

# **Mapping Electoral Volatility in Europe**

**An analysis of trends in electoral volatility in European democracies since 1945**

**Ruth Dassonneville**, Research Foundation Flanders (FWO), University of Leuven (Belgium)  
([ruth.dassonneville@soc.kuleuven.be](mailto:ruth.dassonneville@soc.kuleuven.be))

**Marc Hooghe**, Centre for Political Science Research University of Leuven (Belgium)  
([marc.hooghe@soc.kuleuven.be](mailto:marc.hooghe@soc.kuleuven.be))

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## Abstract

Electoral volatility is generally believed to be increasing in West European democracies, while the opposite trend allegedly can be found in countries that experienced the transition to democracy in a more recent period. Empirical evidence on these trends and their significance, however, is rather scarce. Starting from this gap in the literature we aim to disentangle patterns of volatility across Europe. First we show that depending on the period of democratization, electoral volatility evolves in a different manner in various European country groups. The results demonstrate that there is no significant trend in volatility in Western Europe, with the exception of some smaller countries, but we do find a significant decrease in volatility in Southern and Central and Eastern Europe. Moreover we show that the differences in electoral volatility between Western Europe and Central and Eastern European countries cannot be explained fully by different lengths of experience with democracy or different economic situations. What exactly does explain the different development in Central and Eastern Europe needs to be investigated further.



## **Introduction**

Since the publication of *The Dynamics of European Party Systems: Changing Patterns of Electoral Volatility* by Pedersen in 1979, the number of studies on electoral volatility in Western democracies has multiplied (Bartolini and Mair 1990; Crewe and Denver 1985; Dalton 1984; Dalton et al. 2000; Mair 2002, 2008; Mair et al. 2004). Most of these studies make use of the Pedersen Index in order to investigate trends in electoral volatility across time and between countries. While at first there was still some debate on whether there is a rise in electoral volatility over time, the increase of instability at elections is by now often accepted as an established fact (Dalton and Wattenberg 2000; Mair 2005). Most often this trend is linked to social transformations with regard to ideological dealignment, individualization and a trend toward postmaterialist and expressive values among the population of these countries. Even if there generally seems to be agreement on the increase of volatility over time, it is remarkably that the evidence mostly cited and referred to for illustrating this rise in volatility is usually limited to some examples of extreme levels of net volatility. Faced with this lack of comprehensive empirical evidence on the precise time trend in volatility over recent decades, in this paper we aim at providing a more profound analysis of volatility across Europe. Furthermore, because the rise in volatility is mostly perceived as having been established, this might lead to oversimplifications in which differences between countries and regions within Europe with regard to volatility are no longer examined or analyzed. Analyses of the institutional causes of electoral volatility, that might explain inter-regional and inter-country differences in volatility, also are somewhat lost out of sight. In this paper, therefore, we devote specific attention to these differences in volatility across Europe and to the institutional and political variables which might explain the differences. We first give an overview of the literature on electoral volatility, with specific attention for what has been done with regard to time trends and the shortcomings we notice in this field of research. In a next section we present the data and the methods used to analyze these data. Third come the main results of the analyses and we end with some concluding remarks.

## **Literature review**

In the scholarly literature electoral volatility is mostly referred to as an indication of other political phenomena. Volatility is well suited to draw trends and to make comparisons across countries. Thanks to these advantages the concept is used to make arguments about the stability of party systems (Drummond 2006), similarities and dissimilarities in voting for different levels of governance (Caramani 2006), an alleged dealignment trend in Western democracies (Dalton and Wattenberg 2000) or a growing indifference of citizens towards politics in general (Mair 2005).

Within these different niches of the literature in which electoral volatility is mentioned and used, opinions differ on whether electoral volatility should be judged as positive or negative. In the party system literature, volatility is seen as a necessary element of vitality. While excessive levels of volatility are perceived as negative, a certain level of volatility is considered to be needed for the proper functioning of democracy (Drummond 2006; Granberg and Holmberg 1990; Lane and Ersson 2007). When described as a consequence of increasing levels of dealignment, too, one can evaluate volatility in an optimistic or a more pessimistic manner. Either dealignment lays the foundation for a deliberative citizenry that takes parties' performances into account when casting a vote, or it is seen as giving way to demagoguery and populism as a strategy in electoral politics (Campbell et al. 1960; Dalton et al. 2000). Finally, when employing volatility to illustrate the withdrawal of citizens from politics in general too, the implications are that electoral volatility signals shifts in society that should not be acclaimed (Mair 2005).

Although opinions differ on how to assess electoral volatility, there seems to be agreement on the signaling power of the concept as an illustration of major shifts within the political and electoral arena. Electoral volatility is an indication of systemic changes in societies as well as of changes in the behaviour of citizens. Electoral volatility can be interpreted as embedded in the larger debate on dealignment and disaffection of voters. In this context, electoral volatility is only one of several indicators of structurally changing electoral behaviour. The alleged growth in levels of electoral volatility is frequently presented jointly with declining turnout levels and party membership rates (Mair 2005). Furthermore, a growth in

the practice of split-ticket voting and a trend to postpone the voting decision ever closer to Election Day are related to volatility as well (Blais 2000; Dalton et al. 2000; Lachat 2007). While strong party attachment once structured citizens' political and electoral behaviour, the waning of partisanship in western democracies has given rise to a trend towards increasing volatility and uncertainty (Dalton 1984; Dalton et al. 2000). While acknowledging that a lot of evidence hints to minor changes only in all of these aspects of political behaviour, the changes are all pointing in the same direction (Dalton et al. 2011; Mair 2005). According to Peter Mair (2005) this indicates an underlying and fundamental shift in political behaviour, which makes studying the trends worthwhile.

One of the first authors drawing attention to a trend of growing electoral instability in several advanced industrialized countries was Pedersen (1979). By stressing the presence of increasing levels of electoral volatility, he argued against the notion of *frozen party systems* which was prevailing at that time, largely because of the influential work of Lipset and Rokkan (1967). Pedersen's article *The Dynamics of European Party Systems: Changing Patterns of Electoral Volatility* (1979) became one of the most cited in political science. This was mainly due to the method he proposed for calculating volatility. His parsimonious formula later became known as the 'Pedersen Index' (Katz et al. 1997). Inspired by previous authors, Pedersen introduced a measurement of volatility that sums the absolute changes in vote shares from one election to the other for all political parties. This sum, called total net change, is then divided by two, since a switch would otherwise be counted twice (losses for a certain party equal wins for another party). As a result, the index varies between 0 and 100 and is more easily interpreted (Pedersen 1979). Pedersen's measurement for electoral volatility is criticized, however, for example because the index does not take into account which parties voters switch to. Furthermore, the fact that net volatility is measured is seen as a shortfall, since there is assumed to be much more individual electoral movement than electoral results can indicate (Katz et al. 1997). Nevertheless, the parsimony of the Pedersen Index is much appreciated and it is therefore often used to give insight on trends over time and differences between countries (Bartolini and Mair 1990; Dalton et al. 2000; Lane and Ersson 2007).

Pedersen's findings were soon followed by other empirical work that drew attention to increasing levels of electoral volatility in Western democracies (Crewe and Denver 1985; Dalton et al. 2000; Drummond 2006). Further building on these findings of increasing volatility, the search for the causes of the trend were intensified, with Dalton for example focusing on dealignment caused by a gradual process of cognitive mobilization (Dalton 1984; Dalton et al. 2000). Peter Mair, however, explicitly questioned the findings of increasing volatility and called the image of electoral change "*largely mythical*" (Mair, 1993, p. 123). One of Mair's main points of criticism is that when using a longer time perspective, elections in the 1970s are not that volatile at all. By means of calculations of electoral volatility between 1885 and 1985 Mair on the contrary stresses a large degree of electoral stability in Western Europe over time (Bartolini and Mair 1990; Mair 1989, 1993). Mair's analyses made clear that when enlarging the scope and focusing on a longer time perspective, the changes noted by the end of the 1970s were not that unique at all. When taking into account the period before the Second World War as well, it is rather the stability of the 1960s that stands out as quite exceptional (Drummond 2002).

The trend in electoral volatility is clearly strongly debated since the first accounts stressing a rise in volatility were published. Besides the question whether there was indeed a rise of volatility, scholars also doubted whether the trend was significant and worth being described as exceptional. Ever since, however, empirical evidence on electoral volatility and its rise has further accumulated (Dalton et al. 2000; Drummond 2006; Gallagher et al. 2011; Mair 2005, 2008). Furthermore, the trend towards electoral volatility that Pedersen identified by the end of the 1970s seems to have continued throughout the nineties. Mair himself later acknowledged this evolution towards electoral instability and the rise of floating voters all over Europe (Mair 2005, 2008). The debate on increasing electoral volatility has somewhat shifted away from the issue of direction and significance of the trend towards the consequences for the party system and politics in general (Dalton et al. 2011).

Taking a general shift in electoral volatility in western Europe for granted, scholars now primarily focus on the likely consequences of this increase in unpredictability of election results rather than on

volatility as such. As a result, two important elements that were central in Pedersen's seminal article on volatility (1979), have been somewhat disregarded within the scholarly literature. A first one is the issue of the precise trend of electoral volatility, its curve and significance. During the 1980s and 1990s there was a lively debate on whether volatility was indeed rising and on the timeframe necessary for studying the phenomenon and for drawing conclusions about fundamental changes in society (Bartolini and Mair 1990; Mair 1993; Pedersen 1983; Pedersen 1979). Nowadays, however, a common approach when making a case for rising electoral volatility is to present average volatility scores per decade (Dalton et al. 2000) or to underline the exceptionally high levels of volatility in more recent elections (Gallagher et al. 2011; Mair 2005). Rather than aiming to disentangle the curve of a trend in electoral volatility, scholars refer to examples of extreme volatility to substantiate claims about fundamental changes within society. Furthermore, this way of framing electoral volatility risks overestimating and exaggerating the real trend in electoral volatility. A second issue that was of foremost importance in the work of Pedersen, was his use of electoral volatility to disentangle national patterns and to make a classification of European party systems according to patterns in electoral volatility. For grouping countries, Pedersen took both the amount of volatility and whether volatility was increasing or decreasing into account (Katz et al. 1997; Pedersen 1979). When assuming that electoral volatility is on the rise throughout Europe, one obfuscates this heterogeneity in trends of electoral volatility within Europe. Therefore, instead of assuming a rise in electoral volatility all over Europe to be proven, we aim at drawing the trend and have specific attention for differences across Europe. When analyzing the evolution of volatility, we map the trend in Europe up to November 2011. Furthermore, we broaden the scope of countries regularly analyzed and include newer democracies, most notably the countries of the former Communist bloc in Central and Eastern Europe.

Moving away from a mere descriptive discourse on levels of electoral volatility, a considerable amount of attention has been given to an analysis of what factors explain volatility. When reviewing the literature on what causes volatility, two main sets of variables stand out as frequently cited and investigated. On the one hand, authors focusing on the link between volatility and the degree of stability in

party systems mainly refer to institutional and political variables as explanatory factors of volatility (Bartolini and Mair 1990; Birch 2003; Dalton et al. 2000; Lachat 2007; Roberts and Wibbels 1999; Tavits 2005, 2008). On the other hand socio-structural and person-level variables such as level of education, religiousness, partisanship or access to political information stand out when the focus is on the shifts in society which change political behaviour structurally and of which volatility is an often cited outcome (Dalton 1984; Dalton et al. 2000; Lachat 2007). Depending on whether scholars focus on an institutional framework or stress the importance of changes in society, analyses are situated on different levels of aggregation. The impact of institutional factors on volatility is mostly investigated by means of figures of net volatility. This approach has the advantage of allowing to include different countries and time periods into one research frame and it creates a sufficient amount of variance in the independent variables to disentangle the effects of the electoral and political setting on levels of volatility (Roberts and Wibbels 1999; Tavits 2005). For the societal changes, put forward by scholars of the dealignment literature, aggregate figures are merely used in a descriptive discourse. Volatility is used to show trends and bivariate relations hint to the link between the variables put forward and volatility (Dalton 1984; Dalton et al. 2000). This dealignment literature regularly serves as the theoretical foundation when explaining electoral volatility at the individual level. Scholars investigating why some voters are volatile and others stable do examine or control for the role of education, media use, political interest or political sophistication (Dassonneville forthcoming; Kuhn 2009; Lachat 2007).

Several institutional and political variables have been theoretically linked to electoral volatility and their impact has been empirically proven. Using the same classification in factors as Dalton, Farrell and McAllister (2011) use with regard to the impact of the political context on campaign activity we distinguish between the party system, the electoral system and the political system. *First*, with regard to the party system the number of parties within an electoral system is expected to be related to levels of electoral volatility. A supply-side argument argues that the more options voters have, the more they will be inclined to switch, which increases the level of volatility in elections (Bartolini and Mair 1990;

Pedersen 1979; Tavits 2005). Although the causality might as well be framed the other way round (with a more volatile electorate leading to more parties), Tavits (2005) has quite convincingly shown that it is the number of parties that causes volatility. *Secondly*, the electoral system has been shown to have an impact on levels of volatility. In majoritarian and highly disproportional systems, electoral volatility proves to be more pronounced. This is argued to be caused by more strategic voting and more pronounced retrospective voting in such a context (Bartolini and Mair 1990). Furthermore, turnout is expected to be related to volatility. This is so because when turnout is higher, voters with only weak attachments to political parties also participate in the election. In elections with a lower turnout, on the other hand, only the strong partisans and therefore stable voters take part (Bartolini and Mair 1990; Birch 2003). Because of the link between turnout and volatility, whether or not voting is compulsory should also affect levels of electoral volatility. Furthermore, the time between two consecutive elections is also found to have an impact on volatility. The longer the period between two elections, the more time voters have to switch their preferences and to vote for another party (Birch 2003). *Third*, several aspects of the political system in general are found to be related to volatility. As such, volatility is expected and found to be higher in newly established democracies. The literature therefore suggests that the length of democracy within a country should be taken into account when explaining aggregate levels of volatility (Lane and Ersson 2007). Finally, and clearly rooted within economic voting theory, the level of volatility is expected to be related to the economy. The better the economic performances of a country, the lower volatility should be, since in such a context voters prefer a status quo (Roberts and Wibbels 1999).

Being linked to partisan decline, electoral volatility is expected to be part of a long-term process. Therefore more fundamental changes in society, caused by a process of cognitive mobilization, are expected to generate volatility rather than the institutional and political variables mentioned above (Dalton 1984; Dalton et al. 2000; Lachat 2007). In the past, unsophisticated voters relied on partisanship heuristics as a cognitive shortcut when voting (Campbell et al. 1960; Shiveley 1979). Those ‘ritual partisans’ therefore voted quite consistently for the same party election after election. Higher levels of education and

a true media revolution, however, have induced a process of *cognitive mobilization* (Dalton 1984; Inglehart 1970; Shiveley 1979). As a result, a large group of voters has access to piles of political information and is capable of processing it. These voters have both the resources and the political skills not to rely on partisanship anymore, but to become independent of party cues (Dalton 1984, 2007; Dalton et al. 2000). These apartisans, then, report much less stable voting behaviour compared to a shrinking group of ritual partisans (Albright 2009).

## **Data and Methods**

When mapping the trend of electoral volatility in Europe, we build on the work of previous scholars, most notably Bartolini and Mair (1990). Besides updating their work up to the most recent elections (2011), we also broaden the sample of countries analyzed. The first scholars dealing with electoral volatility and employing the Pedersen Index were mainly focused on the United States and other advanced industrial societies (Bartolini and Mair 1990; Dalton et al. 2000; Drummond 2006; Pedersen 1979). By now, however, there is also a considerable amount of research investigating volatility in other regions, such as Latin America (Roberts and Wibbels 1999) and Africa (Ferree 2010). The fall of communism and the establishment of democracy in several Central and Eastern European countries afterwards, has led to considerable attention for electoral volatility in these regions as well (Lane and Ersson 2007; Sikk 2005; Tavits 2005, 2008). We enlarge the sample of countries towards Central and Eastern Europe, which should provide insights on different trends in volatility across Europe (for an overview of the countries included in the analysis, see Table 1).

As mentioned before, Peter Mair (1989; 1993) mainly criticized the time frame scholars as Pedersen or Dalton use when presenting the evolution of electoral volatility. Bartolini and Mair (1990) analyzed volatility in Europe from 1885 onwards. Although they make a strong argument for an analysis that includes the interwar period, we rather prolong the time series and therefore the scope of Pedersen's findings toward the more recent period. We do so, first because rather than replicating what has already been shown by other scholars (Bartolini and Mair 1990), we aim at assessing whether the trend towards

increasing volatility still holds or is perhaps even more pronounced during the last decades. Secondly, when analyzing the causes of electoral volatility at an aggregate level, we are mainly interested in fundamental societal and political factors and not in the impact of disruptive events like the Depression of the 1930s or World War II (Pedersen 1979). When choosing a starting point and deciding on the time frame for our analyses, we therefore start from the postwar period. Electoral volatility is only calculated from 1945 onwards. Furthermore, for countries that were involved in World War II, the first index of volatility is calculated for the second election after the war. By doing so, we do not compare elections across disruptive events, but only within a stable democratic setting. The same approach is taken for the newer democracies included, the first index calculated is for the second election after democratization.

**Table 1. Countries included in the analysis**

<b>Country</b>	<b>Time frame</b>
Austria	1949-2008
Belgium	1950-2010
Bulgaria *	1991-2009
Cyprus *	1970-2011
Czech Republic *	1992-2010
Denmark	1947-2011
Estonia *	1995-2011
Finland	1948-2011
France	1946-2007
Germany (West)	1953-1990
Germany *	1990-2009
Greece *	1977-2004
Hungary *	1994-2010
Iceland	1949-2009
Ireland	1948-2011
Italy	1948-2008
Latvia *	1995-2011
Lithuania *	1992-2008
Luxembourg *	1948-2009
Malta *	1966-2008
Norway	1949-2009
Poland *	1993-2011
Portugal *	1976-2011
Romania *	1992-2008
Slovak Republic *	1992-2010
Slovenia *	1992-2008
Spain *	1979-2011
Sweden	1948-2010
Switzerland	1947-2011
The Netherlands	1948-2010
United Kingdom	1951-2010

Countries included in the analysis, an asterix indicates that the country was not part of the sample investigated by Bartolini and Mair (1990). Time frame of first until last election for which the Pedersen Index has been calculated.

Net volatility as conceptualized by Pedersen (1979) is calculated by means of electoral results.

Previous research on volatility appears to agree to use the electoral data assembled by Mackie and Rose (1991) as the baseline data source (Bartolini and Mair 1990; Dalton et al. 2000; Pedersen 1979). We will also use these data for calculating the Pedersen Index for the countries included in the analysis (Mackie and Rose 1991). Updates and extensions of these data are annually published in the *European Journal of Political Research*. Furthermore, for the most recent elections we also consulted the election reports in *Electoral Studies* and on-line sources ([www.parties-and-elections.de](http://www.parties-and-elections.de)). We use the same data and the same

method of calculation as Bartolini and Mair (1990).<sup>1</sup> A comparison of the Pedersen Indices Bartolini and Mair (1990) provide and our own calculations for these cases, shows that both are largely similar (Pearson correlation coefficient of 0.98). For reasons of coherence and comparability we focus on electoral results in parliamentary elections only. In the case of a two chamber parliament we take into account vote shares in the lower house.

The formula to calculate net electoral volatility provided by Pedersen is straightforward at first sight, but some problems arise when actually using the index. A major source of difficulties are name changes, mergers and splits of political parties (Pedersen 1979; Powell and Tucker 2009; Sikk 2005). The issue of name changes can be solved by the collection of country-specific information, but mergers and splits are more cumbersome. Sikk (2005) lists several possibilities to deal with political parties merging and splitting when calculating net volatility. A first option is to calculate the difference between a party's vote share and the summed vote share of its predecessor parties before a merger or the successor parties after a split. Secondly, Sikk argues that one could attribute the vote share to the largest predecessor or successor party in case of a merger or split. A third method, then, is to treat merged parties or parties that have split as completely different and new parties. When judging the options to deal with splits and mergers, Sikk (2005) himself mentions the first option as the most appropriate approach. Bartolini and Mair (1990, Appendix 1) also proceed in such a way when calculating electoral volatility in different European countries. We treat mergers and splits in a likewise manner and compare the vote shares of parties with the summed results of their predecessor or successor parties.

The variables used for measuring the impact of the party system, the electoral system and the political system are assembled from different databases. Since over 80% of the elections in our sample were held in a proportional setting, we do not include differences between proportional, majoritarian and mixed electoral systems in the analysis. Information on whether or not voting was compulsory at an

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<sup>1</sup> We rely on the method for calculating total volatility expounded by Bartolini and Mair (1990), including an 'other' category for the smaller parties. As a cut-off point for classifying parties in the other-categories, we take 1% of the votes. All smaller vote shares are summed in the 'other'-category.

election come from the database provided by Matt Golder (2004). Figures on turnout at elections come from the IDEA-database ([www.idea.int](http://www.idea.int)). For a measurement on the size of the party system we make use of Gallagher's measurement of the effective number of electoral parties (ENEP), which can be consulted on his website ([www.tcd.ie/Political\\_Science/staff/michael\\_gallagher](http://www.tcd.ie/Political_Science/staff/michael_gallagher)). To avoid tautology, we lag this variable one election and include the ENEP-figure for the previous legislative election. Furthermore, to calculate the years of stable democracy in a country, we gathered information from the Polity IV dataset ([www.systemicpeace.org/polity](http://www.systemicpeace.org/polity)). The final element for which data had to be gathered is the economic situation in a country. For this purpose we made use of the GDP growth rates in the countries observed for the year before the election, which come from EUROSTAT ([epp.eurostat.ec.europa.eu](http://epp.eurostat.ec.europa.eu)). The GDP growth rates are only available from 1960 onwards.

For the analysis we make use of OLS regression techniques with the Pedersen Indices as the dependent variable. Therefore, the unit of observation is a particular election. Since these observations are clustered within countries, we make use of standardized errors which are adjusted for this nested datastructure. In order to take the different sizes of the countries into account, we weigh the data according to population sizes as otherwise small and large countries would receive equal weights in our effort to explain general trends. The figures on population size come from the IDEA database as well ([www.idea.int](http://www.idea.int))

**Table 2. Descriptive statistics of the independent variables**

	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>
Time	380	38.64	18.58	1	66
European region					
Western Europe	380	0.71	0.45	0	1
Southern Europe	380	0.14	0.35	0	1
Central/Eastern Europe	380	0.14	0.35	0	1
Compulsory voting	380	0.21	0.40	0	1
Turnout	380	78.74	12.79	32.4	97.2
Time between elections	380	3.56	1.17	0	10
ENEP	371	4.44	1.66	2	13.82
Years of stable democracy	380	42.04	41.66	0	210
GDP	309	2.83	3.78	-17.95	19.56

## Results

### *Mapping trends*

To assess whether there is indeed a significant increase in electoral volatility in Europe we regress electoral volatility against time. Because the length of democracy of a country is mentioned as one of the factors explaining levels of volatility and since it has been shown that electoral volatility is substantially higher in the former Communist countries, we differentiate between different subsets of countries when analysing the overtime trend in net electoral volatility. A first set of countries consists of the Northern and Western European countries. Basically this is the same sample as analyzed by Bartolini and Mair (1990) to which we add Luxembourg and Germany after the reunification.<sup>2</sup> Secondly, we analyze the evolution of volatility in a set of Southern European countries. Most of these countries were only democratized after a period of authoritarian regimes in the 1970s.<sup>3</sup> The time frame for analysing volatility in this set of countries is therefore substantially smaller than for the first group of countries. A third set of countries consists of the countries in Central and Eastern Europe which were formerly part of the Communist bloc and were democratized in the early nineties. We selected those countries which are currently EU-member states. For these countries election reports and results are published in the *European Journal of Political Research*, which provides the background information for assessing splits and mergers. Furthermore, because of EU regulations these member states all have transparent and democratic election procedures, a condition that is not necessarily met in countries that do not belong to the European Union.<sup>4</sup>

Because the countries in the three subsets discerned were democratized at different points in time, we expect levels and trends in electoral volatility to differ significantly between those regions. Since we

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<sup>2</sup> Countries included in the first set: Austria, Belgium, Denmark, Finland, France, Germany (West), Germany (unified), Iceland, Ireland, Italy, Luxembourg, Norway, Sweden, Switzerland, The Netherlands and the United Kingdom. For Germany up to the election of 1990 we calculate the index for West Germany only, for the 1990 election we compare the 1987 election results in the FRG with the 1990 vote shares in the western länder. The index for 1994 is based on a comparison between the vote share in all of Germany between 1990 and 1994.

<sup>3</sup> The second set of countries include: Cyprus, Greece, Malta, Portugal and Spain.

<sup>4</sup> Included in the third set of countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

are also interested in the trend over time, we include an independent time variable which is operationalized as the difference between the election year and 1945. Regression results in Table 3 show that, when the whole period of observation is taken into account levels of volatility between Western Europe on the one hand and the countries in East and Central Europe on the other hand is indeed significantly different (Model 1). Since the observations for the newer democracies start at a later point in time compared to the Western democracies, we also examine whether from those starting points onwards, levels of volatility in the three subsets of countries are still significantly different. As Model 2 makes clear, across the period 1966-2011, the three groups of countries are significantly different with regard to the Pedersen Index. Compared to levels of volatility in the Western democracies, the index is significantly higher for both the Southern and the Central and Eastern European countries. Furthermore results for Model 2 indicate that this level of volatility is substantially higher for the countries of the former Communist bloc. With regard to the time trends, we can notice a significant increase in electoral volatility across Europe for the period 1966-2011. For the Southern European democracies, on the other hand, volatility significantly decreases. This indicates that the gap in levels of volatility between Western and Southern Europe declines over time. This closing of the gap with regard to electoral volatility is also evident in the third model presented in Table 3. In this final model, we only investigate differences in levels and trends in electoral volatility after 1990. For this time period, the difference in volatility between the Western and Southern European democracies is no longer significant. Only taking the two most recent decades into account furthermore shows no significant differences with regard to the time effects, neither across Europe nor between the European regions discerned. As hypothesized electoral volatility is significantly higher in the parts of Europe which were democratized at later points in time. The lesson to be learned from the analysis reported in Table 3 is that the evolution in volatility too differs significantly among the regions. Therefore we examine the trend in electoral volatility for each of the subsets separately in the next section as clearly there is no overall trend that can be documented for the whole of the European continent.

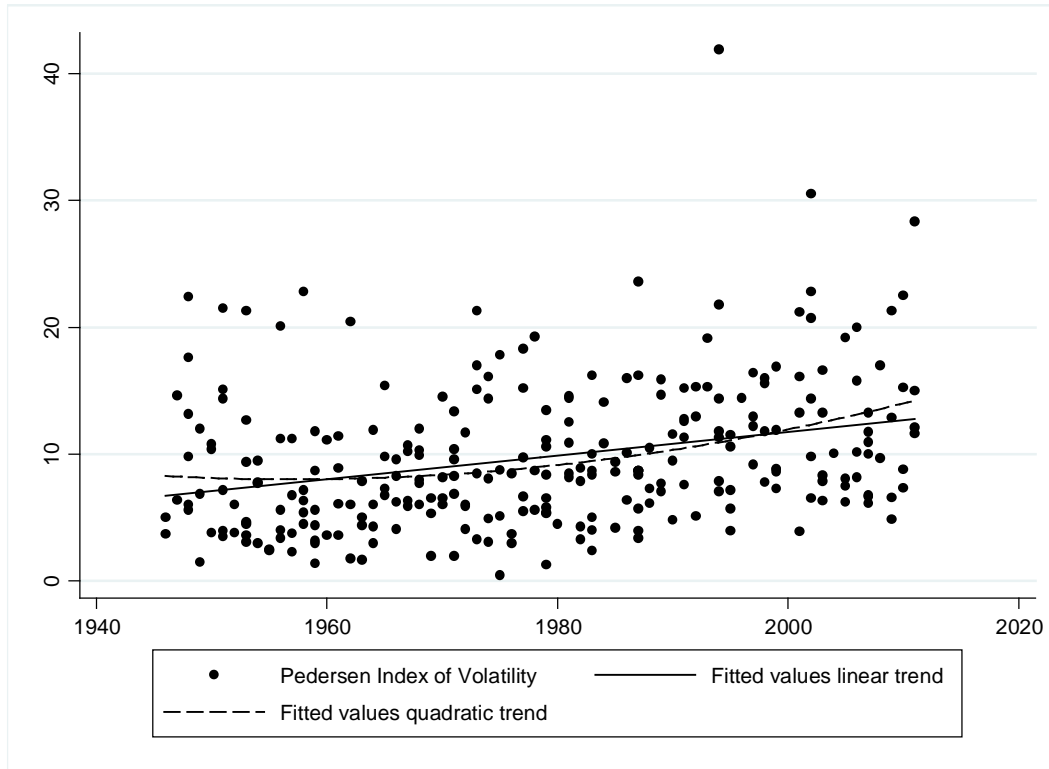
**Table 3. Regression analysis for the time trend in the Pedersen Index across Europe, 1945-2011.**

	<b>Model 1 1945-2011</b>	<b>Model 2 1966-2011</b>	<b>Model 3 1990-2011</b>
<b>Intercept</b>	6.63 *** (1.05)	4.84 * (1.82)	10.77 ns (6.48)
<b>Countries South</b>	21.61 ns (11.21)	23.39 * (11.33)	-9.26 ns (6.72)
<b>Countries Central and East</b>	54.02 ** (19.29)	55.81 ** (19.39)	49.89 * (20.48)
<b>Time</b>	0.09 *** (0.03)	0.13 ** (0.04)	0.03 ns (0.11)
<b>Countries South x time</b>	-0.45 *(0.20)	-0.49 * (0.20)	0.08 ns (0.11)
<b>Countries Central and East x time</b>	-0.60 ns (0.35)	-0.63 ns (0.35)	-0.53 ns (0.37)
<b>R<sup>2</sup></b>	0.54	0.54	0.58
<b>N</b>	380	301	170

Estimates of regression analysis with Pedersen Index as the dependent variable. Reference category is Western Europe. Standard errors are in parentheses. Std. Err. are corrected for country clusters. Significance levels: \*: p<0.05; \*\*: p<0.01; \*\*\*: p<0.001.

In Western Europe electoral volatility is expected to be rising. Plotting the Pedersen Index in these countries from 1945 up to 2011 gives insights on whether there is indeed an increase in net volatility. As is apparent in Figure 1 we can note an increase of the Pedersen Index across western Europe over the past decades. Some outliers and extremely high levels of volatility of over 30% immediately draw the attention and these are exactly the elections mentioned when making the point of an increase of electoral volatility in the most recent decades (Mair 2005). Although the number of elections with a volatility index of over 20% has clearly increased, the 1950s were equally marked by some high volatility elections. More telling than this amount of exceptional and groundbreaking elections across western Europe is the very limited number of low volatility elections since the nineties. While in the beginning of the period of observation, the Pedersen Index in parliamentary elections was frequently under 5%, there are hardly any low volatility elections anymore in the last two decades observed.

**Figure 1. Pedersen Index in Parliamentary Elections in western Europe, 1945-2011**



Pedersen Index in parliamentary elections in western Europe plotted against election year. Sources: Bartolini and Mair (1990) and own calculations based on Mackie and Rose (1991), *The European Journal of Political Research*, *Electoral Studies* and [www.parties-and-elections.de](http://www.parties-and-elections.de).

The scatterplot gives a first visual impression of the trend in electoral volatility, but we proceed with more formal tests to assess whether there is indeed a significant increase in volatility and whether the trend is linear. Since our data consist of several observations per country these observations are correlated. This is so because volatility is expected to be linked to specific characteristics of the political system, which tend to remain quite stable within countries. For this reason we control for the country clusters in the data. As the results of Model 1 in Table 4 indicate, there might indeed be a significant increase of the net electoral volatility in Western Europe. The increase is moderate, though, with a coefficient of 0.09 only, indicating that the Pedersen Index rises about 0.1 percentage points with each subsequent year. In a second model we test whether the time trend of volatility follows a curvilinear pattern. This would indicate that volatility increases at an increasing rate. The results from Model 2 make clear, however, that

this is not the case. When adding Time<sup>2</sup> (Model 2), none of the time-variables is significantly related to the Pedersen Index. Furthermore, an F-tests indicated that this second model does not explain the variance significantly better compared to the first model.

Up till now we treated every election in a West-European country equally in the regression. When doing so, the indices for electoral volatility in Luxembourg, with a population of less than 500,000, contribute equally as volatility scores for the more than 80 million Germans. When drawing conclusions about electoral volatility across Europe, these different population sizes of the countries included in the analysis, however, should be taken into account. The main theoretical claim, is indeed one about voters, and therefore the number of voters that can participate in any given elections is important in this regard. In Models 3 and 4 we therefore weigh the observations according to the countries' population sizes. Interestingly, a significant change in the Pedersen Index is no longer apparent for the Western European countries. Neither a linear, nor a quadratic specification of time is significantly related to the Pedersen Index. The larger democracies in Western Europe, therefore, do not seem to experience a rise in the levels of electoral volatility in the same manner as some of the smaller countries do.

**Table 4. Regression analysis for the time trend in the Pedersen Index in Western Europe, 1945-2011.**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
			<i>Cases weighed according to population size</i>	<i>Cases weighed according to population size</i>
<b>Intercept</b>	6.63 *** (1.06)	8.33 *** (1.33)	7.92 *** (1.64)	10.51 *** (2.20)
<b>Time</b>	0.09 ** (0.03)	-0.05 ns (0.09)	0.06 ns (0.03)	-0.15 ns (0.12)
<b>Time<sup>2</sup></b>		0.00 ns (0.00)		0.00 ns (0.00)
<b>R<sup>2</sup></b>	0.09	0.11	0.03	0.05
<b>N</b>	271	271	271	271

Estimates of regression analysis with Pedersen Index as the dependent variable. Standard errors are adjusted for 15 country clusters and are given between parentheses. Significance levels: \*: p<0.05; \*\*: p<0.01; \*\*\*: p<0.001.

When statistically analysing the trend of volatility over time it is clear that although there is a significant increase in volatility, the effect is at first sight moderate. Furthermore, once one takes into account the importance of different countries with regard to population size, the increase of the Pedersen

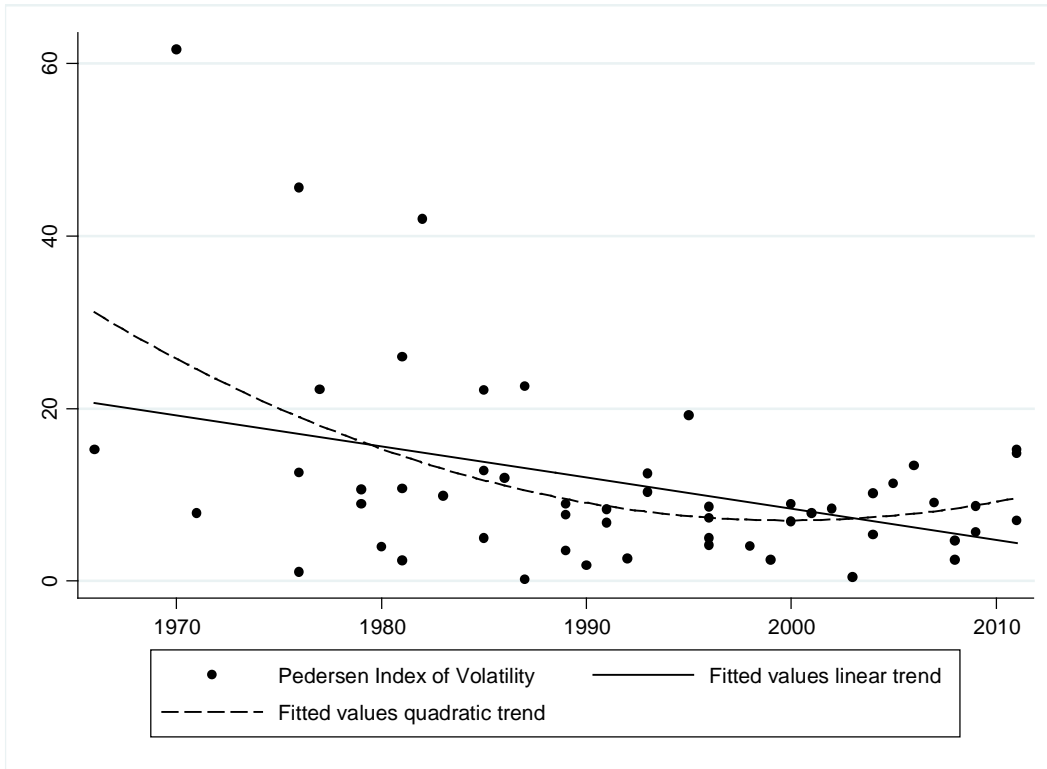
Index over time is no longer significant. This suggests that the increase in electoral volatility over time, regularly described in the literature, is mainly a phenomenon of the smaller Western European democracies. The line plots for electoral volatility in each country separate in Appendix 1 indicate that this is indeed the case. No time trend is apparent in the most populated countries Germany, France or the United Kingdom. An increase can be seen in smaller countries such as the Netherlands, Iceland or Ireland. These results lead us to conclude that statements about increasing levels of electoral volatility are to a large extent based on observations from smaller countries, that constitute only a very small part of the overall population in Western Europe. Therefore, the weighing of data on electoral volatility according to population sizes, which as far as we know has not been done before, sheds new light on electoral volatility. It suggests that claims about a rise in volatility throughout Europe should be qualified.

A second set of countries for which we analyze the evolution of electoral volatility over time are the Southern European countries which were democratized in the course of the 1970s.<sup>5</sup> The literature review leads us to expect volatility to be high at first, since these are new democracies, but to stabilize afterwards (Birch 2003). As the scatterplot in Figure 2 makes clear, a sharp decline of the Pedersen Index over time is indeed apparent. While elections with a level of volatility of more than 20% were by no means exceptional in the 1970s and 1980s, no single election in the sample passes this 20%-threshold from 1990 onwards. As we have done for elections in Western Europe, we proceed with stricter statistical tests to assess whether this decrease of the Pedersen Index over time is significant.

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<sup>5</sup> Cyprus achieved independence in 1960, the first elections were held in the same year, but the next election followed in 1970 only. Therefore the time-frame for the Pedersen Index in Cyprus starts from 1970.

**Figure 2. Pedersen Index in Parliamentary Elections in southern Europe, 1966-2011**



Pedersen Index in parliamentary elections in southern Europe plotted against election year. Sources: Bartolini and Mair (1990) and own calculations based on Mackie and Rose (1991), *The European Journal of Political Research*, *Electoral Studies* and [www.parties-and-elections.de](http://www.parties-and-elections.de).

The declining trend in volatility in these newer democracies which is suggested by the scatterplot is not significant (see Table 5, Model 1). Model 2 shows the regression results for a curvilinear specification, which is not significant either. In the third and fourth model we also take the population sizes of the countries into account. When weighing the observations according to the population sizes of the southern European countries, a significant downward trend can be detected (Model 3). So contrary to expectations, electoral volatility is declining, at least in the countries of Southern Europe. While in Model 4 we try to assess whether a curvilinear trend can be detected, this proves not be the case.

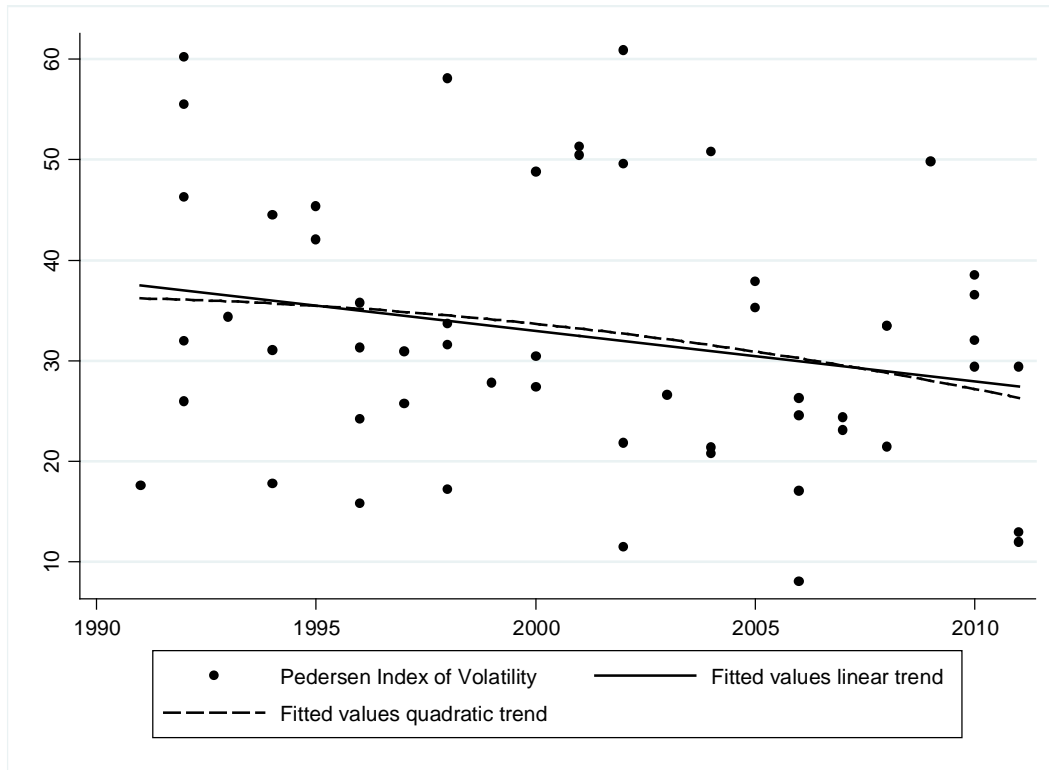
**Table 5. Regression analysis for the time trend in the Pedersen Index in Southern Europe, 1966-2011.**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
			<i>Cases weighed according to population size</i>	<i>Cases weighed according to population size</i>
<b>Intercept</b>	28.23 ns (12.30)	70.26 ns (50.89)	26.18 ** (4.76)	85.26 ns (34.4)
<b>Time</b>	-0.36 ns (0.22)	-2.30 ns (1.97)	-0.29 * (0.09)	-2.79 ns (1.32)
<b>Time<sup>2</sup></b>		0.02 ns (0.02)		0.03 ns (0.01)
<b>R<sup>2</sup></b>	0.15	0.22	0.12	0.20
<b>N</b>	54	54	54	54

Estimates of regression analysis with Pedersen Index as the dependent variable. Standard errors are in parentheses and adjusted for country clusters. Significance levels: \*: p<0.05; \*\*: p<0.01; \*\*\*: p<0.001

A final set of European countries for which we analyze the trend in electoral volatility over time are the former Communist Central and Eastern European countries which are now member states of the European Union. Much scholarly attention has already been devoted to these countries, which are found to be highly unstable and therefore score high on the Pedersen Index of volatility (Lane and Ersson 2007; Tavits 2005, 2008). As these countries and the voters living there accumulate experience with democracy and a democratic party system, however, levels of volatility are expected to decrease. Plotting levels of volatility in parliamentary elections in Central and Eastern Europe, however, shows no clear decrease of the Pedersen Index over time. The trend is decreasing, but levels of volatility remain quite high in these newly democratized countries. Although the period of observation spans more than twenty years, a stabilization with regard to volatility levels is not apparent.

**Figure 3. Pedersen Index in Parliamentary Elections in central and eastern Europe, 1990-2011**



Pedersen Index in parliamentary elections in central and eastern Europe plotted against election year. Sources: Bartolini and Mair (1990) and own calculations based on Mackie and Rose (1991), *The European Journal of Political Research*, *Electoral Studies* and [www.parties-and-elections.de](http://www.parties-and-elections.de).

We proceed with some statistical tests on the central and eastern European countries to assess the evolution of volatility in those countries over time. Results in Table 6 indicate that there is no significant decrease in volatility in the Central and Eastern European countries (Model 1). The scatter plot already indicated a huge deviance of the observations from the linear trend line, which explains why the negative trend does not reach a conventional level of significance. When, as is clear in the regression results of the third model in Table 6, we also take into account the population sizes of the countries analyzed the decrease of net volatility over time is significant. When weighing for different population sizes, net volatility is significantly and linearly decreasing in Central and Eastern Europe.

**Table 4. Regression analysis for the time trend in the Pedersen Index in Central and Eastern Europe, 1990-2011.**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
			<i>Cases weighed according to population size</i>	<i>Cases weighed according to population size</i>
<b>Intercept</b>	60.65 * (20.02)	0.20 ns (268.13)	78.57 *** (15.28)	11.82 ns (428.67)
<b>Time</b>	-0.50 ns (0.36)	1.67 ns (9.51)	-0.84 * (0.27)	1.56 ns (15.39)
<b>Time<sup>2</sup></b>		-0.02 ns (0.08)		-0.02 ns (0.14)
<b>R<sup>2</sup></b>	0.05	0.06	0.14	0.14
<b>N</b>	55	55	55	55

Estimates of regression analysis with Pedersen Index as the dependent variable. Standard errors are in parentheses and are adjusted for country clusters. Significance levels: \*: p<0.05; \*\*: p<0.01; \*\*\*: p<0.001

When analyzing several subsets of European countries separately, distinguishing by means of the timing of democratization, different trends in volatility are apparent. Taking into account the clustered data structure and populations sizes in the countries for which we analyze volatility, in none of the subsets the Pedersen Index increases significantly. In Southern, Central and Eastern European countries electoral volatility even significantly decreases over time, which runs completely against the assumed trend. Moreover, in Western Europe, where growing levels of volatility are often taken for granted, the increase of the Pedersen Index over time is not significant.

#### *Explaining Trends in Net Volatility*

Most strongly apparent from the analysis of trends in electoral volatility in Europe are the differences between regions. Levels of net volatility are significantly different in the groups of countries which were democratized at different points in time. The previous analysis also made clear that these differences appear to be diminishing over time. In an attempt to explain the large though decreasing differences between regions, we examine what factors explain net electoral volatility. The question arises whether the differences between the Western, Southern and Central/Eastern-European countries is still significant when taking into account the institutional and political variables which literature links to electoral volatility. The length of democracy and the economic situation for example differ strongly between countries in both regions. We distinguish between elements of the electoral system, of the party system and of political systems in general (Dalton et al. 2011). In this analysis, we are mainly interested in system

characteristics, that will serve as independent variables in the analysis. This means that political systems here basically serve as unit of analysis, and therefore weighing according to population size is not necessary in this analysis.

As the results in Table 7 indicate, the electoral system has no significant effect on net volatility. Compulsory voting and the turnout in elections do not affect volatility, indicating that how many people show up at elections has no significant impact on the amount of vote switching in elections. How many years have elapsed between two consecutive elections is no significant predictor for levels of electoral volatility either. With regard to differences in party systems, electoral volatility is significantly higher in systems with more political parties. The more parties participate in elections and the more options voters have in the polling booth, the higher levels of volatility. A last set of variables takes differences with regard to the political system into account. The results in Table 7 show that the GDP growth rate is not a strong predictor for net volatility. Although the coefficient points to a stabilizing impact of economic growth, this relation does not reach a conventional level of significance. The length of democracy is significantly related to the Pedersen Index.

When taking all these institutional characteristics into account, we can observe that the difference between Western and Southern European countries is no longer significant. The difference between the Western and the Central and Eastern European countries, on the other hand, does remain significant. This implies that the differences that we described, are not fully explained by the independent variables we included, and apparently other reasons for the persistence of the difference have to be invoked. Other factors, not specified in this model and probably outside of the political and institutional setting of a country, should be examined when investigating differences in net volatility between West and Central/Eastern Europe. The focus of scholars as Russell Dalton on societal factors as cognitive mobilization, dealignment and the amount of class voting in a country as a cause for (trends in) electoral volatility can serve as a guiding idea in this future research.

**Table 7. Regression analyses explaining net electoral volatility**

	<b>Model</b>
<b>Intercept</b>	9.63 ns (7.54)
<b>Time</b>	0.06 ns (0.05)
<b>Region in Europe (Ref: west)</b>	
<b>Countries south</b>	-1.03 ns (2.03)
<b>Countries central/east</b>	16.51 *** (2.79)
<i>Electoral System</i>	
<b>Compulsory voting</b>	-1.64 ns (1.18)
<b>Turnout</b>	-0.04 ns (0.07)
<b>Time between elections</b>	0.27 ns (0.40)
<i>Party System</i>	
<b>ENEP</b>	0.97 * (0.43)
<i>Political System</i>	
<b>Years of stable democracy</b>	-0.04 * (0.02)
<b>GDP</b>	-0.36 ns (0.27)
<b>N</b>	303
<b>R<sup>2</sup></b>	0.60

Estimates of regression analysis with Pedersen Index as the dependent variable. Standard errors are in parentheses and are adjusted for country clusters. Data are weighted according to population sizes. Significance levels: \*: p<0.05; \*\*: p<0.01; \*\*\*: p<0.001.

## Discussion

Over the last decades, electoral volatility appears to be on the rise across Europe. Within the literature, this statement is mostly made and illustrated by means of examples of extreme volatility in recent elections. As our analyses made clear, however, assertions as these should be strongly qualified. First, while we do see an increase in electoral volatility in Western Europe at first, the analysis clearly demonstrated that this trend was not significant. The significance was lost mainly after including weights for population size. This indicates that previous observations were disproportionally based on a limited number of experiences in small countries as Ireland or Iceland. When one does not control population weights in the regression, these small countries receive an equal weight as the major democracies in Western Europe. This means that the question whether or not to include population weights becomes of much importance to assess the validity of our results. In this regard, we do not wish to make any strong a priori claims, as we assume that the weighing procedure should be determined by the research question. If we investigate volatility because we are interested in voter behaviour (and hence social change), it is obvious that population weights

should be included. If these weights are not included, there is a clear risks that sweeping statements about “voter chance in Western Europe”, in fact would be based on a limited number of cases in Iceland and Ireland, while they fail to take into account the changes in large democracies as Germany, France, and the United Kingdom. Population weights in this case are clearly necessary, and at least they illustrate different trends: while some smaller countries clearly experience a rise in electoral volatility, this is not the case for the larger democracies in Western Europe. Why we observe this different trend is something that needs to be further investigated.

If, on the other hand, we are mainly interested in system characteristics (e.g., compulsory voting or proportional representation), it seems obvious that in that case population weights are not called for. In that case, every political system serves as a distinct observation, and should be given equal consideration. The fact, e.g., that only small countries have a system of compulsory voting, does not imply that it no longer would be worthwhile to investigate this characteristic of an electoral system.

While in Western Europe, the upward trend in electoral volatility did not prove to be significant, both for Southern and Central and Eastern Europe we could document a significant decline of electoral volatility. While these countries experienced high levels of electoral volatility following democratic transition, volatility levels now tend to be lower. This is a challenging finding, since quite some of the social changes that, according to the literature, should lead to higher levels of electoral volatility, are clearly present in these countries too. These processes apparently are not incompatible with declining levels of volatility.

We also tried to explain differences between country groups by including a number of political and institutional variables. These variables confirmed the idea that volatility is higher if the number of parties citizens can vote for is higher, while volatility also seemed lower in high income countries. Including these variables had as a result that differences between Southern and Western Europe were no longer significant, and therefore we can assume that social and political processes do not differ all that much between both regions. The difference with Central and Eastern Europe, on the other hand, remained

strong and significant. This basically means we cannot explain in the current phase what makes these countries so different. The difference between Central and Eastern Europe on the one hand, and the rest of Europe on the other, is not accounted for by the fact that the countries achieved democratic transition two decades ago, since the number of years of stable democracy the country has known is included as a control variable. Other elements, therefore, clearly have to play a role if we want to explain the continuing high levels of electoral volatility in Central and Eastern Europe. The rapid changes in the party system, high level of corruption and an accompanying lack of trust in government might play a role in this regard.

The most important finding from this analysis, however, is that in Western and Southern Europe there is not a significant rise in electoral volatility, contrary to the popular myth. This trend could be observed in a number of smaller countries, but by no means they can be taken to be representative for Europe as a whole. Of course, those who believe that we are witnessing increased electoral volatility might still claim that observations are limited. The Pedersen Index only informs us about net volatility and not about the total volatility. So it can still be argued that on an individual level we indeed would observe rising electoral volatility. The fact that there is not a single indication that net volatility would rise, however, makes this claim highly implausible. Stable net volatility and rising individual volatility can only be combined if the exchanges between the party electorates are perfectly symmetrical. Indeed, if 1000 voters switch from party A to party B, but at the same time 1000 voters make the opposite movement, there is no net volatility at all. The claim that rising levels of individual volatility would not show up in the net volatility is therefore highly unlikely, although it would require an in-depth analysis of panel election studies to arrive at the final word in this. The fact that there is no relation with voter turnout also invalidates the claim that the apparent stability of volatility would be caused by the fact that an ever smaller part of the enfranchised population turns out to vote.

The fact that there is no rise in electoral volatility invalidates a number of claims that can be found repeatedly in the literature. During our observation period, the education level of Western European citizens has risen, political parties lost members, some social cleavages have become less salient, and

nevertheless all those structural trends did not seem to have had any effect on the level of voter volatility. Trends in the level of electoral volatility therefore do not seem to be a good indicator if we want to study the structural transformation of the linkage mechanisms between citizens and the political system in Western societies.

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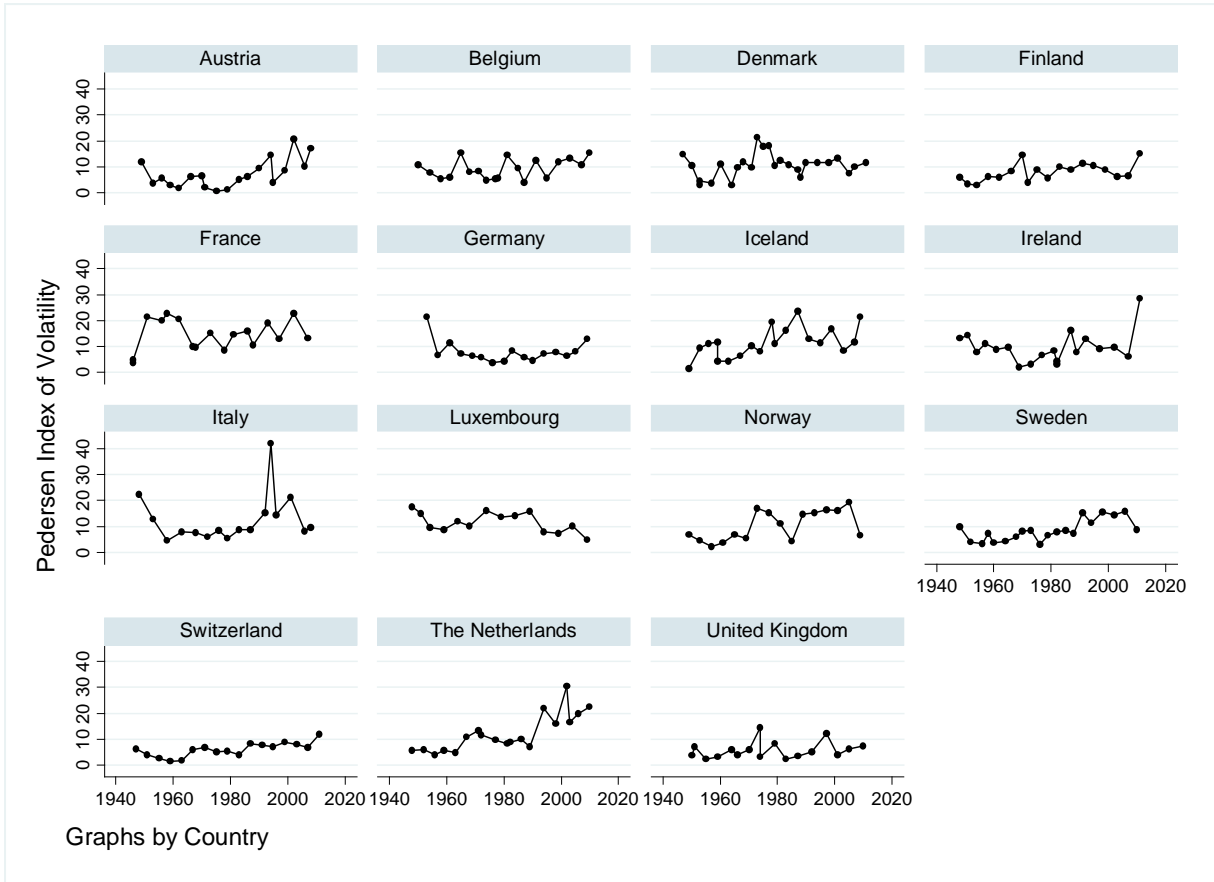
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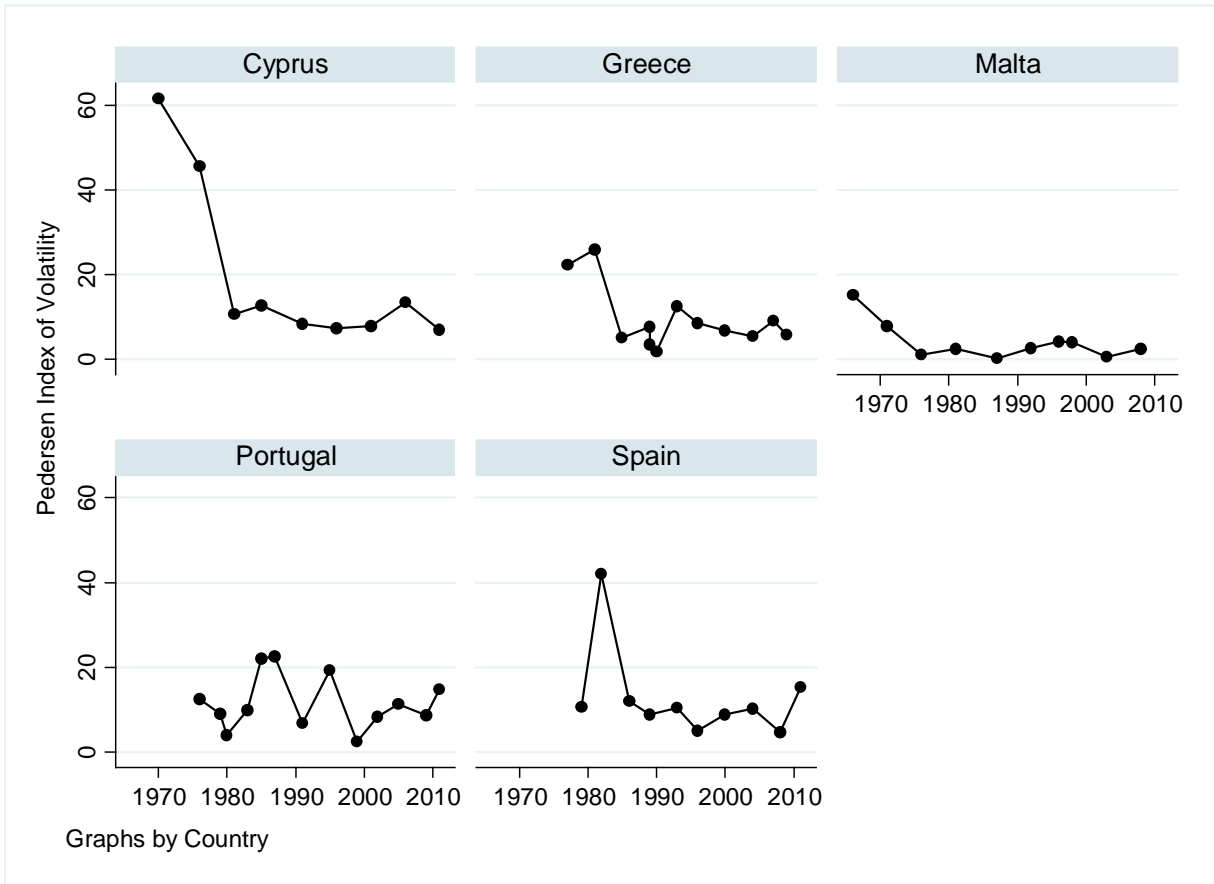
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## Appendix 1. Graphs by country Western Europe



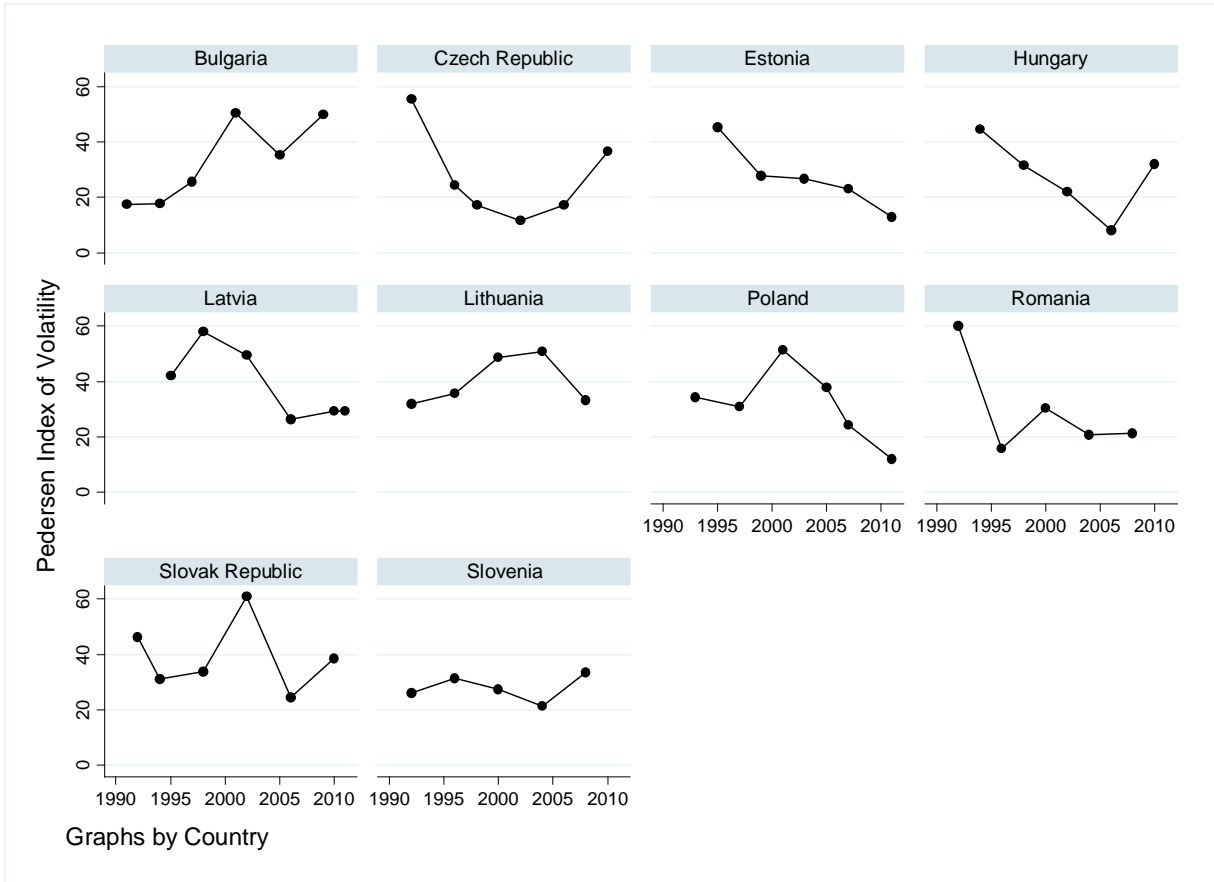
Pedersen Index of net volatility in western European democracies from 1945 to 2011. Own calculations based on Mackie and Rose (1991), *European Journal of Political Research*, *Electoral Studies* and [www.parties-and-elections](http://www.parties-and-elections).

## Appendix 2. Graphs by country Southern Europe



Pedersen Index of net volatility in western European democracies from 1945 to 2011. Own calculations based on Mackie and Rose (1991), *European Journal of Political Research*, *Electoral Studies* and [www.parties-and-elections.com](http://www.parties-and-elections.com).

### Appendix 3. Graphs by country Central/Eastern Europe



Pedersen Index of net volatility in western European democracies from 1945 to 2011. Own calculations based on Mackie and Rose (1991), *European Journal of Political Research*, *Electoral Studies* and [www.parties-and-elections.com](http://www.parties-and-elections.com).