switzerland, volatility increased with political awareness. Others studies included political interest or education among independent variables, but did not focus on the aspect and did not test for non-linear effects. Zuckerman, Dasovic and Fitzgerald (2007, 65) find that high levels of political interest generate "greater partisan consistency", but do not address party switches. Schmitt-Beck, Weik and Christoph (2006) find that party switches become more frequent with political awareness in Germany. Green and Yoon (2002) find that the dynamic process of party identification does not differ for different levels of political awareness. Kuhn (2009) found non-linear effects for Switzerland, but differences for within and between-block changes.

So far, empirical results on the relationship between political awareness and party switches have thus remained ambiguous. The contrasting results could be due to different research designs, different contexts, as well as a different operationalisation of political awareness and change. But it is striking that socio-psychological theories

expect low volatility for highly aware citizens, while none of the empirical studies has found that volatility declines with political awareness.

The different theories result in different theoretical expectations. To apply Zaller's RAS model, we first have to define the context regarding familiarity, intensity and direction of information flow. In contrast to other tests of his models, we do not focus on short time development but look at change in a longer and more general context. We cannot relate our data to precise information flow. Information flow depends on the party and the country, and varies over time. In chapter 8, we will look at the effect of the electoral cycle, which reflects density of information flow. Direction of information flow is not important for us because we are mainly interested in whether a change occurs or not. We assume that citizens are exposed to information flow that goes in various directions. Finally, we assume that party related information is relatively familiar. In this situation, with relative familiarity and two-sided (or multi sided) information, we expect a non-linear relationship between awareness and party change according to Zaller's model. According to theories of online processing, we expect volatility to decline with political awareness. Both theories agree on the stronger stability of highly aware citizens.

However, awareness may not have the same effect on all types of change. To develop more specific hypotheses, we come back to the separation of information reception and information acceptance. The probability to change is the product of the probability to receive information and the probability to accept information. We expect that information reception increases with political awareness, irrespective of the type of change. However, information acceptance differs between types of change. For between-block change, we expect decreasing probability to accept information,

while for within-block changes, acceptance should not depend on political awareness. Because parties are ideologically close, within-block changes do not go against predispositions. In contrast, between-block change implies a considerable change in the political space and may therefore be inconsistent with underlying predispositions of voters. As a result, according to Zaller's model, we expect increasing probability for a within-block change with political awareness and a non-linear or decreasing probability for a between-block change. With online based memory processing, we except decreasing volatility with increasing political awareness for a between-block change.

For the other types of change (durable change, temporary change, ambiguity and randomness) expectations are less clear. For random answers, we expect a negative relationship with political awareness.

7.2 Predisposition strength

Predispositions have always been a main explanation for stability of party preferences. In the Columbia studies (Lazarsfeld, Berelson, and Gaudet 1948; Butler and Stokes 1971), socio-structural predispositions, first of all social class, play an important role for electoral choice. Because socio-structural predispositions are highly stable, electoral choice is also relatively stable. The link between social structure, the party system and stability of voting is made even more explicitly by cleavage theory (Lipset and Rokkan 1967; Bartolini and Mair 1990), although stability refers more to party systems than to individual-level volatility. In the Michigan model, the stability arises mainly from psychological predispositions, in the form of party identification. Many recent studies underline the importance of predispositions in explaining stability (Miller and Shanks 1996; Clarke et al. 2004; Arzheimer and Schoen 2005).

Predispositions are also central in socio-psychological models of information processing. In Zaller's theory, predispositions are interrelated with political awareness. Zaller argues that predispositions have no effect "unless the individual is sufficiently aware to possess the contextual information that enables resistance to uncongenial messages" (Zaller 1992, 137). Although in a later study on the case of Monica Lewinsky (Zaller 1998), he concluded that political predispositions may have a stabilising effect, independent from awareness. Moreover, predispositions are inherent in the resistance function in the RAS-model, although this interaction is more implicit. Only when information runs against predispositions is there a reason to reject it. Therefore, the resistance effect should increase with predisposition strength. This has implications for the study of political awareness. Even if predispositions are not explicitly controlled for in a statistical model, they will play a role, as they influence the acceptance of information.

Despite the importance of predispositions, Zaller rarely includes predisposition strength in his models. If it is included, he only takes account of the direction, e.g. by separating democrats and republicans. Regarding the interaction between awareness and predisposition strength, Zaller argues that interaction effects introduce multi-collinearity and do not increase model performance (Zaller 1992, 137f.). In contrast, Lachat (2007) tested systematically for interactions between political awareness and predisposition strength. He found that the interaction is significant, but does not assess overall model performance. Looking at issues, other authors found little support for such interaction effects (Feldman and Zaller 1992; Goren 2004; Dobrzynska and Blais 2008).

The empirical influence of predisposition strength on volatility depends on the choice of indicators. Despite consensus on the importance of predispositions, there is a lack of a common conceptualisation. We will discuss frequently used indicators for predispositions to show what implications the choice of indicators may have on findings. A first criterion to evaluate the different indicators is the exogeneity to change. The more an indicator can be considered as exogenous, the more meaningful the explanation for stability of party preference. A second criterion is the relationship with political awareness.

First we look at socio-structural predispositions, which involve, most importantly, social class and religion. In contrast to early electoral studies, socio-structural predispositions are, with the exception of Lachat (2007),[48] rarely considered in recent studies on opinion change or party change. However, in cross-sectional studies on voting behaviour, social class remains relevant when divisions within the middle class are taken into (see Güveli and De Graaf 2007 for a review; Lachat 2007 for Germany and Switzerland). Similarly, religion remains significant for voting when not only religious denomination but also religious practise is considered (Kriesi and Trechsel 2008). Therefore, if socio-structural characteristics impact electoral choice, they should also have a stabilising effect. For socio-structural predisposition, such as social class, religion, region or race, it is safe to assume exogeneity from party preferences. Socio-structural predispositions are highly stable individual characteristics and should not be strongly associated with political awareness.

[48] Lachat's measure of predispositions mixes socio-structural and psychological predispositions in an additive index.

A second type of indictor for predispositions is psychological predispositions. Opinion strength, but also strength of party identification, are frequently used, particularly in studies on issue opinions (e.g. Dobrzynska and Blais 2008; Sciarini and Kriesi 2003). As we have argued repeatedly, the exogeneity assumption is problematic for strength of party identification. Explaining stability of party preferences with strength of party identification remains somewhat tautological (see also Selb et al. 2009). Apart from the limited explanatory power in terms of understanding underlying mechanisms, coefficients of other variables may be biased due to endogeneity.

Psychological predispositions are linked to political awareness. Citizens can only express a party identification if they are conscious of their predisposition and thus have a certain level of political awareness. Empirical correlations between political awareness and strength of party identification confirm this. For example in the SOEP data, only one per cent of strong or very strong identifiers are not at all interested in politics. Or, in the BHPS data, the correlation coefficient between interest in politics and strength of party identification amounts to 0.5.

Sciarini and Kriesi (2003) use opinion crystallisation, which measures the embedding of the opinion in an individual's attitude structure, as an additional indicator for predisposition. Converse (1964) has introduced levels of conceptualisation as an indicator for political awareness rather than a predisposition (see also Sniderman, Brody, and Tetlock 1991; Dalton 2000). The fact that levels of conceptualisation are used both as an indicator for political awareness and an indicator for predisposition strength, clearly illustrates the connection of this indicator with both awareness and predisposition strength.

Finally, we discuss an indicator, which has been derived from rational choice proximity models. The closer a party is to a citizen's position, the more likely and the stronger the person's identification with that party will be (Downs 1957; C. H. Franklin and Jackson 1983, 959). From this perspective, we see an individual's position in the political space as a predisposition and the distance between an individual and a party as an indicator for predisposition strength. Ideological positions or policy preferences are rarely considered in literature as a form of predisposition to explain volatility. This is in contrast to models on electoral choice, where policy preferences or issue positions are standard explanatory variables.

With ideological position, the problem of endogeneity should be less serious than for strength of party identification, but it remains to some extent. There is evidence that citizens adapt issue positions to be in line with their preferred party (Carsey and Layman 2006; Lenz 2009). We can expect that highly aware citizens are better able to match their ideological position to the parties. If there is an association between political awareness and predisposition strength, it is political awareness which influences predisposition strength.

Considering the different measures of predisposition strength as well as their endogeneity and association with political awareness, it is not surprising that empirical results on the effect of awareness on volatility are mixed. In particular, strength of party identification is endogenous and related to political awareness. Furthermore, the interaction between political awareness and predisposition strength is of a different nature when socio-structural predispositions or psychological predispositions are considered. For our model, we expect that predisposition strength

increases stability. However, it is important to distinguish different types of predispositions and look closely at the interaction with political awareness.

7.3 Methods and operationalisation

As in chapter 6, we will first analyse volatility using a competing-risk model (change within block, change between block).[49] The reference category is no change. We will use all available panel waves. Afterwards, we will distinguish the other types of change: durable change, temporary change, random change and ambiguity. By looking at cross tabulations, we will test how they relate to political awareness.

Political awareness is measured through interest in politics.[50] In the SOEP and BHPS, political interest is measured as an ordinal variable with four categories. In Switzerland, political interest is measured on a scale from 0 (not at all interested) to 10 (very interested). We do not adjust these different scales, in order not to lose information, and because there are no good a priori reasons on how to recode the scales. For example, assuming a continuous variable of interest in the SOEP and the BHPS imposes strong assumptions and, if we want to measure nonlinear effects, we would gain only one degree of freedom. Missing values in the interest in politics have been imputed using values from previous waves of the same person where possible.[51]

[49] We distinguish three party blocks (see section 3.3).

[50] The most widely used indicator of political awareness is political knowledge, which is not available in the data at hand. But there is also a substantial argument for relying on political interest instead of political knowledge. Several studies have shown that political knowledge varies over the electoral cycle (e.g. Andersen, Tilley and Heath, 2005, Fridkin et al., 2007, Lenz, 2009). For our analysis, political awareness should be independent from the electoral cycle.

[51] In the BHPS, political interest has not been collected in 4 waves. We therefore also imputed political interest from later waves of the same person if necessary. By imputing these values, we assume that political interest remains relatively stable. This is preferable to excluding these values from analysis, which would assume that political interest is completely missing at random. Imputing values reduces the share of missing values for political interest in the BHPS from 22.7 % to 1.7 %.

As a second measure for political awareness, we control for educational levels. In each country, three educational levels are distinguished: low educational level and incomplete education (1), intermediate educational level (2), and high educational level (tertiary education) (3). While political interest captures the motivation, education better captures the ability aspect of political awareness.

For predisposition strength, we will focus first of all on *socio-structural predispositions*. We will test whether socio-structural characteristics still have the stabilising effect suggested by cleavage theory and sociological models of voting. The crucial point is that strength of socio-structural predispositions varies among individuals. While some groups may have strong ties to particular parties, others have no clear predisposition. The stronger socio-structural predispositions are, the stronger the probability to prefer a particular party is. Because predispositions are stable, stability in voting intention increases with strength of socio-structural predispositions, to the extent that predispositions influence voting choice. Because parties in the same block usually do not differ in their positions along the main cleavage lines, cleavages should affect changes between party blocks, but not changes within party blocks (Bartolini and Mair 1990, 36). However, with the transformed class cleavage, this may not necessarily be the case anymore. Moreover, the religious cleavage cuts across the centre-right block in Switzerland, and could therefore also affect within-block change in Switzerland. To measure the strength of socio-structural predispositions, we largely follow the approach presented by Lachat (2007: pp. 201ff.). As a first step we regress the different parties on social class, region (rural vs. urban) and religion. Additionally, we include age and sex as control variables. Secondly, for each individual, we calculate predicted probabilities to vote for each of the parties. Thirdly, for each individual we keep the highest predicted probability of indicating

predisposition strength, irrespective of which party has the highest value. Finally, we recode these maximum probabilities into the 0 to 1 range.[52]

The measurement of socio-structural predispositions of social class, religion and region differs slightly between the data sets used, as we do not always have all necessary information available. We will briefly discuss each variable. The most complicated task is the measurement of social class, as class schemes distinguishing the middle class are not readily available in the panel data, but have to be constructed from ISCO codes (4 digits).[53]

We apply the class concept and coding-scheme developed by Kriesi (1989) and adopted by Lachat (2007), which distinguishes the following classes: self-employed farmers and other self-employed workers, unskilled workers, skilled workers, routine non-manual employees, managers and administrative specialists, technical specialists and social-cultural specialists. Furthermore, class should be assigned to a maximum number of respondents and not only to the economically active. Social class is preferably assigned on an individual level and not on a household level using information from household heads. For individuals out of employment, we take classifications from their last job. Unfortunately, ISCO-codes from the last job are not available in the SOEP data. We imputed social class of the last job in the SOEP using

[52] This approach differs in a few small points from the one chosen by Lachat (2007). First, we do not include labour market status into the regression in order to be sure to measure the effect of socio-structural predispositions. Secondly, and for a similar reason, we do not include psychological predispositions, such as the strength of party identification into the model. Only by including socio-structural and psychological predispositions separately in our model, can we disentangle the effect of these two different kinds of predispositions. Also, we can assess model estimates without the potential problematic influence of party identification with its problem of endogeneity.

[53] Oesch (2006) has done this for his own class scheme with the data from different household panels. However, his analysis did only involve one wave and has been restricted to economically active citizens. Therefore, we cannot make use of this class here, as we would lose too much information and want to use all waves of the panel and also include individuals who not economically active.

information on job position (blue collar, white collar, self-employed), educational level and industry branch (from the nace code) with a regression approach. In all three panels, individuals who did not indicate a last job, mainly because they were not economically active, have been assigned the partner's or parents' social position as a proxy in order to assign a social class to the maximum of respondents (Güveli and De Graaf 2007; Müller 1999, 153; Knutsen 2006). If social class was still missing and respondents were under 30 years of age, social class has been assigned according to the social class from the social origin information (questionnaire on situation when respondents were about 15). With this approach, 4 % of respondents in Switzerland, 9 % in Germany and 3 % in Great Britain have not been assigned to a class.

For religion, literature has shown that not only denomination but also religious practice is important. We included the following dummy variables: catholic denomination and attendance of religious services at least once a month, catholic denomination and religious participation less than once a month, protestant denomination (in GB: Anglican) and attendance of religious services at least once a month, protestant denomination (in GB: Anglican) and religious participation less than once a month and all others (reference category).

The region is measured in Switzerland by distinguishing rural and other communities based on the community typology of the Swiss Federal Statistical Office. For Germany, we used the variable distance to the next centre. In the BHPS, no corresponding variable has been available.

For psychological predispositions, we include strength of *party identification,* which is measured in the SOEP and the BHPS. For two reasons, we refer to the strength of party identification from the last party named. First, we have predisposition strength

for respondents with no party preference in the current wave and secondly, we limit the endogeneity of predisposition strength, as predisposition strength precedes party switches.

In Switzerland, we do not have a measure on the strength of party identification (since respondents are not asked about party identification but about voting intention). Instead, the SHP contains various issue opinions which allow the positioning of each individual in the two dimensional political space. We can therefore measure the ideological distance between a party and the last party preferred. We have already constructed political space in Switzerland for the construction of party blocks using issue positions from the SHP (see section 3.3). We can therefore simply compute the distance between an individual's position and the position of the last preferred party. We have multiplied the distance by -1 so that higher values refer to closeness to the party, in order to have an indicator for predisposition strength. We additionally rescaled the variable to fit into the range from 0 to 1. The closer an individual is to the preferred party, a change from that party to another is less likely. If the preferred party in the past does not match individual position well, we expect a high probability for a change between party blocks. With ideological positions, there should be less of an endogeneity problem than with strength of party identification.

Additionally, we control for panel participation (see section 4.1), as well as for age, migration background, former East Germans (in the SOEP), survey year and duration of party preference. In contrast to chapter 5 on reinforcement and life-cycle effects, we do not include squared terms for age and duration of party preference, in order to limit model complexity and because we are not primarily interested in these variables here. For reinforcement effect (duration of party preference) we constrain the

parameter to be equal for between and within block change, because duration refers to the last change irrespective of party blocks.

7.4 Empirical results and discussion

Competing risk models for within and between block change

The results of the event-history models, excluding (Model 1) and including (Model 2) predispositions strength, are presented in *Table 15*. Firstly, we will discuss the effect of predispositions of Model 2 and then turn to political awareness in Models 1 and 2.

As expected, strong predispositions stabilise party preference. But the effect depends on the measurement of predisposition and model specifications. Socio-structural predispositions only play a minor role. In line with Bartolini and Mair (1990), we expected that cleavages align individuals to party blocks rather than to single parties. However, the strength of socio-structural predispositions reduces the volatility between party blocks only in Switzerland. In Great-Britain and Germany, socio-structural predisposition reduces within-block volatility and not between-block volatility. Although we find that the class cleavage and the religious cleavage still link citizens to parties and have a stabilising effect, the effect is relatively small compared to other variables.

Table 15: Within-block and between-block change: political awareness and predisposition strength in CH, DE, and GB

	M1 within		M1 between		M2 within		M2 between	
DE	coeff.	sd	coeff.	sd	coeff.	sd	coeff.	sd
Interest: 2	0.597***	(.070)	0.780***	(.073)	0.638***	(.078)	0.831***	(.064)
Interest: 3	1.057***	(.073)	1.073***	(.078)	1.134***	(.079)	1.209***	(.064)
Interest: 4	1.169***	(.082)	0.980***	(.088)	1.281***	(.089)	1.201***	(.074)
Education: intermediary	0.263***	(.046)	-0.068	(.037)	0.235***	(.045)	-0.058	(.035)
Education: tertiary	0.307***	(.053)	-0.147***	(.044)	0.227***	(.056)	-0.117**	(.045)
Socio-struct. Predispositions					-0.994***	(.119)	0.199*	(.092)
Strength party idententification					-0.140***	(.023)	-0.315***	(.016)
Immigrants	-0.474***	(.102)	0.207**	(.068)	-0.422***	(.114)	0.181**	(.068)
East	0.260***	(.049)	-0.004	(.040)	0.310***	(.052)	-0.009	(.040)
Constant	-4.846***	(.109)	-3.809***	(.108)	-4.244***	(.124)	-3.274***	(.092)
var cons	1.675***	(.122)	0.846***	(.069)	1.760***	(.103)	0.894***	(.046)
cov (within-between)	-0.692***	(.043)			-0.668***	(.035)		
DIC	101405				100869			
	M1 within		M1 between		M2 within		M2 between	
GB	coeff.	sd	coeff.	sd	coeff.	sd	coeff.	sd
Interest: 2	0.062	(.096)	0.257***	(.026)	0.165	(.099)	0.358***	(.026)
Interest: 3	0.252*	(.100)	0.132***	(.027)	0.489***	(.103)	0.390***	(.029)
Interest: 4	0.491***	(.138)	0.062	(.042)	0.864***	(.146)	0.458***	(.045)
Education: intermediary	0.282**	(.090)	-0.021	(.023)	0.281**	(.089)	-0.064*	(.024)
Education: tertiary	0.459**	(.112)	0.027	(.031)	0.432***	(.118)	-0.021	(.033)
Socio-struct. Predispositions					-0.387	(.209)	0.008	(.050)
Strength party idententification					-1.738***	(.140)	-0.376***	(.040)
Immigrants	-0.512*	(.256)	0.047	(.056)	-0.580*	(.264)	0.044	(.056)
Constant	-7.486***	(.194)	-2.919***	(.061)	-5.617***	(.211)	-1.440***	(.066)
var cons	3.751***	(.255)	0.205***	(.025)	3.643***	(.235)	0.209***	(.027)
cov (within-between)	-0.294***	(.043)			-0.341***	(.047)		
DIC	99826				98435			
	M1 within		M1 between		M2 within		M2 between	
CH	coeff.	sd	coeff.	sd	coeff.	sd	coeff.	sd
Interest	0.140**	(.018)	0.149***	(.024)	0.085**	(.033)	0.140***	(.020)
Interest squared	-0.008**	(.002)	-0.016***	(.003)	-0.004	(.002)	-0.015***	(.002)
Education: intermediary	0.059	(.086)	-0.117*	(.062)	0.037	(.076)	-0.128*	0.063)
Education: tertiary	0.392**	(.090)	-0.173**	(.073)	0.363***	(.088)	-0.154*	(.072)
Socio-struct. Predispositions					-0.023	(.105)	-0.377***	(.104)
Closeness to last party					0.447***	(.130)	-1.603***	(.113)
Immigrants	-0.073	(.087)	0.133*	(.071)	-0.074	(.083)	0.140*	(.068)
Constant	-3.175**	(.13)	-2.464***	(.128)	-3.261***	(.133)	-1.130***	(.137)
var cons	0.858***	(.073)	0.562***	(.039)	1.340***	(.108)	0.178***	(.050)
cov (within-between)	-0.604**	(.034)			-0.279***	(.063)		
DIC	46420				46261			

Note: Multinomial random effect models. The dependent variable takes the value of 1 for within-block party switches and the value of 2 for party switches between blocks (base category: no change). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes age, migration background, former East Germans (in the SOEP), survey year and panel participation as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010 (n=206'527 clustered in 20'936 individuals), BHPS 1991-2008 (n=143'379 clustered in 15'537 individuals), SHP 1999-2010 (n=42'726 clustered in 8185 individuals).

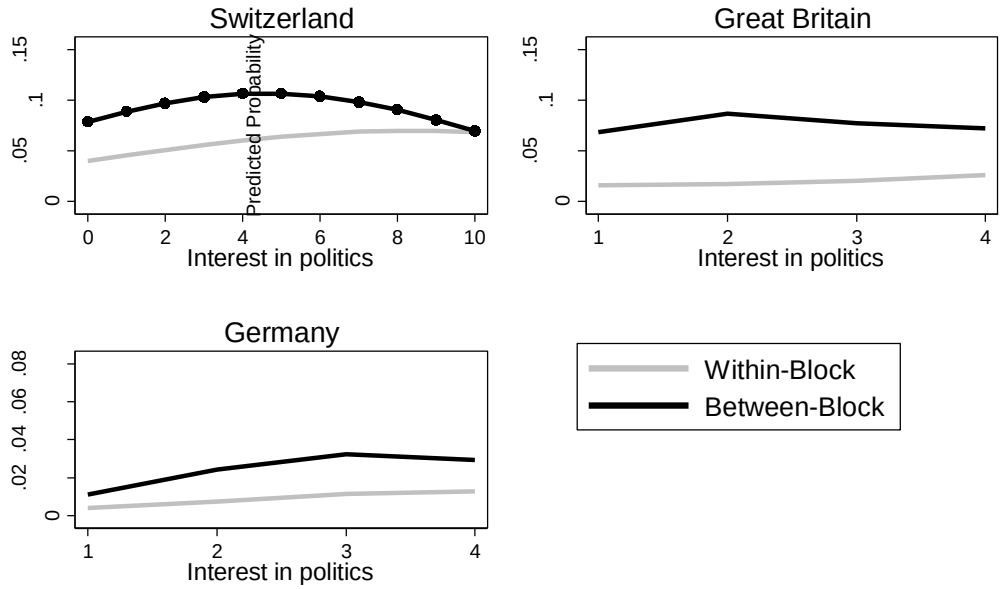
In contrast, the psychological measures of predispositions have a strong impact, which is in line with previous research. It comes as no surprise that strength of party identification stabilises party preferences. The finding that those with a strong attachment to a party are much less likely to change parties is somewhat tautological and does not really explain why individuals are stable or strongly identify with a party. However, we can say that those who feel close to a party are much harder to convince to support another party.

In Switzerland, we could not measure strength of party preference, but tested the impact of the ideological closeness between parties and individuals in the two-dimensional political space on volatility. The closer an individual is to the last preferred party, the less likely is a change between party blocks. Ideological predispositions thus have a strong stabilising effect on party blocks. This does not apply to single parties, the effect for within-block change even point to the opposite direction. Voters who are ideologically close to the party supporter have a higher probability to switch to a party within the same block than voters less close to the party supported. The proximity hypothesis is thus supported for party blocks. The observed behaviour is consistent with rational voters, who improve the match between their ideological position and their party by switching party blocks.

We now turn to the effect of political awareness and will first discuss the model without predisposition strength (M1 in *Table 17*). Predicted probabilities for change are shown in *Figure 13* and show the importance of party blocks in all three countries. Political awareness increases volatility within party blocks, both for interest in politics and the educational level. The most interested and the highly educated citizens change most often within party blocks. This is in line with Zaller's model: information

rejection does not play a role for within-block changes, so that the influence of political awareness reflects information reception.

Figure 13: Predicted probabilities for switching parties by interest in politics (without control for predisposition strength in DE, GB and CH



Note: Predicted probabilities calculated from M1 in Table 15.Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

For changes between party blocks, we find a non-linear relationship between interest in politics and volatility, which is also in line with Zaller's model. Non-linearity is clearly evident in Switzerland and Great Britain, but in all countries, individuals with intermediate levels of political interest change most frequently between party blocks. The relationship reflects the product of information reception and information acceptance. Moderately interested citizens change more often between blocks than highly interested citizens, because they accept information more easily. But in Germany, volatility of the most interested is not significantly lower than volatility for intermediate levels of interest. This result can probably be attributed to the different

question wording for party preference, because party preferences of the non-identifiers are not recorded. When we estimate the same model for the BHPS for identifiers only, we also find no difference between intermediate and high interest in politics. A probable explanation for this will be offered below when discussing model 2.

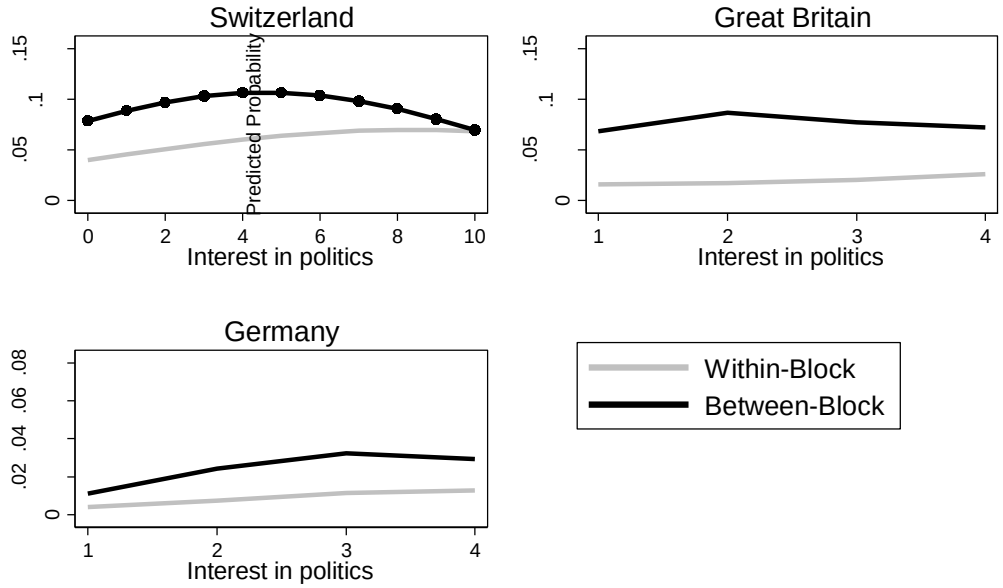
For education and between-block volatility, coefficients point to lower volatility for higher educated citizens in Germany and Switzerland.[54] There are no significant differences by educational levels for between-block change in Great Britain. Education and interest in politics therefore do not show the same effects. Both play independent roles, and controlling for one variable does not affect the influence of the other.

The pattern for political awareness becomes more nuanced once we include predisposition strength into the model (M2 in *Table 15*, *Figure 14*). Controlling for socio-structural predispositions (all countries) and controlling for ideological closeness (Switzerland) does not alter the conclusions from model 1. However, the non-linear relationship between awareness and volatility disappears in Great Britain once strength of party identification is added to the model. In Germany, the control for predisposition strength barely impacts the result, but this might again be due to the questionnaire. We already controlled for predisposition strength implicitly in model 1, as we only capture preferences for individuals with some party predisposition. Taken this consideration together, it seems that the non-linear relationship between awareness and volatility disappears once we control for strength of party

[54] This holds true only when controlling for duration of party preference, otherwise the effect is not significant.

identification. In Switzerland, we do not have information on strength of party preference, so that we cannot test whether this variables alters the relationship.

Figure 14: Predicted probabilities for switching parties by interest in politics controlling for predisposition strength in DE, GB and CH.



Note: Predicted probabilities calculated from M2 in Table 14. Other variables are held constant at their mean or mode (categorical variables).

While the effect of political awareness on volatility depends on type of change (within-block or between-block) and control for predisposition strength, none of the different specifications suggested that political awareness has a stabilising effect. Rather, the little interested are the least volatile citizens, which goes against most theories. And once we control for strength of party identification (possible in Germany and Great Britain), we find that volatility increases with interest in politics. So how should we interpret these patterns?

An easy answer is to dismiss models controlling for predisposition strength as biased, because strength of party preference is endogenous to volatility. However, a more complex answer gives us interesting insights into the relationship between political

awareness and volatility. For this, we focus on the interaction between political awareness and predisposition strength. Firstly, political awareness and strength of party identification are positively correlated. Secondly, we argued that predisposition strength is inherent in the acceptance of information of the RAS model. The rejection of information due to the inconsistency of predispositions requires that there are predispositions, and rejection should increase with predisposition strength. The decreasing volatility of the highly aware in model 1 can thus be explained by the stronger predispositions of these individuals. Strength of party identification drives information rejection of highly aware citizens.[55] When we control for strength of party identification (in Model 2), we remove the reason to reject information, and control for information acceptance. The resulting relationship between political awareness and volatility in Model 2 reflects thus only the reception of information.

This explanation is also useful to interpret the different results in model 1 in Germany. If party preferences are measured by a question on party identification, we have a selection of higher interested individuals, with stronger predispositions, if not they would not be party identifiers.[56] Predisposition strength is already partly controlled for in the model and the relationship with political awareness reflects the reception function.

[55] We tried to test whether the mixed results of other studies can be explained by the control for predisposition strength. However, due to the different research designs this does not work so well. For example, previous studies did not control for unobserved heterogeneity and did not test for non-linear effects or distinguish party blocks.

[56] Using the BHPS, we can confirm that the subsample using party leaning is, on average, more interested in politics and has stronger predispositions than the subsample using voting intention.

Groups of changers

We will look again at the types of change (temporary changes, durable changes, ambiguity and random changes) to investigate the effect of political awareness and predispositions more closely. As for life-cycle effects, we will use 11 waves from each panel (1999-2009 in CH and DE, 1998-2008 in GB) and look at individuals who named at least 5 party preferences. To separate differences among types of change from differences between stable and volatile individuals, we focus again on the subsample of individuals who changed between parties. We distinguish four types of change: temporary change, durable change, ambiguity and random patterns. In contrast to the event history models, units of analysis are individuals (and not observations clustered in individuals). We will cross tabulate the types of change with awareness and predisposition. We will use mean interest in politics and predisposition (over all observations) for each individual.

Cross-tabulation between the groups and political awareness are shown in *Table 16*. The data show a very weak relationship between political awareness and types of change. Only political interest in Switzerland and education in Germany show significant differences. Nevertheless, there are some results worth pointing out.

We assumed that low political awareness is associated with random change and ambiguity, because these types of change unclear preferences rather than rational decision. Only educational level in Germany and political interest in Switzerland show weak support for random change. In Germany, most random change occurs among low educated citizens even if we have to be careful in interpreting the very few cases. In Switzerland, little interested citizens tend to change randomly more often more often those with high or very high political interest. Ambiguity in contrast is not

related to political awareness with the exception of the very low interested in Switzerland.

For temporary and durable change there are only little differences between different levels of political awareness. The highly interested in Germany are the most likely to change durably and the least likely to change temporarily. This suggests that durable change reflect an underlying cognitive process. Education in contract is not associated with temporary and durable change. In Switzerland, the effect is different. Durable change is most likely among intermediate levels of interest and thus in line with Zaller's models. The highly interested in Switzerland are the most likely to change temporarily. In Great Britain, the political awareness does not impact type of change at all, for all levels of political interest and educational levels, temporary change is the most common type of change.

Table 16: Types of party switches by interest in politics and education in DE, GB and CH

	education			interest in politics				
DE	low	med.	high	very low	low	high	very high	Total
Temporary change	41.0	36.7	40.1	40.5	38.7	41.0	35.5	39.1
Durable change	40.1	41.2	42.1	40.5	39.9	39.9	44.6	41.1
Ambiguity	14.6	21.1	17.3	16.6	19.1	18.0	17.8	17.9
Random change	4.3	1.0	0.5	2.4	2.3	1.2	2.1	2.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
n	719	1022	836	651	638	662	626	
GB	low	med.	high	very low	low	high	very high	Total
Temporary change	44.8	44.3	40.9	42.6	43.1	42.4	42.0	42.5
Durable change	32.8	31.9	36.4	34.3	34.1	34.0	35.3	34.4
Ambiguity	20.6	20.1	19.7	20.0	19.4	20.7	19.9	20.0
Random change	1.8	3.7	3.0	3.4	3.4	2.6	3.0	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	660	1099	2110	1002	974	988	943	
CH	low	med.	high	very low	low	high	very high	Total
Temporary change	44.1	43.2	41.2	37.3	35.6	37.3	43.0	38.2
Durable change	33.4	33.9	35.5	31.2	36.3	38.2	33.4	34.8
Ambiguity	20.5	20.0	19.7	23.4	17.8	17.6	17.2	19.0
Random change	2.1	3.0	3.5	8.2	10.3	6.9	6.4	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	749	4642	1476	485	480	474	478	

Sample: Individuals with party preferences in at least five waves. Source: SOEP (1999-2009), BHPS (1998-2008), SHP (1999-2009).

While political awareness hardly affects the type of volatility, the predispositions have an impact on the type of change as shows *Table 17*. There is a significant influence of psychological predispositions on types of change in Germany and Great Britain. As expected by the traditional model on party identification, citizens with strong party attachment (or ideological closeness to a party in Switzerland) are most likely to depart only temporarily from their preferred party. More surprisingly, citizens with strong predispositions are also overrepresented among the durable changers in Great Britain and Switzerland. This holds not true for Germany, where the weakest

predispositions are the most likely to change durably. Furthermore, individuals with strong psychological predisposition are unlikely to show random patterns or ambiguity in all countries.

Socio-structural predispositions only seem to matter in Germany. As for the psychological predispositions, those with the strongest predispositions are most likely to switch to another party only on the short term, while those with weaker socio-structural predispositions are most likely to switch durably to another party. But ambiguous and random changes do not seem to depend on the strength of socio-structural party preferences.

Overall, the distinction of types of change gives only little additional insights to the findings from the event history models. This is surely also due to data limitation, as there is no sharp difference between the different types of change, and as only individuals with a long panel participation could be analysed. Nevertheless the distinction of types of change has revealed two important points: Firstly, high political awareness increases volatility not for one particular type of change, apart from durable change in Germany and temporary change in Switzerland. Neither political interest nor education is decisive for the type of change. Secondly, the findings differ between the countries. For a better understanding and interpretation of these country differences, an analysis for parties would be necessary, which presents a different approach as followed here. Secondly and less surprisingly, psychological are influential on the type of change. Citizens with weak predispositions are more likely to have ambiguous preferences or random patterns of change, whereas citizens with strong predispositions are more likely to depart from their preferred party temporarily.

But this hols true only for psychological but not for socio-structural predispositions, apart from a small effect in Germany.

Table 17: Types of party switches by predisposition strength

	psychological predispositions				socio-strctural predispositions			
DE	v. low	low	high	v. high	v. low	low	high	v. high
Temporary change	32.5	37.9	43.4	43.4	39.3	32.2	40.2	44.3
Durable change	44.5	40.8	38.9	39.7	40.6	46.8	42.4	34.1
Ambiguity	20.3	18.4	16.1	16.3	18.7	19.9	15.4	17.8
Random change	2.7	2.9	1.6	0.7	1.4	1.1	2.0	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	712	577	652	636	560	559	559	559
GB	very low	low	high	very high	very low	low	high	very high
Temporary change	35.9	41.2	46.1	46.5	44.3	40.4	42	44.2
Durable change	30.4	34.8	35.4	37	33.1	37.7	34	34.3
Ambiguity	28.3	20	17.3	14.8	21.8	18.6	21.3	18.1
Random change	5.4	4	1.2	1.7	2.8	3.3	2.7	3.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	1019	989	979	920	961	961	961	961
CH	very low	low	high	very high	very low	low	high	very high
Temporary change	33.4	37.3	42.4	40.1	37	38.3	40.8	36.6
Durable change	35.9	33.3	32.9	37.1	34.2	35.4	33.9	35.5
Ambiguity	21.4	20.2	17.3	17.2	19.4	19.6	17.6	19.7
Random change	9.3	9.3	7.5	5.7	9.5	6.7	7.7	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	480	479	479	479	859	858	859	858

Sample: individuals with party preferences in at least five waves. Source: SOEP (1999-2009), BHPS (1998-2008), SHP (1999-2009).

7.5 Conclusions for awareness and predispositions

In this chapter, we assessed the effect of political awareness and predispositions on the volatility of party preferences. Political awareness and predispositions are two key variables in public opinion research and in socio-psychological approaches. For predisposition strength, we distinguished socio-structural and psychological predispositions. Socio-structural predispositions, which mainly consist of the effect of social class and religion, still have a stabilising effect on voting behaviour, but the effect is small compared to other variables. In contrast, psychological predispositions

have a very large stabilising effect, both when measured as ideological closeness between individuals and their preferred party (CH) and as strength of party identification (DE and GB). The result for ideological closeness also shows that changes between block tend to be rational, in the sense that voters minimise the distance between their position and the preferred party by switching parties.

However, psychological predispositions, particularly strength of party identification are endogenous. Those with strong party identifications tend to be more stable. Therefore, the effect should not simply be interpreted as causality, but rather as a strong correlation. For socio-structural predispositions, we can be sure to measure a causal effect.

For political awareness, findings generally support the extended RAS model by Zaller. The distinction of within and between party blocks has shown to be crucial. Changes within party blocks increase with political awareness. The highly aware – both measured by political interest and education – are those who change most frequently within party blocks. This reflects information reception which increases with political awareness. Because the parties in the same party block are ideologically close, information resistance does not play a role. For changes between party blocks, those with intermediate levels of interest in politics are most likely to switch parties. Here, not only information reception, but also information acceptance plays a role. However, we have also seen that information acceptance is conditional on predisposition strength. Once we control for strength of party identification, also between-block volatility increases with political awareness. Because political awareness and predisposition strength are correlated and because the resistance to information is conditional on predisposition, political awareness mainly reflects

information reception once predisposition strength is controlled for. When controlling for strength of party identification, volatility increases with political awareness for within-and between block changes. For education, we found that volatility decreases with education for between-block changes in Germany and Switzerland.

Regarding the other types of change considered – durable change, temporary change, ambiguity and random change – we did not find a strong and consistent influence of political interest. For psychological predispositions, we found that citizens with strong predispositions are more likely to depart temporarily from their party, whereas citizens with weak predispositions are more likely to have ambiguous preferences or a random pattern of change. Socio-structural predispositions play a very small role.

Considering that the influence of political sophistication varies between indicators (interest in politics vs. education), whether a change occurs within or between party blocks and whether and how predisposition strength is controlled for, mixed results in previous literature are not surprising. However, because our empirical results were mainly consistent across the three countries, we think that the patterns discovered for political awareness are not restricted to a specific context, as they apply to very different party systems.

Our findings show that change is not a priori concentrated among an unsophisticated or highly enlightened electorate. Taking our findings to a more normative level, volatility is not a random noise of uninformed and unaware citizens and not a danger for the stability of democracies. Volatility rather seems to reflect parties' ideological positions and is considerable among enlightened voters. Although we do not explicitly take the political offer into account, it seems plausible that the volatility of individuals reacts to the political offer.

8 Campaign effects

8.1 Introduction

Numerous studies have demonstrated that campaigns and media coverage matter for elections. Campaigns have different effects. First of all, campaigns *activate existing predispositions*. Activation mobilises citizens to vote and reinforces their voting intention. Moreover, activation may cause citizens to return to their latent party preference, if they have temporarily changed to another party. Recent studies on activation include (Andersen, Tilley, and Heath 2005; G. A. Huber and Arceneaux 2007; Kaplan, Park, and Gelman 2012). In contrast to this well-documented activation effect, academics have, for a long time, disagreed on *persuasion*. More recently, several studies, mainly on US presidential campaigns, found that campaigns do persuade voters to switch parties (Hillygus and Jackman 2003; Fridkin et al. 2007; Richard Johnston, Hagen, and Jamieson 2004; Franz and Ridout 2010; G. A. Huber and Arceneaux 2007; J. E. Campbell 2000; Wlezien and Erikson 2002). Brandenburg and Van Egmond (2012) provide empirical evidence for persuasion effects in a few other contexts.

Despite these recent articles on persuasion, the widely cited critique by Gelman and King (1993) still applies to most studies. It states that many presumed persuasion effects may actually be due to activation. Campaigns inform voters, strengthen the associations between interests and vote choice, and bring them back to the party or candidate which is in line with their predisposition, or - in the words of Gelman and King - can be predicted on the basis of fundamental variables. On closer inspection therefore, persuasion effects are often activation effects.

At the individual level, (Andersen, Tilley, and Heath 2005) assessed the enlightenment hypothesis over the electoral cycle in Great Britain, and confirm that a lot of the change which occurs during campaigns reflects levels of information and knowledge. Similarly, Claassen (2011, 221) concludes for his analysis of persuasion effects that "it is not entirely clear whether attitude changes lead to altered vote choices or whether attitude change is the mechanism less aware voters use to bring their attitude and votes into alignment". Finally, the recent study by Kaplan, Park and Gelman (2012) confirms the increasing importance of fundamentals over the campaign and doubts that there are true persuasion effects.

Although not particularly designed to study campaign effects, household panels offer a unique opportunity to contribute to existing research. Using household panel data, we are able to make a clear distinction between activation and persuasion, as will be argued in more detail later. However, household panels offer additional insights into the literature on campaign effects. We can study individual dynamics over the electoral cycle, a research field which has barely been explored (Wlezien and Erikson 2002; Andersen, Tilley, and Heath 2005). Electoral panels stretching over a campaign miss the frequent changes occurring before the start of the official campaign (Iyengar and Simon, 2000).

Additionally, through the survey designs and the comparative perspective, we cover several electoral cycles and countries with very different electoral systems, so that results should point to campaign effects beyond a specific election. Previous studies on campaign effects have focused on single elections and mainly on the USA.

Finally, panel conditioning effects should be lower in household panels than in electoral panels. Panel conditioning effects arise because electoral surveys increase

the attentiveness to politics and campaigns (see Bartels 2000; 2006 for panel conditioning effects). There are two reasons why these effects should be weaker in household panels. Firstly, the intervals between interviews are much longer, so that it is less likely that the last interview affects survey responses. Secondly, household panels are not primarily electoral surveys. As the proportion of interview questions relating to politics is relatively low, panel conditioning for political questions is less likely (see also Hillygus and Jackman 2003).

Increasingly, research on campaigns looks at which individuals are affected by campaigns, rather than whether campaigns matter. Here, we refer to campaign effects as the sum of campaign activities from advertisement, media coverage or other information related to elections. We do not study specific campaign events or advertisements and assume that the intensity and influence of campaign activities increases leading up to elections.

8.2 Household panels data as a complement

Several different strategies have been applied to study campaign effects: experiments, rolling cross sections, electoral panels and aggregate analyses of U.S. electoral polls. Experiments usually test for the influence of particular campaign characteristics while controlling for other potential influences. However, because of their weak external validity, experiments cannot assess the actual influence of campaigns on elections (Chong and Druckman, 2007; Shaw, 1999; Goldstein and Ridout, 2004; Kinder, 2007; Iyengar and Simon, 2000). This holds particularly true for electoral campaigns, because they present a chaotic environment with multiple streams of conflicting and complicated information of varying intensity (Fridkin et al. 2007, 771). The complexity is further increased by different information sources involved in

campaigns and by differences in individuals' exposure. In experiments, information reception is usually controlled for. Because campaign environments are so different from experimental settings, studies from the field – mainly relying on surveys – are important to complement experimental research.

Another popular research design to study campaign effects are rolling cross sections (Dobrzynska, Blais, and Nadeau 2003). Similar to experiments, they aim to capture the influence of particular campaign events, while holding other influences constant. Usually, these studies test whether such events change aggregate opinion, but cannot assess individual dynamics.

Also electoral panels, which follow the same individuals over the electoral campaign, are a popular instrument for studying campaign effects (Finkel 1993; Bartels 2006; Lachat 2007; Kleinnijenhuis et al. 2001; Brandenburg and Van Egmond 2012). Normally, the first wave takes place at the beginning of the campaign and the last wave is carried out after elections. With electoral panels, it is difficult to distinguish activation and persuasion effects. To distinguish between the two, it is crucial whether voting intention is in line with predispositions. Changes in voting intention represent activation if the new voting intention is in line with predispositions. Changes in voting intention represent persuasion if the new voting intention counters predispositions. The measurement of predispositions is, therefore, crucial for distinguishing between activation and persuasion. In electoral panels, predispositions are usually measured at the beginning of the campaign (Finkel 1993; Bartels 2006). However, predispositions measured at the beginning of the campaign may be unreliable, because predispositions are not activated (Gelman and King 1993). When asked about predispositions, individuals may not be aware of them and may not be able to indicate them. Thus, the

measurement of predispositions at the beginning of a campaign may be misleading. This problem can be overcome in household panel studies, because they cover entire electoral cycles. Instead of measuring predispositions at the beginning of a campaign, we can measure predispositions around the previous elections, where predispositions should be activated. Household panels thus enable a good distinction between activation and persuasion.

To understand campaign effects, we also need to assess whether campaigns affect different people differently (e.g. Hillygus and Jackman 2003; Fournier 2006) and understand underlying psychological mechanisms. Attention has mainly centred on awareness and predispositions as key moderators, which we discussed in Chapter 7. Here, we focus on volatility in a specific context. National elections are characterized by high competition, familiarity of issues and intensity.

Previous studies on political awareness as a moderator of campaign effects have remained ambiguous. Claassen (2011) has made a strong point that we have to make a distinction between different campaign effects. First of all, we address the effect of political awareness on persuasion. Highly aware citizens are more likely to reject messages that are inconsistent with their predispositions. Because information flow in national campaigns is dense, all citizens should receive information, therefore information reception plays no role or only a small role (Zaller 1992, 275; Beck et al. 2002; Claassen 2011). Indeed, many empirical studies investigating persuasion have found the greatest effects among citizens who are less aware (see Claassen 2011, 219 for an overview). Also, assuming online-updating for information processing, we expect stronger persuasion among citizens who are less aware.

Also for activation, we expect stronger effects for those who are less aware. Activation means bringing party preference in line with predispositions. Assuming that the highly aware already have preferences consistent with their predispositions, activation should mainly affect citizens with low levels of political awareness.

As before, we will also test and control for the effect of predisposition strength. Strong predispositions should stabilize party preferences, which means that deactivation and persuasion should be less likely for strong identifiers.

8.3 Model specification

We are interested in whether the sum of campaign related information, which includes advertisement, communication and media coverage, makes citizens switch parties. The closer elections are, the more intense and frequent the flow of such information is. If campaigns have activation effects, activation should become more frequent and deactivation less frequent as elections draw nearer.

In our model, we test whether campaigns affect the probability of being persuaded or activated. Persuasion and activation refer to transitions in party preference since the last national election. If the party preference has changed to another party since the last election, a *persuasion* has occurred. If respondents have changed between having and not having a party preference, an *activation* or *deactivation* has occurred.

To measure campaign effects, we measure the party preference close to the last election. We use the preference reported within 365 days of the election date.[57]The dependent variable distinguishes four categories: stable party preference since the last

[57] We do not consider party blocks here, in order not to complicate the analysis further with an additional response category. Party blocks are less important for the specific question of campaign, because national elections are primarily about single parties and not about party blocks.

election (reference category), activation, deactivation and persuasion. For deactivation and persuasion we compare the current party preference to party preference in the last election. The coding follows the same logic as the change variable introduced in section 3.3, but refers to party preference around the last election instead of at the last observation with a party preference. For activation, respondents did not indicate a party preference at the last election, which complicates the coding. We consider observations as activation if a respondent did not name a party preference around the last election and changed from no preference to a party preference.

Table 18 presents descriptive statistics of the dependent variable. Reinforcement is by far most frequent. However, changes since the last election (persuasion) is far from marginal, similarly to the more general volatility measure used in the previous chapters. In Germany, 7 % of observations prefer another party than in the last election, in Great Britain this amounts to 14 % and in Switzerland to 18 %. The party preferred at the last election has been abandoned in between 12 % (GB) and 19 % (DE) of observations. Activation has occurred in between 9 % (GB) and 23 % (DE) of cases. We see again, that change in and out of party preference is most frequent in Germany, because respondents were asked about party identification and not about voting intention. However, we only observe campaign effects if changes are related to campaign activities. For this, we have to estimate a regression model.

Respondents without a party preference, both at the last election and at the current observations, as well as respondents who were not eligible for survey participation around the time of the last election, have been excluded for analysis.

Table 18: Transitions since the last election (dependent variable for campaign effects models)

Transition	Last election	Current obs.	DE	GB	CH
	No preference.	No preference	excluded	excluded	excluded
Reinforcement (1)	Party preference	same party	51.0	65.4	51.9
Activation (2)	No peference	Party preference	22.9	9.2	14.3
Deactivation (3)	Party preference	no party	19.6	11.5	16.3
Persuasion (4)	Party preference	other party	6.5	14.0	17.5
	Total		100.0	100.0	100.0
N observations			147'285	122'132	35'223
N individuals			19'924	14'327	7'438

Source: SOEP 1984-2010, BHPS 1991-2008, SHP 1999-2010.

The main explanatory variable, which captures campaign effects, is *closeness to elections.* It is measured through the time lapse in days between the interview date and the closest national election. Over the electoral cycle, the intensity of information flow varies, so that the variable closeness to election is an indirect measure of campaign density. For Switzerland and Germany, we additionally consider closeness to regional elections (cantons and Länder).

There are two options to define the closest election. Closeness may either refer to the *next future election* or to the *closest election* in the past or in the future. There are theoretical justifications for both approaches. Because electoral campaigns take place before elections, the distance to the next election seems a natural solution. But media coverage and attention is also high after elections: the electoral outcome is analysed, coalitions and governments have to be formed and policies and policy changes are communicated and commented on. In this perspective, attention is lowest in the middle of the electoral cycle when both the past and the next election are relatively distant. We tested both measures of closeness to elections empirically. Closeness to the past *or* future election clearly performed better. Therefore, closeness to an election in the models refers to either the past or the next election, whichever is closer. The

distance in days between the interview and the election has been divided by 365 so that the measure captures the distance in years. Additionally, it has been multiplied by -1, to ease the interpretation of regression coefficients, so that higher values correspond to closer elections.

Political awareness is measured through the interest in politics, as in chapter 7. We also include a series of control variables: educational level, age, a time trend and panel participation.[58] To test whether campaign effects vary among levels of political awareness, we have to combine closeness to elections and political awareness.

To assess the effect of political awareness correctly, it is important to control for predisposition strength (see e.g. Chong and Druckman 2007; Lachat 2007). As in chapter 7, we will do this in a separate model to take account of potential endogeneity problems or indirect effects. We will use the same variables for predisposition strength as in the previous chapter: strength of socio-structural predisposition, closeness between respondent and party in the issue space (Switzerland), and strength of party identification (Germany, Great Britain).

8.4 Results and discussion

Regression coefficients for Germany, Great Britain and Switzerland for campaign effect are presented in *Table 19.* But to see effect size, we look at predicted probabilities. *Figure 115* presents predicted probabilities for activation, deactivation and persuasion in model 1, which does not control for political awareness and predisposition strength. Because of the indicators for party preferences (party

[58] Because we have a rather different design than in other chapters (reference to last election, inclusion of individuals without previous party preference), we do not include duration of party preference.

identification in Germany, voting intention in Great Britain and Switzerland), absolute values cannot be compared directly between countries.

Table 19 : Activation, deactivation and persuasion in DE, GB and CH (Model 1)

	Model 1					
DE	**Activation**		**Deactivation**		**Persuasion**	
Closeness national election	0.516***	(0.02)	-0.082***	(0.02)	0.145***	(0.03)
Closeness regional election	0.0023	(0.01)	-0.076***	(0.01)	0.035	(0.02)
Constant	-0.429***	(0.03)	-0.991***	(0.03)	-2.832***	(0.05)
variance random effect	6.645***	(0.15)	5.091***	(0.10)	5.585***	(0.15)
cov (activation-deactivation)	5.114***	(0.11)				
cov(activation-persuasion)	3.132***	(0.11)				
cov(deactivation-persuasion)	3.297***	(0.10)				
DIC	263'668					
GB	**Activation**		**Deactivation**		**Persuasion**	
Closeness nat. elect.	-0.017	(0.02)	-0.085***	(0.02)	0.064***	(0.02)
Constant	-4.556***	(0.06)	-2.556***	(0.03)	-2.298***	(0.04)
variance random effect	19.292***	(0.51)	6.271***	(0.16)	5.142***	(0.14)
cov (activation-deactivation)	9.716***	(0.24)				
cov(activation-persuasion)	4.616***	(0.20)				
cov(deactivation-persuasion)	3.552***	(0.11)				
DIC	175'629					
CH	**Activation**		**Deactivation**		**Persuasion**	
Closeness national election	0.368***	(0.04)	-0.158***	(0.03)	0.135***	(0.03)
Closeness cantonal election	0.076	(0.05)	0.032	(0.04)	-0.015	(0.03)
Constant	-2.024***	(0.18)	-0.281*	(0.12)	-1.616***	(0.13)
variance random effect	29.874***	(1.52)	8.205***	(0.39)	5.028***	(0.22)
cov (activation-deactivation)	4.195***	(0.22)				
cov(activation-persuasion)	12.983***	(0.60)				
cov(deactivation-persuasion)	5.919***	(0.37)				
DIC	59'120					

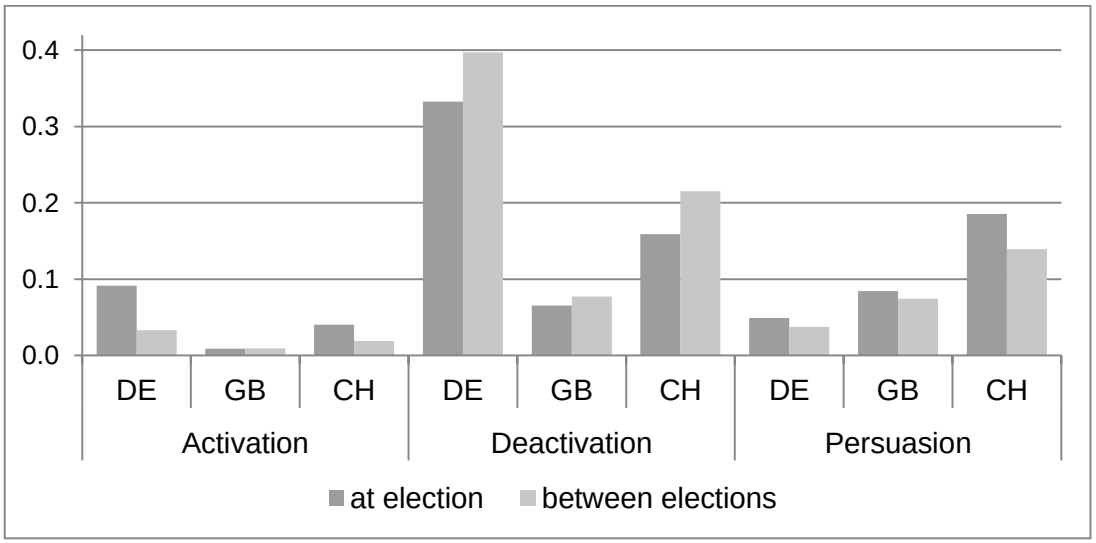
Note: Multinomial random effect models on change since last election. Dependent variable: see Table 17. Base category: Reinforcement. Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes age, survey year and panel participation as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010 (n=147'285 clustered in 19'924 individuals), BHPS 1991-2008 (n=122'465 clustered in 14'322 individuals), SHP 1999-2010 (n=35'223 clustered in 7438 individuals).

In line with previous research (e.g. Gelman and King 1993; Andersen, Tilley, and Heath 2005; Selb et al. 2009) there is strong evidence for activation effects. In Germany and Switzerland, the closeness to national elections makes activation more likely and deactivation less likely. In Great Britain, the deactivation effect is weaker

and the activation effect absent. It seems that those who did not indicate a party preference at the last election in Great Britain are not sensitive to the electoral cycle. This result for activation does not necessarily contradict studies on activation effects in Great Britain. Citizens without preference at the beginning of a campaign, which are usually looked at in literature, may differ to citizens without preference around national elections, which we use here.[59]

Results show strong evidence for persuasion effects in all three countries studied. The closer national elections are, the more frequent changes between parties are. As mentioned before, this should not reflect an activation effect, because we measured predisposition at a point, where predisposition were activated.

Figure 15 : Predicted probabilities for activation, deactivation and persuasion in DE, GB and CH



Note: Predicted probabilities calculated from M1 in Table 19. Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

[59] In Switzerland and Germany, we find activation effects of campaign; because observations without party preference are much more frequent in these countries (see section 3.1).

Results for regional elections are more ambiguous. In Switzerland, cantonal elections are not significant. Considering strong federalism in Switzerland, the weak effect of cantonal elections may be surprising. However, it confirms the nationalisation of electoral politics and that cantonal elections are perceived as secondary. In Germany, regional elections (Bundesländer) are significant for deactivation but not for activation and persuasion.

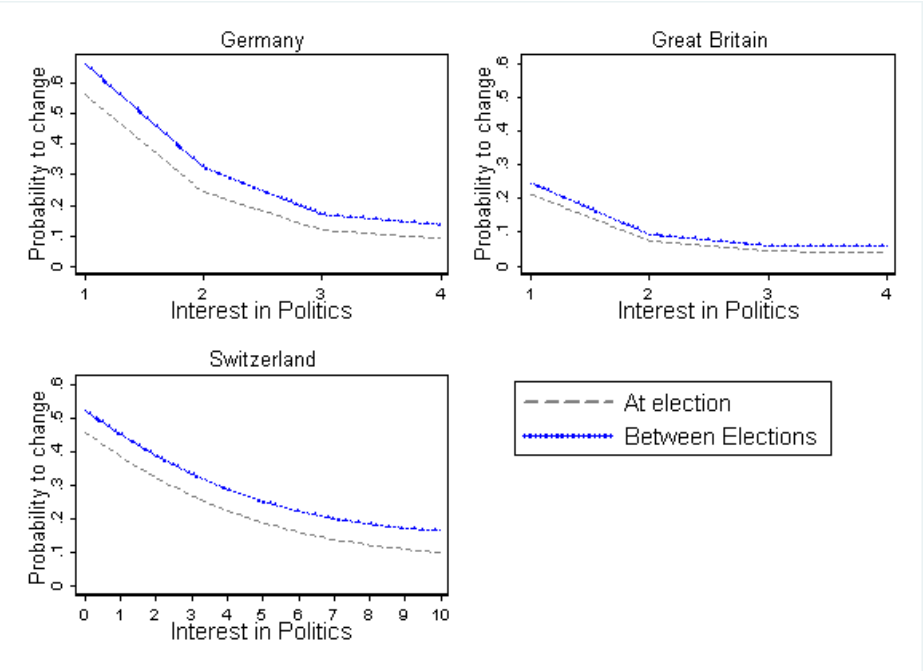
We will now look at the role of political awareness for campaign effects, which has been estimated in model 2 shown in *Table 20*. We included an interaction between closeness to elections and interest in politics. Looking at the DIC measure, we see that political awareness improves model performance in Germany and Great Britain but not in Switzerland (compared to Model 1).

In Model 2 (and also Model3), the coefficients of the closeness to elections become mostly insignificant. This holds true for deactivation in all three countries, activation in Great Britain and persuasion in Germany. However, we cannot interpret main effects and interaction effects of nonlinear models separately. Effect size, significance level and even the direction may be misleading (Ai and Norton 2003), because effects are conditional on the value of all other variables. Rather we look at predicted probabilities to interpret the model.

Because coefficients and their significance level may be misleading for interaction effects in non-linear models, we will look at predicted probabilities. We first address deactivation, which is presented in *Figure 16.* First of all, the model confirms that the least interested are most likely to abandon their party preference. It reflects the well-established finding of research on participation, that party support and electoral participation are strongly related to interest in politics and education. However, to assess campaign effects, we have to look at the interaction between awareness and

closeness to an election. In *Figure 16*, campaign effects are represented by the vertical distance of the two lines. The less aware seem to react more strongly to campaigns in Germany and Great Britain, but the effect is very weak. There is no clear effect for Switzerland.

Figure 16: Predicted probabilities for deactivation by interest in politics in DE, GB and CH



Note: Predicted probabilities calculated from Model 2 in Table 20. Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

Table 20: Activation, deactivation and persuasion by political awareness in DE, GB and CH (Model 2 and Model 3)

	Model 2						**Model 3**					
DE	Activation		Deactivation		Persuasion		Activation		Deactivation		Persuasion	
Closeness national election	0.481***	(0.05)	0.035	(0.06)	0.149	(0.10)	0.398***	(0.05)	0.013	(0.05)	0.158	(0.11)
Closeness regional election	0.005	(0.01)	-0.073***	(0.01)	0.034	(0.02)	0.009	(0.01)	-0.068***	(0.01)	0.034*	(0.02)
Interest: 2	-0.523***	(0.04)	-1.657***	(0.05)	-0.239**	(0.08)	-0.435***	(0.05)	-1.649***	(0.05)	-0.250*	(0.10)
Interest: 3	-0.901***	(0.05)	-2.667***	(0.07)	-0.188*	(0.09)	-0.625***	(0.06)	-2.600***	(0.07)	-0.161	(0.13)
Interest: 4	-1.164***	(0.06)	-3.043***	(0.09)	-0.229	(0.12)	-0.727***	(0.09)	-2.925***	(0.09)	-0.173	(0.17)
Closeness*interest	0.021	(0.01)	-0.039	(0.02)	-0.001	(0.04)	0.059**	(0.02)	-0.031	(0.02)	-0.005	(0.04)
Education: intermed.	-0.263***	(0.04)	-0.131***	(0.04)	0.247***	(0.05)	-0.148***	(0.04)	-0.099*	(0.04)	0.259***	(0.06)
Education: tertiary	-0.766***	(0.05)	-0.565***	(0.04)	0.105	(0.06)	-0.549***	(0.05)	-0.516***	(0.05)	0.131	(0.07)
Socio-structural Predispositions							0.000	(0.10)	-0.442***	(0.09)	-0.269*	(0.11)
Psych. Predispositions							-5.052***	(0.06)	-2.203***	(0.07)	-1.428***	(0.11)
Constant	0.507***	(0.07)	1.161***	(0.06)	-2.732***	(0.10)	3.387***	(0.07)	2.641***	(0.08)	-1.761***	(0.16)
variance random effect	6.153***	(0.12)	4.473***	(0.09)	5.519***	(0.16)	4.366***	(0.09)	3.865***	(0.09)	5.262***	(0.15)
cov (activation-deactivation)	4.525***	(0.09)					3.545***	(0.08)				
cov (activation-persuasion)	3.029***	(0.10)					2.433***	(0.09)				
cov (deactivation-persuasion)	3.221***	(0.09)					2.828***	(0.09)				
DIC	259'707						253'030					

	Model 2						**Model 3**					
GB	Activation		Deactivation		Persuasion		Activation		Deactivation		Persuasion	
Closeness nat. elect.	-0.002	(0.03)	-0.053	(0.03)	0.115***	(0.03)	0.006	(0.04)	-0.045	(0.03)	0.051*	(0.03)
Interest: 2	-0.661***	(0.05)	-1.257***	(0.04)	-0.276***	(0.04)	-0.622***	(0.05)	-1.212***	(0.04)	-0.234***	(0.05)
Interest: 3	-1.189***	(0.07)	-1.827***	(0.06)	-0.498***	(0.05)	-1.078***	(0.08)	-1.695***	(0.06)	-0.337***	(0.06)
Interest: 4	-1.355***	(0.13)	-1.938***	(0.10)	-0.437***	(0.08)	-1.161***	(0.13)	-1.710***	(0.10)	-0.270***	(0.09)
Closeness*interest	-0.009	(0.02)	-0.036	(0.02)	-0.038*	(0.02)	-0.018	(0.03)	-0.042*	(0.02)	-0.015	(0.02)
Education: intermed.	0.180**	(0.06)	0.106*	(0.05)	0.060	(0.04)	0.215***	(0.06)	0.104*	(0.04)	0.022	(0.05)
Education: tertiary	-0.518***	(0.09)	-0.244***	(0.06)	0.181**	(0.06)	-0.475***	(0.12)	-0.261***	(0.07)	0.255***	(0.08)
Socio-structural Predispositions							0.261*	(0.13)	-0.146	(0.09)	-0.014	(0.08)
Psych. Pred.							-0.981***	(0.03)	-0.763***	(0.03)	-1.330***	(0.06)

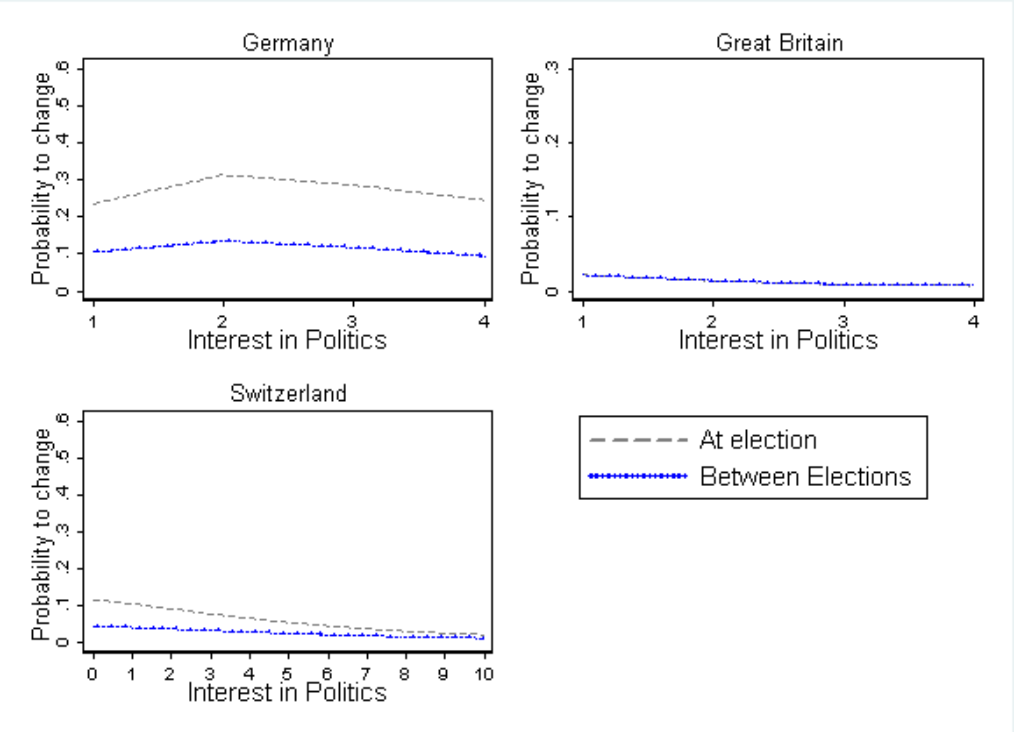
Constant	-3.606***	(0.08)	-1.257***	(0.05)	-2.003***	(0.05)	-2.526***	(0.11)	-0.264**	(0.08)	-1.666***	(0.07)
variance random effect	17.230***	(0.58)	5.400***	(0.15)	5.078***	(0.14)	15.492***	-0.46	4.591***	(0.13)	4.645***	(0.13)
cov (activation-deactivation)	8.359***	(0.24)					7.194***	(0.20)				
cov (activation-persuasion)	4.316***	(0.18)					3.519***	(0.16)				
cov (deactivation-persuasion)	3.372***	(0.11)					2.814***	(0.09)				
DIC	174'599						174'159					

	Model 2						**Model 3**					
CH	Activation		Deactivation		Persuasion		Activation		Deactivation		Persuasion	
Closeness national election	0.525***	(0.13)	-0.015	(0.09)	0.193*	(0.10)	0.496***	(0.10)	-0.055	(0.07)	0.138	(0.10)
Closeness cantonal election	0.070	(0.05)	0.025	(0.04)	-0.020	(0.03)	0.081	(0.05)	0.034	(0.04)	-0.024	(0.03)
Interest	-0.293***	(0.04)	-0.364***	(0.03)	-0.003	(0.03)	-0.242***	(0.02)	-0.357***	(0.03)	0.013	(0.03)
Interest squared	0.005	(0.00)	0.013***	(0.00)	-0.005*	(0.00)	0.001	(0.00)	0.013***	(0.00)	-0.005*	(0.00)
Closeness*interest	-0.027	(0.02)	-0.025	(0.01)	-0.009	(0.01)	-0.022	(0.01)	-0.017	(0.01)	-0.000	(0.01)
Education: intermed.	-0.368	(0.21)	-0.338**	(0.12)	-0.951***	(0.14)	-0.430*	(0.17)	-0.342***	(0.10)	-0.225*	(0.10)
Education: tertiary	-0.736**	(0.26)	-0.621***	(0.13)	-0.110	(0.11)	-0.804***	(0.21)	-0.607***	(0.12)	-0.101	(0.11)
Socio-structural Predispositions							-0.124	(0.20)	-0.555***	(0.14)	-0.338**	(0.13)
Psych. Predispositions							-0.734***	(0.18)	-0.633***	(0.14)	-0.476***	(0.14)
Constant	-0.397	(0.30)	1.513***	(0.21)	-1.260***	(0.21)	0.252	(0.26)	2.199***	(0.20)	-0.909**	(0.28)
variance random effect	27.769***	(1.52)	7.335***	(0.35)	5.006***	(0.24)	27.539***	(1.51)	7.186***	(0.29)	4.905***	(0.23)
cov (activation-deactivation)	5.528***	(0.45)					5.325***	(0.42)				
cov (activation-persuasion)	11.582***	(0.24)					11.417***	(0.56)				
cov (deactivation-persuasion)	3.968***	(0.24)					3.815***	(0.20)				
DIC	59129						59119					

Note: Multinomial random effect models on change since last election. Dependent variable: see Table 17. Base category: same preference as around last election. Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes age, survey year and panel participation as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010 (n=147’285 clustered in 19’924 individuals), BHPS 1991-2008 (n=122’465 clustered in 14’322 individuals), SHP 1999-2010 (n=35’223 clustered in 7438 individuals).

By looking at predicted probabilities for activation (*Figure 17*) the effect of political awareness is not evident. If we look at regression coefficients, we see that activated individuals have lower political awareness than stable individuals, which represents the base category. But again, we are mainly interested in campaign effects represented by the interaction. We only see an effect in Switzerland, where the little aware are most likely to be activated. Again, the effects for activation are weak because it refers to individuals who had not been activated at the previous campaign (they did not have a party preference), but are activated later on. Overall, activation and deactivation effects of campaigns seem to impact the less aware the most. However, the effects are weak and only visible in some of the cases studied.

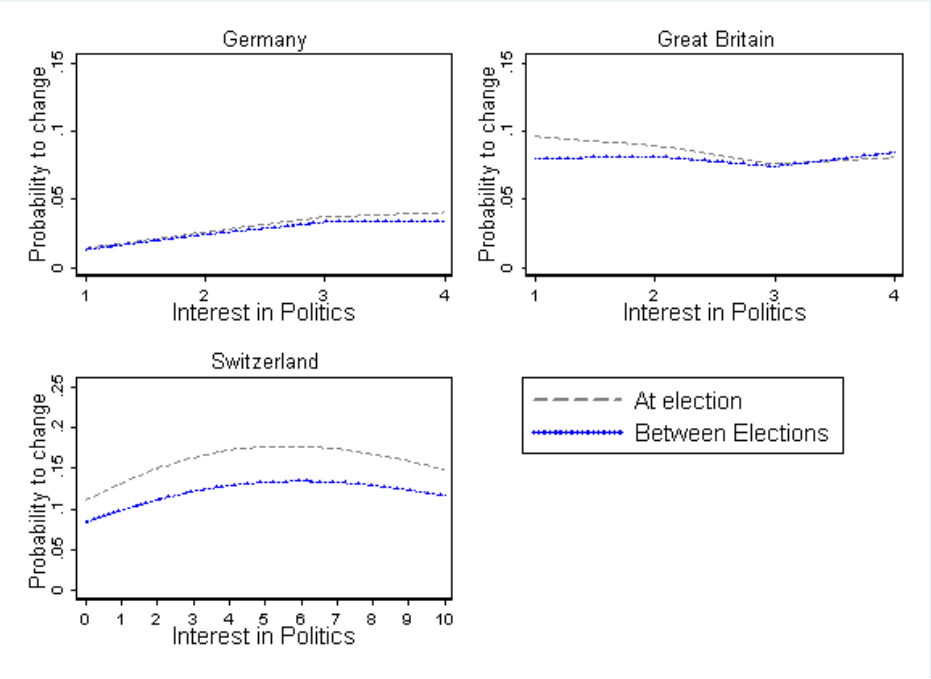
Figure 17 : Predicted probabilities for activation by interest in politics in DE, GB and CH



Note: Predicted probabilities calculated from Model 2 in Table 20. Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

To look at the role of political awareness for persuasion, we computed again predicted probabilities (cf. *Figure 18*). The probability for persuasion (a change from the party preferred at the time of the last election) hardly depends on interest in politics.[60] However, our interest is in the interaction between campaign activities (measured by closeness to an election) and political awareness. The interaction coefficient is only significant in Great Britain, where the less aware seem to be persuaded through campaigns. In Switzerland and Germany, we find no moderating effect of political awareness for persuasion.[61]

Figure 18: Predicted probabilities for persuasion by interest in politics in CH, DE, GB.



Note: Predicted probabilities calculated from Model 2 in Table 20.Other variables are held constant at their mean or mode (categorical variables), random effect of 0 assumed.

[60] At first sight, this seems to contradict the negative coefficients of the regression model, which suggests decreasing persuasion. This is because coefficients compare persuasion to reinforcement (the base category), whereas predicted probabilities also take account of the possibility of deactivation and activation.

[61] In Germany, predicted probabilities suggest that the highly aware are more likely to be persuaded, but this depends on the sample. Comparing stability and persuasion, the most aware are less likely to be persuaded (regression coefficients), but also taking account of deactivation and activation (which are least frequent for the highly aware), persuasion seems more important for the highly aware.

In model 3, we additionally included predisposition strength as a control. As before, predispositions have a strong stabilising effect. Psychological predispositions have a strong impact on activation, deactivation and persuasion. In contrast, socio-structural predispositions are only sometimes significant.[62] Controlling for predisposition strength slightly affects the conclusions from model 2 (predicted probabilities not shown). For persuasion, we find again strongest effects for the least aware in Great Britain, but the effect is weaker. However, for deactivation, the stronger effect for the little aware disappear in Great Britain but remain in Germany. For activation, we find stronger campaign effects for the little aware once we control for predisposition strength.

Overall, we find only weak and inconsistent evidence for the moderating effect of political awareness. But if we effects, they point to stronger campaign effects for little aware citizens.

8.5 Conclusions for campaign effects

Using the property household panels of interviews over the whole electoral cycle, we find strong evidence for activation and persuasion effects of electoral campaigns. These findings for persuasion cannot be dismissed with the argument that observed changes bring voting intention in line with latent predispositions. The resemblance of the results from Germany, Great Britain and Switzerland, covering several elections makes us even more confident that campaigns do increase persuasion. Persuasion effects occur in very different electoral party systems and are not restricted to specific

[62] The direction of the effect depends on which categories we compare. Comparing activation and reinforcement (as regression coefficients) strong socio-structural predispositions decrease the probability for activation in Germany and Switzerland, but increase the probability for activation in Great Britain. But contrasting activation and persuasion, strong socio-structural predispositions increase the probability for activation in all countries.

elections. However, results are also remarkable considering the differences in the wording of questions on party preferences. Party identification and voting intention react similarly to the electoral cycle, since there are also relatively strong activation and persuasion effects for Germany, where party identification is asked about in the survey. In line with previous research, we find strong activation and deactivation effects of the electoral cycle.

Results are less clear for political awareness as a moderator of campaign effects. The few effects we found suggest that campaigns affect the less aware more strongly. Overall, campaign effects are not conditional on the level of political awareness. Again, we have found strong stabilising effects of psychological predispositions and, to a lesser extent, for socio-structural predispositions.

Although this study found that campaigns persuade voters, it cannot say how and in which direction. The measure used to capture campaign effect is very general and cannot be connected to any specific campaign activities and campaign events. The contribution that household panels can make to research on campaigns should be seen as a complement to conventional research designs using electoral panels, rolling cross sections or experimental data. The use of household panels has clearly shown that electoral campaigns not only activate predispositions but also persuade voters and that volatility is strongly affected by the electoral cycle.

9 Interpersonal influence

9.1 Theoretical and empirical background

Interpersonal communication impact attitudes and behaviour in different ways (Vreese and Boomgaarden 2006). Firstly, communication with others helps citizens to learn about political issues and to understand them better. Secondly, and related to learning, discussions enhance the quality of opinions. Thirdly, interpersonal communication may change or reinforce attitudes. Finally, communication is important for political participation.

Interpersonal influence should be particularly strong within households. Household members usually fulfil conditions for strong interpersonal influence (Huckfeldt and Sprague, 1995): they share time and space, have frequent contact and are intimate. Another criterion is the frequency of exchange of political content. It is an established result of research on neighbourhood effects that "people who talk together, vote together" (Pattie and Johnston 2000).

Household panels are an excellent basis on which to study interpersonal influence, because members of a household are interviewed separately. We therefore do not have to rely on a second-hand perception of the preferences of others, which have shown to be biased because respondents project their own views for their partner (Huckfeldt and Sprague, 1995). Many studies have used household panel data to assess intra-household influences. They agree that there is a strong similarity regarding political preferences among household members. These similarities cannot be explained by selection effects (for partners) or a similar context alone (e.g. socio-economic characteristics). Studies also agree that interpersonal influence is an important aspect

of understanding opinion formation and political behaviour. Mostly, studies compare political attitudes of individuals. Two studies (Schmitt-Beck, Weick, and Christoph 2006; Kuhn 2009) have looked at volatility. Disagreement has been found to increase volatility and agreement to stabilise preferences.

Whereas media mainly generates one-way communication, interpersonal influence results from interaction. Several studies compared the relative influence of different household members. For partners, results are contradictory. Some found a stronger influence of women on men (Zuckerman, Dasovic, and Fitzgerald 2007 for Great Britain), others a stronger influence of men on women (Wernli 2006 for Switzerland; Zuckerman, Dasovic, and Fitzgerald 2007 for Germany) or a symmetrical influence (Kan and Heath 2006). For parental transmission, studies typically find that mothers have a stronger influence than fathers on their children (Beck and Jennings 1975; Wernli 2007; Zuckerman, Dasovic, and Fitzgerald 2007; Coffé and Voorpostel 2010).

Overall, mothers seem to take a central role in intra-household influence (Zuckerman, Dasovic, and Fitzgerald 2007). However, this general role has recently been questioned. Fitzgerald (2012) found that for rising, "new politics" parties, fathers and children take a central role in transmitting preferences. They embrace new developments and then pass it on to mothers. The results suggest that families have multiplying effects on electoral shifts and should not be seen exclusively as stabilising factors. For mainstream parties, the central role of mothers has been confirmed.

A critique of traditional socialisation theory is that it ignores potential reciprocal relationships. For parents and children in particular, the reciprocal effect is rarely considered. Household panels present an excellent basis to assess reciprocal effects

from children to parents, influence between siblings or between any other current or former household members.

We will test the influence between household members empirically. In contrast to most studies, we do not only focus on influence between partners and from parents to children, we also take account of impacts from children on parents and of the influence between siblings. By looking at three different contexts with the same approach, we can test whether the same patterns apply to different contexts. Another contribution to literature is the focus on political discussions for these different dyads.

Another topic in literature on interpersonal influence focuses on the mechanism of transmission and moderating effects. Apart from frequency of contact, closeness of the relationship and trust, these include clarity and consistency of cues, salience of the topic, respect for cue-givers' knowledge and media coverage (Fitzgerald, 2011).

Here, we will focus on the role of political discussion, which is a central component of deliberate theories and is considered vital for legitimacy in democracies. Political discussions have been found to improve argument quality and increase political participation and knowledge (see Lee 2009 for references). Many studies looked at political discussion as a dependent variable. Huckfeldt and Sprague (1995) found that political discussion mainly occurs among people from the social network. The choice of discussion partners is therefore restricted. Although people tend to discuss politics with people they agree with and try to avoid conflict, the relationship between agreement and political discussion is not strong. It is common to disagree with some discussion partners, and that disagreement persists.

Here, we focus on the role of other household members and political discussions on volatility. New information has the potential to alter or update someone's preferences

or opinions. Political discussion should thus increase volatility. But the effect of discussion should depend on whether discussion partners agree or disagree. Discussions among like-minded people should rather reinforce opinions. However, if discussion partners disagree, volatility increases (Ron Johnston and Pattie 2000). Fitzgerald (2011) tested indirectly for the effect of political discussion. In some but not all of the models, interpersonal influence became stronger in election years, when individuals are highly interested in politics and when they live in the same household.

9.2 Model specifications

We are again using pooled data from all available panel waves and event history analysis to assess interpersonal influence on volatility. Again, the dependent variable is change in party preference, as introduced in section 3.2. We distinguish change between parties and no change (base category). We do not distinguish party blocks, because we have no a priori reasons to suspect differences. Having a binary dependent variable and clustered data (several observations per person), we estimate models using logistic random effect regression using the xtlogit command of Stata. We run different models: firstly, a model for all individuals, secondly, separate models for men and women and thirdly, an analysis of the impact of political discussion, using data from the SHP only.

The independent variables in the model refer to party preferences of other household members. In line with previous research, we expect that disagreement among household members increases the probability for party switches and agreement decreases the probability for party switches. We measure the party preferences of others with two separate dummy variables, indicating agreement and disagreement with the respondents at the last observation and therefore, before a change. For example, for partners, we include a dummy variable for agreement and a dummy

variable for disagreement in party preferences in the past. The reference category contains respondents not living with a partner, or where one of the partners did not have a party preference.[63] For mothers and fathers, we use the same procedure.

The coding for children and siblings is more complicated, because there may be several children or siblings living in the same household. In order to keep the analysis simple and to have comparable variables, we also construct dummy variables for siblings and children. If there is only one child (over 18 years of age) or one adult in the household, the measure is equivalent to those for partners and parents. If there are several children, we count the number of children with the same preference and the number with different preferences. If more children disagreed than agreed, we code this as different party preferences. If more children agreed than disagreed, we code this as the same party preference. In all other cases, both dummy variables are set to 0. The same rules apply to siblings.

To measure frequency of political discussion, we use a question from the SHP asked in 2011: "How often do you discuss politics with anyone living in your household, if 0 means "never" and 10 "often?". As in previous models, we control for age, interest in politics, period effects (time trend), duration of party preference and panel participation.

Before presenting and interpreting the results of the models, we have to address endogeneity, which is a serious issue for the study of interpersonal influence. An initial problem is the distinction between selection and interpersonal influence, which is relevant mainly for partners. Do partners have similar preferences because they

[63] More precisely, the reference category contains the following cases: respondent did not live with a partner at the last observation (1), preference of partner unknown, because partner did not participate in the survey (2), partner had no party preference in last observation (3), respondent had no party preference in last observation (4), respondent has stopped living with partner from last wave (5).

choose partners who are similar to them or because they adapt to each other? Previous research shows that both processes are important (e.g. Zuckerman, Dasovic, and Fitzgerald 2007). A second problem is that household members may be influenced by the same factors (e.g. social background, social class, and social network), so that similarity is not the result of interpersonal influence within the household. More recent studies have taken account of endogeneity. Strategies include instrumental variable approaches (Zuckerman, Dasovic, and Fitzgerald 2007; Fitzgerald 2011), inclusion of lagged dependent variables (Fitzgerald 2011) or fixed effects models (Kohler 2005).

Using event history models (change as the dependent variable), endogeneity should not be a problem, because selection effects and (stable) other impacts cannot affect regression coefficients. By focusing on change as the dependent variable, we also avoid potential bias from including lagged dependent variables at the right hand side of the regression (see section 4.3 on dynamic models). Using the longitudinal structure, we can also take account of reciprocal relationships and compare relative influence between household members. For instance, we do not assume that influence is from parents to children, but allow for reciprocity.

9.3 Results and discussion

We started with a general model, to see how agreement and disagreement with household members impacts change between parties (cf. *Table 21*). Because the variables are equally scaled, we can compare effect size within a model even though the model is non-linear. However, we cannot compare effects between different countries. To illustrate effects better, we computed average marginal effects (cf. *Figure 19*). Marginal effects show how much the probability of switching party increases or decreases, if household members agree or disagree on party preferences

(compared to the reference category). The reference category refers to respondents who are not part of the dyad studied (do not live with partner, father, mother, siblings or children) or if one of the dyad does not have a party preference. [64]

Looking at the results, we see strong and significant intra-household influence in all three countries. Among them, partners are the most important and have a strong effect. Having a partner with the same party preference decreases the probability of switching parties by 7.3 percentage points in Switzerland, by 4.2 percentage points in Great Britain and by 2.1 percentage points in Germany (marginal effects in *Figure 19*). In relative terms (probability for same preference / probability of reference category), volatility decreases by 58 % in Switzerland and by 61 % in Great Britain, if partners share a party preference. The destabilising effect if the partner prefers another party is not as strong, but significant (in relative terms, volatility increases by 30 % in Switzerland and Great Britain and by 58 % in Germany).

[64] In contrast to previous chapters, we calculate average predicted probabilities instead of conditional probabilities. The reason is that conditional probabilities depend strongly on other dyads in the household. Using average probabilities or marginal effects, we do not have to impose the same household configuration for everyone but take account of actual values of household members. All variables other than the dyad studied are held constant at their true value.

Table 21 : Change between parties: intra-household influence in DE, GB, CH

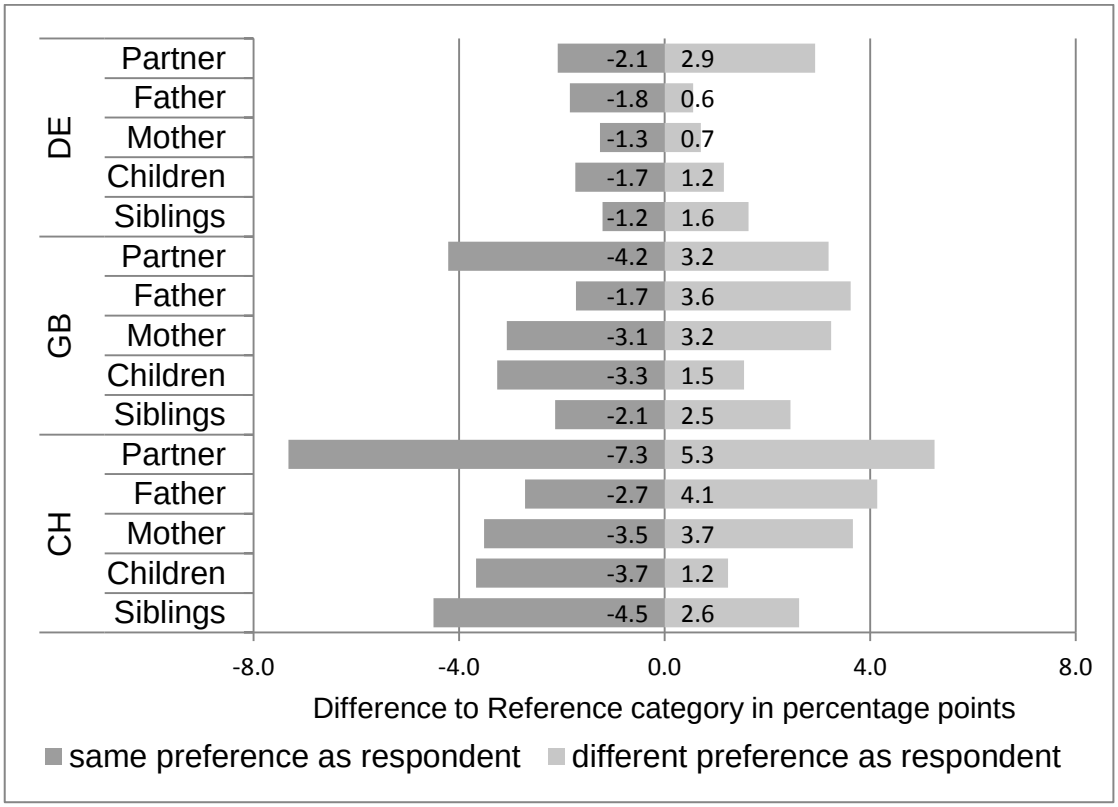
		DE		GB		CH	
Partner	different	0.503***	(0.03)	0.313***	(0.03)	0.344***	(0.04)
	same	-0.563***	(0.03)	-0.568***	(0.03)	-0.652***	(0.04)
Father	different	0.118	(0.07)	0.375***	(0.08)	0.288**	(0.09)
	same	-0.510***	(0.07)	-0.222**	(0.08)	-0.220	(0.11)
Mother	different	0.148*	(0.07)	0.338***	(0.07)	0.257**	(0.09)
	same	-0.324***	(0.07)	-0.421***	(0.07)	-0.290**	(0.10)
Children	different	0.234***	(0.06)	0.170**	(0.07)	0.091	(0.07)
	same	-0.476***	(0.06)	-0.449***	(0.06)	-0.303***	(0.09)
Siblings	different	0.321*	(0.12)	0.263*	(0.11)	0.187	(0.11)
	same	-0.311**	(0.12)	-0.278**	(0.11)	-0.382**	(0.14)
Constant		-1.554***	(0.08)	0.484***	(0.08)	-0.017	(0.11)
variance random effect		0.907		0.688		0.727	
log likelihood intercept only		-54572		-49643		-22283	
log likelihood		-52773		-47864		-21582	

Note: Logistic random effect models on change between parties (base category: no change). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes duration of party preference, age, survey year and panel participation as controls (not shown). Source: SOEP 1984-2010 (n=240'430 clustered in 27'153 individuals), BHPS 1991-2008 (n=147'432 clustered in 15'918 individuals), SHP 1999-2010 (n=48'696 clustered in 8'652 individuals).

Looking at parental influence on children, we also see strong effects. If the mother or father have the same preference as their child, the child's probability to switch parties decreases by 1.3 percentage points (mothers in Germany) to 3.5 percentage points (mothers in Switzerland). If the mother or father has a different party preference to their child, the child's probability for switching parties increases by 0.6 to 4.1 percentage points. In contrast to most previous studies, but in line with Fitzgerald's study on Switzerland (2011), we do not find that the mother's influence on children is stronger than the father's influence. Rather, influence of mothers and fathers is similar. This raises the question on why we find divergent results, even though most other studies used the same data. Because our result is consistent for the three countries, we cannot explain the contrast for a specific context, e.g. a Swiss peculiarity. Neither can the changing role of women and mothers in society explain

the result. Yet another possibility is that the role of mothers is different for new or rising parties than for traditional parties as suggested by Fitzgerald (2011). However, also a methodological explanation is probable. Studies finding a central role for mothers did not control for previous party preference, and usually did not test for reciprocal influence from children on mothers. As we will see below, mothers are more influenced by their children than fathers, which might have been misinterpreted as mother's transmission of political preferences.

Figure 19 : Intra-household influence: average marginal effects on the probability of switching parties in DE, GB and CH.



Notes: Average marginal effects calculated from Table 21. Reference category: Not living with other household member (partner, father, mother, child, or sibling) or one of dyad had no party preference or preference is not known; Reading example for Germany: Having a partner with a different party preference, the probability of switching parties increases by 2.9 percentage points compared to having no partner. Probabilities for party switches for the reference categories are about 5% in Germany, 10 % in Great Britain, and 19 % in Switzerland.

The model clearly shows that influence is not restricted to partners and parental transmissions, although these are the strongest effects. In all three countries, we find

children to impact their parents' preferences significantly. As for partners, the stabilising effect of agreement is generally stronger than the destabilising effect of disagreement. In Switzerland, the effect of disagreement is not significant for children. But overall, results clearly show that the focus on parental transmission is not justified. Transmission from parents to children is strong, but it is not fundamentally different to other within-household influence, particularly in Germany, where respondents are asked about party identification. The strong impact of children on parents is striking, as it contradicts (once again) the idea that party identification is shaped in young adulthood and resists external influence in later life.[65] But we have to take into account that we only analyse adults with the right to vote. It is possible that parental influence is stronger for younger children.

Finally, we look at influence between siblings living in the same household. Siblings are indeed important with regards to volatility. In Germany, they are more important than the influence from parents and in Switzerland effects are of about the same magnitude.

To look at differences between men and women, we estimate the same model for men and women separately (*Table 22*). Because we cannot compare coefficients across models, we again computed average marginal effects, but for presentational reasons show it in a table and not graphically (

Table 23). We will first address gender differences for partners. In all three countries, women are slightly more influenced by their partner than men, but the difference is only small. Also, when we looked at the effect from children on parents, mothers are

[65] Joint parental influence is not visible from the regression models, because we look at mothers and fathers separately. Coding parents' preference jointly (as for children and siblings), results in slightly stronger effects for predicted probabilities than for mothers or fathers alone. But this does not affect conclusions. In Germany, children affect parents as strongly as parents affect children.

more influenced by children than fathers. A possible interpretation is that mothers spend more time at home and have therefore more frequent interactions and discussions than fathers. But we cannot generalise that women are more easily influenced than men, as this does not hold true for the younger generation. In Germany and GB, mothers have a stronger impact on their daughters, in Switzerland mothers have a stronger impact on their sons. In Germany and Great Britain, Fathers have a stronger influence on their sons and in Switzerland, fathers have a stronger impact on their daughters. Overall, sons and daughters seem to be influenced by their parents in a similar way. Also among siblings, the results suggest a similar influence between men and women.

Table 22: Change between parties: intra-household influence by sex in DE, GB, CH

		DE		GB		CH	
		men	women	men	women	men	women
Partner	different pref.	0.412***	0.585***	0.210***	0.404***	0.385***	0.322***
	same pref.	-0.578***	-0.549***	-0.590***	-0.551***	-0.561***	-0.720***
Father	different pref.	0.122	0.108	0.386***	0.344**	0.231	0.349*
	same pref.	-0.577***	-0.403***	-0.337**	-0.074	-0.197	-0.239
Mother	different pref.	0.161	0.127	0.190*	0.538***	0.402***	0.057
	same pref.	-0.186	-0.532***	-0.349***	-0.547***	-0.336*	-0.258
Children	different pref.	0.167	0.307***	0.120	0.212**	-0.015	0.177
	same pref.	-0.358***	-0.595***	-0.401***	-0.475***	-0.292*	-0.311**
Siblings	different pref.	0.158	0.632**	0.332*	0.164	0.216	0.124
	same pref.	-0.460**	-0.080	-0.185	-0.434*	-0.439*	-0.322
Constant		-1.508***	-1.605***	0.516***	0.480***	0.295	-0.226
variance random effect		0.934	0.871	0.740	0.638	0.663	0.711
log likelihood intercept only		-28126	-26432	-23080	-26557	-101678	-12115
log likelihood		-27269	-25487	-22291	-25546	-9841	-11727
n observations		118'586	121'844	79'937	67'495	22'236	26'460
n individuals		13'631	13'522	8476	7442	4145	4507

Note: Logistic random effect models on change between parties (base category: no change). Regression coefficients, se not shown. Significant at *0.05, **0.01, ***0.001. The model includes duration of party preference, age, survey year, and panel participation as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010, BHPS 1991-2008, SHP 1999-2011.

Among siblings, there is a particularly strong effect if there are divergent party preferences. For young adults, disagreement with sisters and brothers are generally

more influential than disagreements with parents in terms of party change. This reflects the generally higher volatility and persuability of young adults, but could also point out the impact of a politicised environment which includes political discussions.

Table 23 : Average marginal effects of intra-household influence on the probability of switching parties by sex in DE, GB and CH.

		men		women	
		same pref.	diff. pref.	same pref.	diff. pref.
CH	Parnter	-6.5	5.9	-7.9	4.9
	Father	-2.5	3.3	-2.9	5.1
	Mother	-4.0	6.0	-3.2	0.8
	Children	-3.6	-0.1	-3.7	2.6
	Siblings	-5.1	3.1	-3.8	1.7
GB	Parnter	-4.5	2.1	-4.0	4.1
	Father	-2.6	3.8	-0.6	3.2
	Mother	0.0	4.4	-3.8	5.5
	Children	-3.0	1.1	-3.4	1.9
	Siblings	-1.5	3.2	-3.1	1.5
DE	Parnter	-2.2	2.4	-1.9	3.4
	Father	-2.1	0.6	-1.4	0.5
	Mother	-0.8	0.8	-1.8	0.6
	Children	-1.4	0.4	-2.0	2.0
	Siblings	-1.8	0.8	-0.3	3.5

Note: Average marginal effects from model in Table 22. Difference to reference category in percentage points.

Finally, we looked at the effect of political discussions. Because information on frequency of political s in the household is only available for Switzerland in 2011, we have a smaller sample and no comparative results. We only observed one observation per individual (transition to 2011) and therefore estimated the model using logistic regression. We estimated separate models for partners, fathers, mothers, children and siblings (cf. *Table 24*) using only the subsample of individuals who live with the household member analysed in the model (e.g. only individuals living with a partner). Independent variables in the model (preference of other household members at the last observation, age, interest in politics, duration of party preference and relative panel participation) are equivalent to previous models.

Table 24: Change between parties: intra-household influence and political discussions in CH

	partner	father	mother	children	siblings
Discussion	.029	.111	.083	.052	.120
Different. pref.	-.309	-.231	-.834	-.175	.669
Discussion*different	-.006	-.026	.025	-.082	-.349
Same pref.	.272	1.252*	.917	.087	.073
Discussion*same	.028	-.101	-.028	.027	-.003
Constant	.864**	.449	1.952	1.628	.883
log likelihood intercept only	-1549	-253	-340	-374	-151
log likelihood	-1416	-239	-308	-337	-138
n individuals	2'792	419	564	677	232

Note: Logistic models on change between parties (base category: no change). Regression coefficients, se not shown. Significant at *0.05, **0.01, ***0.001. The model includes duration of party preference, age, a time trend and panel participation as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SHP 1999-2011.

In non-linear models, interaction terms are complicated to interpret because all effects are conditional on other variables. Because of the interaction terms and the small sample, the single coefficients are not statistically significant. To be able to interpret interaction effects and see effect sizes, we again computed predicted probabilities (cf. *Figure 20*).[66] Predicted probabilities show that the effect of political discussion differs between the dyads. Furthermore, agreement and disagreement do not have the same impact. If others have different preferences, political discussion increases volatility. The stabilising effect of shared preference is less evident.

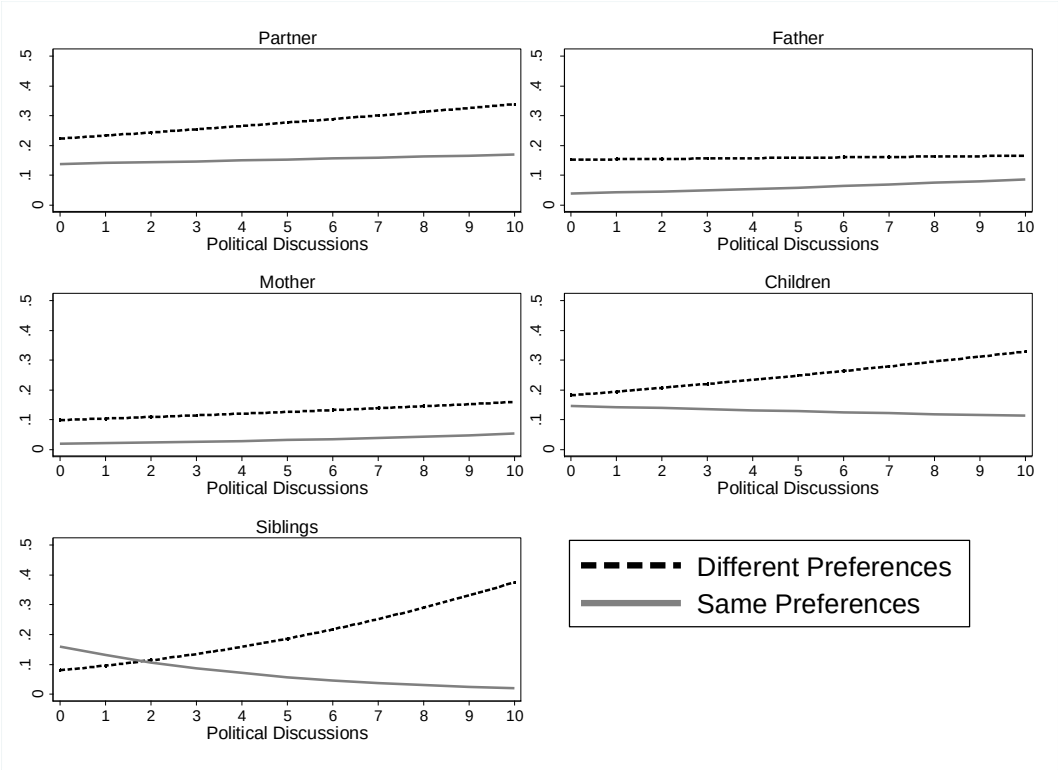
The most interesting finding is that parental influence on children shows a rather different pattern than the other dyads. For parental transmission, discussion does not play a role. In contrast, the influence among siblings and influence from children on parents seems conditional on political discussion. In the absence of political

[66] Predicted probabilities are computed using marginal effects. We also tested the inteff command in Stata, which computes interaction effects as proposed by Ai and Norton (2003), but did not find other conclusions.

discussion, there is no interpersonal influence. For siblings, political discussions explain indeed the strong volatility of young adults when their siblings have a divergent party preference. For partners, discussions increase volatility in the case of divergent preferences, but have no effect in the case of agreement. These differences between dyads suggest that another mechanism is at work for parental transmission than for other interpersonal influences. Processes of socialisation seem to occur through more implicit and subtle channels rather than explicit political discussion. This finding supports the interpretation by Fitzgerald (2011) that transmission from children (but also from fathers) occurs through political discussion and persuasion, whereas mothers pass preferences for mainstream parties through more implicit channels. Also for partners, political discussions can only explain a part of interpersonal influence. Here, both implicit mechanisms and political discussions seem to drive influence.

Although results on political discussion seem plausible, we have to take account that this evidence is only based on Switzerland and on rather small samples. The interaction effects are not significant, which is not surprising considering the small data size. However, results remain suggestive and should be validated using other surveys or future waves of the SHP.

Figure 20: Intra-household influence: predicted probabilities for switching parties by frequency of political discussion



Notes: Average predicted probabilities calculated from Table 24.

9.4 Conclusions for interpersonal influence

In this chapter we addressed intra-household influence. The results confirm the important role of communication between persons on opinion formation and political behaviour. Whether individuals switch parties depends strongly on whether they agree or disagree with others.

The influence between partners is well documented in literature. The approach used here proofs that not only the selection of a partner explains similar preferences, but that partners adapt to each other. The volatility is higher if the partner has a divergent party preference. But the stabilising effect of agreement is even stronger. Also in line with previous research is the strong effect of parents on their children, which underlines the importance of socialisation. But while previous studies focused primarily on influence between partners or parental transmission on children, we also

look at influence between siblings and from children on their parents. Because also these impacts are considerable, we do not agree with studies which dismiss these impacts as marginal or secondary. For young adults and divergent party preference, the influence of siblings is even stronger than the influence of the parents. Comparing the interpersonal influence of different dyads, parental transmission of preferences does not stand out.

The data on Switzerland enables investigating the mechanism of the influence, in particular the role of political discussions. Here, the parental influence stands out in comparison to other dyads. Parental transmission of political preference is not moderated by political discussion, but seems to take more implicit channels, for example by passing on identification or values to children. In contrast, political discussions are responsible for influences from children on their parents and influence between siblings. For partners, interpersonal influence seems to take both implicit forms and moderation by political discussions.

There is no general difference between men and women. Women and men seem to be influenced similarly by partners, siblings and parents. But mothers are more influenced by their children than fathers. This suggests that the difference between men and women is not a direct influence of gender, but rather due to the fact that women on average spend more time at home than men. Because fathers are equally important in passing their political views onto children, we do not confirm the frequent finding regarding the central role of mothers. The finding of previous studies could reflect problems of endogeneity, because the strong influence of children on mothers has not been taken into account.

10 The economic situation

In this chapter, we look at the influence of the personal economic situation on changes in party preferences (pocketbook voting). Two different theoretical approaches link income and voting. Theories of economic voting postulate that voters hold parties accountable for economic conditions. The traditional economic voting hypothesis is that voters tend to support government parties if economic conditions are good, and support opposition parties if economic conditions are bad. The second theory linking income and voting at is the proximity model by Downs (1957) according to which voters support the party with the highest utility for them. Voters are motivated by self-interest and support the party whose policies profits them most. The personal financial situation is linked to the economic left-right axis. We will look at both theories more closely to develop testable hypotheses on dynamics of party preference.

10.1 Economic voting

Egocentric economic voting

Economic voting literature has used three types of measures for the economic situation. The first are a nation's (or region's) objective economic conditions such as inflation, unemployment, and economic growth. They have shown to be influential in aggregate level studies, which however are problematic for ecological fallacy. But the use of objective economic measures for individual level data is difficult because of the limited variance between individuals. However, by pooling data from different time points and many countries, objective economic indicators have been successfully used for individual level analysis of economic voting (Van der Brug, Van der Eijk, and Franklin 2007; Nadeau, Lewis-Beck, and Bélanger 2012).

The second measure for economic conditions is individuals' perceptions on the state of the economy. These subjective indicators show strong effects on economic voting (Lewis-Beck 1988; Duch and Stevenson 2008), but are increasingly criticised to be plagued by endogeneity (e.g. Nannestad and Paldam 1994; Van der Brug, Van der Eijk, and Franklin 2007). The third type is personal economic conditions, which is referred to as egocentric economic voting. We will look at it more closely here, because this is the measure available in our data. While some studies have found effects of egocentric economic voting (Sanders and Brynin 1999; Gomez and Wilson 2003; Richter 2006), the review by Lewis-Beck and Stegmaier (2007) concluded that if egocentric voting has an effect, this effect is small.

The theoretical basis for egocentric economic voting is less convincing than for socio-tropic voting. Egocentric voting has to assume that individuals hold the government responsible for their personal financial situation. For example, it is unlikely that individuals would hold the government responsible for income increases after completion of an education or after a promotion. Feldman (1982) showed indeed that people perceive most change in their personal finances as their own responsibility. But in contrast to perceptions of the state's economy, there is no endogeneity problem for egocentric voting, as it is unlikely that party preferences affect the personal financial situation. If we find evidence of egocentric voting, we can be confident about causality. However, if we find no influence of the personal economic situation, it does not prove that economic situation does not matter, as the influence may be sociotropic.

Three different contributions have assessed pocketbook voting using the BHPS data. Johnston and his colleagues (Ron Johnston and Pattie 1999; Ron Johnston et al. 2005) found for the 1990s, that the Conservative party (the government party) got most

support from those feeling well off while the Labour party (the main opposition party) was mostly supported by those feeling less well off. These results were interpreted as support for traditional economic voting. But in other aspects, results contradicted economic voting theory.[67] Overall, these studies found no or limited effect of pocketbook voting in Great Britain.

However, the relationship between income and support for the conservatives and Labour could also be due to ideological positions of the parties rather than their government or opposition status. Indeed, Sanders and Brynin (1999) who also analysed BHPS data of the 1990s, confirmed that there are two effects of pocketbook voting. First, changes in economic perceptions have weak direct effects on support for the government or opposition party. Secondly, high income and improvement in economic perceptions are related to shifts to the right in ideological terms. Low income and deteriorating economic perceptions are related to shift to the left in ideological terms. Because the ideological position has a strong effect on voting intentions, economic conditions have a rather strong indirect effect on party preferences.

Cross-national differences in economic voting

Results in the extensive literature on economic voting remained inconsistent. The nature and size of the effect of economic voting varies strongly from one study to the next, between countries and over time. Increasing efforts are made to understand

[67] Johnston et al. (2005) found the opposite effect as expected for the vote in 2001 (the better off still preferred the conservative party and thus the main opposition party). Johnston and Pattie (1999) found that the reward-punishment model applied only asymmetrically (those worse off were likely to abandon the conservative party, but those feeling better off were not likely to abandon the Labour party). Neither did the model show significant effects for strength of party identification.

differences in the importance of economic voting using comparative individual-level study designs (Lewis-Beck 1988; Van der Brug, Van der Eijk, and Franklin 2007; Duch and Stevenson 2008).

The strength of economic voting depends on the extent to which voters hold parties responsible for economic conditions or policies. An important moderating factor for economic voting is the "clarity of responsibility" (Powell and Whitten 1993). In institutional settings where policy responsibility can be clearly attributed to a party, economic voting should be strong. In contrast, economic voting should be weak if responsibly for policy-making is divided or fragmented. Powell and Whitten used five indicators to measure clarity of responsibility: the voting cohesion of the major parties, legislative committee systems that accommodate opposition party power sharing, bicameralism, coalition governments, and minority governments. The importance of the "clarity of responsibility" has been supported by several empirical studies (Anderson 2000; Van der Brug, Van der Eijk, and Franklin 2007; Duch and Stevenson 2008).

Van der Brug et al. (2007) found that economic voting is different in high clarity and low clarity countries. In high clarity countries, the traditional economic voting model distinguishing government and opposition parties works well. But in low responsibility countries, rather the size of parties than the government status was important. Party size serves as a proxy for voters, telling them which parties are players in the policymaking process. Large government parties are in a much better position to affect government policies than small government parties are. They control important ministries, attract more media attention, and consequently their responsibility is more visible to the public (Van der Brug, Van der Eijk, and Franklin 2007, 92).

The clarity of responsibility hypothesis gives clear theoretical expectations for the three countries studied here. Great Britain is a prototype for clear responsibility. The majority system with two dominant parties makes the distinction between governing and opposition parties particularly relevant. There is little separation of powers, weak federalism, and rare episodes of divided government. Empirical studies confirm the importance of economic voting in Great Britain. In several studies, Britain showed the highest level of economic voting in rank-orderings of countries (Lewis-Beck 1988, Anderson 1995, Duch and Stevenson 2008).

In contrast, Germany is a country with moderate or low clarity of responsibility, because it has a rather proportional electoral system, bicamerism, but strong cohesion of the major governing party. The (large) opposition parties have a significant weight in shaping policies.

Switzerland as a consensual democracy is an extreme case for low-clarity of responsibility. It has a strongly proportional electoral system, strong federalism, direct democracy, a large government coalition and low party cohesion. This makes it difficult for voters to attribute responsibility for the state of the economy to single parties. The lack of clear opposition and government roles of parties complicates economic voting in Switzerland further. For example in referendum votes, the largest parties (the Swiss People's Party (SVP) and the Socialist Party (SP)) frequently take opposition roles, even though they are part of the government coalition. It is therefore not surprising that the economic voting hypothesis, to my knowledge, has so far not been tested in Switzerland.

10.2 Proximity model

The second potential explanation for pocketbook voting is the proximity model proposed by Downs, postulating that voters support the party which maximises their "utility income". Utility is understood as self-interest, in the sense that voters choose parties according to expected policies. There is an extensive literature on interest voting, but it has remained disconnected from economic voting theory.

There are many ways in which self-interest and proximity can be understood and applied (Enelow and Hinich 1984). In the simplest case, parties compete along one dimension, typically the left-right axis. But looking at voters, two-dimensional spatial models are more appropriate (cf. section 3.2). For income, the relevant dimension is the traditional left-right axis, which we referred to as the economic dimension (opposed to the cultural dimension) in section 3.2. It opposes extensive social state and high income redistribution on the left side and market economy and little government spending and income redistribution on the right side.

Also for the proximity model, the influence of pocketbook voting may vary between countries. In two-party systems, parties usually take positions close to the median voter. In multi-party systems, the ideological profile should be more important. Proximity models using the left-right axis should therefore be important in Switzerland and Germany, but less so in Great Britain.

10.3 Model specification

Economic voting and the proximity model both assume that voters choose the party that gives them the highest utility. But the theories differ in the relevant criteria to assess parties. While economic voting theory focuses on the incumbency status, the proximity model focuses on the left-right dimension.

We will investigate the role of personal economic conditions for volatility of party preferences from different perspectives. In a first step, we are interested whether changes in the personal economic situation cause party switches. In a second step we focus on the different possible links between income change and party preferences. In a first model, we investigate whether income change affects support for government and opposition parties. We test whether citizens hold the government (partly) responsible for their situation. If citizens become better off, support for government parties should increase. If the personal situation deteriorates, citizens should rather support the opposition party. According to clarity of responsibility hypothesis, this effect should be particularly strong in Great Britain. In a second model, we test the effect of income change on support for large or small parties. According to Van der Brug et al. (2007), citizens in low clarity countries hold large parties (rather than government parties) responsible for the economic conditions. This effect should thus apply to Germany and Switzerland. In the third model, we test whether change in the economic conditions have an influence on support for economic right-wing or left-wing parties, as presumed by the proximity model and interest theory. If incomes increase, citizens should switch to more (economically) right parties. If incomes decrease, citizens should switch to more (economically) left parties. The ideological profile of parties should be particularly relevant in multi-party systems, and thus in Germany and Switzerland.

Dependent variables and methods of analysis

To test the different possibilities, we look at the effect of an income change at five different dependent variables (one only for Switzerland), which we present in turn.

First of all, we will apply the same design as in previous chapters with the binary variable *change in party preference* (opposed to no change) as a dependent variable. We will use an event history models and estimate a logistic random effects model using the xtlogit command in Stata. The second dependent variable is a binary variable distinguishing *government and opposition parties*, which is the standard dependent variable in economic voting literature. The third dependent variable is the *size of the preferred party*, to test whether large parties are held more responsible than small parties. We use the vote share of the previous national election as an indicator.

As a fourth dependent variable, we will use the *position of the preferred party on the economic left-right axis*. For Germany and Great Britain, we rely on positions of the Chapel Hill Expert Surveys (CHES). We already aligned parties along the economic and cultural dimensions for the construction of party blocks (see section 3.2, in particular *Figure 2*).[68] Also for Switzerland, we apply a similar approach as for the construction of party blocks. Because the CHES data do not cover Switzerland, we use two variables on issue opinions collected in the SHP, which are related to the economic left-right position: a question on social spending (increase or decrease) and a question on taxes on high income (increase or decrease).[69] The variables have three response categories: in favour of an increase, in favour of a decrease, neither increase nor decrease. To obtain the *economic left-right positions of individuals*, we simply add the two variables, which results in 5 point scale. This is our fifth dependent variables, which we apply for Switzerland only. For left-right positions of parties, we

[68] For split-ticket voting in Germany, we use the average of the two parties mentioned.

[69] Translated into English, the questions are: "Are you in favour of a diminution or in favour of an increase of the Confederation social spending?" "Are you in favour on an increase or in favour of a decrease of the tax on high incomes?"

compute the average over all individuals supporting that party. We rescaled all variables on the left-right positions to fit into the range from 0 (left) to 100 (right).

For these dependent variables (government vs opposition, party size, left-right position), we will use fixed effects regression (see section 4.3). Fixed effects models analyse only the variance of individuals over time. Because we are interested in the effect of income change rather than contrasting rich and poor individuals, fixed effects model are very well suited. Furthermore, fixed effects models have the important methodological advantage of controlling for unobserved heterogeneity. Therefore, if we find evidence for pocketbook voting using fixed effect models, we can be quite confident that we measure a causal impact, rather than an endogenous relationship. Party size and left-right positions are continuous variables, linear fixed effects models can be used. But the distinction of government and opposition parties is a binary variable, which means that we have to use a conditional logistic model to assess fixed effects (see section 4.3). Because we can only measure effects for individuals who vary in the dependent variable only individuals who changed between government and opposition parties are included in the subsample. For the left-right position, individuals who never switched parties are excluded from the analysis, because we fixed the parties' position over the years of observation (see section 3.2).

Independent variables

We will use two different measures for income: household income and perception of economic conditions. For sociotropic voting, voting literature has found that the perception is more important than the objective measures. For the personal situation, both objective and subjective income measures are well covered in household panel studies, so that the effect of both can be tested.

To estimate the effect of an income change, event history models and fixed effects models require different independent variables. In event history models (change as the dependent variable), we have to include indicators for income change as independent variables. In fixed effects models, we do not include income change but the current situation, because within variance is used in the estimation.

For the *objective personal income*, we use total gross household income. To limit the influence of outliers, we use top- and bottom coding for the per cent with the lowest and highest income.[70] To take account of inflation, we use real income. For fixed effects model, we include gross household income in the national currency into the model. For better readability of results we divided income by 1000. For event history analysis, we need to construct a measure for income change. For this, we first group individuals into income quintiles. We consider moves between non-neighbouring income quintiles (e.g. from the bottom quintile to the middle quintile, or from the middle quintile to the highest quintile) as (important) income increase or decrease.[71] For example in Great Britain, 3.7 % of individuals experienced such an increase in income, and 4.5 % of individuals have undergone a decrease in household income.

For the *subjective personal economic situation*, indicators differ slightly between surveys due to availability of (annual) variables. They are presented in *Table 25*. For event history models, we use two dummy variables to indicate improvement or

[70] This means the highest possible value is the income of the 99 percentile. The one per cent of individuals with the highest income were all assigned to this amount. The lowest possible value is the income of the 1 percentile. The one per cent of individuals with the lowest income were assigned to this amount.

[71] There are several reasons for choosing this measure over many other possible measures on income change. By not considering changes to the neighbouring quintile, we do not code movements around the quintile limit as an important change. By using dummy variables, we can separate increase and decrease of income. Alternative measures tested include absolute and relative difference in income since the last wave. Results using alternative measures show similar or weaker effects for pocketbook voting.

deterioration for event history models. For the fixed effects models, we recoded the scales into the range from 0 to 1.

Table 25 : Operationalisation of the perceived personal economic situation

Survey	Model	Question	Indicator
SOEP	Fixed effects	Satisfaction with personal income measured on a scale from 0 to 10.	11 point scale, recoded to the range of 0 to 1.
	Event history	Satisfaction with personal income (scale from 0 to 10). We code changes of 3 points or more between two waves as income change.	Dummy variable for improvement, dummy variable for deterioration
BHPS	Fixed effects	"How well would you say you yourself are managing financially these days?" Answer categories (showcard): "Living comfortably", "Doing alright", "Just about getting by", "Finding it quite difficult", and "Finding it very difficult".	5 point scale, recoded to the range of 0 t 1.
	Event history	"Would you say that you yourself are better off or worse off financially than you were a year ago?"	Dummy variable for improvement ("better off") and deterioration ("worse off")
SHP	Fixed effects	Satisfaction with personal income (on a scale from 0 to 10)	11 point scale, recoded to the range of 0 to 1.
	Event history	Question from the household questionnaire: "Since last year, did your standard of living improve or worsen? 0 means greatly worsened" and 10 "greatly improved". We code values from 0 to 3 as deterioration and values from 7 to 10 as improvement.	Dummy variable for improvement, dummy variable for deterioration

We include the following control variables: age, survey year, interest in politics, panel participation (as introduced in section 4.1), and duration of party preference. In the fixed effects model, panel participation is not included because there is no within variation. Because survey year is perfectly collinear with age, we removed period effects.

10.4 Results and discussion

Change between parties

To test whether change in economic conditions causes volatility between party preference, we estimate an event history model, with change in party preferences as the dependent variable (1 change, 0 no change). This is the same approach as in previous chapters. For each country we estimate a model for household income and a model for perceived economic conditions. Results of the logistic random effect regression are shown in *Table 26*.

We first address results for important changes in gross household income. Only in Germany, a change in the income position increases volatility. In particular, a rise in income may cause a switch between parties. The fact that results are significant only in Germany is somewhat surprising, as party preferences in this country are measured by party identification and should therefore be less responsive to external influence than voting intention.

Table 26 : Change between parties: income improvement and deterioration in DE, GB and CH

SOEP				
hh-income: improvement	0.144**	(0.05)		
hh-income: deterioration	0.100*	(0.05)		
subj. situation: better			0.139***	(0.03)
subj. situation: worse			0.096**	(0.03)
constant	17.748***	(0.05)	17.157***	(3.11)
variance random effect	-0.176**	(0.05)	-0.185***	(0.06)
log likelihood intercept only	-51'676		-51'676	
log likeihood	-50'490		-50'484	
BHPS				
hh-income: improvement	0.030	(0.04)		
hh-income: deterioration	0.046	(0.04)		
subj. situation: better			0.085***	(0.02)
subj. situation: worse			0.095***	(0.02)
constant	-1.963***	(0.04)	-2.001***	(0.04)
variance random effect	-0.638***	(0.06)	-0.645***	(0.06)
log likelihood intercept only	-50'497		-50'497	
log likeihood	-48'501		-48'490	
SHP				
hh-income: improvement	0.076	(0.07)		
hh-income: deterioration	-0.022	(0.07)		
subj. situation: better			0.120*	(0.05)
subj. situation: worse			0.043	(0.07)
constant	-1.885***	(0.07)	-1.889***	(0.07)
variance random effect	-0.592***	(0.10)	-0.599***	(0.10)
log likelihood intercept only	-19’424		-19’424	
log likeihood	-19’066		-19’063	

Note: Logistic random effect models on change between parties (base category: no change). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes duration of party preference, age, survey year and panel participation as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010 (n=229’909 clustered in 25’263 individuals), BHPS 1991-2008 (n=147’432 clustered in 15’918 individuals), SHP 1999-2010 (n=43’364 clustered in 8312 individuals).

Looking at the perceived improvement of economic condition, we find effects of pocketbook voting in all countries. In predicted probabilities, the probability of switching parties increases from 4.6 % to 5.2 % in Germany (compared to similar economic situation in the last year). In Great Britain, the probability increases from 9.3 % to 10.0 % and in Switzerland from 15.6 to 17.0 %. The deterioration is only significant in Germany and Great Britain and of similar (Great Britain) or slightly lower magnitude (Germany) than for improved perceptions.

In line with findings for sociotropic economic voting, it seems that the subjective situation rather than the actual income matters for pocketbook voting. But although the model shows that there is pocketbook voting, it does not explain why or how income affects party preferences. This is why we turn to fixed effects model.

Fixed effects models

With fixed effects models, we test three different theories regarding pocketbook voting: the classic economic voting hypothesis on the accountability of government parties (model 1), an alternative for accountability of large parties (model 2), and a model for the economic left-right position (model 3 and 4).

We start with the classic economic voting hypothesis, expecting that income change affects preference for government or opposition parties. Results of the conditional logistic model are shown in

Table 27. In Great Britain, we find significant effects for both household income and perceptions. If the financial situation improves, individuals become more likely to support the government. This effect is considerable: The probability for supporting the government party increases from 47.7 % to 53.9 % if a household moves from the 10^{th} percentile of the income distribution (about 6000 £ per year) to the 90^{th} percentile of the income distribution (about 45000 £ per year). For a maximal move in perception (from "finding financial situation quite difficult" to "living comfortably"), the probability to supporting the government party increases from 46.8 % to 59.3 %. This shows that voters hold the government party not only accountable for the nation's economic situation, but also at least partly for their personal economic situation.

Table 27 : Income change: effect on preference for government party in DE, GB and CH

	M1 (conditional logistic model)	
DE	government party	
household income (/1000)	-0.003*** (0.00)	
subj. economic conditions		-0.124** (0.04)
constant		
log likelihood	-74'682	-73'685
n observations	168619	166581
n individuals	13682	13601
GB	government party	
household income (/1000)	0.007*** (0.00)	
subj. economic conditions		0.553*** (0.04)
constant		
log likelihood	-48501	-48490
n observations	83152	83076
n individuals	7673	7672
CH	government party	
household income (/1000)	-0.002* (0.00)	
subj. economic conditions		-0.022 (0.19)
constant		
log likelihood	-3388	-3383
n observations	9702	9674
n individuals	1602	1599

Note: Conditional logistic models on preference for government party (base category: preference for opposition party). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes duration of party preference, age, and interest in politics as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010, BHPS 1991-2008, SHP 1999-2010.

In Germany and Switzerland, the classic hypothesis on economic voting is not supported. This is in line with findings of Van der Brug et al. (2007) for low-clarity countries. In both countries, the income variable is significant but points into the wrong direction. These effects may be party specific. In Germany, the SPD participated most frequently in the government during the period of observation from 1984-2010. An income increase may reflect decreasing support for the SPD due to its left position rather because of its government status (see model 4). For Switzerland, there are two party-specific explanations for the opposite effect of household income on support for the government parties. Firstly, a party-specific analysis shows that an income increase reduces support for the Socialist Party, which is one of the four

government parties. Secondly, the SVP presents itself (quite successfully) as an anti-establishment party even though it has become the largest party in Switzerland. Furthermore, the SVP is the party with the lowest median income of its supporters. Therefore, those experiencing an income decline may not only switch to opposition parties, but also to the SVP.

Next we look at how income changes influence support for large parties (Model 2 in *Table 28*). In Germany, we find a causal relationship between a change in the economic situation (both objective and subjective) and support for larger parties. If the economic situation improves, citizens are more likely to switch to a large party. If the economic situation deteriorates, citizens are more likely to switch to small parties. This is in line with results from van der Brug et al. (2007), because Germany is a low-responsibility country where voters hold large parties rather than government parties responsible for policies and economic conditions. It is also in line with findings from Duch and Stevenson (2008) for Germany, that economic voting declined strongly over time and became insignificant. Also in Great Britain, voters seem to hold large parties responsible for their objective and perceived economic situation. But considering that the largest party is also the government party, this just confirms results from model 2.

However, for Switzerland the hypothesis on the accountability of large parties is not supported. This is not surprising, considering results from model 1 and the high correlation of party size and government status. As in model 1, even the opposite effect is significant. But again, the effect is very small and not significant for subjective income. Because the Socialist Party and the Swiss People's party are the two largest parties, we also assume that the same party specific explanations apply as for model 1 on government status.

Finally, we look at whether pocketbook voting can be explained by the economic left-right dimension (Model 3 in *Table 28*). In Great Britain, this hypothesis is not supported. This may be due to the majoritarian system, where the government and opposition role is more important than the ideological profile of parties. According to the median-voter theorem, the two main parties do not differ strongly in their ideological positions. When comparing individuals (e.g. with regression or random effect models), we find that rich voters are more likely to support the economically right parties (in particular the conservative party) and that poorer voters more likely to support the economically left-wing parties (particularly Labour) (Sanders and Brynin 1999). But an income change does not have this effect.

In Germany, objective or subjective income change influence the preference for economic left- or right-wing parties significantly. If individuals experience an income increase, they become more likely to support economic right-wing parties. If individuals experience a loss of income, they become more likely to support economic left-wing parties. However, the effect is quite small. An income increase from the 10^{th} to the 90^{th} percentile shifts the dependent variable by less than 1 unit to the right on a scale from 0 to 100 (the same holds for maximal change in perceptions).

Table 28 : Income change: effect on party size and economic left-right positions in DE, GB, CH

	Model 2 (fixed effects model)				**Model 3 (fixed effects model)**				**Model 4(fixed effects model)**			
DE	**party size**				**left-right party**							
household income (/1000)	0.007***	(0.00)			0.018***	(0.00)						
subj. economic conditions			0.430***	(0.12)			0.759***	(0.17)				
constant	33.058***	(0.12)	33.022***	(0.14)	54.442***	(0.17)	54.588***	(0.18)				
n observation	137'325		135'918		138'760							
n individual	21'316		21'234		21'537							
GB	**party size**				**left-right party**							
household income (/1000)	0.010***	(0.00)			-0.004	(0.00)						
subj. economic conditions			0.973***	(0.13)			-0.674**	(0.25)				
constant	31.190***	(0.15)	30.710***	(0.15)	52.308***		52.692***	(0.29)				
n observation	114'353		114'244		115'828		115'718					
n individual	14'933		14'929		15'031		15'027					
CH	**party size**				**left-right party**				**left-right individual**			
household income (/1000)	-0.003**	(0.00)			0.001	(0.00)			0.010**	(0.00)		
subj. economic conditions			-0.165	(0.25)			1.080	(0.67)			1.436	(0.76)
constant	17.344***	(0.22)	17.151***	(0.26)	59.885***	(0.60)	59.174***	(0.71)	28.297***	(0.65)	28.360***	(0.77)
n observations	32'123		32'094		32'572		32'543		38'127		38'070	
n individual	7382		7381		7422		7422		7931		7933	

Note: Linear fixed effects model. Dependent variable M2: share of parliamentary votes in per cent (0-100). Dependent variable M3: economic left right position of parties (0 party most to the left, 100 party furthest to the right). Dependent variable M4: economic left-right position of individuals (5 item scale from 0 to 100). Regression coefficients, se in parenthesis. Significant at *0.05, **0.01, ***0.001. The model includes duration of party preference, age, and interest in politics as controls. Since the effects of the control variables are not relevant here, these effects are not presented. Source: SOEP 1984-2010, BHPS 1991-2008, SHP 1999-2010.

Surprisingly, we do not find support for the proximity model in Switzerland. Changes in income do not affect whether individuals support economic left-wing or economic right-wing parties. A possible explanation becomes evident if we look at the individuals' economic left-right position (model 4 in *Table 28*). Here, an income change does change the position on the economic left-right axis. For subjective income, the coefficient is not significant, even though effect size is larger than in Germany and Great Britain.[72] Although income affects the ideological position, this does not translate to party preferences. This is in line with findings on voting behaviour in Switzerland, which found that cultural issues (EU integration, immigration) are much more important than issues belonging to the traditional economic left-right dimension.

10.5 Conclusions for pocketbook voting

In this chapter, we addressed pocketbook voting. More precisely, we looked at whether and how changes in the personal economic situation affect volatility in party preferences. Recent economic voting literature mostly looked at cross-sectional data and socio-tropic voting. We added to this literature by incorporating changes and looking at the personal economic situation. Besides the accountability for economic conditions, we also tested the effect of income on ideological or interest voting.

In our empirical models we found that an improvement in the perceived economic situation does increase volatility considerably. The perceived deterioration and objective household income were only significant in some of the models. Focusing on change between parties and personal income, we can be confident that this reflects a causal relationship.

[72] Once the control for duration of party preference is removed, the effect becomes significant.

Although we found effects of pocketbook voting in all three countries, the mechanisms differ strongly between the countries. In Great Britain, which is the prototype of a country with clear responsibilities for policies, the classic economic voting hypothesis is supported also for party switches and egocentric voting. An improvement in personal economic conditions increases probability for voting for the government party. A deterioration in personal economic conditions increases probability for voting for the opposition.

In Germany, which presents a country with low "clarity of responsibility", the government or opposition status is not relevant for party preference, but citizens hold large parties partly responsible for their personal economic situation. If income increases, citizens are more likely to support large parties. If income decreases, citizens are more likely to support small parties. Furthermore, improved economic conditions increase the support for economic-left wing parties and a deterioration of economic conditions increases support for economic right-wing parties.

In Switzerland, we accountability hypothesis was confirmed neither for government parties, nor for party size. At least for pocketbook voting, economic voting theory does not seem applicable to Switzerland. The proximity model is partly supported in Switzerland. An income increase causes a shift to more economic right positions. An income decrease causes a shift to more economic left positions. However, this does not translate to party preference, because economic issues are less relevant than cultural issues for party preferences. But to better understand effects of income change, party specific analysis would need to be conducted for Switzerland. We suspect that the Swiss People's party plays an important role. Although it is the largest party and part of the government coalition, it is often perceived as an anti-establishment and opposition party.

11 Conclusions

This contribution set out to explain how stable citizens are in their preferences for political parties. While electoral research mostly focuses at explaining the choice for specific parties or candidates or particular elections, we have taken a more general perspective by concentrating on patterns which hold across different years and party systems in Western Europe. The analysis relied on household panel data from Germany (SOEP), Great Britain (BHPS) and Switzerland (SHP) and covers several electoral cycles.

For all results, it is important to keep in mind that the volatility we measured in household panel data refers to party preferences irrespectively of specific elections. Our findings can therefore not be interpreted in terms of actual behaviour. However, party preferences are strongly related to actual behaviour. Party preference refers to voting intentions in Great Britain and Switzerland, and to party identification in Germany. With few exceptions, results are consistent between countries despite these differences.

A first important finding is that switching preferences between different political parties is quite a frequent phenomenon and more widespread than according to most previous studies. Different reasons are responsible for this diverging finding. Firstly, we focus not on party shares at elections (net volatility), but on individuals (gross volatility) as electoral outcomes mask a large extent of changes. Secondly, previous studies using individual data mostly rely on data including only two or three observations per individual, whereas the household panel data used here covers over 12 (yearly) waves. Our data has confirmed that volatility increases when a longer time span and more observations are considered. And thirdly, even if previous studies used long panel data, they usually apply methods which focus on transitions between two

waves (e.g. event-history models, dynamic models, Markov chain models) and so ignore many party switches. Transitions between two waves simply miss what we called indirect changes: citizens who change from a party preference in a first step and then turn to another party in a second step. These indirect changes are in fact more frequent than direct switches from one party to another. Attrition, which is a serious issue for panel data, cannot be responsible for the high volatility. Citizens with stable party preferences have a higher probability to stay in the panel, which makes us confident that we not overestimate volatility levels.

Focusing on party preference over eleven years, we find that at least 39 % of individuals have switched parties at least once in Great Britain. In Switzerland, even 50% of citizens have changed parties, while the amount of change is, with 23%, clearly lower in Germany. Although the level of volatility in all three countries is considerable, there are important differences due to both methodological reasons and different party systems. The different question wording is to a large extent responsible for the high stability observed in this Germany, where information on identification with a party rather than voting intention has been collected. Volatility is most frequent in Switzerland because it has the highest number of parties.

The party system affects not only the amount of change but also the type of change. In Switzerland, most changes occur between ideologically similar parties, while in Great Britain most switches are observed between the two major parties. To take account of the differences in the party system we also analysed party blocks, which were built at the basis of their ideological positions. Interestingly, the volatility level in Great Britain and Switzerland becomes highly comparable when party blocks are analysed. For example with three party blocks, 36 % (GB) and 32 % (CH) of citizens change between blocks. Considering that these changes occur between ideologically very

different parties, the amount of change is considerable. Again due to the different question wording, the changes between party blocks (assuming three blocks) are lower in Germany (13%).

A closer look at trajectories reveals a large heterogeneity. Most importantly, only few citizens change inconsistently and seemingly randomly between parties. The most frequent types of changers are on the one hand citizens who abandon their preferred party in the short term and come back to their preferred party as well as citizens who change durably to another party on the other. If we interpret this finding in light of the debate between the traditional and the revisionist model of party identification, both are partly supported by the data. But apart from this, a considerable share of citizens switches back and forth between parties for which they have preferences in parallel. Most importantly, there is no dominant type of change and there is no single theoretical model, which is able to explain individual dynamics in general. Although the different theories (e.g. the traditional model, the revisionist model, ambiguity, bounded partisanship) remain crucial to interpret change and structure research, the debate about the true model of individual dynamics loses somewhat its relevance.

Rather than finding the best model to fit individual dynamics, find it more fruitful to look for factors which explain why some citizens switch parties while others remain stable in their party preference. We briefly summarise the main results of several crucial factors turn.

A first important cause of volatility is socialisation and reinforcement. Volatility is highest among young adults up to the age of about 30, who are in a learning phase to find their ideological position. At the same time, young voters react strongly to external influences. Once a party preference is established, citizens are likely to hold

it. Moreover, preferences are reinforced they longer they are held. Overall, volatility declines over the life course.

Another important cause of volatility are other persons. Within households, the strongest interpersonal influence impact is between partners. Individuals choose not only partners with similar political preferences, but also adapt their party preferences to their partners. If partners disagree on the party preference, it is very likely that one adjust the preference to the other. There is no systematic difference between men and women in this respect. The stabilisation effects if partners share a preference for the same party is even stronger than the impact of divergent preferences. Apart from partners, we find a strong influence from parents on their children, which is in line with literature on socialisation. More surprising is that also children have a considerable impact on their parents, in particular on mothers. However, the channel of influence is different in the two cases. The children's influence seems to be conditional on political discussions in the family. The fact that mothers spend usually more time with their children than fathers probably explains the stronger influence of children on mothers. In contrast, the parental transmission of party preferences to their children does not depend on explicit political discussion, but seems to pass through more implicit channels, such as values or behaviour. Finally, for young adults, influences between siblings are very important and at least as strong as influence from parents. Also this association becomes stronger the more discussions on politics take place in a household.

Considering the findings on life-cycle effects and interpersonal transmission together gives interesting implications for parties and campaigns. A focus on young voters should pay off in several ways. First of all, young adults are more likely to change their party preference than older voters. Additionally, persuasions may be multiplied

as they are passed to parents or siblings, and most likely also to peers. Finally, gaining supporters has long-term effect as citizens are likely to keep their preference over the life course. It is therefore surprising that the young electorate is not more strongly in the focus of political campaigns.

A strong stabilising effect occurs through reinforcement and predispositions. Citizens, who have preferred a party for a long time or who identify strongly with a party is highly stable. There are different explanations for this stabilising effect. Citizens who are close to a party may be predominantly exposed to information which supports their opinions or they may have a biased interpretation of information and events. Stability may also result from rational behaviour. Once individuals have established a strong preference, they may spend time and energy to reconsider and update their preferences.

Socio-structural cleavages are a central factor in electoral research. Given that social class or religion is highly stable over time, they should present another stabilising factor for party preferences. Indeed, we found that individuals who are clearly embedded in the cleavage structure according to their social class, region of residence and religion, are more stable than individuals with no clear socio-structural predispositions for a particular party. However, the stabilising effects of cleavages is small in comparison to others factors explaining volatility.

Another crucial aspect for the understanding of electoral volatility is political awareness, which we measured by educational level and interest in politics. If volatility is associated with high political awareness, party switches can be explained by an attentive electorate which rewards and punishes parties according to their performance. But if mostly little aware citizens switch parties, we have to worry about manipulation and irrationality. In this respect, our results are reassuring for the

democratic model, because the least politically aware citizens show the lowest volatility level. At first sight, this finding contradicts many previous studies and socio-psychological theories of opinion formation, which state that political awareness increases stability. However, we have taken a slightly different perspective and compared citizens who switch parties not only to stable citizens but also to citizens who abandoned their party preference (which have on average a low average political awareness). By neglecting citizens who abandoned their party preference or even considering them as changers, previous studies implicitly made volatile citizens appear little politically aware. Our results suggest that – at least in the countries and time-period covered – a volatile electorate can be interpreted as assuming their role of controlling, rewarding and sanctioning political parties.

Apart from this finding of low volatility of the little aware, the relationship between political awareness and volatility is rather complex. Firstly, the distinction of within-block change and between-block change has revealed to be crucial. Secondly, the relationship between political awareness and volatility depends on whether and how predisposition strength is controlled for. Considering these distinctions, we found that within-block volatility increases both with educational levels and with interest in politics irrespectively of the model specification. In contrast, volatility between party blocks depends on political predispositions. Without controlling for predisposition strength, changes between party blocks are most frequent for intermediate levels of political interest. Once strength of party identification is controlled for, volatility increases with interest in politics and thus shows the same relationship as for within block change. The only exception to this positive relation between political awareness and volatility is the educational level for between-block change, because highly educated citizens are least likely to change between party blocks. Overall, Zaller's

response-acceptance-sample model (RAS), extended by predisposition strength gives a coherent framework to explain the relationship between political awareness and volatility**.**

Besides the strong and consistent patterns found for all three countries, other findings differed for the different context. In general, cohorts do not seem to affect volatility. The generation replacement should therefore not increase volatility in the future. The only meaningful effect is the high volatility the of generation born before 1940 in Germany, which has been socialised before the current political system was installed. In some of the models, we found a similar effect for between-block changes of immigrants, who have also grown up in another political system than they currently live in. This suggests that socialisation in the current political system has a stabilising effect. However, we did not find such effects for Great Britain and former East German citizens.

Also for pocketbook voting we found important differences between countries. In all three contexts, a perceived improvement or deterioration of the personal economic situation increases volatility. In Great Britain, an improvement of the economic situation is related to switches to the government party, which is in line with economic voting theory. In Germany, an improvement of the personal economic situation has two different effects. Firstly, it may cause a switch to large parties, who are held accountable for the economic situation. Secondly, it may cause a change to right-wing parties on an economic left-right axis. In contrast, an income decline is associated with shifts to parties which favour strong income redistribution and higher taxes. In Switzerland, the mechanism of pocketbook voting remained unclear. Voters seem to neither hold government parties nor large parties accountable for their economic situation. Although a rise in income does cause a shift in opinions, this does

not translate into support for economic right-wing parties. Federalism, direct democracy and the consensual system are factors which limit effect of economic voting in general and pocketbook voting in particular.

Covering a relatively long time span, the data also allowed us to look at period effects. In contrast to the dealignment theory we do not observe a general increase in volatility at the individual level over time. But here again, results are more nuances for certain countries and distinguishing within and between-block change.

The final aspect for volatility to discuss here is the electoral cycle. Changes from a party preference to no preference are most frequent when national elections are distant, which illustrate strong activation effects of electoral campaigns. Furthermore, party switches are most frequent when national elections are close, which shows that campaigns also have persuasion effects. While almost all studies on campaign effects compare voting intentions before and after the campaign, we were able to focus on change since the previous election. With this approach we compare preference to a time point when predispositions were activated and are therefore confident to not misinterpret activation of predispositions as persuasion effects. We also looked at whether campaign effects depend on the political awareness of citizens, but did not find consistent results. When we did find effects, it pointed to stronger campaign effects for individuals with low political awareness. But overall, campaigns seem to impact both little aware and highly aware citizens.

As a last point, we discuss the implication of our results for democratic theory and stability of democracies. The high volatility discovered in our analysis for three established Western Democracies should be neither interpreted as evidence for a rational and enlightened electorate nor for malleable citizens. Nevertheless, we have several indicators that favour a positive interpretation of volatility. Firstly, only few

individuals showed random patterns in party preference. Secondly, volatility is particularly frequent among citizens with high levels of political awareness. Thirdly, campaign effects seem to impact citizens in general, and are not restricted to unaware citizens. Although there are many different reasons for volatility, it seems that volatility keeps democracy healthy and working.

12 References

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Work experience

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Researcher Swiss Household Panel (since January 2008, Senior Researcher since March 2013)

Visiting scholar to DIW Berlin October/November 2010

Swiss Household Panel, Neuchâtel (September 2006 – December 2007)

Scientific collaborator

Institute of Sociology, University of Neuchâtel (October 2006 - April 2008)

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Teaching

Social Science Methods Swiss Summer School Lugano 2010, 2012 and 2014: Introduction to Panel data analysis.

Publications

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