LUND UNIVERSITY
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Revolt of the 'Left Behinds'? Regional Manufacturing Employment and the Vote Share of European Social Democratic and Radical Right Parties.

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Abstract: In recent years radical right parties have gained electoral strength across Europe, while the vote share of social democratic parties has declined. Using regional data and two fixed effect models this study investigates the impact of manufacturing employment and a range of other economic and demographic variables on the vote share of these parties in both national and European parliament elections from 2000-2014. The findings suggest significant cross-national variation in the influence of these factors. The results show a positive relationship between manufacturing employment and the social democratic vote share in Germany and evidence of a similar influence in Austria. They furthermore suggest a negative influence of this factor on the vote share of radical right parties in Finland and Sweden. Beyond the influence of industrial dynamics, no evidence was found to support the hypothesis that economic grievances are behind these electoral trends. Some evidence was found for a positive influence of immigration on the radical right vote in Sweden and France. The influence of university education and age varies considerably between countries, suggesting that generalisations of radical right voters as older and less well educated are unfounded.

Key words: radical right, social democracy, manufacturing decline, automation, regional variation

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Chapter 1. Introduction, Motivation and Research Design

1.1 Introduction

The political landscape of Europe is in turmoil. In both national (Figure 1) and European parliament elections (Figure 2) social democratic parties face stagnation or decline, suffering crippling electoral defeats in recent votes in Greece, the Netherlands and France, and a falling vote share in much of the rest of the EU-15. Meanwhile, parties of the radical right, animated by nationalism, hostility to immigration and the European project, and riding a populist backlash against perceived 'corrupt elites' have risen from obscurity across Europe, winning increasing shares of the popular vote and becoming, in many countries, genuine contenders for political power (Figure 1 and 2). While waves of electoral support for radical right parties have been witnessed before in post-WWII Europe, never before has this trend been so sustained and generalised across such a number of European states (Arzheimer, 2008). The radical right has seen gains not only in countries where it held a traditional foothold, such as France, Italy and Austria, but also in countries which previously appeared politically impervious to its appeal, such as the Netherlands, Germany, the Nordics and even the UK.

How are we to explain these two trends? Are they independent of one another or are they twin symptomatic features of common economic and demographic changes under way in Europe? Can a generalised analysis of the determinants of these processes be made for the whole of the European Union or are the forces behind these electoral patterns distinct for different member states? The available literature has generally considered these phenomena as distinct, with different researchers, analysing different countries over different election years; varyingly attributing the rise of the radical right to socioeconomic grievances, mass immigration or a combination of the two (Ford and Goodwin, 2010; Rygen & Ruth, 2013; Lucassen & Lubbers, 2012; Stockhemer, 2017). The comparatively minimal literature on the decline of European social democracy attributes its decline to a failure to articulate a compelling counter narrative to the problems of the prevailing political and economic order (Egle, 2009; Karreth et al, 2012), to vacillation over issues of immigration (Bale et al, 2010; Schmidtke, 2017) or to the erosion of its traditional voter base (Pits et al, 2017).
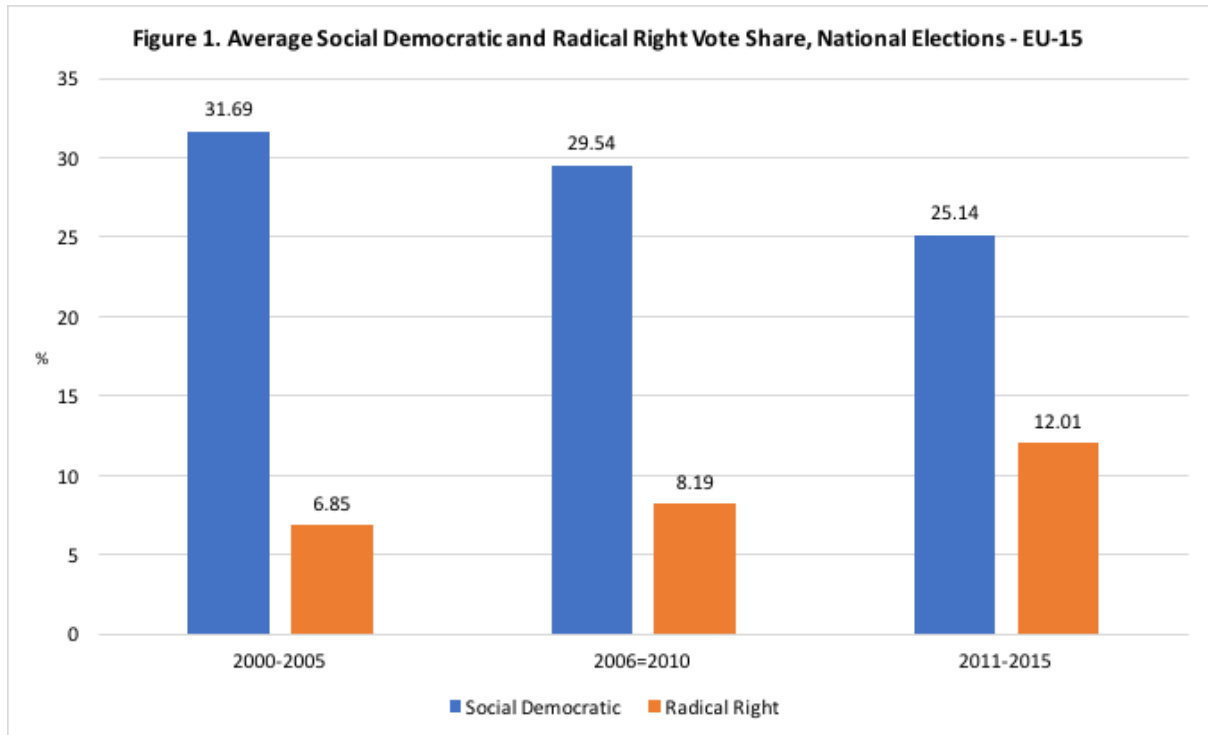
Figure 1. Average Social Democratic and Radical Right Vote Share, National Elections – EU 15. Showing the average vote share for all national legislative elections for the years 2000-2005, 2006-2010 and 2011-2015. For the definition of political parties used, see Chapter 3, section 1. Source: European Election Database and national statistics offices.
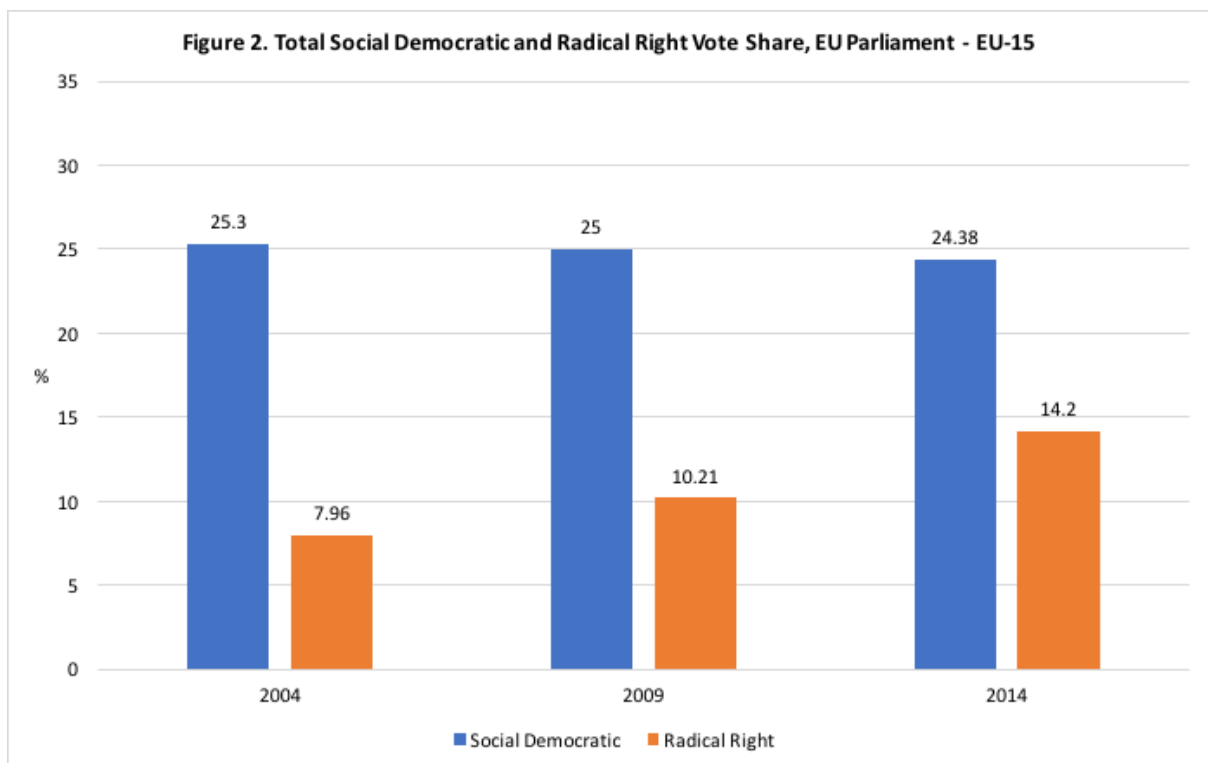
Figure 2. Total Social Democratic and Radical Right Vote Share, EU Parliament – EU-15. Showing the number of votes cast for social democratic and radical right parties as a share of total valid votes for the European Parliament elections 2004-2014. For the definition of political parties used, see Chapter 3, section 1. Source: European Election Database and national statistics offices.

While evidence has been found for the influence of all of these factors, especially immigration and unemployment, one factor has been comparatively overlooked, namely, the declining share of manufacturing employment. Technological change and, to a lesser extent trade liberalisation, has seen the number of manufacturing workers as a share of total employment fall precipitously. While this process is nothing new, stretching back to the 1960s and 1970s in many European states, its impact has been dramatic since the 1990s. These processes have fundamentally transformed the composition of the labour force in the developed world. While the share of workers employed in routine and repetitive manual labour has declined a new class of better formally educated, more cognitive workers has emerged (Goos & Manning, 2007; Goos et al, 2009). Aging populations, changing consumption habits and a rising feminisation of the labour force has seen the service and care sector swell, coupled with the demise of both the unionised 'family wage' factory job and the identity of the working-class patriarch (Lindley, 2012; Dwyer, 2013). These changes can be expected to impact upon voting patterns in a number of ways. The emergence of a new demographic of educated cognitive workers, divorced from the political and cultural institutions of their parents may seek to expression own political identity either from an abandonment of the social democratic left or through the embrace of radical right parties and their vision of an exclusory national community. Low skilled workers in service and care occupations at the bottom end of the wage distribution, along with the elderly, unemployed and infirm may feel threatened by the influx of foreign workers, both in terms of labour market competition and in terms of perceived pressures on public services. Finally, declining union density and the waning strength of the European labour movement may unpick traditional loyalties to social democratic parties, pushing workers into the orbit of radical right parties.

1.2 Motivation

This paper is not only motivated by a gap in the literature analysing the influence of declining manufacturing employment on the vote share of social democratic and radical right parties. Rather, it is also motivated by a desire to establish a set of applicable policy prescriptions. European social democracy was instrumental in the establishment of the welfare state, worker participation in company decision making and the alleviation of the inequities of income and wealth inequality. The rise of radical right parties presents an existential threat to the achievements of open societies. Free movement of labour and economic integration have facilitated general improvements in the lives of ordinary people, while the institutions of the European Union have fostered peace and cooperation between European neighbours (Boltho & Eichengreen, 2008). The victory of radical right political parties threatens to undermine, even overturn, these accomplishments. Economic nationalism could spark a protectionist trade war that would bring ruin to businesses and employees, with prices rising, wages falling and unemployment appearing everywhere on the up. The rise of a political nationalism based on ethnicity, religion or language risks spreading violence and discord amongst the diverse populations of Europe. While a break-up of the European Union could mean not only the diminished position of European states on the world stage but even outright political conflict between nations.

In making a small but unique contribution to the academic literature on these topics this paper hopes to provide an impetus for policy makers, civil society and the labour movement to better address the underlying factors contributing to the rise of the radical right and the malaise of European social democracy. Identification of declining manufacturing employment as a key determinant in these trends may be taken as cause to improve human capital investment, lifelong training or even more radical proposals, such as a universal basic income. Whereas, the identification of an impact of immigration on voting patterns may necessitate improved integration procedures, greater investment in public services, and the improvement and enforcement of workers' and tenants' rights.

1.3 Research Design

Utilising an original dataset gathered by the author from a range of sources this paper analyses the impact of manufacturing employment, unemployment, the crude rate of net migration, GDP, age and education on the share of social democratic and radical right votes. With the aim of establishing robust findings on both the European and national level this paper employs data gathered on a regional level at two levels of aggregation. It furthermore investigates the impact of these factors on both European parliament elections and national legislative elections. Two baseline models are employed, both using fixed effects, to control for regional, temporal and country based variation on both the European and national level. Beginning with a review of the current academic debate on these issues, this paper presents a theoretical discussion, analysing the factors behind manufacturing employment decline and drawing hypotheses on the impact declining manufacturing employment on the vote share of social democratic and radical right parties. The paper then presents a detailed account of the data sources and data management techniques employed to derive the datasets used in this analysis. Following this the paper shall present the model used and discuss the motivation and objectives behind its use. The results are then presented and robustness checks carried out. The paper then discusses the key findings derived from this analysis within the context of previous literature and theory, while highlighting limitations to the study that restrict the generalisability of the results. Finally, the paper presents a set of conclusions, policy recommendations and suggestions for possible avenues for further research.

Chapter 2. Literature Review and Theory

2.1 Literature Review

No previous study has attempted to combine an analysis of both the declining vote share of social democratic parties and the rise of the radical right on a European and country level. Nevertheless, there exists a wide range of related literature, examining one or more aspects of these phenomena. The literature analysing the factors influencing the rise of the radical right is extensive and growing. Whereas, the literature analysing the decline of European social democracy is comparatively slim. This section shall provide a critical review of the available literature, building on the findings of these papers to structure the methodology employed in this papers research.

The literature on the voting patterns of the radical right span several academic disciplines, utilising a variety of quantitative and qualitative methodologies and ranging in focus from single country studies to the analysis of Western Europe as a whole. Disagreement exists in the literature over the primary factors shaping the electoral performance of the radical right. Some research suggests that economic hardship, normally measured through unemployment, is the primary factor, while other research explains the rise of the radical right through immigration, while others still point to a combination of factors (Ford and Goodwin, 2010; Rygen & Ruth, 2013; Lucassen & Lubbers, 2012; Stockhemer, 2017). A significant degree of this disagreement can be explained by the different foci of these papers, with different researchers analysing different countries at different periods in time (Ark, 2012).

Analysing the impact of trade exposure to China and Eastern Europe on German voting patterns from 1987 to 2009, Dippel et al (2016) find a positive association between increased trade integration and votes for radical right parties. The authors argue that trade shocks brought about by liberalisation led to a decline in manufacturing employment, with low-skill manufacturing workers expressing their discontent through an increased tendency to vote for the radical right (Dippel, 2016). These findings are expanded upon by Dippel and others in a 2017 paper that finds strong statistical association between a local labour market's exposure to trade shocks and votes for radical right parties through the intermediate variable of a decline in manufacturing employment (Dippel et al, 2017). These findings suggest that, at

least for Germany, declining manufacturing employment may be strongly associated with voting outcomes for radical right parties. These studies, furthermore, provide a possible profile of voters for the radical right; namely white working-class males, adversely affected by the decline of manufacturing jobs. This voter profile finds support in two studies carried out by Ford and Goodwin (2010, 2014). Using individual survey data, the researchers find support for the British National Party (BNP) and United Kingdom Independence Party (UKIP) to be concentrated amongst older, less well educated working class males who feel 'left behind' by changes in the labour market (Ford & Goodwin, 2010, 2014). The studies by Dippel et al may, however, overestimate the significance of trade liberalisation on the decline in manufacturing employment. There is intense debate in the literature over the causes of this decline with other researchers emphasising the role of automation over trade (Berger & Frey, 2016b). Given the increasing academic consensus about the primary influence of technological change in determining the erosion of manufacturing employment, it might be preferable to examine the impact of manufacturing employment on votes for radical right parties directly, rather than through exposure to trade. This claim, that votes for the radical right are associated with areas that have been 'left behind' finds support in a paper by Rydgren and Ruth (2013). Analysing the electoral performance of the Sweden Democrats in the 2010 Swedish election on a municipal level through OLS the authors find robust positive correlation between unemployment and votes for the Sweden Democrats and robust negative correlation for average income (Rygen & Ruth, 2013). The authors find no positive correlation between the proportion of non-European immigrants and votes for the radical right, while they find a substantial positive correlation between votes for the radical right in districts neighbouring those with high levels of immigration. These findings are of course limited given that they cover only one year for one country. They furthermore contrast with findings for other countries and periods. Using municipal data for the 1998 Latvian general election and a similar OLS model Bloom (2012) finds no support for an association between economic hardship (measured by unemployment, tax ranking and the development index) and votes for the radical right. Indeed, the study finds that voters in the municipalities with the worst economic conditions were the least likely to vote for the radical right (Bloom, 2012).

While these country level studies provide support for the hypothesis that regional economic factors and industrial dynamics play a primary role in explaining voting patterns for radical right parties, other, cross national studies suggest that immigration is the decisive factor.

Analysing data from the 2002/2003 European Social Survey for 11 European countries using a range of socio-economic control variables and both a binary logistic regression and multivariate regression analysis Lucassen and Lubbers (2012) find concern over immigration to be both more strongly statistically associated with preference for radical right parties and a stronger predictor of radical right preference than economic grievances. These findings are supported by similar studies using survey data from the 2002/2003 European Social Survey for different country cohorts, using differing models (Arzheimer, 2008; Oesch, 2008; Rydgren, 2008). It should be noted, however, that all of these studies rely exclusively on electoral data from individual national elections held in the late 1990s and early 2000s; therefore, these findings may not be representative of either the determinants of recent electoral patterns or electoral patterns over a longer period. Furthermore, considerable doubt has been expressed over the cross-cultural validity of cross-national survey data as a basis for analysing the electoral success of the radical right. Hooghe and Reeskens (2007) highlight strong measurement biases and vast differences in response levels to the European Social Survey, arguing that anything between 15 to 90 percent of the electoral strength of the radical right vote may be covered in these surveys. This suggests that harmonised macroeconomic data gathered on a regional/municipal basis might prove a better methodological approach to analysing these phenomena than data drawn from surveys.

Somewhat more nuanced findings emerge from single country studies utilising disaggregated data from multiple election years. Halla et al (2017) analyse municipal level data for all Austrian elections between 1971 and 2011 using a fixed effect model to explore the association between immigration, socio-economic conditions and votes for the radical right FPÖ. The authors find that immigration explains around a tenth of regional variation in votes for the FPÖ (Halla et al, 2017). The impact of immigration varies however based on the skill share of the immigrant population, a high percentage of low- and medium-skilled immigrants is found to be positively associated with votes for the radical right, while high-skilled immigration is found to be either insignificant or negatively associated with the radical right vote (Halla et al, 2017). However, the authors link this more to concerns over loss of cultural identity than to concern over labour market competition. The model employed in this paper includes a range of socioeconomic control variables, including, critically, the industrial structure of the municipality. While the authors find positive statistical association between unemployment and votes for the radical right they do not find any significant influence from the municipal industrial structure (Halla et al, 2017). This could suggest that a declining share

of employment in manufacturing is not an important factor explaining the rise of the radical right in Austria during this period; however, the variable chosen subdivides employment by 31 sectors, suggesting that the impact of manufacturing employment may not be optimally controlled for. In a study influenced by the approach undertaken by Halla et al (2017), Becker and Fetzer (2016) examine the impact of migration from EU accession countries on votes for the United Kingdom Independence Party (UKIP) in the European Union parliamentary elections from 1999 to 2014, finding a strong and robust statistical association between migration shocks and votes for the radical right. The paper explains the mechanism of this impact through a weakening of wages at the bottom end of the income scale and increased pressure on public services and housing (Becker & Fetzer, 2016). However, it should be noted that, as the focus of the study is to examine the impact of migration shocks – as well as labour markets and access to public services – on voting patterns, the paper does not directly explore the influence of manufacturing employment and unemployment on votes for the radical right (Becker & Fetzer, 2016).

The paper that is arguably closest to the current analysis, in terms of its focus and the data used is Stockhemer (2017). Using an original dataset compiled and harmonised from national accounts data Stockhemer analyses the vote share for radical right parties on a NUTS 2 level for 17 European countries between 1990 and 2013. Employing a Tobit panel data model, the paper analyses the impact of voter turn-out, immigration, unemployment, population density and education (measured as the percentage of citizens with a university degree) on the combined regional vote for all radical right parties (Stockhemer, 2017). The paper finds that radical right parties fare better in regions with a high percentage of university educated citizens, rural regions and regions with a high percentage of immigration (Stockhemer, 2017). This approach is coupled with a dynamic specification to evaluate the impact of changes in these independent variables on votes for the radical right, finding that an average increase in unemployment and an average increase in the percentage of university educated citizens is associated with a better performance for radical right parties (Stockhemer, 2017). The paper emphasises, however, that while increases in unemployment are associated with increases in votes for the radical right, high unemployment alone is not associated with a high vote share for radical right parties (Stockhemer, 2017). These findings suggest a different socio-economic profile for radical right voters on a European level than that previously discussed and suggest that both immigration and unemployment shocks play a role in determining the electoral performance of radical right parties. The paper does not however provide detailed

analysis of country level variation and does not include a measure manufacturing employment.

Given the extensive body of work on the growth and determinants of votes for radical right parties, the electoral performance of the social democratic centre-left has been comparatively overlooked. The literature that is available is, furthermore, largely theoretical, even polemical, highlighting the need for greater quantitative analysis. An exception to this can be found in Karreth et al (2012). Drawing on electoral data for Germany, Sweden and Great Britain for the years 1979-2006, the authors argue that while political moderation and a movement toward centrist liberal policies during the 1990s initially boosted electoral support for social democratic parties, this increase in support was not sustained (Karreth et al, 2012). Over time movement to the centre ground drove core voters to parties on the radical left or into political abstention (Karreth et al, 2012). It should be noted however that this period of analysis omits the more recent rise of radical right parties in these countries. This claim, that declining support for social democracy can be linked to a policy malaise and an abandonment of traditional supporters is however echoed elsewhere, with Egle (2009) arguing that the German SPD has failed to articulate an effective policy programme that differentiates them from the Christian Democrats while also experiencing a sustained crisis in leadership. Discussing the changing political landscape following the global financial crisis Rilling (2011) argues that social democracy has failed to exploit the opportunities provided by the crisis, pursuing policy largely indistinguishable from that of the centre-right. The significance of the impact of the global financial crisis on social democratic electoral performance is further highlighted by the 2013 analysis undertaken by LeDuc and Pammett. Analysing the electoral performance of governing parties in 24 EU states between June 2008 and December 2011 the authors find that social democratic parties were disproportionately adversely affected (LeDuc & Pammett, 2013). Social democratic and centre-left led governments in Bulgaria, Hungary, Lithuania, the UK, Spain and Portugal fell from power, while the German SPD suffered its worst ever electoral performance, with the centre-right parties being the primary beneficiary (LeDuc & Pammett, 2013). Only in Greece and Slovenia did centre-left parties defeat centre-right governments, though for the Greek social democratic party PASOK this proved to be a Pyrrhic victory, with the party being replaced by a technocratic government in November 2011 and suffering massive electoral losses in the general election of 2012 (LeDuc & Pammett, 2013). While this shift appears dramatic the authors, nonetheless, highlight that these electoral patterns cannot solely be attributed to the crisis;

political parties often see their vote share fall while in office, nevertheless the average electoral losses were found to be around two percentage points higher than that experienced by the same governing parties during previous electoral cycles during periods of economic growth (LeDuc & Pammett, 2013). The paper highlights that the electoral performance of the radical right was mixed, but registered gains in the Netherlands, Finland, Bulgaria, Austria, Hungary and Lithuania (LeDuc & Pammett, 2013). While these findings are illustrative of an impact of the crisis on social democratic parties it should, nonetheless, be noted that the electoral years chosen omit important countries such as France and that the categorisation of political parties used by the authors is problematic; with Ireland's Fianna Fáil, being referred to as a social democratic party when it is in fact a party of the centre to centre-right, as evidenced by their membership of the Alliance of Liberals and Democrats for Europe Party (ALDE).

Magnus Ryner argues that the origins of the crisis of social democracy have deeper roots, with European social democracy failing to respond to economic turmoil in the 1990s, rescinding on traditional support for the welfare state and failing to produce a counter narrative to neoliberalism (Ryner, 2010). Factors that placed these parties in a weakened position come the financial crisis, writing that "modern European social democracy is so deeply imbricated with the system that is in crisis that it is in no position to offer an alternative to it" (Ryner, 2010: 555). For the writers of a 2017 working paper for the Foundation for European Progressive Studies (FEPS) the crisis of social democracy is less a matter of policy malaise and more fundamentally one of the erosion of its traditional voting base (Pitts et al, 2017). Declining manufacturing employment, argue the authors, has precipitated the breakdown of the communities and institutions that both gave rise to social democracy and sustained it during the twentieth century (Pitts et al, 2017).

Examining the German SPD Schmidtke (2017) argues that a long-term voter loyalty was established between immigrants to Germany and German social democracy. This loyalty, argues Schmidtke, had its origins in the blue-collar background of the overwhelming majority of immigrants coming to Germany from the 1950s-1990s. This support base amongst migrant workers contributed to the perception of the SPD as the 'Party for immigrants', with the SPD unwilling to address concerns over immigration amongst its support base in the white working class, while also failing to consistently defend the rights of immigrants, enabling both the centre-right and radical right to make inroads amongst SPD voters (Schmidtke,

2017). Bale et al (2010), also argue that immigration and the indecisive policy approach of the European social democratic parties has strengthened the hand of the radical right. They highlight, however, that social democratic policy has been far from uniform across Europe, with those adopting a more anti-immigrant policy direction not necessarily benefitting as a result (Bale et al, 2010). The authors argue that rather than directly adopting the policies of the radical right or providing a principled agenda setting narrative on the benefits of immigration, they have instead attempted to mix and match contradictory policy and rhetoric (Bale et al, 2010). However, employing OLS and a fixed effect model to analyse the impact of immigration on votes for political parties in Denmark during the 1990s Gerdes and Wadensjö (2010) find no statistical impact on votes for the Danish Social Democrats.

Taken together the papers discussed in this section suggest that manufacturing employment, unemployment and immigration may be significant factors in explaining the electoral performance of both social democratic parties and parties of the radical right. The findings of Stockhemer (2017) suggest that education may be of significance, at least for radical right parties, while the survey data discussed by Ford and Goodwin (2010, 2014) suggest that age may be a factor. The lack of multi-country analysis using manufacturing employment data further motivates this papers line of research. Likewise, the relative scarcity of papers analysing the influence of economic and demographic factors on votes for social democratic parties highlights the important individual contribution that this paper stands to make to the literature. The data management employed by the quantitative papers discussed in this section highlight the necessity of undertaking analysis using harmonised data on a high level of disaggregation. They also suggest that more subjective factors, that are difficult if not impossible to adequately quantify, such as the perceived effectiveness of party leaders may play an important role. Finally, the differing results identified by the papers, in terms of the relative significance of different factors suggest that results may differ between countries and for different kinds of elections. This suggests that detailed analysis should be undertaken not only on a European level, but also for individual European countries.

2.2 Theoretical Approach

Recent decades have seen seismic shifts in the structure and composition of the labour force. The share of employment in manufacturing has declined precipitously, dropping in the EU-15 from an average of around 38 percent in the early 1970s to around 13 percent today (Figure 3) bringing with it profound changes in the way in which people live and work in the developed world.
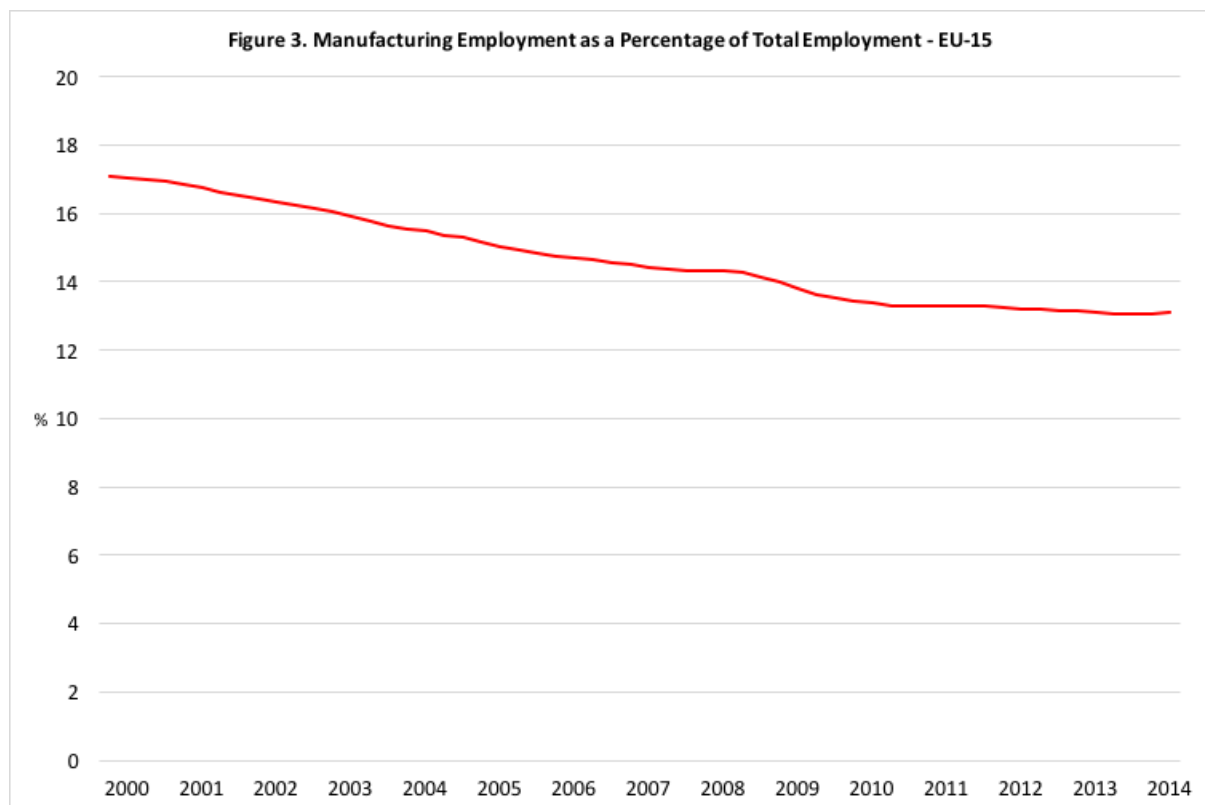
Figure 3. Manufacturing Employment as a Percentage of Total Employment. Showing manufacturing employment as a percentage of total employment, quarterly data, seasonally and calendar adjusted. Source: Eurostat - namq_nace10_e

Globalisation, outsourcing and shifts in institutional frameworks have each played an important role in these processes but the primary driving force has been technological change (Berger & Frey, 2016b). Computational power has risen exponentially, doubling every 18-24 months, in accordance with Moore's Law (Bonekamp, 2016), facilitating the mechanisation of industrial production and the unprecedented expansion of international communication and logistics (Berger & Frey, 2016b). While the impact of the ICT revolution is ongoing, numerous observers have heralded the outbreak of a fourth industrial revolution (European Commission, 2016: 174). The emergence of Machine Learning and Mobile Robotics, appear

set to radically automate both physical and cognitive tasks previously performed by workers, both in manufacturing and beyond (Frey & Osborne, 2013; Arnts et al, 2016; Degryse, 2016). Understanding the impact of this ongoing decline in manufacturing employment on voting patterns is therefore of vital importance. One of the major theoretical explanations for the dynamics behind this process is Routine-Biased Technological Change (RBTC) developed by Autor and Acemoglu (Autor et al., 2003; Acemoglu & Autor, 2011). This approach perceives occupations as composed of bundles of tasks that can be categorised as being either routine or non-routine and either cognitive or manual in content. The theory argues that the composition of these occupational task bundles changes over time with advances in technology replacing routine-manual and routine-cognitive tasks and reducing demand for those occupations with a high intensity of routine tasks.

The impact of these processes on votes for social democratic and radical right parties can be theorised in a number of ways. The destruction of old jobs and the creation of new jobs does not in itself ensure that workers will move up the income scale let alone find secure and dignified employment. Manufacturing jobs involve a high intensity of manual/cognitive routine tasks. Furthermore, they traditionally provided secure employment and wages in the middle of the earnings distribution. Through RBTC these forms of employment are rendered obsolete through the substitution of labour with capital (Lindley, 2012). In their place are substituted middle earning distribution employment requiring the performance of non-routine tasks that often require high levels of formal education and training. Securing stable reasonably well-paid employment therefore entails a 'race' between changing labour market dynamics and human capital accumulation (Goldin & Katz, 2008). Those workers who find themselves unable to access the necessary education and training are therefore pushed out of the middle-income bracket and forced to take up non-routine manual and cognitive work, such as construction, care and food services, that are normally at the low end of the income spectrum and which are often precarious (Goos et al, 2009, Lindley, 2012; Dwyer, 2013).

Those negatively affected by this polarisation of the labour force may feel increasingly discontent or disillusioned with the status quo, abandoning their traditional political party of choice and either abstaining from political involvement or supporting populist parties of the radical right. Conversely, this emergent class of highly educated cognitive workers may no longer feel a political affinity with the party to which they or their family formally subscribed, leading them to seek new forms of political expression. Finally, the decline in

manufacturing employment has been one of the major contributing factors to the decline of union density in Europe and the developed world (Lee, 2005). Separation of workers and their families from unionised employment and the institutions of the labour movement could, therefore, erode their ties with social democratic parties. The erosion of class identity brought about by this process could furthermore foster increased personal identification with one's nation, contributing to support for the radical right.

Chapter 3. Data and Data Management

3.1 Data Sources and Overall Management

The primary objective in gathering and managing the data was to produce one or more datasets that combine the highest possible number of observations at the lowest level of regional aggregation with the fullest possible range of independent variables. The gathering and management of the data was also motivated by both a desire to maximise the number of EU states, in order to examine both Europe as a whole and country-by-country variation, while also to avoid countries that constitute clear outliers in terms of election patterns[*]. As with all econometric analysis the gathering of this data and the specification of the models was motivated on the one hand by a need to include suitable and sufficient variables and thereby avoid omitted variable bias but also to avoid the inclusion of variables that are highly correlated, which could lead to multicollinearity problems (Gujarati & Porter, 2009: 477, 321). Marrying these different objectives and deriving the best possible datasets invariably involved a balancing act with these different objectives at times running up against one another. Decisions over the management of the data were moreover shaped by the availability and consistency of the data itself. This section provides an explanation of the main sources used to gather the data and the rationale behind the overall data management. Detailed explanations of the data management undertaken for different variables can be found in the subsequent sections of this chapter, with descriptive statistics of the final datasets and tests for multicollinearity presented at the end. Specific citations on the data sources used for all variables along with the relevant declarations can be found in the data references section prior to the literature references at the end of this paper.

Based on the literature discussed in previous chapters and the research aims outlined in the first chapter the following variables were chosen:

Dependent variables:
Share of votes for social democratic parties.
Share of votes for radical right parties.

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[*] I am referring here only to countries in which radical right parties gain less than one percent on a national level.

Independent variables:

Share of manufacturing employment.

Unemployment rate.

Crude rate of net migration.

GDP

Age

Education

In order to gather consistent regional data on a European and national level only data referring to Eurostat's Classification of Territorial Units for Statistics (henceforth referred to as NUTS) was used. The NUTS framework provides regional units on a hierarchy of three levels, NUTS 1, which divides the EU into 98 regions, NUTS 2, which divides the EU into 273 regions and NUTS 3, which divides the EU into 1324 regions. These NUTS regions have been subject to regular, albeit generally minor, changes during their history, creating some difficulties for analysis over time. Therefore, for the sake of consistency this paper uses only data gathered on the basis of the NUTS categories as defined in the NUTS 2010 regional classification system, the details of which can be found in the relevant Eurostat working paper (European Commission, 2011). Data inconsistencies were dealt with either by omission of the region(s) in question, by aggregation of microdata in a manner methodologically identical with that of the NUTS data or, in some instances, through the interpolation of missing values. The details of precisely how this was done for each variable are included in this, and following sections, of this chapter.

Three primary data sources were used to gather the data for the variables listed above. The majority of the election data was gathered from the European Election and Referendum Database (EED), an online database gathered by the Norwegian Centre for Research Data. This data source provides NUTS 1-3 level election data for national and European elections for all political parties gaining over one percent of the national vote from 1990 onwards. It should be noted however that this dataset has not been consistently updated for a number of years and that it contains increasing omissions and inconsistencies from around 2009 onwards. The EED database is itself is drawn from European national election authorities, national statistical agencies and other official sources. Therefore, recent years missing from the database were gathered by the author from the same sources using the same methodology.

The economic and demographic data used to construct the independent variables was derived either from the Eurostat regional databases, which provide harmonised regional data from 2000-2015, or from the Cambridge Econometrics European Regional Database (ERD); a database derived from Eurostat data and data obtained from AMECO, with the data being reconfigured to produce consistent harmonised data for a number of variables on a NUTS 2010 basis for the years 1980-2014. Combining data from these datasets it was possible to gather data for a sufficient number of countries and regions from 2000 until 2014. While this period of analysis omits important recent electoral years for a number of European countries, such as the Danish 2015 election, and the French, Dutch and Austrian elections of 2017 it would have been difficult to incorporate all of these elections within the same dataset. The advantages of beginning the analysis earlier than this would, furthermore, have been limited; given that the electoral phenomena of interest in this paper, namely a declining vote share for social democratic parties and the rise of the radical right appear as broad European trends only after the year 2000. Furthermore, extending the period of analysis further back in time would have complicated the creation of data based on European Parliament elections, given the process of European enlargement.

Given the objective of undertaking analysis on the lowest level of aggregation it would be preferable to undertake all analysis on a NUTS 3 level. However, neither the Eurostat nor Cambridge Econometrics databases contain data on all of the independent variables specified above on a NUTS 3 level. The data needed to derive the share of employment in manufacturing along with migration and GDP are all available on a NUTS 3 level, while the unemployment rate, and data on population by age group and educational attainment are only available on a NUTS 2 level. It was not possible to derive NUTS 3 level data for these variables from national accounts sources given that these variables are measured differently in different countries, gathered using divergent methodologies and categorised on a regional level that is not always consistent with the NUTS framework. Given these limitations to the available data, a decision was made at the outset to organise two separate datasets, one on a NUTS 2 level with all variables drawn from sources aggregated on a NUTS 2 level and one on the NUTS 3 level, with the dependent variables, share of manufacturing employment, migration and GDP variables drawn from sources aggregated on a NUTS 3 level and the remaining three variables being constructed by mapping the NUTS 2 level data onto the NUTS 3 regions. This was made possible by the categorisation of all NUTS levels to a unique code that expands by an additional digit given the level of disaggregation; with the

NUTS 1 regions being categorised by a three-digit code, the NUTS 2 regions being categorised by a four-digit code and the NUTS 3 regions being categorised by a five-digit code (European Commission, 2011: 139). Therefore, in order to provide data for the variables missing in the NUTS 3 database the four digit NUTS 2 codes were matched to the first four digits of the five digit NUTS 3 codes, giving a value for each missing variable. While this procedure is not ideal it constitutes the only option available given the limitations of the data. Two datasets were therefore gathered, both with their respective advantages and disadvantages. The NUTS 2 level database is completely consistent for all variables and contains a reasonably high number of observations on a European level, but a low number of observations for most individual countries. The NUTS 3 level database has the benefit of being on a much lower level of aggregation providing a much higher level of heterogeneous variation and provides a much higher number of observations on both the European and national level. It nevertheless has the disadvantage of being partially composed of independent variables on a higher level of aggregation. Finally, limitations on the availability of NUTS 3 election data for some countries meant that the dataset covers a smaller, albeit more coherent set of countries, namely regional data on Austria, Finland, France, Germany, Netherlands and Sweden. Whereas, the NUTS 2 datasets used for analysis in this paper contain regional data on Belgium, Denmark, Germany, France, Netherlands, Austria, Czech Republic, Sweden and Finland.

The final issue that informed the overall construction of the datasets is perhaps the most obvious, namely: elections. Elections are not annual events and national elections are conducted under different electoral systems and take place at non-uniform intervals. European Parliament elections have the advantage of taking place at the same time – albeit only for member states – and under the same electoral system. Elections to the European Parliament take place under proportional representation, freeing citizens to vote for minority parties. Furthermore, votes for radical right parties in EU elections, with their opposition to economic integration, free movement of labour and the European project can be seen as a proxy for opposition to globalisation and support for economic and political nationalism (Becker, 2016; Halikiopoulou & Vasilopoulou, 2014). This might be taken as a reason to undertake the analysis only on the basis of European Parliament elections. However, there are obvious drawbacks to using votes for the European Parliament as the singular measure of European voting patterns for social democratic and radical right-wing political parties. The European Parliament has a mandate and institutional role distinct from that of national

legislatures, it possesses no legislative initiative, nor does it form a European government in a manner comparable with national legislatures. The motivation of electors is clearly different when voting for the European Parliament than voting at a national level, with voter turnout being much lower than average turnout on a national level (Schmitt et al, 2015). This means it is not necessarily the most suitable measure of voting patterns. Finally, the majority of the related literature uses national legislative election data. Therefore, in order to gain results that are comparable with previous research it is preferable to use national election data.

Given the relative advantages and disadvantages of both the national and European election data the decision was made to create two different sets of data, both on a NUTS 2 and NUTS 3 level for national and European elections, with the aim being to cover the same counties in both datasets. This therefore excluded non-EU member European states such as Norway and Switzerland from the outset. The management of the datasets using European Parliament election data as the dependent variable was reasonably straight forward, three European Parliament elections have taken place since 2000, namely in 2004, 2009 and 2014. For both the NUTS 2 and NUTS 3 European Parliament datasets it was therefore necessary only to compile the regional values for the variables for the years 2004, 2009 and 2014. For the NUTS 2 and NUTS 3 datasets based on national elections this procedure was somewhat more complicated. A visualisation of the legislative elections held for the countries used in this analysis can be found in Table 1.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Belgium				▲				▲			▲				▲
Czech Rep.			▲				▲				▲			▲	
Denmark		▲				▲		▲				▲			
Germany			▲			▲				▲				▲	
France			▲					▲					▲		
Netherlands			▲	▲			▲				▲		▲		
Austria			▲				▲		▲					▲	
Sweden			▲				▲				▲				▲
Finland				▲				▲				▲			

Table 1. National legislative election years for selected EU countries. Showing variation in the quantity and timing of elections between 2000 and 2014. Source: European Election Database.

Table 1 highlights that the number of elections occurring during the period of analysis ranges from three to five with significant variation in the year in which they took place. In order to construct a coherent dataset, it was therefore necessary to make a judgement about which years to include and exclude. Given that Belgium, Finland and France only held three elections during this period of analysis it was necessary to limit the years of observation to three. The decision over which election years to select for the remaining countries was motivated both by a need to maximise the spread of years across the period of analysis and also to maximise the amount of crossover of the years selected. Given these two motivating factors the final selection of national election years are displayed in Table 2.

Chosen elections:	1	2	3
Belgium	2003	2007	2014
Czech Rep.	2002	2006	2013
Denmark	2001	2007	2011
Germany	2002	2009	2013
France	2002	2007	2012
Netherlands	2002	2006	2012
Austria	2002	2008	2013
Sweden	2002	2006	2014
Finland	2003	2007	2011

Table 2. Election years chosen for national analysis. Showing the election years used for the national election datasets. Source: European Election Database.

While there are problems with comparing the impact of demographic and economic factors on election patterns in different countries between different years this approach is unavoidable given the nature of national elections.

3.2 Dependent Variables

The dependent variable in all models is vote share, defined as the number of votes for one or more political parties as a percentage of the total valid votes cast in a given NUTS region. This variable was chosen over, for example, seats won in a legislature or membership of a political party, as it was deemed to provide the most accurate measure of political expression of a populace in a given locale. Social democratic parties were defined by their participation in the Party of European Socialists (PES), which organises practically all social democratic parties on a European level. This procedure was reasonably straight forward as almost all countries chosen for analysis contain one monolithic social democratic party, in countries where two social democratic parties exist due to ethno-linguistic divisions, such as in Belgium, the vote share of these two parties was combined.

The definition of which political parties constitute what this paper refers to as 'radical right' was somewhat more complicated. The literature contains extensive discussion and disagreement over the precise definition of such parties; varyingly distinguishing between 'far right', 'right-wing populist' and 'radical right' ideologies and organisations (Stockhemer, 2017). To further complicate matters parties of the far and extreme right do not have a singular consistent European party or party group in the manner of the European social democrat, liberal and Christian democrat parties, rather several different European level political parties and groups exist. Arriving at an ideal definition of what is and is not a radical right party constitutes an interminable task, but for the purposes of this research such a definition is unnecessary, as Mudde (1996: 233) puts it, "we know *who* they are, even though we do not know exactly *what* they are". This paper therefore uses the catchall term 'radical right', defined broadly as parties that support nationalism – generally of an ethnic or monistic flavour – along with hard Euroscepticism, opposition to immigration, social conservatism and populism. With the highly contested term 'populism' being understood, following Mudde (1996: 544) as a "thin-centred ideology" focusing on an antagonism between "the people" and "elites" against a backdrop of popular sovereignty. This categorisation incorporates parties from a range of European political parties and groups including the Europe of Nations and Freedom (ENF), Alliance for Peace and Freedom (APF), Alliance of European National Movements (AENM) and the Alliance for Direct Democracy in Europe (ADDE), as well as members of none of these organisations. One might object to this broad definition, in that it groups together both anti-Semitic extremist nationalist parties with their origins in inter-war

fascism, such as the National Democratic Party of Germany (NPD), with the comparatively moderate right-wing populist and Eurosceptic Alternative for Germany (AfD) and political parties that support the welfare state and government intervention in the economy such as the French National Front with political parties that support fiscal conservativism and laissez-faire such as the French National Republican Movement. Nevertheless, despite these differences in policy and origins these political parties share a common set of political perspectives and characteristics in their operation as parties that clearly distinguish them from conventional conservatism. Support for these parties amongst the electorate is indicative of support for economic and political nationalism, opposition to immigration and the EU and an antagonism toward 'elites'. Furthermore, this broad categorisation of radical right parties corresponds closely with the approach undertaken in the most closely related studies in the literature (Arzheimer, 2008; Oeusch, 2008; Rydgren 2008; Stockhemer, 2017; Halla et al, 2017). Despite certain overlapping policies with the parties of the radical right Christian fundamentalist parties such as the Dutch Reformed Political Party were excluded from this definition. Similarly, conservative nationalist parties seeking regional independence or autonomy but supporting immigration and the European project such as the Bavaria Party were also excluded.

In order to produce broadly comparable datasets, the decision was made from the outset to exclude countries that, due to historical and political factors, do not contain any sizable radical right party. This means that Ireland, Spain and Portugal were not included. While the lack of any meaningful electoral support for the radical right is of course a result in itself, inclusion of these countries would have biased the overall European analyses. Very small countries that constitute only one NUTS 2 level region such as Malta, Cyprus, Luxembourg, Latvia, Lithuania and Estonia were also excluded, as it was not possible to analyse regional variation at a NUTS 2 level. In order to produce consistent datasets for the years of the European Parliament elections countries that joined the EU after 2004, namely Romania, Bulgaria and Croatia, were also excluded from analysis. French overseas departments, namely French Guiana, Guadeloupe, Martinique, Mayotte and Réunion were also excluded as these departments of France are not located in geographical Europe and are distinct in their economic development, history, ethnic composition and politics. Similarly, the French department of Corsica was excluded from analysis, this is because the politics of this region are dominated by the Corsican independence movement with the largest political party being Pè a Corsica, which is itself a permanent electoral alliance of the moderate autonomist Femu

a Corsica and the more left-wing pro-independence party Corsica Libera (De la Calle & Fazi, 2010). Both the French Socialist Party and the National Front compete in the Corsican elections but fare badly in a manner atypical of the rest of France. In order to prevent any bias arising from this outlier, Corsica was dropped from the analysis. While some countries gather data on overseas voters, this data was also excluded from analysis.

The primary source of all election data was the European Election and Referendum Database (EED). The quality and consistency of the data contained in this database further informed the choice of countries used for analysis. The United Kingdom runs elections on a constituency basis and does not collect this data on a national level. These constituencies do not correspond to NUTS regions nor is micro data available that can be accurately aggregated onto the NUTS regions. Similarly, Italian electoral data and Polish electoral data is not consistently gathered on a NUTS level. For this reason, these countries were excluded from analysis. This is unfortunate as these omissions exclude the falling vote share of the British Labour Party, and the rise of the British National Party (BNP) and United Kingdom Independence Party (UKIP) in the UK, along with voting patterns for Lega Nord and various minor neo-fascist parties in Italy. It does however avoid various categorisation problems present in Polish electoral data. Poland is a clear outlier on a European level in that it presently has two social democratic parties; Labour United, a minor political party, and the larger and more successful Democratic Left Alliance, with additional now defunct social democratic parties that emerged from splits and mergers with these two parties. These parties emerged out of the historical communist party and have declined sharply since the 1990s winning no seats at all in the most recent election. Furthermore, the ascendant political force in recent years in Poland, the Law and Justice Party, is difficult to clearly categorise based on the definitions used in this paper, having shifted from a conventional European conservative/Christian democrat party to a more right-wing populist, anti-immigrant and Eurosceptic party since the mid-2000s in a manner somewhat similar to that of Fidesz in Hungary (Fomina & Kucharczyk, 2016).

While the EED database is reasonably consistent between 1990 and 2009 it is much less so after this point, the 2014 European Parliament election data is missing for all states and national election data after 2009 is inconsistent. Nevertheless, the EED provides links to the data sources used in various national account and other official sources. Therefore, recent missing election data could be reconstructed in the majority of cases from these sources. This

was not, however, possible for either Greece or Hungary, both of which only provide election data in their national databases on a constituency level, these regions are not compatible with the NUTS regions and attempts to gain crosswalks from the national statistics offices of these countries were not successful. This is again unfortunate as the electoral demise of the Greek social democratic party PASOK and Hungarian social democratic party the Hungarian Socialist Party were therefore omitted, along with the rise of Popular Orthodox Rally and Golden Dawn in Greece and JOBBIK in Hungary, all parties of the radical nationalist right (Oesch, 2008; Stockhemer, 2017; Enyedi, 2015). Preliminary regression analysis found that the Slovakian data could not be subject to analysis owing to a high level of multicollinearity in the data, therefore this country was omitted. Nonetheless, the decision was made to include Czech Republic in the datasets in spite of the fact that this country potentially constitute an outlier given that it is a post-communist state that has accessed to the EU relatively recently. The reason for this decision was that Czech Republic is reasonably economically developed and, furthermore, possesses a political culture closer to that of Central Europe than Eastern Europe.

Gathering missing electoral data on a NUTS 2 level was straight forward for some countries; being readily available through national statistics and election offices for Belgium, Denmark, Sweden, Finland and Czech Republic. However, of these countries NUTS 3 level data was only readily available for Sweden and Finland. Missing election data on both a NUTS 2 and NUTS 3 level was collected for Austria, France, Germany and the Netherlands using microdata of votes cast on the smallest municipal unit, with these datasets being retrieved either from published datasets on the national statistics websites or through private data retrieval requests made to these bodies. These municipalities were aggregated to a NUTS 3 and NUTS 2 level using crosswalk provided by their respective statistics offices. This was done by combining both the votes cast for the political parties of interest and the total valid votes for all municipalities within each NUTS region and calculating the vote share, in a manner consistent with the approach taken by the EED methodology. In keeping with the methodological approach employed by the EED, only results from the first round of legislative elections were used for France, whereas for Germany only results for the second vote (Zweistimmen) were included. The Åland Islands constitute an autonomous region of Finland with its own parliament and political parties, being represented also in the Finnish parliament through a cross-party coalition. Electoral results for Åland were therefore taken from the Parliament of Åland elections with the Åland Social Democrats, itself a member of

the Joint Committee of the Nordic Social Democratic Labour Movement (SAMAK) which is affiliated with PES, used for the social democratic vote share and the radical right populist Ålandic Democracy party being used for the radical right vote. The political parties used in analysis for all countries in both the NUTS 2 and NUTS 3 datasets are displayed in Table 3.

NUTS 2 Only	Social Democratic	Radical Right
Belgium	Socialist Party (Parti Socialiste) Socialist Party Differently (Socialistische Partij Anders)	Flemish Interest (Vlaams Belang) National Front (Front national) People's Party (Parti populaire/Personenpartij)
Denmark	Social Democrats (Socialdemokratiet)	Danish People's Party (Dansk Folkeparti)
Czech Republic	Czech Social Democratic Party (Česká strana sociálně demokratická)	Dawn - National Coalition (Úsvit - Národní koalice) National Party (Národní strana)
NUTS 2 & NUTS 3	Social Democratic	Radical Right
France	Socialist Party (Parti Socialiste)	National Front (Front national) National Republican Movement (Mouvement National Républicain)
Germany	Social Democratic Party of Germany (Sozialdemokratische Partei Deutschlands)	National Democratic Party of Germany (Nationaldemokratische Partei Deutschlands) German People's Union (Deutsche Volksunion) The Republicans (Die Republikaner) Alternative for Germany (Alternative für Deutschland)
Netherlands	Labour Party (Partij van de Arbeid)	Pim Fortuyn List (Lijst Pim Fortuyn) Party for Freedom (Partij voor de Vrijheid)
Austria	Social Democratic Party of Austria (Sozialdemokratische Partei Österreichs)	Freedom Party of Austria (Freiheitliche Partei Österreichs)
Finland	Social Democratic Party of Finland (Suomen Sosialidemokraattinen Puolue) Åland Social Democrats (Ålands Socialdemokrater)	Finns Party/True Finns (Perussuomalaiset) Ålandic Democracy (Åländsk Demokrati)
Sweden	Swedish Social Democratic Party (Sveriges socialdemokratiska arbetareparti)	Sweden Democrats (Sverigedemokraterna)

Table 3. Social democratic and radical right political parties. Showing the political parties for all countries of analysis in both the NUTS 2 and NUTS 3 datasets.

Figures 4 and 5 display the national aggregates vote share of social democratic and radical right parties in the European Parliament elections for the countries under analysis.
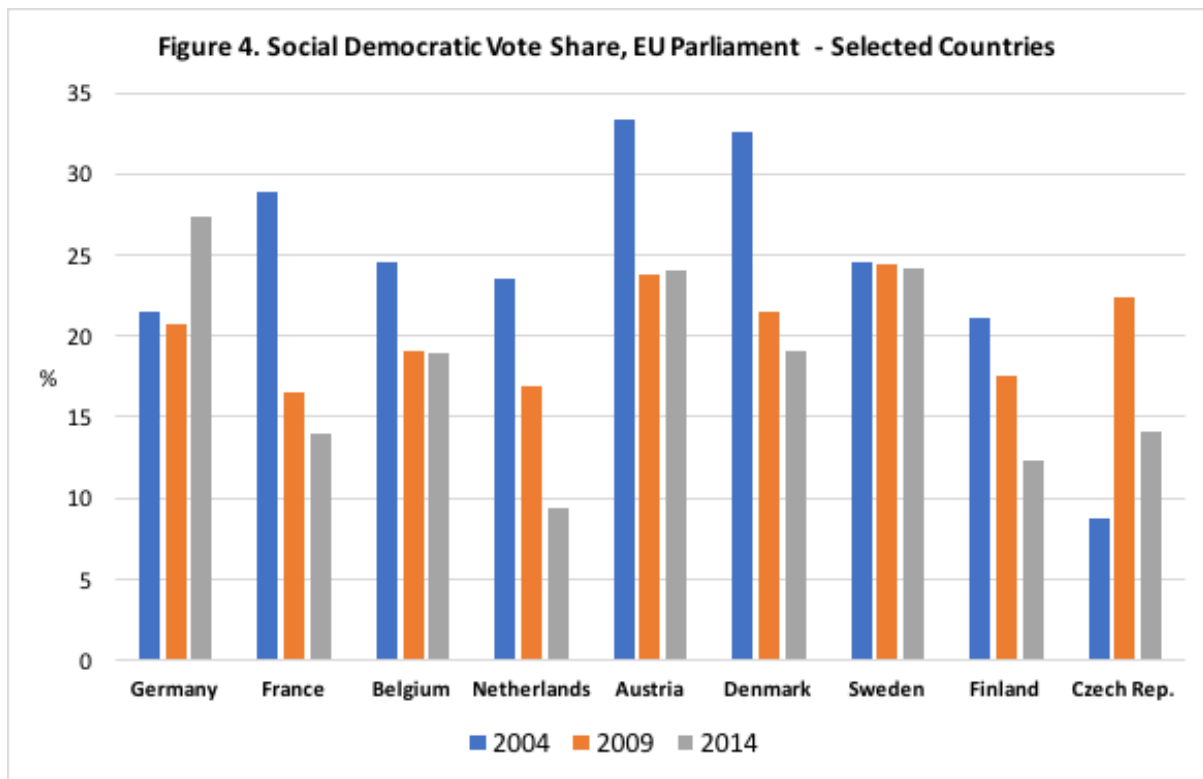
Figure 4. Social Democratic Vote Share, EU Parliament – Selected Countries. Showing the number of votes for social democratic parties as a percentage of valid votes cast for countries analysed in this paper. Source: European Election Database and national statistics offices.
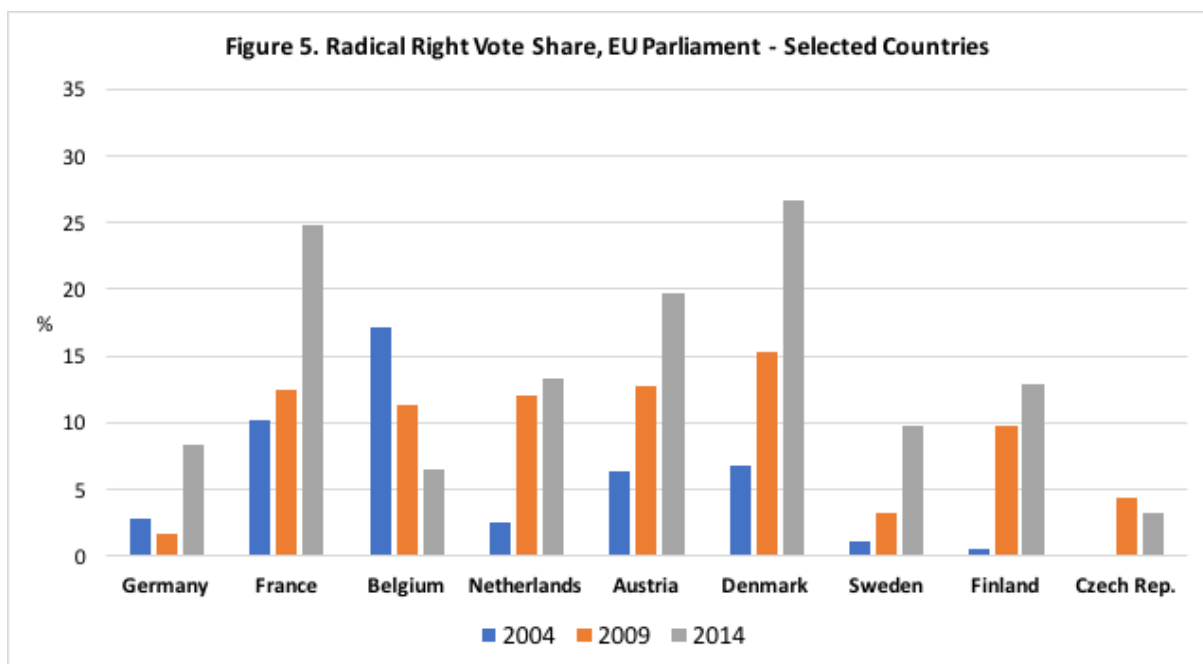
Figure 5. Radical Right Vote Share, EU Parliament – Selected Countries. Showing the number of votes for radical right parties as a percentage of valid votes cast for countries analysed in this paper. Source: European Election Database and national statistics offices.

While the electoral patterns of the majority of the sample follow the broad political trends identified in Chapter 1 there is clear heterogeneity within the sample. The social democratic vote in the 2014 European parliament election in Germany grew considerably, while in Sweden the overall decline in the social democratic vote has been minimal. Similarly, the radical right vote in Belgium has declined precipitously in each European parliament election, brought about by the displacement of Vlams Belang by the moderate civic nationalist New Flemish Alliance (Beyens et al, 2010). While the electoral patterns in Czech following an overall more erratic pattern. This within-sample heterogeneity should not be considered problematic. The data used in this study is on the regional level not the national level and the inclusion of a year fixed effect should control for this heterogeneity. Furthermore, the exclusion from the sample of countries that do not follow the overall trends outlined in Chapter 1 could lead to spurious results.

Figures 6 and 7 display the national aggregate vote share for social democratic and radical right parties for the national elections chosen for analysis. With the first array of national election years displayed as 'Election 1', the second array as 'Election 2' and the third array as 'Election 3'.
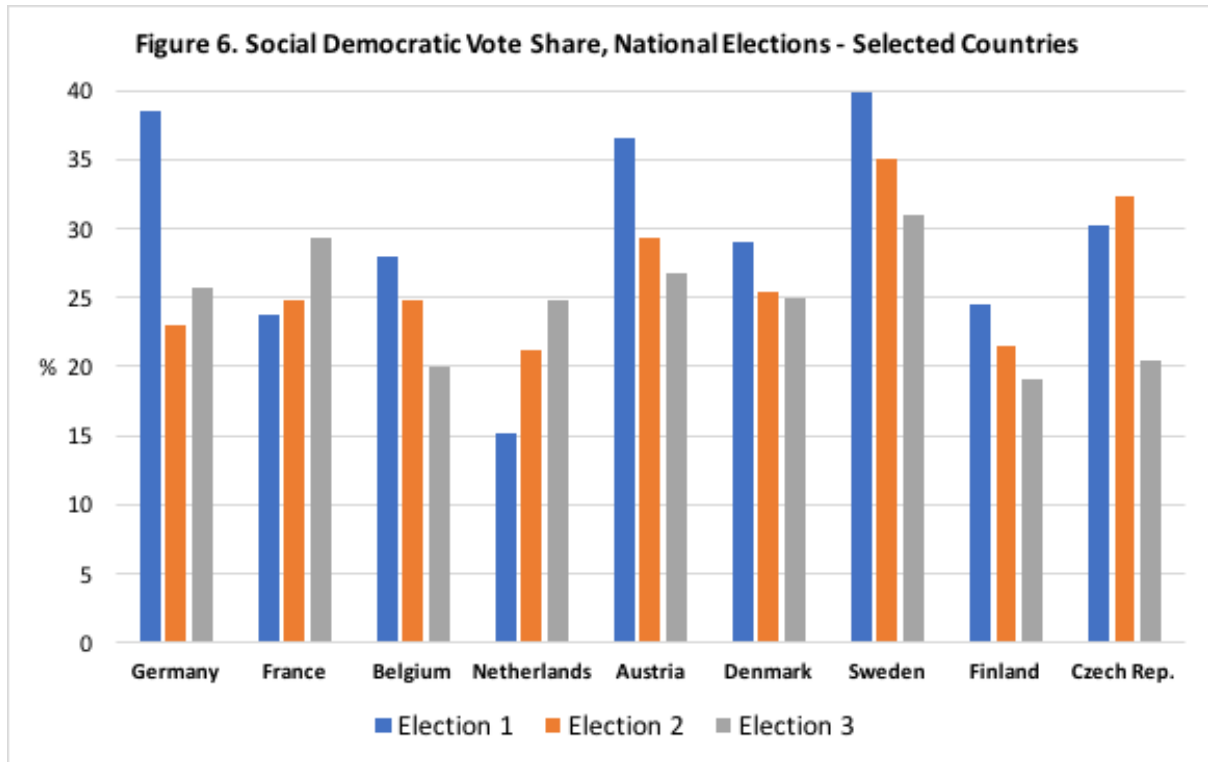
Figure 6. Social Democratic Vote Share, EU Parliament – Selected Countries. Showing the number of votes for social democratic parties as a percentage of valid votes cast for countries analysed in this paper. Source: European Election Database and national statistics offices.
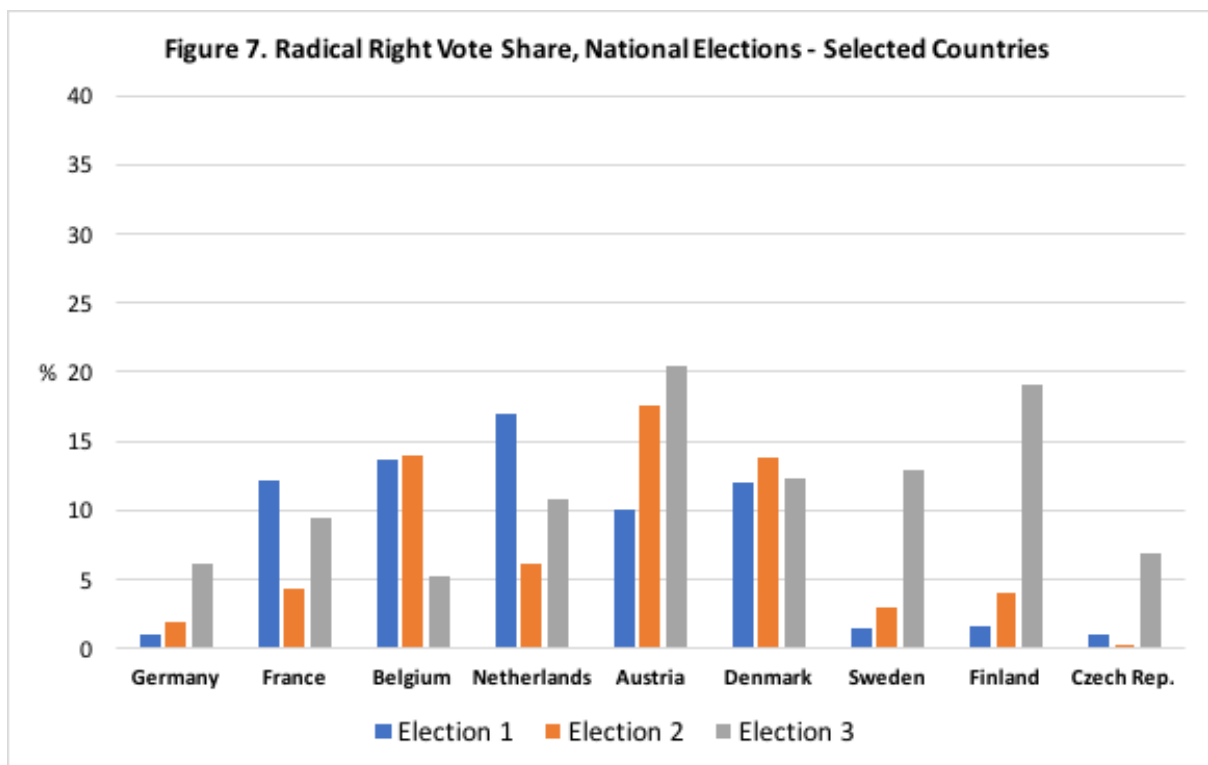
Figure 7. Radical Right Vote Share, National Elections – Selected Countries. Showing the number of votes for radical right parties as a percentage of valid votes cast for countries analysed in this paper. Source: European Election Database and national statistics offices.

While the majority of the sample countries follow the overall European trends identified in this paper there is also within sample heterogeneity. The social democratic vote rose in France and the Netherlands during the selected election years, though it has since fallen considerably. Similarly, the radical right vote share fell in Election 3 for Belgium and Denmark and in Election 2 for France and the Netherlands. Again, this should not be considered a major problem – regional data is used and the inclusion of a year fixed effect should control for this heterogeneity.

3.3 Independent Variables

The following section provides a detailed explanation of the data management of the six independent variables.

Share of manufacturing employment:

The data for this variable was derived from the Cambridge Econometrics European Regional Database (ERD). Share of manufacturing employment is defined as the number of people employed in manufacturing as a percentage of total employed people in a given NUTS region, with employment defined as all persons engaged in some productive activity, whether employed by others or self-employed (McQuinn, 2016). The share of total employment was chosen over share of active population as the ERD active employment variable is allocated to the region in which people live rather than work, whereas the manufacturing and total employment data is allocated to the region in which people work. This active employment data therefore does not take into account the commuting effect and could therefore give misleading results (McQuinn, 2016). While the ERD database defines the employment data as "industry excluding construction", this data is derived from the Eurostat regional employment data that is labelled "manufacturing" and the two terms can therefore be treated as synonymous and this paper, for the sake of clarity has chosen to use the term "manufacturing" exclusively. This data is completely consistent and was available on both NUTS 2 and NUTS 3 levels.

The aggregate data for both the NUTS 2 and NUTS 3 countries is displayed in Figure 8.
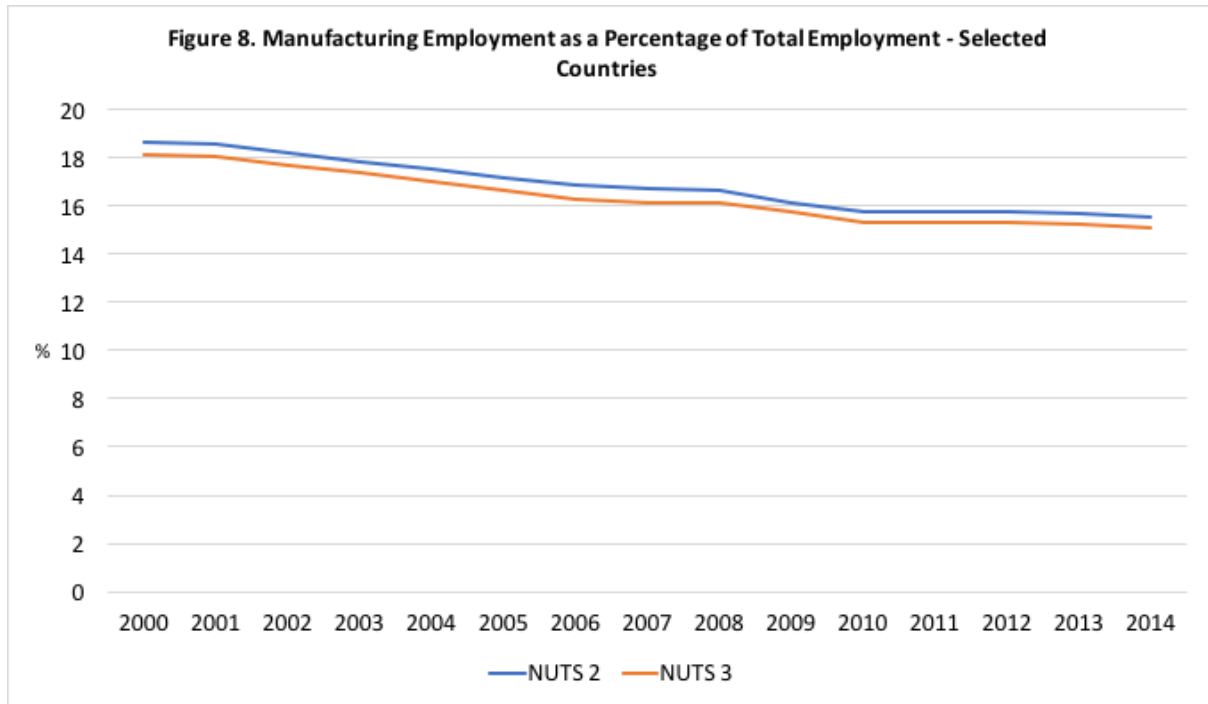
Figure 8. Manufacturing Employment as a Percentage of Total Employment – Selected Countries.
Showing aggregate manufacturing employment for the countries included in both the NUTS 2 and NUTS 3
datasets. Source: Cambridge Econometrics Regional Database.

Manufacturing employment in the sample countries for both the NUTS 2 and NUTS 3
datasets therefore follows closely the overall European trend identified in Chapter 2.2.

Unemployment rate:

The data for this variable was derived from the Eurostat lfst_r_lfu3rt database, which
provides harmonised regional EU unemployment data from 2000 to 2015. The
unemployment rate is defined as the number of unemployed persons between the ages of 15
and 74 as a percentage of the labour force. EU unemployment data is currently only
consistently available on a NUTS 2 level. Therefore, this data was mapped onto the NUTS 3
regions in the NUTS 3 datasets in the manner outlined at the beginning of this chapter.
However, the Eurostat dataset contains some missing values; the Finnish regional
unemployment rate was missing for the years prior to 2005 and the Danish regional
unemployment rate was missing prior to 2007. The missing values for both countries were
however available from their respective national accounts databases. The French
unemployment rate for the NUTS 2 region of Limousin and the NUTS 3 sub regions of
Corrèze, Creuse and Haute-Vienne were found to be missing for the year 2004, while the data
for all previous and subsequent years was present. This data was not available from the

French national accounts database and was therefore interpolated through a simple linear interpolation.

Crude rate of net migration:

This variable was derived from the Eurostat demo_r_gind3 database. Net migration is defined as the difference between immigration to and emigration from a given area during a year. The crude rate of net migration is the ratio of net migration during the year to the average population in that year, as expressed per thousand inhabitants. The majority of EU states either do not have accurate and consistent regional immigration and emigration data or, in some instances, no data at all. The data that is available cannot be adequately harmonised to produce a consistent dataset. Eurostat therefore estimates this figure as the difference between total population change and the natural population increase in a given year. While the figures produced do not separate immigration and emigration flows, the figure does provide an indication of immigration flows, in that the value is positive when there are more immigrants than emigrants and negative when there are more emigrants than immigrants.

This variable cannot, however, be considered a substitute for immigration data; it is at best a proxy and care should be taken when interpreting any findings derived from it. Given that the question of immigration is of great importance when considering electoral patterns for radical right and social democratic parties it was nonetheless imperative to include a proxy of this variable. The crude rate of net migration was chosen over simply net migration as the former provides a measure of the proportion of net migration to the average population, which was deemed to be a better approximate measure of immigration. Data was, however, also gathered for net migration and this variable was used in all preliminary panel regressions without significantly different results. Given these preliminary findings and the precedent set by previous literature, the crude rate of net migration was, therefore, used in all final specifications. This data was available on both a NUTS 2 and NUTS 3 level. The data was missing for Denmark prior to 2007, the available data was found to follow no clear pattern or trend and could not be forecast with either a linear or polynomial. It was however found that a correlation in regional behaviour existed with total population, therefore the national data was rescaled for each region based on the regional share of national population. This was only done on the NUTS 2 level as Denmark is excluded from the NUTS 3 dataset for the reasons described in the previous section.

GDP:

The data for this variable was derived from the Eurostat nama_10r_2gdp and nama_10r_2gdp databases, which provide consistent harmonised European GDP data on both a NUTS 2 and NUTS 3 level. The unit of measurement is purchasing power standard (PPS) per inhabitant. An alternative measure for GDP was derived from the EED database, this data is defined as Total Gross Value Added plus taxes less subsidies on products, in billions of Euro in 2005 prices. There are potential advantages and disadvantages to each measurement of GDP; the EED GDP data may provide a better control for EU business cycles, while the PPS per inhabitant measure may better highlight variation. However, PPS per inhabitant was chosen because it was deemed preferable to use a per inhabitant measure that better controls for EU variation. All final specifications were rerun with the GDP variable derived from the EED and it was found to not significantly alter the results. As GDP rises exponentially the logarithmic form of GDP was used in all models.

Age:

The data for this variable was derived from the Eurostat demo_r_pjangroup database. It is defined as the number of people aged 45 years and over in a given region as a percentage of the total population. This data is only available on a NUTS 2 level and was, therefore, mapped onto the NUTS 3 regions in the manner previously described. The NUTS 2 data was found to be missing for Denmark prior to 2007; however, the available regional data and national aggregates were found to follow a clear linear trend so it was therefore extrapolated backwards using a simple linear forecast model.

Education:

The data for this variable was derived from the Eurostat edat_lfse_04 database. It is defined as the percentage of the population in a given region aged 25-64 who have completed a full level of tertiary education, levels 5-8. These levels are equivalent to university education from a Bachelors to a PhD level. As this data is only available on a NUTS 2 level it was mapped onto the NUTS 3 regions in the manner previously described. The NUTS 2 data for Finland prior to 2005 and Denmark prior to 2007 was missing; however, the data available

followed a clear linear trend and was, therefore, extrapolated backwards using a simple linear forecast model.

Due to a variety of inconsistencies in the Eurostat data for Germany, caused by changes in the boundaries of the NUTS regions several regions of Germany were dropped from analysis. On the NUTS 2 level the regions of Chemnitz and Leipzig were missing from the migration data prior to 2009 and from the unemployment, age and education data prior to 2005. This data could not be retrieved from German national accounts and the available data points were deemed insufficient to extrapolate the missing results. Therefore, these two regions were dropped from the NUTS 2 datasets. On a NUTS 3 level inconsistencies in the availability of data for the sub-regions of Chemnitz Leipzig and surrounding NUTS 2 regions led to all regions for the German federal regions (Bundesländer) of Sachsen and Sachsen-Anhalt to be dropped from analysis. Furthermore, inconsistencies in the availability of the Eurostat data for the NUTS 3 regions of Mecklenburg-Vorpommern led to all regions within this federal region apart from Rostock and Schwerin to be dropped from analysis. Finally, due to boundary changes in the NUTS 3 region of Aachen and Aachen Kreis these regions were also dropped from both datasets. While these omissions are regrettable it should be understood that the datasets nonetheless cover the majority of regions in Germany. The final NUTS 2 datasets cover 36 of a possible 39 regions, meaning that the final dataset covers 92.31 percent of the NUTS 2 regions of Germany. Whereas the final NUTS 3 datasets cover 369 of a possible 429 regions, or 86.01 percent.

3.4 Descriptive Statistics

Using the sources and data management techniques described in the previous sections four datasets were produced covering both EU parliament and national parliament election years on a NUTS 2 and NUTS 3 level. The descriptive statistics for the NUTS 2 datasets can be found in Tables 4 and 5 and the descriptive statistics for the NUTS 3 datasets can be found in Tables 6 and 7.

Table 4. European Parliament Elections - NUTS 2

Variable	Observations	Mean	Std. Dev.	Min	Max
Dependent Variables					
Social Democratic Vote	345	21.53	7.96	2.40	43.68
Radical Right Vote	345	9.01	8.04	0.07	38.39
Independent Variables					
Manufacturing	345	17.14	6.74	3.97	36.91
Unemployment	345	7.40	3.21	2.10	22.40
Migration	345	2.80	3.71	-6.70	14.60
GDP (log)	345	10.20	0.26	9.53	10.97
Age	345	48.56	4.58	33.00	63.49
Education	345	26.89	7.58	6.80	51.90

Table 4. European Parliament Elections – NUTS 2. Showing the descriptive statistics for the NUTS 2 dataset covering the 2004, 2008 and 2014 European Parliament elections. Source: European Election Database, Cambridge Econometrics European Regional Database, Eurostat and national statistics offices.

Table 5. National Elections - NUTS 2

Variable	Observations	Mean	Std. Dev.	Min	Max
Dependent Variables					
Social Democratic Vote	345	27.46	8.60	11.57	50.69
Radical Right Vote	345	7.76	6.47	0.10	29.49
Independent Variables					
Manufacturing	345	17.56	6.87	3.97	38.43
Unemployment	345	6.76	3.12	2.30	19.20
Migration	345	2.71	3.70	-7.50	18.90
GDP (log)	345	10.18	0.27	9.39	10.97
Age	345	47.86	4.63	31.93	62.62
Education	345	25.47	7.64	7.20	51.90

Table 5. National Elections – NUTS 2. Showing the descriptive statistics for the NUTS 2 dataset for three national election years for each country in the sample. Source: European Election Database, Cambridge Econometrics European Regional Database, Eurostat and national statistics offices.

The NUTS 2 datasets are both strongly balanced, that is they have the same number of observations (t) per cross-sectional unit (i). The mean values are broadly similar for all independent variables though they vary somewhat more dramatically for the dependent variables, with the mean value of radical right parties being 1.25 units lower in the national elections dataset (Table 5) and the mean value of social democratic parties being 5.93 units lower in the European parliament dataset (Table 4). This corresponds with the minimal and maximal values for the datasets. The minimal value for social democratic parties being much lower in the European parliament dataset than in the national election dataset and the maximum value for radical right parties being much higher in the European parliament dataset than in the national election dataset. These differences can be explained by the differing institutional role of the European parliament in relation to national parliaments, the consistent use of proportional representation in European parliament elections and the relatively low turnout for these elections. While electors might be motivated to choose a 'lesser evil' on a national level based on the likelihood of certain parties winning representation or forming a government, they may feel freer to vote based purely on political conviction in European parliament elections. Finally, European parliament elections may be used as a means to express discontent with free movement, economic integration and the centralisation of powers on an EU level, through votes for radical right or other minor parties.

Table 6. European Parliament Elections - NUTS 3

Variable	Observations	Mean	Std. Dev.	Min	Max
Dependent Variables					
Social Democratic Vote	1731	22.24	8.14	2.40	52.53
Radical Right Vote	1731	7.06	6.76	0.07	40.02
Independent Variables					
Manufacturing	1731	19.34	8.23	2.86	55.86
Unemployment	1731	7.04	2.99	2.10	22.20
Migration	1731	2.51	4.99	-25.30	42.00
GDP (log)	1731	10.17	0.33	9.31	11.78
Age	1731	50.17	4.59	33.00	62.77
Education	1731	26.10	5.61	12.60	50.20

Table 6. European Parliament Elections – NUTS 3. Showing the descriptive statistics for the NUTS 3 dataset covering the 2004, 2008 and 2014 European Parliament elections. Source: European Election Database, Cambridge Econometrics European Regional Database, Eurostat and national statistics offices.

Table 7. National Elections - NUTS 3

Variable	Observations	Mean	Std. Dev.	Min	Max
Dependent Variables					
Social Democratic Vote	1731	27.98	9.85	9.82	63.87
Radical Right Vote	1731	5.81	5.67	0.10	30.47
Independent Variables					
Manufacturing	1731	19.70	8.21	3.04	56.52
Unemployment	1731	6.37	2.75	2.30	19.10
Migration	1731	2.49	5.17	-50.40	45.90
GDP (log)	1731	10.15	0.33	9.29	11.72
Age	1731	49.45	4.68	31.93	61.82
Education	1731	25.03	5.73	11.60	49.20

Table 7. National Elections – NUTS 3. Showing the descriptive statistics for the NUTS 3 dataset for three national election years for each country in the sample. Source: European Election Database, Cambridge Econometrics European Regional Database, Eurostat and national statistics offices.

The NUTS 3 datasets are all strongly balanced, with a much higher number of observations than the NUTS 2 datasets. The mean values for the independent variables are similar in both

the NUTS 3 datasets, while the dependent variables differ in a manner comparable with the NUTS 2 datasets and that can be explained in a similar way. One noticeable difference between the NUTS 2 and NUTS 3 datasets can be found in the Migration variable. The NUTS 3 datasets cover a much higher scale of minimum and maximum values for the crude rate of net migration. This can be accounted for by the much higher level of disaggregation in the NUTS 3 datasets.

Given that the NUTS 2 and NUTS 3 datasets cover different samples of countries and contain data on different levels of aggregation, it can be expected that they will produce different results on the European level and, quite possibly, different results on the national level as well. While it should be possible to compare the results gained on a national level this will not be possible on the European level.

3.5 Multicollinearity

While it is neither necessary nor feasible to undertake diagnostic testing for panel data models of the kind used in this paper it is nonetheless useful to check the variables for multicollinearity. It is not possible to calculate the VIF value for each independent variable in a fixed effect panel model, therefore multicollinearity is tested through a pairwise correlation of all independent variables for each dataset. Following common practice, bivariate correlation in excess of 0.5 is thought of as potentially problematic and is marked in green. The results of this pairwise correlation for each dataset is shown in Table 8.

European Parliament Elections - NUTS 2

	Manufacturing	Unemployment	Migration	GDP (log)	Age	Education
Manufacturing	1					
Unemployment	-0.1353	1				
Migration	-0.21	-0.3053	1			
GDP (log)	-0.3856	-0.3312	0.3449	1		
Age	0.1043	-0.0698	0.143	-0.0274	1	
Education	-0.6239	0.0447	0.2752	0.5821	-0.0606	1

National Elections - NUTS 2

	Manufacturing	Unemployment	Migration	GDP (log)	Age	Education
Manufacturing	1					
Unemployment	-0.1287	1				
Migration	-0.1301	-0.2106	1			
GDP (log)	-0.4345	-0.3082	0.2341	1		
Age	0.0979	0.0286	0.0545	0.0059	1	
Education	-0.5647	0.0906	0.1628	0.5985	0.0489	1

European Parliament Elections - NUTS 3

	Manufacturing	Unemployment	Migration	GDP (log)	Age	Education
Manufacturing	1					
Unemployment	-0.1686	1				
Migration	-0.1596	-0.3408	1			
GDP (log)	0.0027	-0.3428	0.2621	1		
Age	0.092	-0.1545	0.2068	0.0348	1	
Education	-0.2395	0.0628	0.0696	0.1822	-0.0476	1

National Elections - NUTS 3

	Manufacturing	Unemployment	Migration	GDP (log)	Age	Education
Manufacturing	1					
Unemployment	-0.1942	1				
Migration	-0.1228	-0.2539	1			
GDP (log)	-0.0319	-0.3297	0.2002	1		
Age	0.0799	0.0253	0.054	0.0366	1	
Education	-0.174	0.0678	0.0405	0.2449	0.1734	1

Table 8. Pairwise Correlation for Final Datasets, NUTS 2 & NUTS 3. Showing pairwise correlation of all variables in the final NUTS 2 and NUTS 3 datasets, with potentially problematic variables marked in green. Source: European Election Database, Cambridge Econometrics European Regional Database, Eurostat and national statistics offices.

While Table 8 suggests no problematic correlation between any variable in either of the NUTS 3 datasets it does identify potentially problematic high correlation between the Education and Manufacturing, and Education and GDP, variables in the NUTS 2 data sets. This correlation is theoretically and intuitively reasonable, given that we would expect a negative correlation between high levels of education and manufacturing employment and a positive correlation between high levels of education and GDP. The high correlation of these

values could be indicative of multicollinearity which could undermine the statistical significance of the model's independent variables and bias the results. Potential remedies for multicollinearity include providing an alternative education variable or removing the variable altogether. However, robustness tests carried out on the NUTS 2 datasets wherein the Education variable was omitted from the model found that its omission did not significantly alter either the p-values or coefficients. Therefore, it was concluded that the inclusion of the Education variable was not likely to cause multicollinearity problems severe enough to significantly bias the results. The results of these robustness checks can be found in Appendix A.

Chapter 4. Model Specification

4.1 Models

Fixed effect panel data models were chosen to examine the relationship between the dependent and independent variables. Panel data models were chosen as they allow us to study heterogeneity explicitly. Fixed effects were employed to exploit within group variation over time while controlling for time-invariant unobserved heterogeneity. The assumptions behind the random effects model are unlikely to hold given the research aims and variables employed in this paper, it was therefore deemed unnecessary to carry out a Hausman test.

Two baseline models were used; one to examine the European country sample as a whole and one to examine country by country variation. The first model uses all observations for all years, countries and regions for a given dataset and employs a year fixed effect, region fixed effect and country by year fixed effect. This model can be expressed as follows:

$$y_{ict} = \beta_1 \, Manufacturing_{it} + \beta_2 \, Unemployment_{it} + \beta_3 \, Migration_{it} + \beta_4 \, ln(GDP_{it}) + \beta_5 \, Age_{it} + \beta_6 \, Education_{it} + \alpha_i + \lambda_t + \chi_{ct} + \varepsilon_{ict}$$

$$(1)$$

where α_i captures the regional fixed effect, λ_t captures the year fixed effect and χ_{ct} captures the country by year fixed effect.

The second model examines each country in turn, using all years and regions for a given country in a given dataset. It includes a year and region fixed effect. This model is expressed as follows:

$$y_{it} = \beta_1 \, Manufacturing_{it} + \beta_2 \, Unemployment_{it} + \beta_3 \, Migration_{it} + \beta_4 \, ln(GDP_{it}) + \beta_5 \, Age_{it} + \beta_6 \, Education_{it} + \alpha_i + \lambda_t + \varepsilon_{it}$$

$$(2)$$

where α_i captures the regional fixed effect and λ_t captures the year fixed effect.

These two models were then employed for each of the four datasets, namely the European Parliament election NUTS 2 dataset, the national election NUTS 2 dataset, the European Parliament election NUTS 3 dataset and the national election NUTS 3 dataset, and for each of the two dependent variables, namely the social democratic vote share and radical right vote share. For reasons outlined in the previous chapter the natural logarithm of GDP is used in all final specifications.

It should be emphasised that these models cannot be used to determine causality. Even with the application of fixed effects there may be time-variant unobserved heterogeneity and the models and variables may not be optimally specified given the limitations on the data. The best that these models can hope to achieve is the identification of robust statistically significant association between one or more of the independent variables and the dependent variable. Interpreted in context, and in light of theory and previous research, this association may be taken as evidence of a practical significance. The results derived from the use of these two models are presented in the following chapter.

Chapter 5. Empirical Testing

5.1 Results European Elections NUTS 2

This chapter presents the regression results using the two fixed effect models for each of the datasets, on both a European and national level. For reasons discussed in this, and subsequent sections of this chapter, only the findings derived from the NUTS 3 datasets are used as the basis of the discussion and conclusion. Therefore, those interested only in the final results are advised to move to the NUTS 3 sections of this chapter. It should be noted that while the within panel r-squared has been provided for each regression this cannot be interpreted in the conventional manner. The addition of fixed effects to a panel data model typically produces inflated r-squared values; this occurs because the fixed effects absorb a lot variation by adding additional independent variables. This is not therefore indicative of a problem with the models used.

For the sake of space, given the large number of tables presented, the coefficients for the fixed effects are not displayed. However, it should be noted that the year fixed effects consistently show average changes in social democratic and radical right votes for individual countries and election years that correspond with the data visualisations presented in Figure 4 through 7. The average change in the year fixed effects vary for the European full panel regressions, determined by the different country and year samples used in each dataset. The overall change in vote share for the different political parties as signified by the fixed effect shall therefore be mentioned only following each European full panel regression. The results for the regressions with social democratic and radical right vote share as the dependent variable are presented side by side for the European full panel regressions, while the country level regressions are presented in two tables, one showing the regression results with social democratic vote share as the dependent variable and one showing the regression results with radical right vote share as the dependent variable. The country level panels display the results for each country in order of the number of observations ranging from highest to lowest displayed from left to right.

It should be recalled that only the GDP variable is in logarithmic form. Therefore, the average change in the dependent variable brought about by a one unit change in a statistically

and practically significant independent variable, should be calculated based on the exponent of the coefficient, this can be expressed as:

$$\Delta y \ = \ \beta_1 \Delta x$$

Whereas the average change in the dependent variable brought about by a one percent change in a statistically and practically significant GDP (log) variable, should be calculated by dividing the exponent of the coefficient by 100, this can be expressed as:

$$\Delta y \ = \ \left(\frac{\beta_1}{100}\right) \% \Delta x$$

Table 9. European Parliament Elections - NUTS 2 - Full Panel

	Social Democratic Vote		Radical Right Vote
Manufacturing	-0.162	Manufacturing	0.125
	(0.256)		(0.260)
Unemployment	-0.165	Unemployment	-0.137
	(0.130)		(0.142)
Migration	-0.250***	Migration	-0.062
	(0.091)		(0.096)
GDP (log)	-3.248	GDP (log)	-13.404**
	(5.490)		(5.838)
Age	0.069	Age	0.184
	(0.242)		(0.195)
Education	0.026	Education	0.068
	(0.115)		(0.118)
Constant	58.428	Constant	130.990
	(55.650)		(55.567)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	345	Observations	345
R-squared (Within)	0.918	R-squared (Within)	0.874

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 9 shows the regression output of the full European panel for the NUTS 2 European parliament elections dataset. The year fixed effects show an average decrease in the vote share for social democratic parties and an average increase in the vote share for radical right parties. Only one variable appears statistically significant for each regression, with migration appearing statistically significant at the 1 percent level for the social democratic vote regression and GDP appearing statistically significant at the 5 percent level for the radical right vote regression. This therefore indicates that a one unit change in the crude rate of net migration, i.e. when immigration exceeds emigration, is associated with a 0.250 percent decrease in the social democratic vote share. Whereas a one percent increase in GDP leads to a 0.134 decrease in votes for radical right parties. It should be noted that the robust standard errors for the GDP variable appear somewhat inflated, this could be an indication of

multicollinearity or simply that the GDP coefficient is imprecisely estimated. This feature is apparent in all estimates of the GDP variable in the NUTS 2 results.

Table 10. European Parliament Elections - NUTS 2 - Country Panels - Social Democratic Vote

	Germany	France	Netherlands	Belgium	Austria	Sweden	Czech	Denmark	Finland
Manufacturing	-0.065	0.102	-0.240	-1.500**	0.727	1.207*	-0.991	0.655	-10.721
	(0.300)	(0.528)	(1.803)	(0.523)	(3.613)	(0.596)	(0.663)	(1.360)	(10.711)
Unemployment	-0.062	-0.181	0.225	1.140***	1.047	-2.153	-1.111***	-2.842**	-5.581
	(0.164)	(0.382)	(0.691)	(0.331)	(1.356)	(1.460)	(0.239)	(0.908)	(3.304)
Migration	-0.141	-0.266	0.082	-0.486**	0.252	-1.25029*	-0.683	0.172	4.313
	(0.151)	(0.352)	(0.318)	(0.200)	(0.768)	(0.598)	(0.397)	(0.266)	(4.726)
GDP (log)	-9.630	16.384	-17.317	-5.594	27.920	83.620	-8.964	18.369	43.129
	(6.809)	(17.373)	(23.539)	(13.522)	(93.175)	(63.321)	(19.641)	(21.156)	(1.885)
Age	0.050	0.540	-0.028	-0.300	0.481	0.342	-0.443	-0.186	4.385*
	(0.272)	(1.333)	(0.763)	(0.268)	(1.501)	(2.379)	(0.998)	(0.752)	(1.885)
Education	0.031	-0.119	0.207	-0.033	0.757	-1.542	-0.240	0.266	-8.238
	(0.144)	(0.124)	(0.188)	(0.296)	(1.380)	(1.300)	(0.760)	(0.410)	(9.203)
Constant	128.894*	-162.859	197.043	120.963	-286.450	-818.713	168.539	-156.279	-331.647
	(69.108)	(221.883)	(267.056)	(125.076)	(842.100)	(497.652)	(161.999)	(244.092)	(653.910)
Region FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO	NO	NO	NO
Observations	108	63	36	33	27	24	24	15	15
R-squared (Within)	0.985	0.970	0.981	0.992	0.972	0.980	0.984	0.996	0.993

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 10 shows the country level results for the NUTS 2 European parliament election dataset with social democratic vote share as the dependent variable. Following convention, country level regressions with less than 30 observations are not discussed. Of the countries available for interpretation only Belgium shows statistically significant variables, with unemployment appearing statistically significant at the 1 percent level and manufacturing and migration appearing statistically significant at the 5 percent level. The coefficients suggest that a one unit change in the unemployment rate is associated with an average 1.140 percent increase in the social democratic vote share, while a one unit decrease in manufacturing is associated with an average 1.500 percent increase in vote share and a one unit increase in migration is associated with an average 0.486 decrease in vote share. While these findings appear plausible the very low number of observations should make one hesitant about drawing any strong conclusions.

Table 11. European Parliament Elections - NUTS 2 - Country Panels - Radical Right Vote

	Germany	France	Netherlands	Belgium	Austria	Sweden	Czech	Denmark	Finland
Manufacturing	0.238	-0.308	2.464	2.945*	7.959*	-1.318**	0.169	-0.522	3.463
	(0.224)	(0.852)	(1.460)	(1.383)	(3.795)	(0.443)	(0.151)	(1.129)	(8.680)
Unemployment	-0.094	-0.007	-0.120	0.523	3.475	-0.423	0.101	0.626	0.851
	(0.121)	(0.744)	(0.556)	(2.226)	(2.190)	(0.246)	(0.214)	(1.001)	(2.890)
Migration	0.083	0.172	0.549	-0.370	-0.887	0.031	-0.108	0.159	-2.286
	(0.139)	(0.495)	(0.315)	(0.599)	(0.780)	(0.050)	(0.188)	(0.252)	(3.934)
GDP (log)	0.335	7.566	-10.345	-81.275*	-41.743	-4.006	1.488	-6.547	-32.510
	(5.242)	(31.454)	(17.054)	(38.112)	(140.830)	(10.499)	(6.126)	(23.879)	(65.477)
Age	-0.302	1.533	2.803**	1.202	-2.111	0.785	0.290	0.654	0.283
	(0.215)	(1.200)	(1.255)	(1.191)	(2.846)	(0.407)	(0.491)	(0.773)	(0.632)
Education	-0.167	0.415	-0.298	0.767	-2.577	-0.041	0.065	-0.452	5.584
	(0.114)	(0.330)	(0.545)	(1.066)	(1.571)	(0.211)	(0.274)	(0.623)	(7.646)
Constant	13.501	-136.563	-5.399	683.439*	404.672	39.221	-35.004	64.547	149.163
	(50.627)	(353.074)	(194.881)	(352.106)	(1250.053)	(107.722)	(74.776)	(262.239)	(460.342)
Region FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO	NO	NO	NO
Observations	108	63	36	33	27	24	24	15	15
R-squared (Within)	0.963	0.910	0.974	0.897	0.886	0.996	0.976	0.999	0.999

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 11 shows the country level results of the NUTS 2 European parliament elections dataset with radical right vote share as the dependent variable. Of the countries available for analysis only the Netherlands shows statistically significant results at the 5 percent level or higher, with a one unit change in the age variable, equivalent to a one unit increase in the percentage of the population aged 45 or over, being associated with an average 2.803 percent increase in the radical right vote share. Again, this finding appears feasible; however, the number of observations for this country is low.

5.2 Results National Elections NUTS 2

Table 12. National Elections - NUTS 2 - Full Panel

	Social Democratic Vote		Radical Right Vote
Manufacturing	0.208	Manufacturing	0.003
	(0.166)		(0.160)
Unemployment	0.960***	Unemployment	-0.105
	(0.181)		(0.169)
Migration	-0.117	Migration	-0.011
	(0.072)		(0.088)
GDP (log)	3.571	GDP (log)	-3.152
	(4.672)		(4.805)
Age	-0.211	Age	0.085
	(0.200)		(0.176)
Education	0.088	Education	0.086
	(0.113)		(0.167)
Constant	-0.101	Constant	43.508
	(49.704)		(48.251)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	345	Observations	345
R-squared (Within)	0.910	R-squared (Within)	0.787

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 12 shows the regression output for the full European panel for the NUTS 2 national elections dataset. The year fixed effects show an average decrease in the vote share for both social democratic and radical right parties. No variables appear statistically significant on a European level for the radical right results, whereas only unemployment appears statistically significant at the 1 percent level for the social democratic results. With the coefficient suggesting that a one unit increase in the unemployment rate is associated with a 0.960 percent increase in the vote share of the social democratic parties.

Table 13. National Elections - NUTS 2 - Country Panels - Social Democratic Vote

	Germany	France	Netherlands	Belgium	Austria	Sweden	Czech	Denmark	Finland
Manufacturing	0.571	0.048	-0.015	1.489**	0.057	0.694	0.070	-0.120	0.920
	(0.713)	(0.108)	(0.893)	(0.652)	(0.835)	(0.607)	(0.606)	(1.023)	(1.900)
Unemployment	0.922**	0.376	0.984	-0.096	0.733	-1.022	0.421	0.590	0.085
	(0.447)	(0.412)	(0.877)	(0.904)	(0.643)	(1.560)	(0.381)	(4.808)	(1.255)
Migration	-0.097	-0.170	0.004	0.177	-0.215	-0.389	-0.584**	-0.472	0.002
	(0.198)	(0.257)	(0.096)	(0.412)	(0.185)	(0.222)	(0.243)	(0.814)	(0.790)
GDP (log)	-5.913	-8.417	8.323	-7.768	-24.014	19.511	-7.516	7.926	60.791
	(9.909)	(14.197)	(6.566)	(25.706)	(17.092)	(12.558)	(14.038)	(42.505)	(54.648)
Age	-0.132	-0.614	-0.053	-0.688	1.900**	1.045	1.392**	-0.194	1.007
	(0.290)	(0.966)	(0.435)	(0.405)	(0.703)	(0.941)	(0.486)	(0.614)	(1.513)
Education	0.710***	-0.066	-0.150	-0.860*	0.811	-0.303	0.727	0.046	-0.526
	(0.219)	(0.210)	(0.287)	(0.413)	(0.599)	(0.359)	(0.600)	(1.186)	(0.454)
Constant	81.092	152.971	-68.626	146.703	178.028	-208.300	30.395	-49.891	-664.352
	(103.354)	(159.729)	(87.279)	(252.045)	(156.098)	(170.046)	(136.219)	(480.389)	(577.330)
Region FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO	NO	NO	NO
Observations	108	63	36	33	27	24	24	15	15
R-squared (Within)	0.975	0.960	0.993	0.968	0.987	0.992	0.988	0.944	0.982

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 13 shows the country level results for the NUTS 2 national election dataset with the social democratic vote share as the dependent variable. Of the countries available for analysis only Germany and Belgium show statistically significant results above a 5 percent significance level. Education appears statistically significant at the 1 percent level and unemployment appears statistically significant at the 5 percent level for Germany, with a one unit increase in the share of people with a university level education being associated with a 0.710 average increase in the vote share and a one unit increase in unemployment being associated with a 0.922 percent increase in vote share. The country level regression for Belgium suggests that a one unit decrease in manufacturing employment leads to an average 1.489 percent decrease in the social democratic vote share. While these findings are again feasible, the number of observations for Belgium is very low.

Table 14. National Elections - NUTS 2 - Country Panels - Radical Right Vote

	Germany	France	Netherlands	Belgium	Austria	Sweden	Czech	Denmark	Finland
Manufacturing	0.112	-0.041	-1.142	4.619***	-1.481	-0.370	-0.121	-0.023	0.164
	(0.124)	(0.151)	(0.774)	(1.085)	(2.768)	(0.334)	(0.364)	(0.186)	(4.399)
Unemployment	-0.212	0.294	-0.778	-1.481	-1.942	1.946**	0.095	-0.390	-0.348
	(0.132)	(0.465)	(0.884)	(2.184)	(1.969)	(0.598)	(0.092)	(0.704)	(2.481)
Migration	0.030	0.383	0.031	0.170	0.317	-0.225	0.164	0.034	-0.686
	(0.079)	(0.283)	(0.102)	(1.132)	(0.788)	(0.142)	(0.092)	(0.145)	(1.771)
GDP (log)	-6.808**	-6.686	0.029	-62.710	28.676	-32.994**	2.204	-4.337	-55.151
	(3.240)	(13.972)	(0.102)	(41.507)	(95.799)	(9.455)	(3.803)	(6.829)	(113.064)
Age	0.128	-0.543	0.827	1.707	-3.053	1.382**	0.164	0.437**	-0.776
	(0.109)	(0.578)	(5.815)	(1.043)	(2.742)	(0.434)	(0.178)	(0.094)	(3.920)
Education	0.034	0.204	0.317	-1.653	-1.478	0.097	-0.371	-0.129	1.183
	(0.050)	(0.320)	(0.351)	(1.166)	(1.951)	(0.168)	(0.299)	(0.166)	(1.067)
Constant	66.907**	95.891	-1.772	523.841	-75.418	282.746***	-20.910	44.373	599.503
	(32.566)	(157.114)	(80.229)	(411.732)	(879.512)	(77.717)	(33.265)	(76.261)	(1184.189)
Region FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO	NO	NO	NO
Observations	108	63	36	33	27	24	24	15	15
R-squared (Within)	0.9717	0.935	0.9768	0.826	0.653	0.998	0.986	0.997	0.963

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 14 shows the country level results of the NUTS 2 national elections dataset with the radical right vote share as the dependent variable. Once again, of the countries available for analysis only Germany and Belgium show statistically significant results. With GDP appearing statistically significant at the 5 percent level for Germany and manufacturing appearing statistically significant at the 1 percent level for Belgium. The coefficients suggest that a one percent increase in GDP is associated with an average 0.068 fall in the vote share for radical right parties in Germany and that a one unit decrease in manufacturing employment is associated with an average 4.619 percent decrease in the vote share for radical right parties in Belgium. While these results are not unfeasible the number of observations for Belgium is very low and the change in vote share brought about by GDP in Germany is in practical terms very small.

Taken together the NUTS 2 level results provide a set of theoretically plausible findings. However, these results vary considerably between European parliament and national legislative elections. On a European level, the results suggest that an increase in net migration is positively associated with an increase in the vote share for social democratic parties in

European parliament elections and that an increase in unemployment is positively associated with a small increase in the vote share for social democratic parties in national elections. While for radical right parties, an increase in GDP is associated with a small increase in the vote share in European parliament elections. It suggests that for Germany both increases in the percentage of the population with a university level education and increases in unemployment are associated with a rise in the vote share for the SPD, while a one percent increase in GDP is associated with a very small fall in the radical right vote in national elections. For Belgium, it suggests that a one unit decrease in the share of manufacturing employment is associated with an approximate 1.5 percent decrease in the vote share of social democratic parties in both European parliament elections and national elections. While a decrease in manufacturing is associated with a near 5 percent decrease in the vote share for the radical right. This again appears plausible given that political party support amongst Belgian manufacturing workers may be divided between two or more parties. Finally, the share of the population over 45 years old appears to be statistically associated with votes for radical right parties in the Netherlands, suggesting that the youth vote goes more toward other parties on the political spectrum. However, while the number of observations for Germany is acceptable the number of observations for the Netherlands and Belgium is very low. Given this, solid conclusions cannot be built on these results. Therefore, both the discussion and the conclusions shall be built on the findings from the NUTS 3 regressions. These can be found in the following two sections of this chapter.

5.3 Results European Elections NUTS 3

Table 15. European Parliament Elections - NUTS 3 - Full Panel

Social Democratic Vote		Radical Right Vote	
Manufacturing	0.035	Manufacturing	0.006
	(0.050)		(0.046)
Unemployment	-0.019	Unemployment	-0.170***
	(0.063)		(0.053)
Migration	-0.031*	Migration	0.024
	(0.017)		(0.017)
GDP (log)	-0.065	GDP (log)	-2.474**
	(1.189)		(0.970)
Age	0.071	Age	-0.051
	(0.103)		(0.091)
Education	0.001	Education	-0.029
	(0.037)		(0.040)
Constant	20.769*	Constant	33.314***
	(12.536)		(9.727)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	1731	Observations	1731
R-squared (Within)	0.884	R-squared (Within)	0.927

Robust standard errors in parentheses
***$p<0.01$, **$p<0.05$, *$p<0.1$

Table 15 shows the regression results for the full European panel for the NUTS 3 European elections dataset. The year fixed effects show an average decrease in the vote share for the social democratic parties and an average increase in the vote share for radical right parties. While no independent variables appear statistically significant at the 5 percent or higher level for the European social democratic vote, two variables appear statistically significant for the radical right vote, namely unemployment at a 1 percent level and GDP at a 5 percent level. The coefficients suggest that a one unit increase in unemployment is associated with a 0.170 decrease in the radical right vote share and a 1 percent increase in GDP is associated with a

0.025 decrease in the radical right vote share. In practical terms, this change brought about by GDP is small.

Table 16. European Parliament Elections - NUTS 3 - Countries - Social Democratic Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing	-0.054	0.114	-0.170	0.422	0.580	0.792
	(0.058)	(0.182)	(0.619)	(0.283)	(0.667)	(1.195)
Unemployment	-0.012	-0.154	0.785	0.993	-1.395	-1.523
	(0.080)	(0.157)	(0.585)	(0.751)	(1.270)	(1.302)
Migration	-0.032	-0.034	0.018	-0.023	-0.305	-0.285
	(0.023)	(0.079)	(0.033)	(0.114)	(0.333)	(0.542)
GDP (log)	-2.341*	5.557	-3.340	4.309	0.275	14.915
	(1.203)	(4.191)	(5.760)	(11.782)	(18.722)	(28.420)
Age	0.026	-0.510	0.440	1.615	2.379	0.080
	(0.109)	(0.565)	(0.683)	(1.120)	(1.764)	(2.997)
Education	-0.021	-0.125	0.291	0.806	-0.075	1.373
	(0.050)	(0.077)	(0.258)	(0.503)	(0.504)	(1.347)
Constant	46.285***	13.106	30.823	-99.983	-77.475	-180.218
	(13.818)	(62.557)	(67.845)	(114.168)	(153.984)	(308.312)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.980	0.970	0.964	0.966	0.890	0.775

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 16 shows the country level results for the NUTS 3 European parliament election dataset with the social democratic vote share as the dependent variable. However, no independent variables are statistically significant at the 5 percent level or higher.

Table 17. European Parliament Elections - NUTS 3 - Countries - Radical Right Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing	0.065	-0.009	0.270	0.428	-0.466**	-1.021**
	(0.045)	(0.219)	(0.438)	(0.696)	(0.199)	(0.378)
Unemployment	-0.380***	0.229	0.608	2.184	-0.081	-0.705*
	(0.066)	(0.150)	(0.854)	(1.512)	(0.416)	(0.394)
Migration	0.007	0.024	0.044	0.004	0.188**	-0.145
	(0.017)	(0.111)	(0.052)	(0.174)	(0.087)	(0.201)
GDP (log)	-0.670	-14.764***	-4.156	5.476	-12.881*	6.007
	(0.812)	(5.142)	(7.986)	(14.645)	(6.706)	(6.081)
Age	-0.442***	1.414***	1.412**	-2.006*	0.433	0.072
	(0.099)	(0.467)	(0.625)	(0.989)	(0.967)	(0.774)
Education	-0.067**	0.137	-0.064	-1.438*	0.084	1.556***
	(0.033)	(0.101)	(0.319)	(0.710)	(0.282)	(0.411)
Constant	39.195***	73.921	-24.252	45.696	118.916*	-100.989*
	(10.438)	(65.962)	(85.541)	(129.164)	(64.475)	(54.590)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.942	0.966	0.953	0.862	0.975	0.973

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 17 shows the country level results for the NUTS 3 European parliament election dataset with the radical right vote share as the dependent variable. For Germany, unemployment and age are statistically significant at the 1 percent level, with a one unit increase in the unemployment rate being associated with an average 0.380 percent decrease in the vote share for radical right parties and a one unit increase in the share of the population over 45 years being associated with a 0.442 percent fall in the vote share for radical right parties. The percentage of the population with a university education appears statistically significant at the 5 percent level, with a one unit increase being associated with a 0.067 percent drop in the radical right vote share. For France, both GDP and age appear statistically significant at the 1 percent level, with a one percent increase being associated with an

average 0.148 percent drop in the vote share of radical right parties and a one unit change in the percentage of the population over 45 being associated with an average 1.414 percent increase in the vote share. It should be noted however that the GDP robust standard errors are rather inflated, which could be a sign that the coefficient is imprecisely estimated. For Finland, education is statistically significant at the 1 percent level and manufacturing at the 5 percent level, with a one unit increase in education being associated with an average 1.556 percent increase in the vote share for the radical right and a one unit decrease in the share of manufacturing employment being associated with an average 1.02 percent increase in vote share for the radical right. For Sweden, manufacturing employment and net migration are both statistically significant at the 5 percent level, with a one unit decrease in manufacturing employment being associated with a 0.466 increase in the radical right vote share and a one unit increase in net migration being associated with a 0.188 increase in the vote share of the radical right. For the Netherlands, age appears statistically significant at the 5 percent level, with a one unit increase in the share of the population over 45 years leading to a 1.412 percent increase in the vote share of the radical right.

5.4 Results National Elections NUTS 3

Table 18. National Elections - NUTS 3 - Full Panel

	Social Democratic Vote		Radical Right Vote
Manufacturing	0.262***	Manufacturing	-0.059
	(0.067)		(0.036)
Unemployment	1.149***	Unemployment	-0.258***
	(0.108)		(0.067)
Migration	-0.041**	Migration	0.022
	(0.018)		(0.014)
GDP (log)	0.636	GDP (log)	-0.570
	(1.343)		(0.686)
Age	-0.095	Age	0.033
	(0.129)		(0.084)
Education	0.546***	Education	0.078
	(0.068)		(0.056)
Constant	6.323	Constant	10.505
	(14.656)		(8.218)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	1731	Observations	1731
R-squared (Within)	0.887	R-squared (Within)	0.878

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 18 shows the regression results for the NUTS 3 national elections dataset. The year fixed effects show an average increase in the social democratic vote share in the early 2000s followed by a decrease and an average decrease in the radical right vote share in the early 2000s followed by an increase in the late 2000s. Manufacturing, unemployment and education are all statistically significant at the 1 percent level and positively associated with the social democratic vote share. While migration is statistically significant at the 5 percent level and negatively associated with the social democratic vote share. For the radical right vote share, unemployment is statistically significant at the 1 percent level. For the social democratic vote share, a one unit decrease in manufacturing employment is associated with a

0.262 percent fall in the vote share, while a one unit increase the unemployment rate is associated with a 1.149 increase and a one unit increase in the percentage of the population with a university degree is associated with a 0.546 increase. A one unit increase in net migration is associated with a 0.041 decrease in the social democratic vote share. For the radical right vote, a one unit increase in the unemployment rate is associated with a 0.258 percent decrease in the vote share.

Table 19. National Elections - NUTS 3 - Countries - Social Democratic Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing	0.251***	-0.073	0.067	0.671**	0.526	0.284
	(0.079)	(0.512)	(0.279)	(0.314)	(0.380)	(0.330)
Unemployment	1.269***	0.416	0.229	1.356**	-1.153	-0.602
	(0.134)	(0.449)	(0.606)	(0.511)	(1.315)	(0.553)
Migration	-0.055**	-0.099	0.001	-0.046	-0.002	0.089
	(0.027)	(0.131)	(0.047)	(0.107)	(0.024)	(0.191)
GDP (log)	-1.631	5.502	1.304	0.287	29.063	8.086
	(1.576)	(10.761)	(3.364)	(9.719)	(18.187)	(8.137)
Age	0.158	-0.621	-0.155	1.617***	0.465	0.158
	(0.150)	(0.922)	(0.300)	(0.504)	(1.161)	(0.831)
Education	0.759***	0.011	0.071	1.081**	-0.423	-0.281*
	(0.065)	(0.268)	(0.194)	(0.450)	(0.463)	(0.138)
Constant	-0.478	17.003	6.012	-64.942	-279.312	-65.094
	(17.349)	(128.387)	(38.663)	(88.662)	(193.911)	(88.365)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.9748	0.850	0.979	0.971	0.935	0.966

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 19 shows the country level results for the NUTS 3 national election dataset with the social democratic vote share as the dependent variable. Statistically significant variables above the 5 percent significance level are apparent for Germany and Austria. Manufacturing,

unemployment and education are all statistically significant at the 1 percent level and migration is significant at the 5 percent level for Germany. Whereas, for Austria, age is statistically significant at the 1 percent level and manufacturing, unemployment and education are all statistically significant at the 5 percent level. For Germany, a one unit decrease in the share of manufacturing employment is associated with a 0.251 percent decrease in the vote share of the SPD, while a one unit increase in the unemployment rate is associated with a 1.269 percent increase in the vote, and a one unit increase in the percentage of the population with a university education is associated with a 0.759 percent increase in the vote share. Finally, a one unit increase in net migration is weakly associated with 0.055 decrease in the German social democratic vote share. For Austria, a one unit increase in the share of the population over 45 years is associated with a 1.617 percent increase in the vote share of the SPÖ. While a one unit decrease in manufacturing employment is associated with a 0.671 percent decrease in the vote share of the SPÖ, a one unit increase in unemployment is associated with a 1.356 percent increase in the vote share and a one unit increase in the share of the population with a university education is associated with a 1.081 percent increase.

Table 20. National Elections - NUTS 3 - Countries - Radical Right Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing	0.024	0.040	-0.363	0.030	-0.858**	-1.058**
	(0.022)	(0.163)	(0.293)	(0.539)	(0.364)	(0.468)
Unemployment	-0.332***	0.318	-0.549	-1.732**	1.059	-0.591
	(0.048)	(0.217)	(0.565)	(0.740)	(0.846)	(0.631)
Migration	0.014	0.206**	-0.023	0.044	-0.002	-0.209
	(0.011)	(0.089)	(0.066)	(0.190)	(0.013)	(0.229)
GDP (log)	-0.706	-5.154	-1.453	13.224	-0.213	-2.197
	(0.500)	(4.728)	(3.465)	(9.798)	(9.162)	(11.458)
Age	-0.074	-0.297	1.079***	-2.839*	0.225	1.479
	(0.052)	(0.297)	(0.293)	(1.499)	(0.880)	(0.883)
Education	0.029	0.208	0.383*	-0.572	-0.342	0.516*
	(0.018)	(0.143)	(0.209)	(0.674)	(0.348)	(0.265)
Constant	15.902***	68.343	-16.141	27.529	9.060	-52.815
	(5.799)	(55.873)	(33.146)	(98.924)	(81.417)	(101.907)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.956	0.931	0.964	0.724	0.978	0.965

Robust standard errors in parentheses

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

Table 20 shows the country level results for the NUTS 3 national election dataset with the radical right vote share as the dependent variable. For Germany, unemployment is statistically significant at the 1 percent level, with a one unit increase in the unemployment rate being associated with a 0.332 percent fall in the vote share of the radical right. For the Netherlands, age is statistically significant at the 1 percent level, with a one unit increase in the share of the population over 45 being associated with a 1.079 percent increase in the vote share of the radical right. Migration appears statistically significant only for France, where it is significant only at the 5 percent level, with a one unit increase in net migration being associated with an average increase in the radical right vote of 0.206 percent. The share of manufacturing employment appears statistically significant for both Sweden and Finland, in

both instances at 5 percent level, with a one unit decrease in manufacturing employment being associated with a 0.858 percent increase in the vote share for radical right parties in Sweden, and a one unit decrease in manufacturing employment being associated with a 1.058 percent increase in the vote share of the radical right in Finland. Unemployment appears statistically significant at the 5 percent level for Austria, with a one unit increase in the unemployment rate being associated with a 1.732 percent decrease in the vote share for the FPÖ.

A full range of robustness checks were carried out on the results and it was concluded that the results are robust and can be subject to interpretation. The results of these robustness checks can be found in Appendix B. The interpretation and analysis of the NUTS 3 level regressions shall be presented in the following chapter.

Chapter 5. Discussion and Conclusion

5.1 Discussion

Motivated by a gap in the current literature and recent theory on the causes and effects of declining manufacturing employment this paper hypothesised that manufacturing employment might be an important determining factor in the changing vote share of both social democratic and radical right parties. Evidence for the significance of this factor was not however found in the majority of the countries analysed. Only for Germany was a strongly statistically significant negative relationship between declining manufacturing employment and the vote share for social democratic parties discovered, and here only in the dataset covering national elections. This finding, that a one unit decrease in German manufacturing employment is statistically associated with a 0.251 percent decrease in the vote share of the SPD appears entirely plausible on a theoretical level. Germany retains the highest manufacturing employment in the EU-15, at around 19 percent of total employment, albeit one that has declined precipitously over the last decades, having fallen around 14 percentage points since 1980[*]. Furthermore, it maintains one of the highest private sector union densities in Europe, with IG Metall, the trade union covering German manufacturing workers, being the largest industrial union in Europe, with close ties to the German SPD (Ibsen & Tapia, 2017). A decline in manufacturing employment, brought about by technological change and trade liberalisation can therefore be hypothesised to reduce the share of traditional core SPD voters by severing their ties with the labour movement and its institutions. A corresponding negative relationship between manufacturing employment decline and the social democratic vote share was found for Austria, in the national election dataset, albeit at a lower level of statistical significance. This again appears plausible, given that Austria has one of the highest shares of manufacturing employment in Europe, at around 16 percent of total employment and a similar institutional context.

While these findings could be attributed to rising regional unemployment or wage polarisation brought about by the shedding of manufacturing jobs, no corresponding evidence could be found to support this interpretation. No negative association between rising

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[*] Calculations based on Cambridge Econometrics Regional Database.

unemployment and the social democratic vote share could be found for either Germany or Austria. Rather the exact opposite; with rising unemployment being statistically associated with a rise in the social democratic vote share in both Germany and Austria in the national election datasets. However, no evidence of a corresponding positive relationship between manufacturing decline and the rise of the German and Austrian radical right could be found; a finding that contradicts expectations made based upon the findings of Dippel (2016; 2017). Similarly, no positive relationship between rising unemployment and the vote share of the radical right could be found for these countries. In fact, a strong statistical relationship between a rising unemployment rate and a decrease in the vote share of radical right parties was found for Germany in both datasets and a similar, and statistically weaker negative relationship was found for Austria in the national election dataset. A positive relationship between declining manufacturing employment and the rise of the radical right was however found for Finland and Sweden. Though these findings are at a lower 5 percent level of significance, closely corresponding findings, with similar coefficients appear in both the European parliament and national election results. These findings could be attributed to either wage polarisation, the emergence of a non-routine cognitive workforce or estrangement from the trade union movement.

While the influence of these factors on electoral performance are small, at around 0.25-1.5 percent. They are far from negligible when considering the shifting vote share of political parties over time. In fact, these levels of influence correspond closely with the levels of variables attributed practical significance by other researchers, using similar data (Stockhemer, 2017; Halla et al, 2017). The relatively small influence of these factors does, however, highlight that a fixed effect model using economic and demographic data is unable to control for the high level of time-variant unobserved heterogeneity that influenced voting. To take one illustrative anecdote to highlights this issue; in the 2002 legislative election in the Netherlands, the Pim Fortyn List (a hastily assembled electoral list of anti-immigrant right-wing populists) surprised commentators by winning 17 percent of the popular vote, a first for a party of this kind in the Netherlands. This boost in electoral support was widely attributed to the politically motivated assassination of the electoral alliance's leader Pim Fortyn mere days before the election (Hoggett, 2015: 57). Yet this success did not transfer to sustained support for radical right politics in the 2006 Dutch election where the better organised and financed Party for Freedom (widely seen as a successor to the Pim Fortyn List) achieved only 5.89 percent in the election. In this case, it seems, a bullet did more to bring the electors to

the ballot box than how they earn their money or the colour of their neighbour. Therefore, while economic and demographic factors undoubtedly affect voting patterns, a wide array of other factors that cannot be accurately accounted for play a significant role; ranging from the competency and popularity of leaders and local candidates to party finances, and from corruption scandals to the weather at a local polling station (Alvarez et al, 2000).

Variation in the findings is also apparent in the differences between the results for the European parliament elections and the national elections. While certain findings appear robust across the datasets, such as the negative influence of an increase in the unemployment rate on the radical right vote share in Germany, the influence of manufacturing employment on the radical right vote share in Finland and Sweden and the influence of age on the radical right vote share in the Netherlands, other factors perform differently. Looking at Europe as a whole, the results of the full panel regressions for the European parliament in Table 15, and national election datasets in Table 18, the findings are largely distinct, with the only common feature being a strongly statistically significant negative influence of unemployment on the radical right vote share, though it should be noted here that this finding is similar to that of Stockhemer (2017). This variation can be explained both by the different motivations of voters when voting in national and European elections and to the different sample years. EU countries vary significantly in terms of economic, demographic, historical, political, institutional and cultural factors, not to mention the nature of their radical right parties. This time variant unobserved heterogeneity cannot be adequately controlled for using fixed effects. This suggests that undertaking analysis on a European level using country and time fixed effects is not the most optimal way in which to analyse the influence of economic and demographic factors on electoral patterns. Carrying out single or multiple country studies, on the lowest level of aggregation with country specific variables to try to capture these factors appears the best avenue for future research.

Moving away from the issue of manufacturing to the broader hypothesis presented in the literature that economic grievances in terms of unemployment play a role in voting patterns; one finds evidence of a positive relationship between the unemployment rate and the social democratic vote share and a negative relationship between the unemployment rate and the radical right vote share on both a European level and for Germany and Austria. While no statistical significance was found for these factors in other countries. This perhaps suggests that, at least for these countries, the welfare state holds more appeal for the jobless than

border controls and work permits. Finally, GDP appears strongly statistically significant only for France, and only in the EU election results, with a one percentage point increase being associated with a 0.148 percent decrease in the radical right vote share. This means that this study finds no evidence for the hypothesis that a rising vote share for the radical right is driven by economic grievances, as measured by unemployment and GDP. Though it should be noted that this study does not specify alternative variables to examine this issue, such as within-work precarity or regional income and wealth inequality.

Some evidence for the impact of migration on voting patterns was found, though only at a 5 percent significance level. Evidence was found for a positive influence of net migration, namely when the number of immigrants exceeds the number of emigrants, on the radical right vote share in Sweden and in France. While evidence of a negative influence between net migration and the social democratic vote share was found for Germany. Some evidence was therefore found that mass immigration and free movement is related to the rise of the radical right and the decline of social democracy in these countries. It should be noted, however, that the crude rate of net migration is only a proxy for immigration and it is possible that this proxy does not adequately capture the effects of immigration. More precise measurements for immigration would of course be preferable, for example the immigration rate or the percent of foreign born residents. However, this data is not available on a regional cross-country level in units that are directly comparable. Nevertheless, examination of national statistics data by the author does suggest that this data is available on a high level of regional disaggregation for some countries, notably the Nordics and France. However, the manner in which the data is gathered and the definitions used in the measures appear to vary between countries making it difficult to combine them into one dataset or directly compare the results.

The share of the population with a university education appears significant for some countries in the study. A strongly statistically significant positive relationship between education and the social democratic vote share was found for Germany in the national election results while a smaller statistically weaker negative influence between education and the radical right vote share in Germany is found in the European election results. While a strongly significant positive influence between education and the radical right vote share was found for Finland in the European parliament results and a similar, though weaker, positive influence between education and the vote share of the radical right was found for Austria in the national election results. These findings suggest that there exists strong variation between countries in the

educational background of voters for the radical right. Though these findings should be treated with caution given that the Education variable was gathered on a higher level of aggregation.

The share of the population aged over 45 also appears to have an influence on voting patterns in some countries in the sample. Though this influence differs between countries. A statistically strong positive influence between age and the social democratic vote share appears for Austria in the national election results, though elsewhere no influence was found. A positive statistically strong influence between age and the radical right vote share was found for France in the European election results and for the Netherlands in the national election results, whereas a negative influence between age and the radical right vote share was found for Germany in the European parliament results. These results suggest that age is not a determining factor in most European countries and that the voter profile of radical right voters varies around Europe. However, it could be questioned how accurately this variable captures the age profiles of voters, particularly because this variable was gathered on a higher level of aggregation, meaning that one should be cautious about drawing strong conclusions from these findings.

Given the high level of time variant unobserved heterogeneity both within and between European countries future researchers are encouraged to dispense with single panel European analysis and instead undertake analysis on a country by country basis. This would enable researchers to better specify control variables for regional institutional and event based heterogeneity and to gather more accurate immigration data. Given that the GDP variable appeared statistically significant in for only one country, and given the precedent set by other literature which does not include GDP, it would also be advised to omit this variable. National accounts generally provide data that can more accurately control for economic grievances. Precarity could, where the data allows, be measured by involuntary part time work, while wealth and income inequality could be measured through a regional GINI coefficient or through the relative share of income between capital and labour (Doran & Jordan, 2013; Karabarbounis & Neiman, 2013). Country level analysis would, furthermore, allow the inclusion of all relevant election years, greatly increasing the number of observations. Finally, those wishing to carry out further research on the impact of manufacturing employment on electoral patterns may find that this impact can be better explored through constructing a measure of both exposure to automation and trade shocks

(Goos & Manning, 2009; Dippel et al, 2016). This avenue of research would thereby provide a contribution both to the empirical literature on the impact of economic and demographic factors on voting patterns but also the debate on the causes and consequences of declining manufacturing employment.

5.2 Conclusion

Taken together these findings suggest a negative relationship between declining regional manufacturing employment and the vote share of social democratic parties in Germany and provide some evidence of a similar influence in Austria. They do not, however, suggest a positive influence between this factor and the rise of the radical right in these countries. Nonetheless, evidence of a positive influence of declining manufacturing employment on the radical right vote share was found for Sweden and Finland. Beyond the influence of regional industrial dynamics this paper finds no evidence in support of the hypothesis that either the decline of social democratic parties or the rise of the radical right can be attributed to economic grievances, as measured by unemployment and GDP. Regarding unemployment, the effect appears exactly opposite. Some evidence was found for the impact of the crude rate of net migration (this papers immigration proxy) on voting patterns; with evidence of a positive influence of migration on the radical right vote share of Sweden and France, while evidence of a negative influence on the social democratic vote share was found for Germany. It is, however, unclear whether this impact is based on cultural or economic factors. Some evidence was found for the influence of both university education and age on voting patterns, with the impact of these variables differing between countries. Suggesting strong variation in the profile of voters, particularly radical right voters, between European countries. The size of the influence of these variables on vote share is small, but this is to be expected with electoral data and the results can therefore be deemed practically significant.

These findings constitute an original contribution to the literature on the impact of economic and demographic factors on voting patterns in Europe. However, this paper was also driven by a motivation to provide practical policy recommendations to the labour movement, and those interested in halting the advance of xenophobic and Eurosceptic political parties. However, the variation in the results discussed in this and the previous section make it impossible to provide generalised prescriptions on a European level. On a country level the findings suggest that policy makers and labour union officials in Germany, Austria, Finland and Sweden should make efforts to see that employers and local educational facilities provide lifelong training to ensure that workers have the necessary skills to compete in the rapidly changing modern labour market and that they are provided with adequate training and work placement schemes should they be rendered surplus to requirement in modern automated factory production. The findings also suggest that policy makers in Sweden, France and

Germany should provide better investment in integration schemes for new arrivals, nurture inter-cultural exchange and ensure that adequate legislation is in place and enforced to prevent the exploitation of migrant workers. While these policies may not successfully reverse current electoral trends, they will no doubt be welcomed by those who do feel 'left behind' by technological change and globalisation, however they choose to cast their vote.

Data References

Dependent Variable Data - Primary Source:

European Election Database (EED) – Norwegian Centre for Research Data (NSD)
User Citation:
Some of the data applied in the analysis in this publication are based on material from the "European Election Database". The data are collected from original sources, prepared and made available by the NSD - Norwegian Centre for Research Data (NSD). NSD are not responsible for the analyses/interpretation of the data presented here.

Dependent Variable Data - Secondary Sources:

Germany: Statistics office of the Federal Returning Officer - Der Bundeswahlleiter - Statistisches Bundesamt
France: Statistical Database of the Ministry of the Interior - Ministère de l'Intérieur Statistiques
Belgium: Belgian Electoral Database - Belgische verkiezingsuitslagen
Netherlands: The Electoral Council of the Netherlands - Kiesraad
Austria: Statistical database of the Federal Ministry of the Interior - Bundesministerium für Inneres
Denmark: Danish Statistics Database - Danmarks Statistik
Sweden: Central Statistics Office - Statistiska centralbyrån (SCB)
Finland: Statistics Finland - Tilastokeskus
Czech Republic: Czech Statistical Office - Český statistický úřad

Independent Variable Data:

Cambridge Econometrics European Regional Database
Unemployment rates by sex, age and NUTS 2 regions (%) [lfst_r_lfu3rt]
Population change - Demographic balance and crude rates at regional level (NUTS 3) [demo_r_gind3]

Gross domestic product (GDP) at current market prices by NUTS 2 regions [nama_10r_2gdp]

Gross domestic product (GDP) at current market prices by NUTS 3 regions [nama_10r_3gdp]

Population on 1 January by age group, sex and NUTS 2 region [demo_r_pjangroup]

Population aged 25-64 by educational attainment level, sex and NUTS 2 regions (%)[edat_lfse_04]

Additional Graph Data:

Quarterly national accounts by 10 branches - employment data [namq_nace10_e]

Bibliography

Acemoglu, D., & Autor, D. (2011). Skills, tasks and technologies: Implications for employment and earnings. *Handbook of Labor Economics*, 4, 1043-1171.

Alvarez, R. M., Nagler, J., & Willette, J. R. (2000). Measuring the relative impact of issues and the economy in democratic elections. *Electoral Studies*, 19 (2), 237-253.

Anderson, C. J. (2000). Economic voting and political context: a comparative perspective. *Electoral Studies*, 19 (2), 151-170.

Arntz, M., Gregory, T., & Zierahn, U. (2016). The risk of automation for jobs in OECD countries: A comparative analysis. OECD Social, Employment, and Migration Working Papers, (189), 0_1.

Art, D. (2011). Inside the radical right: The development of anti-immigrant parties in Western Europe. Cambridge University Press.

Arzheimer, K. (2008). Protest, neo-liberalism or anti-immigrant sentiment: What motivates the voters of the extreme right in Western Europe?. *Zeitschrift für vergleichende Politikwissenschaft*, 2 (2), 173.

Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, 118 (4), 1279-1333.

Autor, D., Dorn, D., Hanson, G., and Majlesi, K. (2016a). Importing political polarization? the electoral consequences of rising trade exposure. Technical report, National Bureau of Economic Research.

Autor, D., Dorn, D., Hanson, G., and Majlesi, K. (2016b). A note on the effect of rising trade exposure on the 2016 presidential election. Technical report, Mimeo, MIT.

Bale, T., Green-Pedersen, C., Krouwel, A., Richard Luther, K., & Sitter, N. (2010). If you can't beat them, join them? Explaining social democratic responses to the challenge from the populist radical right in Western Europe. *Political Studies*, Vol 58, 410-426.

Barone, G., A. D'Ignazio, G. de Blasio, & Naticchioni, P. (2016). Mr. Rossi, Mr. Hu and Politics. The Role of Immigration in Shaping Natives' Voting Behavior. Journal of Public Economics 136, 1–13.

Becker, S. O., & Fetzer, T. (2016). Does Migration Cause Extreme Voting? CAGE Working Paper 306.

Becker, S.O., Fetzer, T., & Novy, D. (2017). Who voted for Brexit? A Comprehensive District-Level Analysis, CEP Discussion Paper No 1480.

Berger, T., & Frey, C. (2016a). Digitalization, Jobs, and Convergence in Europe: strategies for closing the skills gap, Oxford Martin School.

Berger, T. & Frey, C. B. (2016b). Structural transformation in the OECD: Digitalisation, deindustrialisation and the future of work. OECD Social, Employment, and Migration Working Papers, (193), 0_1.

Beyens, S., Deschouwer, K., Van Haute, E., & Verthé, T. (2010). The Rise and Success of a (not so new) Party: the N-VA in Flanders, Conference Papers – American Political Science Association.

Bloom, S. (2012). Does a nationalist card make for a weak hand? Economic decline and shared pain. *Political Research Quarterly*, 65 (1), 166-178.

Bohman, A., & Hjerm, M. (2016). In the wake of radical right electoral success: a cross-country comparative study of anti-immigration attitudes over time. *Journal of Ethnic and Migration Studies,* 42 (11), 1729-1747.

Boltho, A., & Eichengreen, B. (2008). The economic impact of European integration. Discussion Paper No. 6820.

Bonekamp, L., & Sure, M. (2015). Consequences of Industry 4.0 on human labour and work organisation. *Journal of Business Media Psychology*, 6, 33-40.

Burgoon, B. (2012). Inequality and Anti-Globalization Backlash by Political Parties. *European Union Politics*, 14 (3), 408–435.

Clarke, H., P. Whiteley, W. Borges, D. Sanders, & Stewart, M. (2016). Modelling the Dynamics of Support for a Right-Wing Populist Party: The Case of UKIP. Journal of Elections, Public Opinion and Parties 26 (2), 134–154.

Dahlström, C., & Esaiasson, P. (2013). The immigration issue and anti-immigrant party success in Sweden 1970-2006: A deviant case analysis. *Party Politics*, 19(2), 343-364.

Degryse, C. (2016). Digitalisation of the economy and its impact on labour markets, European Trade Union Institute, Brussels.

De la Calle, L., & Fazi, A. (2010). Making nationalists out of Frenchmen?: Substate nationalism in Corsica. *Nationalism and Ethnic Politics*, 16 (3-4), 397-419.

Dippel, C., Gold, R., Heblich, S., & Pinto, R. (2017). Instrumental Variables and Causal Mechanisms: Unpacking the Effect of Trade on Workers and Voters (No. w23209). National Bureau of Economic Research.

Dippel, C., Gold, R., & Heblich, S. (2015). Globalization and its (dis-) content: Trade shocks and voting behavior (No. w21812). National Bureau of Economic Research.

Doran, J., & Jordan, D. (2013). Decomposing European NUTS2 regional inequality from 1980 to 2009: national and European policy implications. *Journal of Economic Studies*, 40 (1), 22-38.

Dwyer, R.E. (2013). The Care Economy? Gender, Economic Restructuring, and Job Polarization in the U.S. Labor Market, *American Sociological Review*, 78 (3): 390-416.

Egle, C. (2009). No Escape from the Long-term Crisis? The Social Democrats' Failure to Devise a Promising Political Strategy. *German Politics and Society*, 27 (2), 9-27.

Enyedi, Z. (2016). Paternalist populism and illiberal elitism in Central Europe. *Journal of Political Ideologies*, 21 (1), 9-25.

European Commission (2011). Regions in the European Union: Nomenclature of territorial units for statistics NUTS 2010/EU-27, Eurostat Methodologies & Working Papers, Luxebourg: Publications Office of the European Union.

European Commission, (2016). Employment and social developments in Europe: 2016, Luxembourg - Publications Office of the European Union.

Erlingsson, G. Ó., Loxbo, K., & Öhrvall, R. (2012). Anti-immigrant parties, local presence and electoral success. *Local Government Studies*, 38 (6), 817-839.

Fomina, J., & Kucharczyk, J. (2016). Populism and Protest in Poland. *Journal of Democracy*, 27 (4), 58-68.

Ford, R., & Goodwin, M. J. (2010). Angry white men: Individual and contextual predictors of support for the British National Party. Political Studies, 58 (1), 1-25.

Ford, R. and M. Goodwin (2014). Revolt on the Right: Explaining Support for the Radical Right in Britain. Abingdon, Oxfordshire: Routledge.

Frey, C. B., & Osborne, M. A. (2013). The future of employment: how susceptible are jobs to computerisation?. Technological Forecasting and Social Change, 114, 254-280.

Gerdes, C., & Wadensjö, E. (2008). The impact of immigration on election outcomes in Danish municipalities (No. 3586). IZA Discussion Papers.

Goldin, C., & Katz, L. F. (2007). The race between education and technology: the evolution of US educational wage differentials, 1890 to 2005 (No. w12984). National Bureau of Economic Research.

Goos, M. and Manning, A. (2007). Lousy and lovely jobs: The rising polarization of work in Britain. *The Review of Economics and Statistics*, 89 (1), 118–133.

Goos, M., Manning, A., & Salomons, A. (2009). Job polarization in Europe. *The American Economic Review*, 99 (2), 58–63.

Goos, M., Manning, A., & Salomons, A. (2014). Explaining job polarization: Routine-biased techno- logical change and offshoring. *The American Economic Review*, 104 (8), 2509–2526.

Gujarati, D.N., & Porter, D.C. (2009). Basic Econometrics: Fifth Edition, New York: McGraw-Hill International Edition.

Halla, M., Wagner, A. & Zweimüller (2017). Immigration and Voting for the Extreme Right. *Journal of the European Economic Association*. Forthcoming.

Halikiopoulou, D., & Vasilopoulou, S. (2014). Support for the far right in the 2014 European parliament elections: a comparative perspective. *The Political Quarterly*, 85 (3), 285-288.

Höchtl, W., Sausgruber, R., & Tyran, J. R. (2012). Inequality aversion and voting on redistribution. *European Economic Review*, 56 (7), 1406-1421.

Hoggett, P. (2015). Politics, Identity and Emotion. Routledge.

Hooghe, M., & Reeskens, T. (2007). Are cross-national surveys the best way to study the extreme-right vote in Europe?. *Patterns of Prejudice*, 41 (2), 177-196.

Ibsen, C. L., & Tapia, M. (2017). Trade union revitalisation: Where are we now? Where to next?. *Journal of Industrial Relations*, 59 (2), 170-191.

Jesuit, D., & Mahler, V. (2004). Electoral support for extreme right-wing parties: A subnational analysis of Western European elections in the 1990s (No. 391). LIS Working Paper Series.

Karabarbounis, L., & Neiman, B. (2013). The global decline of the labor share. The Quarterly Journal of Economics, 129 (1), 61-103.

Karreth, J., Polk, J.T., & Allen, C.S. (2013). Catchall or catch and release? The electoral consequences of social democratic parties' march to the middle in Western Europe. *Comparative Political Studies*, 46 (7), 791-822.

LeDuc, L., & Pammett, J. H. (2013). The fate of governing parties in times of economic crisis. *Electoral Studies*, 32 (3), 494-499.

Lee, C. S. (2005). International migration, deindustrialization and union decline in 16 affluent OECD countries, 1962–1997. *Social Forces*, 84 (1), 71-88.

Lindley, J. (2012). The gender dimension of technical change and the role of task inputs, *Labour Economics*, 19, no 4, 516-526.

Lucassen, G., & Lubbers, M. (2012). Who fears what? Explaining far-right-wing preference in Europe by distinguishing perceived cultural and economic ethnic threats. *Comparative Political Studies*, 45(5), 547-574.

Lubbers, M., Gijsberts, M., & Scheepers, P. (2002). Extreme right-wing voting in Western Europe. *European Journal of Political Research*, 41 (3), 345-378.

McQuinn, J. (2016). European Regional Database Manual, London: Cambridge Econometrics.

Mudde, C. (1996). The war of words defining the extreme right party family. *West European Politics*, 19 (2), 225-248.

Mudde, C. (2004). The populist zeitgeist. *Government and Opposition*, 39 (4), 541-563.

Oesch, D. (2008). Explaining Workers' Support for Right-Wing Populist Parties in Western Europe: Evidence from Austria, Belgium, France, Norway, and Switzerland. *International Political Science Review*, 29 (3), 349-373.

Pitts, F.H., Lombardozzi, L., & Warner, N. (2017). Beyond Basic Income: Overcoming the Crisis of Social Democracy? Basic Income Working Group, FEPS: Brussels.

Rilling, R. (2011). The Turmoil within the Elite, the Course of the Crisis and the Left. *World Review of Political Economy*, 2 (1), 66.

Rydgren, J. (2008). Immigration sceptics, xenophobes or racists? Radical right-wing voting in six West European countries. *European Journal of Political Research*, 47 (6), 737-765.

Rydgren, J., & Ruth, P. (2013). Contextual explanations of radical right-wing support in Sweden: socioeconomic marginalization, group threat, and the halo effect. *Ethnic and Racial Studies*, 36 (4), 711-728.

Ryner, M. (2010). An obituary for the Third Way: The financial crisis and social democracy in Europe. *The Political Quarterly*, 81 (4), 554-563.

Schmidtke, O. (2016). The 'Party for Immigrants'? Social Democrats' Struggle with an Inconvenient Electoral Issue. *German Politics*, 25 (3), 398-413.

Schmitt, H., Hobolt, S., & Popa, S. A. (2015). Does personalization increase turnout? Spitzenkandidaten in the 2014 European Parliament elections. *European Union Politics*, 16 (3), 347-368.

Spierings, N., & Zaslove, A. (2015). Gendering the vote for populist radical-right parties. *Patterns of Prejudice*, 49 (1-2), 135-162.

Stockemer, D. (2017). The success of radical right-wing parties in Western European regions–new challenging findings. *Journal of Contemporary European Studies*, 25 (1), 41-56.

Weber, H. (2015). National and regional proportion of immigrants and perceived threat of immigration: A three-level analysis in Western Europe. *International Journal of Comparative Sociology*, 56 (2), 116-140.

Appendix A: Robustness Checks – NUTS 2

In order to assess whether the inclusion of the Education variable was causing multicollinearity problems a range of robustness checks were carried out. The alternative GDP variable was substituted for the GDP variable derived from Eurostat and the regressions were run with the Education variable omitted. These checks were carried out for both the European and country models. Omission of the Education variable and substitution of the GDP variable were not found to substantially change either the coefficients or their statistical significance. These tests suggest the models used are robust and that multicollinearity is not biasing the results. While a full range of robustness checks were undertaken, for the sake of brevity only the regression tables for the model run without the Education variable are displayed beneath, all additional robustness checks are available upon request.

Table 9a Robustness Check - European Parliament Elections - NUTS 2 - Full Panel

	Social Democratic Vote		Radical Right Vote
Manufacturing	-0.170	Manufacturing	0.106
	(0.256)		(0.271)
Unemployment	-0.160	Unemployment	-0.124
	(0.126)		(0.135)
Migration	-0.250***	Migration	-0.061
	(0.091)		(0.095)
GDP (log)	-2.991	GDP (log)	-12.743**
	(5.515)		(6.022)
Age	0.049	Age	0.134
	(0.190)		(0.179)
Education		Education	
Constant	57.442	Constant	128.456
	(56.076)		(56.722)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	345	Observations	345
R-squared (Within)	0.918	R-squared (Within)	0.874

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 12a Robustness Check - National Elections - NUTS 2 - Full Panel

	Social Democratic Vote		Radical Right Vote
Manufacturing	0.205	Manufacturing	0.001
	(0.160)		(0.164)
Unemployment	0.979***	Unemployment	-0.087
	(0.187)		(0.153)
Migration	-0.122	Migration	-0.016
	(0.073)		(0.092)
GDP (log)	4.211	GDP (log)	-2.530
	(4.583)		(5.029)
Age	-0.255	Age	0.042
	(0.192)		(0.156)
Education		Education	
Constant	-1.015	Constant	61.350
	(49.091)		(50.168)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	345	Observations	345
R-squared (Within)	0.909	R-squared (Within)	0.787

Robust standard errors in parentheses

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

Appendix B: Robustness Checks – NUTS 3

In order to establish the overall robustness of the models used it was necessary to carry out robustness checks. This was done by repeatedly modifying the regression specification by removing regressors and observing changes in the coefficients, robust standard errors and statistical significance of the remaining variables. In addition to this the alternative GDP and migration variables, discussed in section 3 of Chapter 3 were substituted. The resulting changes were in almost all instances marginal, with only slight changes in the coefficients and robust standard errors occurring and the statistical significance of the remaining variables remaining in almost all instances unchanged. Based on these findings it can be concluded that the models used in this paper are robust. Given that the results of the regressions carried out using the NUTS 3 datasets form the basis of the analysis and conclusions in this paper and given that a condensed set of robustness tests for the NUTS 2 datasets are presented in Appendix A it is not considered necessary to provide further, more detailed examples of robustness checks in this section. While a full range of robustness checks were carried out for the NUTS 3 datasets for the sake of space given the large number of tables already presented in this paper only a representative sample of robustness checks for the NUTS 3 regressions are presented. The following section therefore presents one example for each regression and a brief description of the results.

Table 21. Robustness Check - European Parliament Elections - NUTS 3 - Full Panel

	Social Democratic Vote		Radical Right Vote
Manufacturing		Manufacturing	
Unemployment	-0.024	Unemployment	-0.171***
	(0.063)		(0.052)
Migration	-0.031*	Migration	0.024
	(0.017)		(0.017)
GDP (log)	0.055	GDP (log)	-2.452***
	(1.207)		(0.937)
Age	0.071	Age	-0.051
	(0.103)		(0.090)
Education	0.000	Education	-0.029
	(0.037)		(0.041)
Constant	20.337	Constant	33.236***
	(12.560)		(9.578)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	1731	Observations	1731
R-squared (Within)	0.884	R-squared (Within)	0.927

Robust standard errors in parentheses
***$p<0.01$, **$p<0.05$, *$p<0.1$

Table 21 shows the European parliament panel with the Manufacturing variable removed. The coefficients and robust standard errors change only very slightly for all remaining variables. The statistical significance of the GDP variable in the radical right regression can be seen to have risen, this is the result of a 0.002 change in the p-value. The statistical significance of all other variables remains the same.

Table 22. Robustness Check - European Parliament Elections - NUTS 3 - Countries - SD Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing		0.134	-0.159	0.460	0.586	0.792
		(0.183)	(0.615)	(0.328)	(0.659)	(1.170)
Unemployment	-0.009		0.786	0.923	-1.362	-1.520
	(0.079)		(0.590)	(0.751)	(1.178)	(1.217)
Migration	-0.033	-0.026		-0.017	-0.297	-0.284
	(0.022)	(0.080)		(0.159)	(0.293)	(0.550)
GDP (log)	-2.533**	5.819	-3.454	10.601	-0.752	14.952
	(1.176)	(4.173)	(5.748)	(12.077)	(14.951)	(28.221)
Age	0.023	-0.462	0.422		2.493*	
	(0.108)	(0.555)	(0.690)		(1.245)	
Education	-0.018	-0.113	0.288	0.480		1.379
	(0.050)	(0.075)	(0.257)	(0.526)		(1.197)
Constant	46.766***	6.306	29.255	-78.684	-74.348	-176.990
	(12.703)	(61.061)	(66.446)	(120.354)	(145.076)	(271.158)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.980	0.970	0.964	0.959	0.890	0.775

Robust standard errors in parentheses

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

Table 22 shows the results for each country in the European parliament dataset with the regressand being social democratic vote share. A different regressor was removed for each country. Slight changes to the coefficient and robust standard errors appear for some of the variables. The statistical significance of the GDP variable for Germany rises as the result of a 0.02 change in the p-value, while the age variable appears weakly statistically significant.

Table 23. Robustness Check - European Parliament Elections - NUTS 3 - Countries - RR Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing		-0.039	0.297	0.381	-0.473**	-1.020**
		(0.221)	(0.432)	(0.724)	(0.203)	(0.377)
Unemployment	-0.387***		0.610	2.272	-0.118	-0.702*
	(0.066)		(0.878)	(1.631)	(0.440)	(0.395)
Migration	0.008	0.013		-0.002	0.179**	-0.144
	(0.017)	(0.113)		(0.202)	(0.093)	(0.200)
GDP (log)	-0.437	-15.154***	-4.431	-2.339	-11.724*	6.039
	(0.785)	(5.145)	(7.975)	(14.304)	(5.836)	(5.891)
Age	-0.438***	1.343***	1.368**		0.305	
	(0.099)	(0.446)	(0.623)		(0.746)	
Education	-0.070**	0.120	-0.071	-1.037*		1.561***
	(0.033)	(0.101)	(0.317)	(0.629)		(0.409)
Constant	38.895***	84.057	-23.803	19.239	115.392	-98.088*
	(9.717)	(63.762)	(82.366)	(131.554)	(68.538)	(56.623)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.942	0.966	0.953	0.843	0.975	0.973

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 23 shows the results for each country in the European parliament dataset with the regressand being radical right vote share, with a different regressor removed for each country. Slight changes appear in the coefficients and robust standard errors of some variables. These changes are particularly small in the statistically significant variables, the significance of which does not change. The only notable dramatic change can be found for the GDP variable for Austria. The coefficient and sign of the variable changes markedly. Given that this variable shows no statistical significance in the final results and does not form part of the analysis this change need not be considered problematic.

Table 24. Robustness Check - National Elections - NUTS 3 - Full Panel

Social Democratic Vote		Radical Right Vote	
Manufacturing	0.259***	Manufacturing	-0.058
	(0.067)		(0.035)
Unemployment	1.188***	Unemployment	-0.272***
	(0.081)		(0.055)
Migration	-0.041**	Migration	0.022
	(0.018)		(0.014)
GDP (log)	0.579	GDP (log)	-0.551
	(1.339)		(0.690)
Age		Age	
Education	0.563***	Education	0.072
	(0.067)		(0.053)
Constant	1.957	Constant	12.005*
	(13.352)		(7.075)
Region FE?	YES	Region FE?	YES
Year FE?	YES	Year FE?	YES
Country-by-Year FE?	YES	Country-by-Year FE?	YES
Observations	1731	Observations	1731
R-squared (Within)	0.887	R-squared (Within)	0.878

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 24 shows the national elections panel with the age variable removed. Very little change occurs in any of the coefficients or robust standard errors for the independent variables, and the sign of each coefficient remains the same. The statistical significance of the variables similarly remains unchanged, though for the radical right regression the constant gains slight statistical significance due to a 0.112 change in the p-value.

Table 25. Robustness Check - National Elections - NUTS 3 - Countries - Social Democratic Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing	0.237***	-0.093	0.053	0.675**	0.527	0.442
	(0.077)	(0.520)	(0.272)	(0.279)	(0.374)	(0.389)
Unemployment	1.277***	0.368	0.288	1.353**	-1.152	
	(0.133)	(0.435)	(0.499)	(0.522)	(1.294)	
Migration	-0.054**	-0.121	0.002	-0.047		0.083
	(0.028)	(0.129)	(0.047)	(0.091)		(0.215)
GDP (log)		8.003	1.181		29.103	9.211
		(10.507)	(3.348)		(17.801)	(8.274)
Age	0.150		-0.171	1.621***	0.465	0.392
	(0.151)		(0.302)	(0.475)	(1.143)	(0.941)
Education	0.755***	0.037		1.079**	-0.423	-0.201
	(0.065)	(0.273)		(0.443)	(0.457)	(0.175)
Constant	-2.788	-62.754	7.065	-62.411**	-279.748	-85.134
	(9.123)	(103.579)	(36.640)	(29.452)	(189.766)	(81.724)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.975	0.850	0.979	0.971	0.935	0.964

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 25 shows the results for each country in the European parliament dataset with the regressand being social democratic vote share. A different regressor has been removed for each country. Only very marginal changes appear in the coefficients and robust standard errors with these being particularly small for the statistically significant variables. Furthermore, this statistical significance remains unchanged. The very weak statistical significance of the education variable in the Finland regression is lost through the removal of unemployment. However, given that this coefficient does not form part of the findings this need not be considered problematic.

Table 26. Robustness Check - National Elections - NUTS 3 - Countries - Radical Right Vote

	Germany	France	Netherlands	Austria	Sweden	Finland
Manufacturing	0.018	0.031	-0.339	0.034	-1.035***	-1.176**
	(0.022)	(0.164)	(0.292)	(0.533)	(0.306)	(0.501)
Unemployment	-0.329***	0.296	-0.557	-1.758**		-0.600
	(0.047)	(0.207)	(0.563)	(0.700)		(0.628)
Migration	0.015	0.196**	-0.022		-0.002	
	(0.011)	(0.089)	(0.067)		(0.009)	
GDP (log)		-3.957		12.653	2.453	-2.498
		(4.278)		(10.980)	(9.681)	(11.850)
Age	-0.078		1.065***	-2.787*	-0.384	1.485
	(0.051)		(0.276)	(1.487)	(1.009)	(0.926)
Education	0.027	0.221	0.392*	-0.549	-0.402	0.591*
	(0.018)	(0.136)	(0.207)	(0.675)	(0.394)	(0.286)
Constant	8.204***	43.966	-30.87*	30.387	14.315	-38.187
	(3.161)	(42.107)	(16.039)	(105.180)	(100.263)	(107.650)
Region FE?	YES	YES	YES	YES	YES	YES
Year FE?	YES	YES	YES	YES	YES	YES
Country-by-Year FE?	NO	NO	NO	NO	NO	NO
Observations	1104	282	120	105	63	57
R-squared (Within)	0.956	0.930	0.964	0.724	0.976	0.964

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Table 26 shows the results for each country in the national election dataset with the regressand being radical right vote share, with a different regressor removed for each country. Again, only very marginal changes occur in the coefficients, robust standard errors and statistical significance. One notable exception to this can be found in the manufacturing variable in the Sweden regression. With the omission of the unemployment variable the coefficient changes by 0.177 and the statistical significance increases. While this may be indicative of a lack of sufficient robustness in the specification for Sweden and should make one cautious about the interpretation of this coefficient the change is still relatively small.

A range of similar robustness checks found similarly marginal changes, with these changes being particularly small for the statistically significant variables. Therefore, based on these robustness tests the model for the NUTS 3 datasets can be considered robust and interpretation and discussion of the results can be justified.