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ECONOMIC VOTING IN THE EUROPEAN UNION:  
THE IMPACT OF THE EU ECONOMIC INTEGRATION INDEX

MA thesis

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I have written this Master's thesis independently. All viewpoints of other authors, literary sources and data from elsewhere used for writing this paper have been referenced.

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## **Abstract**

Economic voting has long been a popular theory, explaining voting behavior; its application to multilevel governance structures however is not widely studied. This research takes the EU as an example of multi-layered governance structure with varying democratic practices, and applies macro-level economic voting models to a sample of 141 elections in the 28 EU member states for the 1990-2016 period. In order to assess the impact of the EU on the economic voting phenomenon, a synthetic index of European economic integration was created, based on an existing methodology. The application of regression analysis on key macroeconomic factors on the support for the incumbent prime-ministerial party found that the macro-level economic voting hypothesis holds true for a number of predictors, including the growth of gross domestic product, income inequality and the effective number of parties. In the same time, the interactions with the integration index did not lead, as hypothesized, to the complete disappearance of economic effects on the vote, so it could not be claimed with certainty that European integration disqualifies the economic considerations of voters in the EU member-states.

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## **1. Introduction**

Economic voting is one of the more popular theories explaining voting behavior, and it has provided quite good results in predicting the choice of voters. The basic premise that economic voting has is that the electorate holds the government responsible for the developments of the economy, and so the changes in macroeconomic indicators may be used as a means of predicting future voting behavior.

While this premise holds true in many cases, it is most often applied only to national governments, the most important reason for this being that there are but a few cases in which it is feasible to expect that international organizations have a big enough impact of national economies so that voters may redirect their blame or praise towards them.

The European Union is a rather unique case in that sense, because it has significant influence on the economies of the member-states, but it does not completely overrule their sovereignty and right to direct their own economies. This in turn may lead to a blurring of responsibilities between the national governments and the EU administration, thus also mixing the economic voting behavior – in other words it could be expected that voters which attribute high importance to the EU administration's economic policy would be less likely to punish national governments for bad economic performance and reward them for good one.

While economic voting in the EU has been studied in the past, the actual relation between the strength of economic voting and the importance attributed to the impact of the EU on economic policy has not, or the existing research is very dated, and most of it is based on European parliament elections, not national ones.

The current study offers an alternative approach to the study of economic voting within the European Union. While macroeconomic variables remain the primary factors for electoral performance, this study uses a synthetic index of European economic integration to measure the degree to which the particular countries are dependent on the EU economy and its economic policy decisions at the time of each of the separate elections.

The range of this research is rather wide; it covers 141 individual elections in the 28 current member-states in the period between 1990 and 2016. Based on this data it was established that there is solid evidence for the existence of economic voting in the pan-

EU context, as several factors such as economic growth and income inequality maintained their significant effect on incumbent vote over a range of models.

What is more ambiguous however is the influence of European integration on economic voting. While the tests carried out provide some evidence of weakening of the economic effects as a result of the influence of European integration, no definitive evidence for the complete blurring of the lines of responsibility was found.

## **2. Theoretical background**

### *2.1. The evolution of the theory of economic voting*

The idea that there is a relationship between the performance of the economy and the electoral success of governments is almost as old as voting theory itself. In the 1930's and 1940's, when wide-range public opinion polls were taking their first steps and pioneering students of voting behavior were positing their first hypotheses as to why voters prefer one candidate to another, Tibbits (1931) suggested that there is a relationship between macroeconomic cycles and voter choice; Gosnell and Coleman (1940) related the trends in the politics of Pennsylvania with the economic conditions of the state.

It was in the 1960s that the development of economic voting theory really took off, with the publication of a wide array of seminal works in the field which shaped its appearance today. Key (1966), based on US public opinion data and electoral results, claimed that voters act rationally, and subsequently that they punish governments in elections for economic failures. Goodhart and Bhansali (1970), studying the factors for the popularity of prime ministerial parties in the UK studied the impact of two major macroeconomic variables – unemployment and inflation, while also claiming that there is a cycle in the support for the governing party between elections, characterized by a slow decline after elections and around the middle of a particular government and a surge before the next election. Furthermore, Goodhart and Bhansali introduced the idea of adding a certain lag to the economic voting models; in their particular case they claimed that when studying this phenomenon the effect of unemployment has a lag of four to six months, while inflation does not exhibit such a delayed effect.

Kramer (1971) further enriches the theory of economic voting by considering the costs associated with acquiring information and making an informed electoral choice. He claimed that the economic performance of the incumbent party is a relatively “cheap” way to obtain this information, compared to the alternatives – if the performance in the pre-election year is “satisfactory” for the voters they would support the incumbent, otherwise turn to the opposition. Kramer applied this assumption to a rather large number of congressional elections in the US, while in the same time using a new set of variables to abstract economic performance – growth of per-capita income, costs of

living and the absolute change in unemployment. Kramer's results however were mixed, as he found that real income is the most important and significant factor, but in the same time in his model unemployment had an effect contrary to the theoretical expectations. Stigler (1973) however shed some doubt over the findings of the previous economic voting theorists, claiming that the effects observed before him were barely significant and were a result of very careful model setting. To prove this, Stigler took Kramer's models and by slightly adjusting the time period and the independent variables made the coefficients disappear and change signs. Despite the arising criticism, authors like Tufté (1978) continued to use economic conditions as predictors of electoral results in various types of elections, in this particular case the midterm congressional elections in the US.

After the vast expansion of the base of empirical studies (the ones mentioned here are but a few of the most prominent ones; as Lewis-Beck and Segmeir (2000) put it, the number of papers on the topic quite soon "*changed from a trickle to a torrent of over 300 articles and books on economics and elections*"), the discussion went back to its normative basis. A strong claim points out that the popularity and attraction of economic voting comes to its close relationship with the idea of democratic accountability – in practice, economic voting is but a paraphrasing and concretization of the idea that citizens (voters) hold governments responsible for their (economic) performance (as pointed out, *inter alia*, by Kuklinski and West 1981).

More importantly, all the tradition of economic voting literature so far has been focused only on macro-level phenomena – macroeconomic indicators and their relationship to vote results. In time economic voting models became more nuanced. Aside from the need for a certain time lag when using macroeconomic predictors of vote choice, Nannestad and Paldam (1994) put forward the notion that there is also a maximum period for which voters hold the memory of a government's economic performance. According to their myopia theory, voters "remember" economic events for no more than a year and therefore it is of little use to introduce longer time series in economic voting models. Nannestad and Paldam also continued the work of Goodhart and Bhansali (1970) by quantifying the loss of support over time, and found that ruling parties on average lose 1.7 percent of their support over a single period in government.

Macro level – or objective – economic voting theories suffer from one major drawback – there is a possibility that their results are spurious, as they attempt to explain individual-level behavior (voting choice) with aggregate-level data (macroeconomic factors and aggregated vote), or commit the so-called ecological fallacy (see Robinson, 1950). This, however, does not mean that macro-level results are necessarily wrong, but rather that they need further corroboration from individual-level analysis. In order to avoid possible issues in this direction, students of economic voting have more recently turned to analyzing public opinion polls and the declared support for incumbent parties and perceived economic conditions rather than the actual vote and registered macroeconomic conditions.

Following this line of inquiry, Kinder and Kiewiet (1981) posit that voters follow their perceptions of the state of the national economy rather than their personal economic development. Similar to Goodhart and Bhansali, Fiorina (1978) claims that voters vote upon the previous economic performance of governments rather than their prospects (and promises) for future economic achievements.

Individual-level studies have also helped uncover many different factors surrounding economic voting, for instance that it may depend on the left-right positioning of the governing party in question or on the international context and on the institutional arrangements in the particular country, on its the globalization and economic integration within the international community. The latter fall under the category of “clarity of responsibility” issues of economic voting, which will be reviewed in more detail in the following segment.

## *2.2. Clarity of responsibility in economic voting*

In their seminal study Powell and Whitten (1993) put forward a rather novel idea to the economic voting theory. While previously most studies have been focused on single countries, according to Powell and Whitten most have faced difficulties when attempting to include a large number of countries and time periods in a single model. They attribute this “puzzle” to the lack of attention to the context and circumstances in which voters evaluate the performance of policymakers, and claim that a number of surrounding factors that need to be taken into account – the structure of the opposition, the structure of government (be it minority or majority governments, coalitions or

single-party), and the overall institutional setting. Powell and Whitten found that for the countries with blurred economic responsibility between opposition and government the economic effects on vote were very weak, while in those where there was clarity of responsibility they were significantly more noticeable, essentially opening the alley for the introduction of various “environmental” factors to account for this in economic voting models.

Their findings were corroborated by a number of subsequent studies: Whitten and Palmer (1999) extended the theoretical framework over a significantly larger number of cases and found that the importance of clarity of responsibility still held; Anderson (2000) added the clarity of available alternative and found that the economic effects on the vote are stronger where there are fewer viable political alternatives; Nadeau et. al. (2002) also considered factors the importance of party system fracturing, government longevity and ideological cohesion of the government and the proportional of parliament seats held by the governing party or parties. Hobolt, Tilley and Banducci (2013) demonstrated that in some cases it is worthwhile to separate the various clarity of responsibility factors and show that while government cohesion has a direct impact on economic voting, formal institutional rules do not, at least in the EU countries they studied.

The clarity of responsibility theory has, inevitably, also drawn criticism - Royed, Leyden, and Borrelli (2000), while revisiting Powell and Whitten’s original hypothesis over an extended set of cases, found that, contrary to their argument, strong economic effects were observed in countries with apparently low clarity of responsibility. Furthermore, they claim that there could be a factor which causes strong economic effects in countries with coalition governments, and stress on the need to focus on an alternative reading of the political context of the studied countries. Anderson (2007) added that recent empirical findings should force scholars to rethink the ways that economic voting is analyzed due to its highly contingent nature.

Most importantly for the current analysis, clarity of responsibility has yet another dimension – that of multilevel governance. In other words, when there is more than one level of decision-making, there is a possibility that responsibility for the outcome of the decisions becomes blurred. This is especially true for economic policy, where the

outcomes are the result of a myriad of interconnected factors such as tax regulations, trade regimes, central bank policies, investment, which are often the responsibility of many different actors. Anderson (2006) tested the impact of multilevel governance on the subnational level and found that greater fiscal independence of the local government structures led to decreases in the economic effects on the vote for national governments. According to Anderson, accounting for multilevel governance may well be the “missing piece of the puzzle” which would make economic voting models widely applicable and reliable over multiple countries and years (he himself, however, tested only developed democracies and elections at the end of the 90’s).

Following the same argument on the impact of the decentralization, León (2010) focused only on the “asymmetrically decentralized system” of the Spanish State of Autonomies over twenty years. She discovered that clarity a responsibility has a u-shaped form; where the power over economic affairs was clearly endowed with either in the local or the central government there were strong economic effects, while where the responsibility is unclear, they were much weaker.

Both those studies focused on multilevel governance within the state; a possible reason for this is that there are very few cases of supranational economic and political integration to allow for sufficient blurring of the lines of responsibility to impact voting. Such however exists, and has been studied quite extensively, in the European Union. While similar conditions may also be found in federal and/or highly decentralized countries, where many governance decisions are taken on a rather low level and the distance between the central government and the individual voter is pretty large, they still lack the variety of conditions and contextual factors which can be examined when focusing on the EU as a whole. As the separate European countries have quite distinct history of political and social development and varying institutional settings, while in the same time being integrated in the same multilevel governance structure – the EU – they make a most appropriate setting for the study of economic voting both over a wide range of countries and in the presence of multilevel governance.

### *2.3. Economic voting in the European union*

The distribution of power and decision-making rights in the European Union has been the subject of quite extensive academic interest, and there is a general consensus that the

process of European integration has created a fleshed out and functioning system of multilevel governance (see Hooghe and Marks, 2001, Kohler-Koch and Eising, 1999); some even argue that it has started forming a government proper (Jordan, 2001). Given the previous findings of clarity of responsibility research, the market integration and redistribution through the EU budget may lead to blurring of the lines of responsibility between the national governments and the administration of the EU.

Most of the scholarship on the subject has focused on the elections for European Parliament(EP), as they are the ones which are truly specific for the EU. Studying the 2004 and 2009 EU elections, Bartkowska and Tiemann (2015) found that economic factors were significantly related to the support granted to government parties in EP elections and focus on the importance of the factors behind vote abstention in them. Bartkowska and Tiemann establish that the perceived importance of the European institutions for economic policy is a determinant for economic voting – those voters who claim that national governments hold economic decision-making power are more likely to vote economically compared to those who believe that this power is concentrated in Brussels as a result of EU integration. Okolikj and Quinlan (2016) focus on the 2009 and 2014 EP elections and support the previous findings – they find that the economic effects were even stronger in 2014 and that the economic crisis sharpened that economic motivation behind party support, especially in countries which received bailouts. They also establish that national concerns, rather than “true European” ones were more important when voting in EP elections.

One fundamental issue with the study of EP elections is that they are considered to be second-order elections (Reif and Schmitt, 1980), perceived as having lesser importance compared to national elections by the voters. While some more recent studies shed doubt that they remain second-order after the 2004 enlargement (for instance, Koepke and Ringe, 2006) this in turn means that it is not possible to directly transfer observations from EP elections to national elections, or even expect similar electoral behavior.

Several studies have also focused on the impact of the economic importance of the EU in national elections. Lobo and Lewis-Beck (2012) focus on the worst-hit by the economic crisis countries – Italy, Spain, Greece and Portugal – and find that the

perceived economic responsibility of the EU is a significant modifier of the economic voting factor; as the perceived importance of the EU grows, the economic voting factor shrinks. Delving further into the same subset of countries, Lewis-Beck and Nadeau (2012) found that they exhibit strong economic voting, which only magnifies the findings of the previous study.

Finally, there are also some studies which use the EU as a common denominator for studying economic voting. Roberts (2008) studied the 10 Central and Eastern European members of the EU and established the existence of a rather extreme form of economic voting, which he dubbed “hyper accountability” - not only did voters in these countries vote economically, but their economic voting did not translate into the traditional punishment-or-reward dichotomy, but rather punishment-or-greater-punishment; virtually all governments lost votes between elections, but those with poor economic performance lost significantly more support. Ju (2016) revisited the same set of countries, and established that over a longer timespan even more economic factors bear importance for the vote results. Talving (2016) on the other hand focused on Western Europe and found strong links between perceived economic performance and incumbent party support; she also stressed the importance of economic policy as predictor of individual vote choice.

#### *2.4. Criticism and caveats*

Aside from the aforementioned possibility of falling into an ecological fallacy pertaining to macro-level economic voting studies, there are several other important criticism which need to be kept in mind when studying the phenomenon. One such is endogeneity – the possibility that political support and economic perceptions are linked not as economic voting theory suggest, but the other way around and political preferences determine the way voters perceive economic realities (see, *inter alia*, Wlezien, Franklin and Twiggs, 1997). This issue is a more important problem for micro-level studies, as they use party preference and perceived economic conditions, and while correlation between those and actual election results and real economic conditions are quite close, they never represent each other perfectly. Endogeneity can be the product both of partisan bias and of simple lack of knowledge of the economy, as shown by Nannestad and Paldam (1994).

As discussed above, a number of studies also demonstrate the instability of the results – it often becomes more difficult to maintain the significance of economic effects over larger temporal or spatial samples, and models are often very sensitive to minor changes in the variable composition and case selection. This calls for more rigorous testing, estimating a number of different models, with different variable compositions and on different subsets of data as well as employment of validation techniques in order to avoid the possibility of spurious and unstable relationships. A related issue is also the homogeneity of economic effects; as Duch, Palmer, and Anderson (2000) demonstrate, economic effects can be different for various groups of people – in their case the more informed citizens, but applicable among many other separate social groups.

Providing certain, at least partial solution to these problems is among the goals this study; while findings may be difficult to compare due to vastly different contextual factors of the separate cases, here I attempt to merge a wide variety of different countries and elections, thus highlighting a potential underlying common mechanism. The way this is done is discussed in greater detail in chapter four, dedicated to research design.

### **3. Hypothesis – the impact of European integration on economic voting in the EU**

As the previous chapter described, economic voting theory is centered around the idea of economic responsibility, and the voter's awareness and willingness to punish or reward governments for the performance of the national economy. The clarity of responsibility concept adds that economic voting is a viable explanation of voting behavior only in cases where the responsibility for the performance of the economy can be reasonably attributed and placed within the control of the central government (or the government that the particular vote is directed at); the application of the economic voting theory becomes harder in cases where clear economic responsibility is not present.

The main goal of this study is to establish whether there is a blurring of the lines of responsibility in the complex institutional context of the European union. The quite extensive literature devoted to European integration (see, for instance, Kelstrup and Williams, 2006; Sandholtz and Sweet, 1998; Baldwin and Wyplosz, 2006) leaves little doubt of the very deep economic and political – both horizontal and vertical – integration between the member states of the European union. There are multiple ties among them – the common market and trade area, free movement of people and common policies in various areas from agriculture and development to foreign relations. As a result of the “ever closer union”, however, inevitably an even more significant part of the political and economic coordination of the member-states is conducted via the administration and institutions of the European union; this has especially been true after the rise of the economic crisis and the financial bailouts for a number of the hardest-hit countries, the introduction of several stimulus packages and recovery and the strengthening of economic conditionality within the EU (Van Riet, 2010; Sacchi, 2015; Schmidt, 2014). This process, I claim, may have taken away some of the ability of national governments to control the development of the economy of their own countries; of importance may also be the habit of a number of governments to shift the blame for bad economic or other performance to Brussels, thus leaving the impression that the EU administration has assumed control of the most important political and economic decision-making. Even less responsibility is left to the countries which are members of the Eurozone, as they have little control not only over their economic policy, but also

their fiscal policy as a result of the delegation of the fiscal policy decision-making process to the European central bank.

The interplay between European integration and economic voting is a result of the other specific trait of the EU integration – the so-coined ‘democratic deficit’ (see Follesdal and Hix, 2006) of the institutions of the EU. In a nutshell, the democratic deficit means that most of the institutions of the EU have relatively low democratic accountability and little oversight from democratically elected bodies and officials relative to their decision making power and the consequences of their policies; there also are a few mechanisms allowing the democratically elected national governments to influence those institutions directly, especially those of the smaller countries.

I expect that the combination of democratic deficit and the transfer to a certain extent of the power to influence the national economies would result in a blurring of the lines of the economic responsibility of the national governments of the member states of the EU. Naturally, in order to even discuss responsibility in terms of economic voting, it is necessary to first establish the existence of the economic voting phenomenon in the particular context; therefore, the first hypothesis to be tested is, as follows:

**H1: Voters in the member states of the European punish the incumbent government for bad economic performance by voting for the opposition in national elections, and, conversely reward the incumbent government for good economic performance by voting for it in elections.**

Once that the existence of the economic voting phenomenon has been established (or rejected), the second hypothesis to be tested concerns the consequences of the integration of the EU, as follows:

**H2: The higher the degree of economic integration of the EU member states is, the smaller is the economic effect on the incumbent vote.**

#### **4. Research design**

As was demonstrated in the second chapter, there are a couple of different approaches towards the study of economic voting. The pioneering research used primarily macro-level economic data and election results, while focusing on single countries or a small selection of countries, while newer research generally prefers using individual-level survey data as the source of both independent and dependent variables. There is also a wide array of statistical instruments available for the processing and analyzing the data, which bring to the table different types of abstraction and provide different insights into the observed empirical dependencies and relationships. These choices influence greatly the final results and outcomes of the study, so in this section I will describe the motivation behind each of them in detail.

##### *4.1. The comparative study design*

The most basic choice in any social or political research is whether to study a single case or make comparisons among many. As the specifics of the European Union (at present) do not allow it to be treated as a single case, unless the studied matter concerns the European administration and common policies itself, it lends itself to the comparative study of its individual members, which, while retaining certain differences between each other, form a generally homogeneous group of countries.

Landman (2003) offers an excellent enumeration of the advantages and purposes of comparative studies, which here I summarize briefly as they pertain to the current study. He finds the comparative approach to be most appropriate in situations where the aim is achieving a relatively high level of abstraction and discovering common, underlying trends, characteristics and conditions, which in turn allow for achieving knowledge and information which is not specific for the separate cases, but can be generalized and further applied as a principle over a wide number of cases.

A necessary clarification, however, is that true generalization can only be found in natural sciences, and even there some exceptions of generally true and universally applicable laws exist. While in the study of social phenomena some general conditions do exist – all societies have economies and some sort of organization of common affairs, or government – they tend to be so divergent that it is nearly impossible to find general principles which hold true for all of them (as shown, for instance, by

Ebbinghaus, 2005). Because of this, most research focuses on a subset of countries or social groups which exhibit common characteristics, as among them it is reasonable to expect similar phenomena.

In this particular case, the comparison is among 141 individual elections held in the countries in the European Union between 1990 and 2016; the lower limit of the timeframe is set primarily by the availability of data and the specifics of the measurement of European integration, which would not be feasible for a longer period (for more details see the chapter on the composition of the integration index).

#### *4.2. Level of analysis*

The choice between micro- and macro-level study denotes the difference in the unit of analysis – while the former analysis the behavior, choice and decisions of the individual, the latter studies those of the group – in the case of macro-level voting studies, those of an entire electoral body. As was discussed in the theoretical framework, the choice of one over the other is a tradeoff between the limitations and shortfalls of the two approaches. For the macro-level studies these are primarily mathematical problems and the need to avoid the ecological fallacy; these issues prompted the majority of research on economic voting to focus on the individual level.

There are a number of issues with micro-level design, which become magnified with the increase of the scale of the study. As the sample includes many countries from the former Eastern Bloc and relatively new members of the European Union, there would have been a number of gaps and differences in the availability of survey data, which in turn would have prompted me to “stitch” data from several independent surveys; this is not desirable as the data would not have been consistent and equivalent due to the different methodologies applied by the different studies. Of some importance is also the discrepancy between the reported voting preference in polls and the actual votes cast in the election (see Asher, 2016), which is essentially multiplied with the inclusion of more heterogeneous cases in the sample, especially where voters have broader choice and are more prone to abruptly switch their preference, as is the case of many Eastern European countries (see Gherghina, 2014). There is often even a greater discrepancy between the declared intention to vote and the actual act of voting – Todd (2012) demonstrates that it is quite often that respondents who self-report an intention to vote actually do not.

Furthermore, Kramer (1983) points out that a relatively small portion of the income of the individual is attributed to the actions of the government, and as a result the the magnitude of government-induced change in the perceived economic conditions may be distorted. Conversely, conducting both individual- and macro-level analysis on the same cases, Erikson (2004) finds that the economic effect on the vote as measured on the individual level is almost twice as large compared to that on the macro level. Comparing the claims of Erikson and Kramer gives an impression that the variability between micro- and macro-level analysis of economic voting is quite case-specific, and their equivalence should be claimed with caution and further analysis.

I do not claim that the micro level of analysis is by any means inferior to the macro level, but merely that the latter is better suited for the purposes of my analysis. Using macro indicators allows me to have uniform and conforming measurements across all the variables, without the need to correct them to take into account the possibly fundamentally different understandings of the populations of the EU countries for economic development; sticking only to it avoids the possibility to mix the levels of analysis, introduced by the objective (and macro-level) measurement of the degree of EU economic integration.

As far as the possibility for committing an ecological fallacy, previous research has demonstrated that the hypothesized here relationship between the shift of economic responsibility in the European Union and economic voting exists on the individual level – Lewis-Beck and Lobo (2013), for instance, have shown that the individual perception of the economic responsibility of the EU is a significant predictor of vote choice both as a standalone variable and as a modifier of individual perception of the economic development; in my analysis I transfer essentially the same hypothesis on the macro level and test it over a larger sample of countries and elections.

A final consideration is the ability to construct not only explanatory, but predictive models (see Taagepera, 2007; Taagepera, 2008; Steyeberg et. al., 2003), which may be applied for the prediction of electoral results in Europe on the basis of economic development. One of the key requirements for the successful construction of predictive models is parsimony – the use of as few predictors as possible, keep them as simple as possible and have as few assumptions as possible. Overall, macro data fits this

requirement better, especially in terms of real-world application, as while individual-level data may not be readily available or usable, macro data more often than not is, and is significantly simpler to interpret and apply.

### *4.3. Operationalizing vote choice, economic performance and clarity of responsibility*

#### *4.3.1. Vote choice*

The study of economic voting inevitably focuses on vote choice, and the selection of the macro level of analysis poses the further constraint to study the electoral preference of groups of people. While this can, theoretically, be done on the regional or municipal level, data is not readily available for all the EU countries, and if it were, due to the differences in their electoral systems it would not be directly comparable (Birch, 2001). These specifics and incomparabilities limit the analysis to the national level; as all European electoral systems at a certain point translate electoral results gathered in the local level to a distribution of seats in a representative assembly, without taking into account the different electoral systems it is safe to assume that the electoral results among all of them are comparable, as all can be interpreted as a share of the total vote in a given country or as a share of the total number of seats in its representative assembly. The next important question is – whose vote? Government types differ greatly between countries, as does their composition. Most studies of economic voting in the US focus on the support(or vote) for the president or the presidential party(for instance, Erikson, 2009), as they are widely perceived to hold the decision-making power sufficient to influence economic development. In Europe, however, there is no uniform formula for power distribution, as various systems with different power structures exist, with most of the power sometimes vested in the president (e.g. in France), but more often in the prime minister. In parliamentary democracies, however, it is quite possible that coalition governments be formed, leading to the division of decision making power among several parties and thus blurring of responsibility. Debus, Stegmaier, and Tosun (2014) however demonstrate that junior coalition members do not benefit in elections as the result of good economic development of the country; even more, according their study of German elections the prime minister herself is the focus of economic responsibility. Fisher and Hobolt (2010) also find that voters hold the head-of-government's party chiefly responsible. Because of these findings I will take into account only the electoral

result of the prime minister's party, and not any junior coalition members, or opposition parties. A secondary line of reasoning for focusing only on the head-of-government's party is that there are very few cases where a previous prime minister's party gets such a small fraction of the vote that it becomes a minor member of the opposition or falls under an electoral threshold (aside from the 2010 election in Latvia, 2006 in Slovakia and 2013 in the Czech Republic, where the incumbent parties received less than 10% of the vote), thus ensuring the internal integrity and continuity of the dataset and avoiding the possibility of disproportionately large economic effects.

Of importance is also whether the incumbent vote is measured as the change of the vote received by the prime minister's party between the two elections, comparable with the rest of the countries in the dataset, or as the "raw" vote received in the current election (as done, for instance, by Roberts, 2008). The later usually includes the previous vote for the incumbent among the predictor variables, treating the two elections as snapshots of the support the party; the prior rather treats the change in support as a process. As both lines of thought have their own merit, I will simply use both as dependent variables in series of models, accordingly adjusting the predictors to match their momentous versus fluid character.

#### *4.3.2 Economic performance*

On the macro level of analysis the choice of measurement of economic performance is quite limited, compared to the micro level, and usually boils down to several macroeconomic indicators, which summarize the current state of the economy in the period before the election. The two "classic" variables, introduced by Goodhart and Bhansali (1970) are inflation and unemployment, as they are the two which most directly affect the voters – inflation by reducing the purchasing power of voter's salaries, unemployment as a measurement of joblessness and the state of the labor market. Later the change in gross domestic product was added to the mix as a measurement of the wealth of the country and its population.

A more recent trend is the inclusion of income inequality of economic voting models (Gelman et al., 2010; Linn and Nagler, 2014; Castillo, 2010), the rationale being that while the macroeconomic variables, especially the ones related to wealth, may point to a booming and well-developing economy, this may affect the different social classes

differently. While the findings so far have been mixed, I will still include inequality among the measurements of economic performance, if only to be used as a modifier of the other variables. Another emerging idea after the sovereign debt crisis in Europe is the inclusion of national debt in voting models (for instance by Alesina and Passalacqua, 2016), but as so far there is little empirical backing for such theories I have decided against including debt.

A possibility that also needs to be considered is that voters do not treat economic growth and economic decline the same way, and as a result they punish governments for bad performance but do not reward them for good performance, or vice versa. In order to take this into consideration, a common approach is to apply economic trend dummies (Roberts, 2008, Campbell, 1992), which I will follow.

While on the micro level it is possible and worthwhile to investigate both the retrospective (how the voters think the economy has performed under the particular government) and prospective (how voters believe that the economy will perform in the future) perceived economic performance, on the macro level the prospective development of the indicators would chiefly represent the opinion and analysis of experts and analysts. It could be argued that they have certain influence over voter's expectations of the future economy through the media, but recent studies (Michelitch et al., 2012, Lacy and Christenson, 2016) find that even on the individual level the prospective evaluations have significant impact on the voting preferences only for the most informed voters. It is reasonable to expect that this impact will be even less significant on the national level, and for this reason I will include only retrospective measurements of economic performance.

The macro level of analysis also omits the choice between sociotropic and egocentric perception of the economy; as it is not possible to factor in the development of the personal or household-level economy, it is limited to the national. This choice is further supported by current dominant theory, according to which voters perceive the economic effects in a sociotropic fashion (see, for instance, Kiewiet, & Lewis-Beck, 2011), which means that their economic preferences and perceptions are turned towards the national economy rather than their personal economy.

### *3.3 Clarity of responsibility and other variables*

Since the novel aspect (aside from the widened scope) of this study is the examination of the clarity responsibility in the European Union, there is a separate chapter immediately following this one dedicated to the detailed description of the construction and calculation of an index of economic integration in the EU and the economic interdependence between the member-states to match the objective macro-level economic variables. This said, it is necessary to take into account some other factors for the clarity of responsibility, which may equally well explain the economic voting patterns of the citizens of the EU member-states.

When testing whether there is a blurring of responsibility on the supranational level, it is also important to consider whether the blurring is not happening in the other direction, within the country. A field of research in its own right, clarity of responsibility within countries can be operationalized in many different ways, most of which go beyond the scope of this study (for instance Hobolt, Tilley and Banducci (2013)'s composite index of government cohesion or the Powell-Whitten (1993) index). This said, Anderson (2006) and Leon (2010) demonstrate that vertical integration, operationalized as fiscal autonomy on the local level can be sufficient to account for the impact of the in-country blurring of economic responsibility. However, all the comparative data on fiscal decentralization is either quite dated, or is overly complex for inclusion in this study; for this reason I will focus solely on the supranational level.

The inclusion of the new EU members means the introduction of younger democracies, with more fluid political and party systems (Birch, 2001, Rose and Munro, 2003). As a result of this, many of those countries may exhibit a "hypersupply" of different political parties and shorter-than-expected governments, which in turn may lead to a blurring of the lines of responsibility; while this may be true for some of the developed Western democracies, their political and party systems are more stable. To take into account this possible blurring of responsibility, some researches introduce the effective number of parties in the studied countries in their models (Anderson, 2000, Roberts, 2008, Ju, 2016), as defined by Laakso and Taageera (1979). It is expected that the more parties there are, the higher the chance that voters turn away from the government party and vote for an alternative; conversely, if there is little choice, voters may support the prime minister's party despite its poor economic record. The effective number of parties can be

expressed as the change between the previous and the current election; this approach however has shown quite poor results in the past. Because of this, I simply include the “raw” effective number of parliamentary parties produced by each of the separate elections as an indicator for the number of viable alternatives perceived by the voters.

As most of the studies of economic voting in the EU so far have focused either on the Eastern or the Western part of the continent, there is also a possibility that the economic voting mechanisms work differently in the two parts of Europe; for this reason a control variable will be added to separate between them. As Lewis-Beck and Costa-Lobo (2011) suggest, it is possible that ideological differences cause voters to hold governments accountable for different economic developments, and, assuming that parties chiefly rely on the support of voters sharing their ideology, a variable reflecting the ideological position of the party on the left-right scale will also be added.

#### *4.4. Data sources*

The data used for a macro-level analysis of economic voting generally does not come from a wide variety of sources. For the dependent variable – incumbent election results – all but the most recent election results were collected from the European Election Database, and data on the most recent ones was collected from news reports, sourcing the respective national electoral commissions or relevant bodies. The countries are included in the study with the first election which took place after their accession to full membership in the European union (e.g. elections in Finland, Austria and Sweden will be included only if they were conducted after 1995; elections in Croatia are included only after 2013). In the countries which employ majoritarian or mixed party systems the element which is closest to the concept of “popular vote” has been included. The final dataset includes 141 separate elections in the 28 countries which today form the European Union.

A couple of alternative sources could be used for the macroeconomic data, and while Eurostat would be the natural choice as the research focuses on the EU, the data on the development of the economies of the countries has been sourced from the database of the World bank, as it offers longer and uninterrupted data series covering the countries included. The data on the EU-index, discussed at length in the following chapter, is sourced entirely from Eurostat in order to avoid differences in the methodology of

computation of the various components. The effective number of parties, measured according to Taagepera and Laakso's model is taken from Gallagher & Mitchell (2005) (while their book *The politics of electoral systems* includes cases from an earlier period compared to that used in my study, they provide frequently updated supporting information online, which currently covers the entire period up to 2016).

## **5. Compiling and computing an index of European economic integration**

### *5.1. Re-creating the index of European economic integration*

The economic integration between the countries of the EU is a very multifaceted and multi-layered process; there is no single indicator which may describe and characterize it which would be valid and acceptable for the measurement of EU-integration all the member states without being misleading, one-sided or plainly false. For this reason, in order to achieve an at least somewhat valid representation of the stages of economic integration of the separate member states, it is necessary to create a composite indicator, encompassing various measurements and elements of the interconnectedness of the European economies.

While much has been done in the direction of the creation of such indicators for global economic integration (see, for instance, Martens and Zyweitz, 2006 or Dreher, 2006), the rather unique nature of economic cooperation and interdependence in the EU makes them unfit to fully explain the integration. The need for a EU-specific integration index was met first comprehensively by König and Ohr (2013), whose methodology I will follow quite closely in developing the index that I use. There was, however, a need to extend the index developed by König and Ohr, as it only covers 14 member-states of the EU, and measures the values of the index in two points in time – 1999 and 2010, while the current study requires a continuous measurement of economic integration for the period between 1990 and the present date, extending over all the member states.

In order to achieve this goal, however, I was faced with the necessity to somewhat simplify the components of the index, completely doing away one of König and Ohr's original subsidences – the one dealing with the conformity of the member states with the decisions and proceedings of the EU courts and judicial authorities – mostly due to the need for extensive data collection and compilation beyond the temporal scope of this study. Instead I extended and gave more weight to the indicators concerning the openness and importance of the single market for the member states. A second choice I had to make was to use imputation techniques to make up for some missing data, which will be elaborated upon in a separate segment.

### *5.2. The components of the EU integration index*

*5.2.1 Single market indicators* – this category is split further in two subgroups, market openness and market importance, measuring respectively the share of a particular indicator in the overall economy of the country and in its particular sphere in the particular member-state – for instance, intra-EU trade flows appear in the index both as a share of the GDP and as a share of the total trade of the countries. These two subgroups take into account trade in goods and services separately, as well as foreign direct investment stocks and labor migration. The goal of these indicators is to assess how much the declared goals of the single market – easing of the flow of goods, services, finances and labor have been achieved for the member-states, and what significant differences remain between them.

*5.2.2 EU homogeneity indicators* – one of the underlying strategic goals of the EU is economic convergence, explicitly stated in the so-called cohesion policy, aimed at convergence of various aspects of the economy – wealth, purchasing power, taxation, prices. While such convergence is generally to be expected among countries with tight trade and economic ties, this is especially true for those who share a common currency and are a part of a special trade area (as, shown, among others, by Giannetti et al., 2002), it could be expected that it will happen faster and to a higher extent as it is the target of specific policy. It could be argued that a link between convergence and integration exist in the opposite direction as well, and that convergent economies are easily integrated; this, however, does not put doubt on the existence of such a link.

*5.2.3 EU symmetry indicators* – this group of indicators demonstrates the synchronization between the economic cycles of the member-states; higher economic integration should mean that the economies of the member states react similarly to external and internal economic shocks, and as a result their economies develop and deteriorate with a similar rate and direction (Artis and Zhang, 2001). These indicators encompass several key macroeconomic factors, such as inflation, unemployment and debt.

The table below summarizes the groups of indicators and the data source (Eurostat was used wherever possible, and supplemented with other sources as necessary. The World Bank was used for the EU symmetry macroeconomic indicators, as it provides time series going significantly further back in time compared to the European statistical

agency). The first year for which the data on the particular countries is included in the computation of the index corresponds to the year prior to their accession to full membership of the EU; the reason behind this choice is the existence of an integration process prior to the full acceptance of the country through the negotiation process, opening of borders to trade and movement and the targeted pre-accession funds.

*Table 1: Elements of the EU integration index*

<i>Group</i>	<i>Indicator</i>	<i>Description</i>
Single market – EU openness	Trade in goods	Intra-EU import and export of goods in percent of GDP
	Trade in services	Intra-EU import and export of services in percent of GDP
	Capital movement	Inward and outward FDI stocks in percent of GDP
	Labor movement	European workers in percent of the total workforce
Single market – EU importance	Trade in goods	Intra-EU import and export of goods in percent of the total trade
	Trade in services	Intra-EU import and export of services in percent of total trade
	Capital movement	Inward and outward FDI stocks in percent of total FDI
	Labor movement	European workers in percent of the foreign employees
EU homogeneity	Per capita income	Real GDP per capita at current prices (2005=100, in PPP)
	Long-term interest rate	Long-term interest rates according to the Maastricht criteria (10-year government bonds)
	Public debt ratio	Gross government debt in percentage of GDP
	Consumer tax rate	Implicit tax rate on consumption (consumption tax revenues in relation to private consumption spending)
	Capital tax rate	Implicit tax rate on capital (taxes on property and corporate profits for private households and companies in relation to the profit and investment income of the private households and companies)
EU Symmetry	Inflation	Harmonized Index of Consumer Prices (percentage change to the previous period, seasonally and trend adjusted)
	Change in unemployment	Unemployment rate (ILO definition, percentage change to the previous period, seasonally and trend adjusted)
	Government net borrowing	Government net borrowing as a percentage of GDP (percentage change to the previous period seasonally and trend adjusted)

*Source: König and Ohr (2013), excerpt*

### *5.3. Data imputation and normalization*

As mentioned above, the extended time range of this study means that some issues of data availability appear, especially concerning the earliest and latest parts of the 1990-2015 period. Due to large volumes of missing data some of the variables used by König and Ohr have been dropped (labor costs, for instance, for which Eurostat offers updated data once every five years, starting from 2000). For the variables where one or several data points were missing I used data imputation though predictive mean matching, as implemented in the *mice* package for R (for full description of the package and its methods, see van Buuren and Groothuis-Oudshoorn, 2011). For some of the cases the imputed values have been compared with alternative sources and have been found to have no major differences or impossible deviations which can have substantial effect on the computation of the EU integration index.

As the raw indicators use different scales and take different values, prior to the aggregation it was necessary that they be normalized to a uniform scale, ranging from 0 (complete lack of integration) to 100 (complete integration). The separate subsidences use different normalization techniques, tailored to their specific purpose. The single market openness subindex indicators are normalized relative to the maximum value achieved in any of the countries during the period, which is considered to be the peak of integration. The single market importance are “naturally” scaled in the 0-100 range, as they represent intra-EU fractions of the respective country totals. The EU homogeneity subindex is equal to the degree of difference from the EU average subtracted from 100. Finally, the EU symmetry indicators are rescaled relative to the respective annual EU averages, and the difference is again subtracted from 100 (the weighing procedure follows as closely as applicable the original scheme applied by König and Ohr, 2013).

#### *5.4. Use of principal component analysis and weight derivation*

Following König and Ohr’s methodology, I applied principal component analysis (henceforth PCA) for the derivation of the relative weight of the separate variables comprising the index. The reason for this is twofold – using PCA allows avoidance of the often unfounded a priori weighing of the separate components, but also avoidance of equal treatment of all the components, which in turn may conceal the internal relationships between them. In the same time PCA underlines the inter-correlations and

interdependencies of the separate components and derives their importance from the data itself rather than from an outside artificial source.

While there are a number of separate implementations of PCA, for the purposes of my analysis the most appropriate was the one in the *psych* package for R, as it incorporates promax rotation of the components in the PCA procedure (for a full description, see Revelle, 2017). Before proceeding to the PCA itself, it is worthwhile to test the usability of the new extended dataset and compare it to the original tests performed by König and Ohr. Testing for internal consistency they use Cronbach’s (1951) alpha coefficient, which measures and standardizes the internal correlation between the separate components. While König and Ohr’s dataset has an alpha coefficient of 0.82, the new one has an alpha of 0.72 – still pointing to more than sufficient factorability, the lower alpha of the new dataset is most likely a result of the introduction of more heterogeneous economies and the longer timespan. Bartlett’s test of sphericity (with a  $\text{Chi}^2 = 7611.658$ ,  $p = 0.000$ , compared to  $\text{Chi}^2 = 3525.038$ ,  $p = 0.000$  of the original index data) and Kaiser-Meyer-Olkin’s measure of sampling adequacy ( $\text{MSA} = 0.72$ , compared to 0.62) further corroborate the applicability of the new data to König and Ohr’s methodology.

A significant difference between the weight derivation for the original and the new index came after the application of scree test (see Cattell, 1966) to determine the number of components to be used; while König and Ohr found that the first three components were sufficient to explain all the variance in the data, with the new data the smooth decrease of eigenvalues started only after the fourth one, which explains 13% of the total variance of the data, and it contained the highest values of the coefficients for three of the elements of the index.

Having established that the data lends itself to PCA quite well, I applied promax oblique rotation for the extraction of the standardized loadings, producing the results summarized in Table 2 below.

*Table 2: Standardized loadings for the elements of the EU index*

	<i>Rotated Component 1</i>	<i>Rotated Component 2</i>	<i>Rotated Component 3</i>	<i>Rotated Component 4</i>	<i>Final weigh</i>
EU import as % of GDP	0.80	0.07	0.12	0.00	4.4%
EU export as % of GDP	0.66	-0.07	0.43	-0.01	4.8%

EU services import as % of GDP	0.05	0.88	0.07	0.03	4.5%
EU services export as % of GDP	0.06	0.86	0.20	0.09	5.1%
EU FDI inward as % of GDP	-0.07	0.40	0.61	0.02	4.1%
EU FDI outward as % of GDP	0.24	0.29	0.15	-0.22	3.5%
EU workers as % of total	-0.06	0.89	0.19	0.07	7.3%
EU import as % of total	0.66	0.10	-0.26	0.26	6%
EU export as % of GDP	0.68	0.18	0.05	0.05	4.3%
EU services import as % of total	0.86	-0.10	-0.11	-0.07	4.9%
EU services export as % of total	0.84	-0.07	-0.15	0.10	6.6%
EU FDI inward as % of total	0.69	0.09	-0.27	-0.06	4.6%
EU FDI outward as % of total	0.37	-0.05	0.30	0.20	3.4%
EU workers as % of foreign	-0.01	0.37	0.64	0.12	4.1%
GDP per capita	-0.07	-0.85	0.31	-0.04	5.8%
Annual interest rate	0.07	-0.30	0.25	0.53	4%
Debt to GDP ratio	-0.10	-0.43	-0.02	0.42	3.6%
Consumer tax rate	0.46	-0.15	0.31	-0.21	3.6%
Capital tax rate	0.29	-0.57	-0.13	-0.07	4.4%
Inflation	-0.22	-0.10	0.62	-0.08	3.7%
Unemployment	-0.02	0.25	0.04	0.58	3%
Net government borrowing	-0.09	-0.25	0.06	-0.73	3.8%
<i>Explained variance</i>	4.50	4.37	2.09	1.64	
<i>Share of total variance</i>	0.36	0.35	0.17	0.13	

*Source: Author's calculations, highest rotated component in gray*

The final weights used in the index were produced as the sum of the squared factor loadings multiplied by the share of total variance of the corresponding component. It has to be noted that the new weights are less polarized compared to the original ones, most likely as a result of the introduction of more extreme and heterogeneous values in the dataset. This also results in a less diversified participation of the individual elements, all of which receive weights in the range of 3-7% of the final value of the index; in contrast, in the original index there were weights accounting for as little as 0.5% of the final value.

### *5.5. Results of the index*

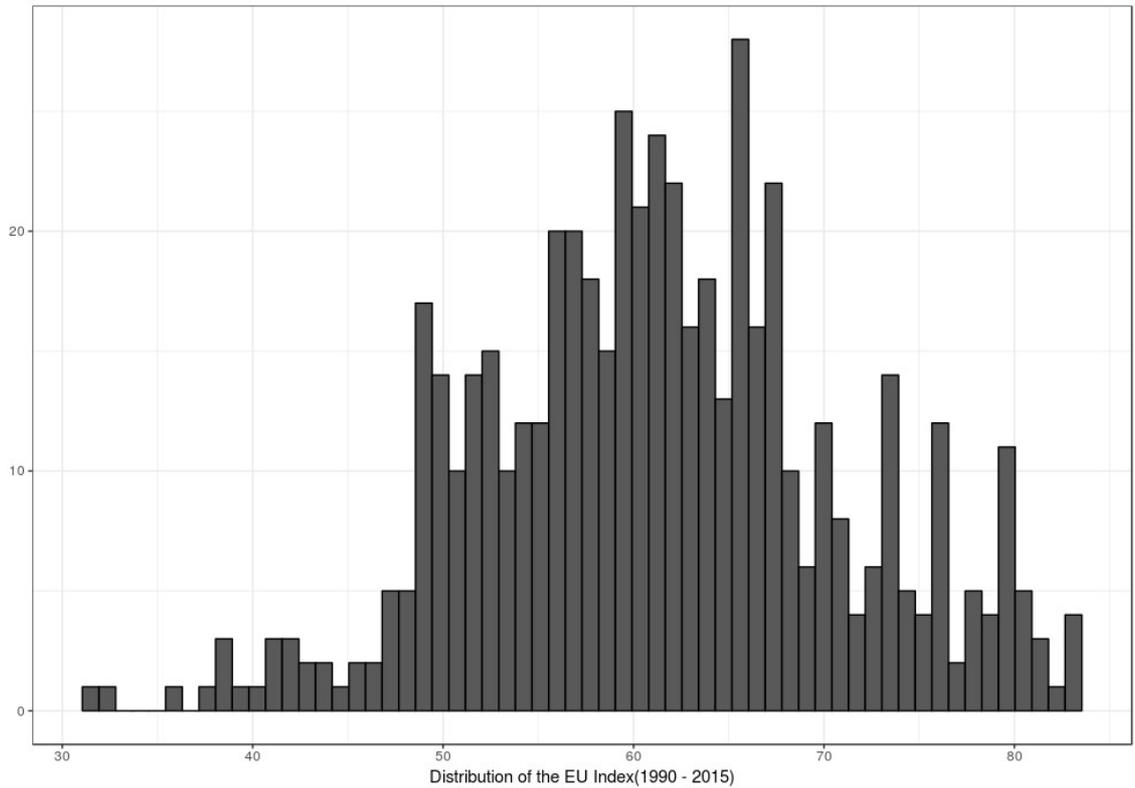
While the index has been computed for each of the individual countries for each individual year in the 1990-2015 period (see the histogram below), in order to include

all of the present member-states (the EU-28) in a single ranking, I extract the results of the subindex and the total index for 2014 – the second year during which Croatia is a full member of the EU. The rankings are presented in Table 3 below.

*Table 3: EU economic integration index rankings, 2014*

Country	<i>Total</i>		<i>SM Openness</i>		<i>SM Importance</i>		<i>Homogeneity</i>		<i>EU Symmetry</i>	
	Rank	Points	Rank	Points	Rank	Points	Rank	Points	Rank	Points
Belgium	1	79.24	2	50.33	6	87.18	8	84.84	1	94.61
Slovakia	2	78.26	4	47.85	2	94.43	21	77.45	2	93.29
Luxembourg	3	76.50	1	77.9	1	96.33	28	40.16	3	91.61
Czech Republic	4	74.61	5	39.53	5	88.13	11	81.89	4	88.88
Hungary	5	74.03	7	36.39	3	92.1	13	70.55	5	88.09
Estonia	6	73.56	3	48.6	7	87.13	24	70.73	6	87.78
Austria	7	73.40	17	26.3	4	88.83	2	91.25	7	87.23
Malta	8	69.61	11	32.2	20	71.86	1	91.37	8	83
Ireland	9	69.56	9	35.37	13	78.16	12	81.79	9	82.91
Poland	10	65.56	19	22.46	10	80.98	6	86.49	10	80.25
Lithuania	11	67.55	10	33.83	16	74.81	14	79.53	11	79.88
Finland	12	67.01	20	26.83	9	81	9	83.17	13	78.84
Slovenia	13	66.36	15	26.84	22	71.28	4	88.2	12	78.99
Netherlands	14	65.66	13	31.88	17	74.43	17	78.1	14	78.22
Bulgaria	15	65.59	12	31.99	19	73.21	15	79.00	15	78.16
Portugal	16	62.93	23	17.61	8	81.53	18	77.93	16	74.64
Germany	17	62.77	22	17.99	25	69.86	3	88.61	17	74.61
Croatia	18	62.49	21	19.72	12	78.18	19	77.88	19	74.18
Latvia	19	62.36	16	26.66	23	70.86	20	77.67	18	74.24
Sweden	20	62.16	14	29.77	11	79.28	25	65.66	20	73.94
Spain	21	61.64	27	11.8	15	75.48	7	86.20	21	73.08
Italy	22	61.43	25	14.16	24	70.61	5	88.01	22	72.92
France	23	60.97	24	15.7	18	73.91	10	81.91	23	72.37
Cyprus	24	60.78	18	24.19	21	71.43	22	81.91	24	72.31
Romania	25	59.21	25	15.7	14	77.01	23	73.93	25	70.2
Denmark	26	56.66	6	37.92	26	69.01	26	52.10	26	67.6
United Kingdom	27	53.89	26	13.98	27	59.29	16	78.24	27	64.04
Greece	28	40.94	28	7.64	28	57.64	27	50.05	28	48.42

*Source: Author's calculations, members states joined after 2004 in gray*



*Figure 1: Histogram of the complete distribution of the index of European integration (n = 532). Frequency on the y-axis. Source: Author's calculations.*

When analyzing the index for 2014, one needs to keep in mind a number of things, primarily that this is a snapshot of the integration at a very late stage – all the member states but Bulgaria, Romania and Croatia have already been a part of the EU for at least 10 years, and the members of the EU-15 have been undergoing a process of integration form 20 or more years. This late-stage integration is most evident in the EU Symmetry ranking, which shows a very high level of synchronization of the economic cycles of all member states but Greece, and, to a lesser extent, the United Kingdom. Furthermore, the inclusion of Luxembourg in the index suppresses the ranking of all the other countries in terms of single market openness, since it has rather extreme values of trade and capital movement relative to GDP. For this reason König and Ohr chose to exclude it from the their index, but in the current case its impact has been somewhat lowered by the inclusion of a wider array of countries, and, as will be demonstrated later it has not impacted significantly the ranking of the countries compared to König and Ohr's original index.

Otherwise, the 2014 rankings reflect my expectations – there is a visible divide between central and peripheral EU countries, the former being more integrated as their markets are more focused on trade and investment within the EU, the latter having more economic ties outside the EU. There is also a visible division between smaller and larger economies, as the larger ones – like Germany, France, and the UK – appear to have more heterogamous economic links, while the smaller ones, like Estonia and Malta appear to rely more on their connections with the rest of the European Union. These two reasons may also explain the fact that many newer member states tend to rank higher compared to older ones, as the newer member states tend to be smaller economies, located in Central and Eastern Europe. The cases which go against these broad trends – Belgium, which is the *de facto* capital of the EU, Luxembourg, which has a single-focus economy linked deeply with the rest of the EU countries, and Cyprus, which is known for its economic ties with Russia and some Middle Eastern countries and is the most



Figure 2: Mean index of integration per group of member states, Source: Author's calculations

geographically remote member of the EU, are more of a confirmation of the trends as for each of them there is a valid explanation why they differentiate from the rest of the member states. Similarly to the original index, the new one highlights the very large

distance between Greece and the rest of the member states at all points of the integration process.

It is also useful to observe at what rate does the value of the index change. Figure 2 above shows the change for the member states grouped by the year of their joining of the EU. From the graph it is quite visible that the change in the mean integration index is not that significant for the EU-12 group, as they have been part of the integration for the longest. There is much more visible growth for the members accepted in 1995 and 2004; as the graph covers the index a year before their accession to full membership of the EU, the quickest visible growth comes just after their full acceptance. There is also a visible effect of the global economic crisis of 2009, on all groups but the countries who joined in 2004 – shortly after the crisis their mean integration index suffers for several years, before returning to growth. Despite the presence of some volatility though the overall trend is toward deeper integration in the EU – in this sense it is quite safe to say that the promise for an “ever closer union” is being fulfilled, albeit at a rather slow growth rate.

#### 5.6. Comparison with the previous index

In order to test the robustness of the new measurement of the EU integration index it is also worthwhile to compare it directly with the one compiled by König and Ohr – while it can be expected that there would be some differences due to the changes in the index components and wider data range used in the normalization procedure, they still conceptually reflect the same phenomenon and should produce similar ranking of the countries. Table 4 below compares the versions of the index for the countries included in the original one, for the year 2010, the last one included.

*Table 4: Comparison between König and Ohr’s index and the extended one for 2010*

<i>Country</i>	<i>König and Ohr, 2013 Overall Rank</i>	<i>König and Ohr, 2013 Overall Points</i>	<i>New Overall Rank</i>	<i>New Overall Points</i>
Belgium	1	77.33	1	78.88
Austria	2	65.74	2	70.17
Netherlands	3	64.54	6	61.43
France	4	64.24	10	55.86
Germany	5	64.08	8	59.59
Ireland	6	62.35	3	68.75

Finland	7	61.54	7	59.64
Sweden	8	57.22	9	57.87
Spain	9	57.16	4	62.12
Italy	10	56.08	11	55.40
Portugal	11	55.86	5	61.84
Denmark	12	55.72	13	46.90
United Kingdom	13	52.17	12	52.10
Greece	14	43.65	14	43.29

*Source: König and Ohr, 2013, Author's calculations*

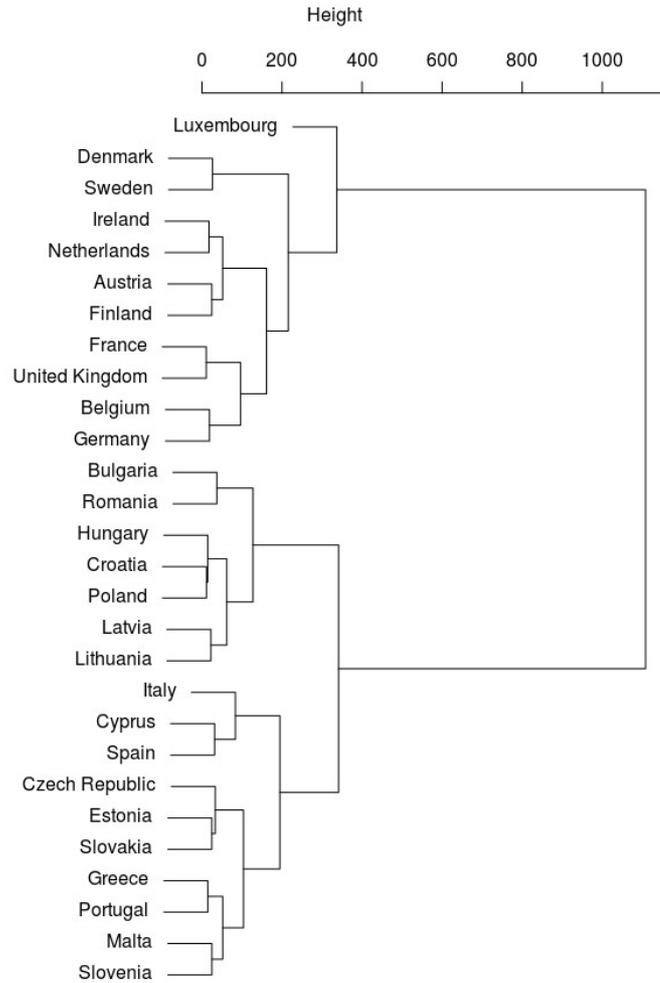
While some differences exist, they are not very dramatic; mostly that Germany and France have sunk quite significantly lower compared to their previous rank, while Spain and Portugal have risen as a result of that. This is most likely the result of the higher emphasis put on trade and investment in the extended version of the index. More importantly – as for the purposes of these study not the ranking, but the discrete values are of bigger importance because this is the form in which they will be incorporated in the economic voting models – the final points allocated to most of the countries are very close to those in the original index.

#### *7. Clustering the index data*

A final approach towards verifying the index employed by König and Ohr is clustering the data and establishing groups of similar countries on the basis on the data used for the compilation of the index for 2014. The result of hierarchical clustering based on the euclidean distance (using Ward's clustering, see Ward, 1963), demonstrating the proximity between the EU countries can be seen in the dendrogram in Figure 3. It shows that there is number of groups of countries which have similar conditions in terms of integration, and the uniting factors overlap quite a lot with the factors that I hypothesized to lie under the distribution of the index - the overall size of the economy and the nature of its business ties. All of the pre-2004 members of the EU but Italy, Portugal, Greece and Spain – the countries hit the worst by the economic crisis, form a branch of their own, as they share similar conditions; Luxembourg stands out even from that group, as its economic is almost exclusively turned towards the EU. From there on, the Nordic countries Denmark and Sweden have their own separate group, and so do Austria and Finland who joined the EU in 1995. On the other hand, the post-2004

members form a separate large branch, further separated in several smaller groups – for instance, the Czech Republic, Estonia and Slovakia, which top the integration ranking have a distinct group of their own, and so do the two countries who joined the EU in 2007 – Bulgaria and Romania.

*Figure 3: Dendrogram of the hierarchical clustering of the EU countries based on economic integration data for 2014. Source: Author's calculations*



## **6. Empirical analysis**

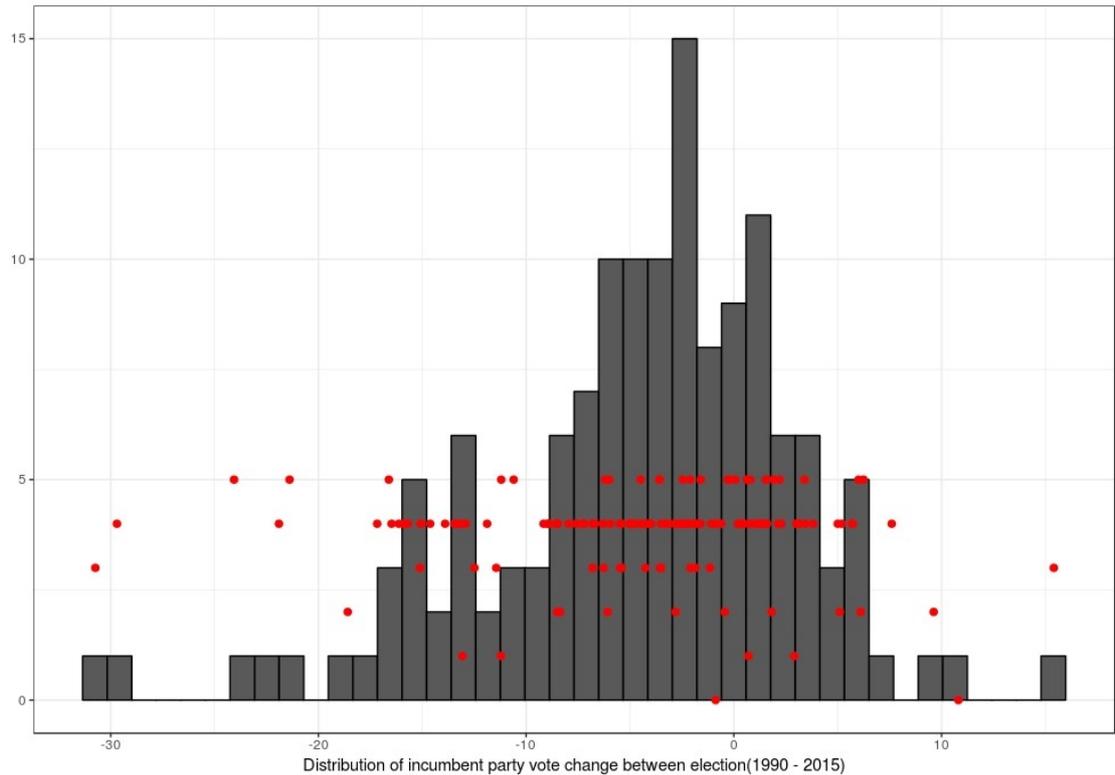
This chapter will present the empirical analysis of economic voting in the EU and the impact of European integration. I will begin with a descriptive presentation of the specifics of the data used in the models and continue with the application of several models of the hypothesized relationship.

### *6.1. Descriptive statistics*

#### *6.1.1 Electoral data*

The dataset used covers a total of 141 elections in the 28 member-states in the EU. Inevitably, the founding members and early joining countries have bigger weight, as the elections that took place in them during the entire period between 1990 and 2016 are included, while for the newer members the elections included are only those after 2004 (or 2007 and 2013, respectively). As a result of the process of gradual inclusion of the member states, the older members are usually represented in the dataset with 6-7 elections, the the newer ones – with 3-4 elections. Greece is included with a total of 10 elections, as a result of the turbulent political developments in the country in the recent years and having years with multiple elections, and Croatia has just two elections, due to the fact that it became of full member of the EU only in 2013.

The overall trend is for incumbent governments to lose votes between elections; in a total of 100 elections the incumbent government lost votes compared to the previous election in which the government was created, while in 41 cases the incumbents improved their support. The maximum loss between elections was for the Greek socialist party PASOK, which in 2012 lost 30.7% of the support it had just two years ago. The largest electoral gain in the EU during the observed period was incurred by the Austrian People's party in 2002, which managed to increase its support by 15.4% compared to the 1999 election. On average, incumbents lost 4.4% of their vote over an electoral cycle, with the caveat that these cycles can vary between a complete four- or five-year period to just a couple of months in the most extreme cases.



*Figure 4: Distribution of incumbent party vote change between elections, frequency on the y-axis. The red dots denote the years spent in office, using the same axis as years. Source: European election database, own calculations.*

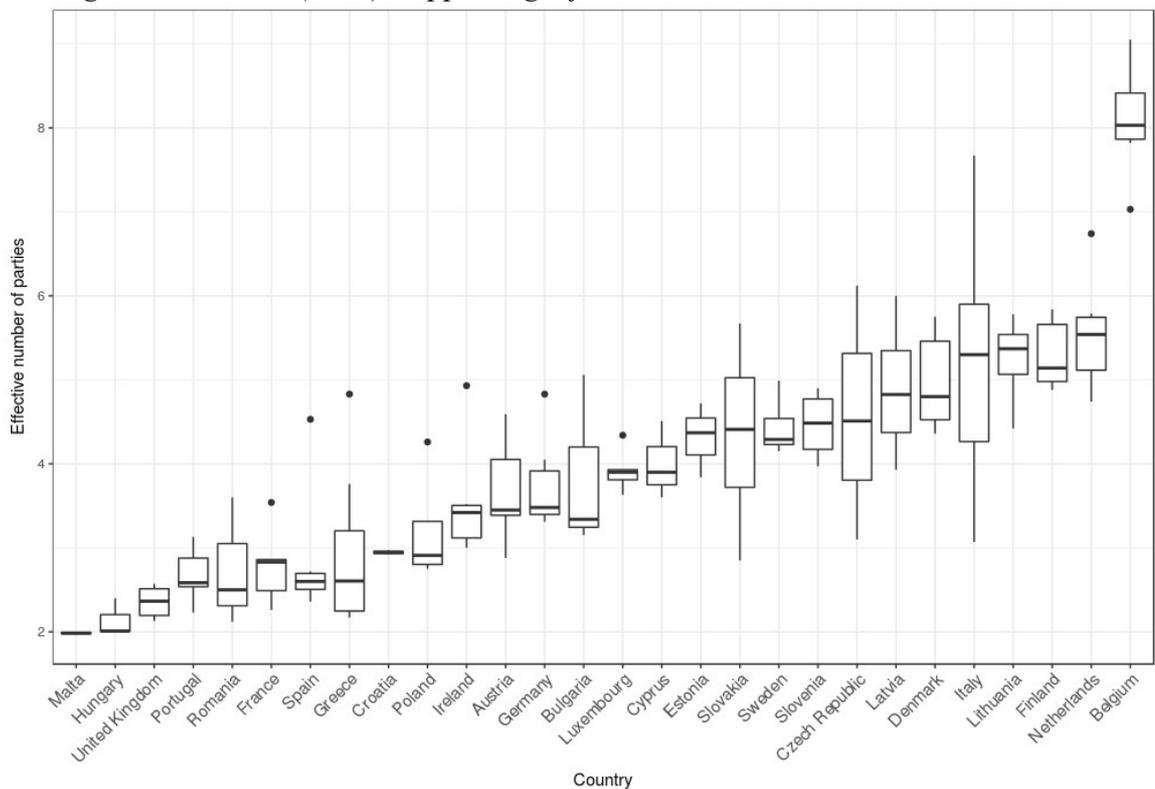
Looking only at the vote results, the majority of the incumbent parties win between 25 and 40% of the vote; while there are several deviations where the incumbents get above 50% or less than 10% of the vote, such occurrences are very rare. As far as the length of the electoral cycles is concerned, most governments tend to last the regular period designated by law; there are 32 periods between elections which lasted less than 4 years, and the mean period between elections is 3.7 years.

It has to be noted that there are some differences between Eastern and Western European governments. The electoral cycles in Eastern Europe tend to be shorter, and (in line with Roberts, 2006's hyperaccountability argument), the incumbents lose on average 5.5% of their support between elections.

There is a relatively even ideological distribution among the government parties – 81 separate governments (in many cases by the same parties) lean on the right/conservative part of the spectrum, while 60 are on the left.

The indicator measuring the complexity of the party systems and available electoral alternative – effective number of parties (ENP) – is also relatively stable for most of the EU countries throughout the period. The highest drop in ENP was observed after the 2003 Belgian election, when the parliament “lost” two effective parties, the highest increase – after the 2016 election in Slovakia, when the number of effective parties increased by 2.8. The overall mean change however is merely 0.08, and the change was lower than 1 for 127 elections, which means it is safe to assume that the party systems of most member states are quite stable and do not change rapidly.

Figure 5: Boxplot of the effective number of parties by country, 1990-2016. Source: Gallagher & Mitchell (2005), supporting information; visualization is mine.



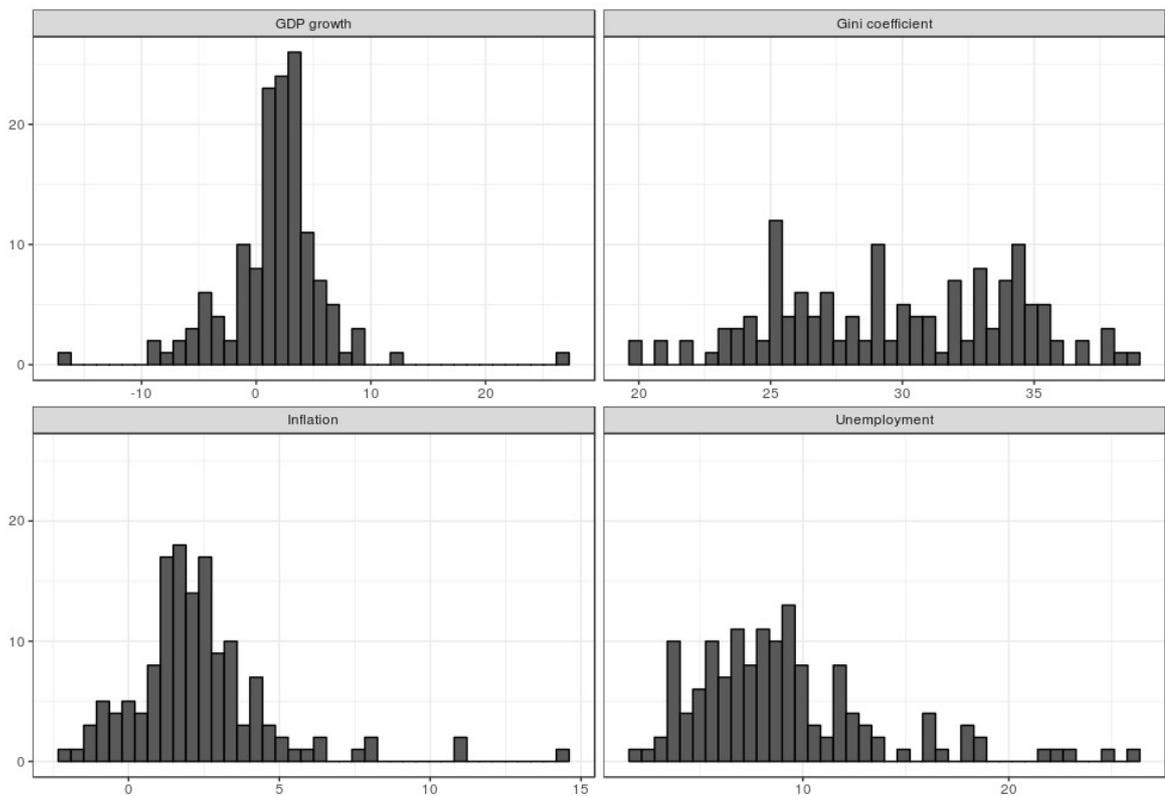
This said, the ENP values show that the party systems of the member states themselves are very different – there are countries like Hungary, Malta, Portugal and the United Kingdom, for which ENP is barely higher than 2 for a number of elections, while on the

other end of the spectrum sit countries like Belgium, Italy and the Netherlands, which have between 6 and 8 effective parliamentary parties after most elections. The total EU mean ENP for the period is 4.061, showing that for most countries there is a healthy possibility of switching parties as a result of punishing incumbents.

### 6.1.2 Macroeconomic development

Due to the specifics of the construction of the dataset, the macroeconomic data included in it does not completely correspond with the macroeconomic development of the EU during the entire studied period. The reason for this is an assumption of rather extreme voter myopia (see Wlezien, 2015), under which the economic conditions deemed to have an impact and taken into account are formed through a snapshot of the economic conditions no prior than six months before to the election. For this propose the observed elections have been split in two groups – elections which took place in the first part of the year, where the macroeconomic data used is from the previous year, and ones which took place in the second part of the year, where the macro data is from the current year.

*Figure 6: Distribution of the macroeconomic variables used (1990 – 2016). Source: World Bank, Eurostat*



The first indicator of importance is the growth of GDP. Overall, in terms of growth pertaining to the dataset (and therefore different from the overall growth for the period) the member-states demonstrate a positive trend – the mean growth for the entire subset is 2.3%. The most noticeable and dramatic decreases are after the 2008 economic crisis, when some countries lost significant parts of their gross domestic product, while in the same time exhibiting soaring unemployment and high inflation.

Unsurprisingly, the former Eastern Bloc countries experience much faster economic development compared to their Western counterparts (aside from Ireland, who has a quite distinct development model), which is expected due to their significantly lower starting point of development. They are also more brittle, however, as is evident by the sharp drops of GDP, as low as 10 percent in a single year, during the economic crisis. This said, most of them were also quicker to recover from the economic shock and return to growth.

Otherwise, the period under review is one of relative economic stability and steady growth for the majority of the EU economies. In terms of unemployment, the average value for the entire period is just 9.1%. Again there is a significant East-West difference, with Eastern member-states having a mean unemployment of 10.8% for the same period. When it comes to inflation, however, the differences are negligible – while the overall mean is 2.33%, for the Eastern members it is slightly higher, at 2.39%.

As far as the trends in the macroeconomic developments of the member states, measured as the change of the three macro variables included in the model over the two years prior to any particular election, are concerned before 59 elections there was a negative economic trend, while 82 were preceded by positive economic development.

The data on inequality shows a quite curious trend – while, due to the nature of the previous communist regimes, the former Eastern Bloc countries started with very low levels of income inequality as expressed by the Gini coefficient (Alexeev and Gadi, 1993), inequality developed rather rapidly and even managed to surpass that of the West and reach a mean of 30.9 compared to 29.8 for the complete European Union. On the low end of the inequality spectrum sits Denmark in the beginning of the 90's with a Gini coefficient of between 20-25, on the high end - Bulgaria, Greece and Portugal with

values of 35-38 after the economic crisis. The overall trend for most European countries during the 1990-2016 period is for a slow increase of income inequality.

## 6.2. Analytical statistics

This section presents the empirical results of the statistical analysis of the economic voting in the EU. The method used for the analysis is ordinary least squares (OLS) regression, as implemented in the *stats* package, part of the standard R distribution. The two subsections correspond to the two possible definitions of the dependent variable – vote gained by the independent party in a particular election and vote change between the previous and current election.

### 6.2.1 Incumbent vote as the DV

Below are presented the results of series of models, ordered by complexity. The first tests the basic premise of economic voting, and the rest gradually introduce the rest of the predictors described in the research design chapter. The second adds the incumbent's vote in the previous election. The third introduces the variables which may have important impact on economic voting, and the fourth one adds coefficients for the direct interactions between the European integration index and the macroeconomic variables.

*Table 4. Linear model results with incumbent vote as the dependent variable*

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
Intercept	28.52 (2.25) ***	5.38 (2.52) **	43.78 (7.34) ***	32.66 (10.86) ***
GDP growth	0.45 (0.19) **	0.32 (0.13) **	0.37 (0.12) ***	2.20 (0.88) **
Unemployment	- 0.13 (0.18)	- 0.22 (0.13) *	-0.26 (0.13) **	0.65 (0.66)
Inflation	0.41 (0.36)	0.17 (0.26)	0.22 (0.24)	-0.13 (1.29)
Incumbent vote in the previous election	-	0.74 (0.06) ***	0.45 (0.07) ***	0.47 (0.07) ***
Negative economic trend	-	-	- 0.55 (1.11)	-0.98 (1.14)
European integration index	-	-	- 0.01 (0.06)	0.15 (0.15)
Years in office	-	-	- 0.90 (0.55) *	-0.91 (0.55) *
Income inequality	-	-	- 0.42 (0.13) ***	-0.40 (0.13) **
Effective number of parties	-	-	- 3.05 (0.49) ***	-3.04 (0.50) ***
Right wing incumbent	-	-	0.42 (1.13)	0.43 (1.13)
Integration index X GDP Growth	-	-	-	- 0.02 (0.01) **
Integration index X Unemployment	-	-	-	- 0.01 (0.01)

Integration index X Inflation	-	-	-	- 0.007 (0.02)
<i>Adjusted R<sup>2</sup></i>	0.03	0.52	0.63	0.64
	N = 136	N = 135	N = 130	N = 126

*Source: Author's calculations*

*All values are linear regression coefficients, standard error in parenthesis. Statistical significance values denoted with asterisks, as follows: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$*

Before analyzing the results of the first set of models, it is worthwhile to run some diagnostics in order to avoid some of the common pitfalls of regression analysis; these were done with the *car* (*companion for applied regression*) and *stats* packages for R. Since many the independent variables are macroeconomic indicators, which have previously shown to be quite correlated between each other, the first test is for multicollinearity, done on the third model, as it contains all the variables used but not the interactions, which introduce significant collinearity due to being the product of two of the other variables. The variance inflation factor test (see, for instance, Robinson and Schumacker, 2009) shows that while all the variables in the model have a root VIF above 1, showing some evidence of collinearity, the previous incumbent vote has the highest among them, with root VIF = 1.46; therefore there is no reasonable reason to doubt the model fit and significance on the basis of multicollinearity. The residual plot shows no signs of nonlinear relationships left out of the model, the q-q plot points to relatively normal distribution of residuals, and the scale-variance plot shows little evidence of heteroscedasticity. Finally, the leverage plot shows several outliers, which may influence significantly the results of the regression model – the largest on being the Greek 2012 election, where the socialist party lost 30.7% of its support over a single electoral cycle. This said, the outlier test found no outliers with a  $p < 0.05$ , giving reasonable reason to assume that the few outlier cases do not have significant effects on the overall results.

The first thing to notice about the models is the relatively large fraction of the variance in the vote they explain – all but the first one have an  $R^2$  of above 0.50, pointing out that the key explanatory factor which accounts for about half of the variance in the vote is the previous vote for the incumbent party. This is especially true for the second

model, which introduces it as a variable, where every percent of the vote won on the previous elections translates as 0.74 in the new vote. With the introduction of more variables the effect diminishes a bit, but it remains consistent in terms of direction and very high statistical significance.

It is also quite interesting that one of the “classic” two economic voting indicators – inflation (Goodhart and Bhansali, 1970; Kramer 1971) is completely unrelated with the voting results, regardless of the composition of the other variables. It has the worst statistical significance scores compared to the rest of the predictors (at some of the models as bad as  $p = 0.66$ ), and its effect, while consistent throughout all the models, is in the opposite direction – had it been significant it would have been interpreted as increases in the price of universally purchased goods resulting in increases in the vote for the incumbent government party responsible for this development, which makes little conceptual sense in economic terms.

A possible explanation for the lack of significant impact of inflation could be that it interacts with the vote result in a non-linear way, which will not be registered correctly by the linear regression models above. In order to test for this, several transformations of inflation were tried as an independent variable; neither the squared, nor logged inflation led to any significant or meaningful results.

This said, otherwise the base economic voting model meets the expectations – the growth of gross domestic product has a highly significant effect in all the models, and in the expected direction: a growing economy in the year prior to the election (or the current year for the elections which took place in the second part of the year) translates into an increase of the vote for the incumbent responsible for the good economic development. The same is true for unemployment, although the results are somewhat less consistent – it borders significance in the first model (with a  $p = 0.11$ ), but loses it completely in the last one, with the introduction of the interactions with European integration. In the three models where it is (almost) significant it has the expected negative impact on the incumbent vote, which is only amplified with the addition of more variables. The negative economic trend, while having the expected negative impact, is also not statistically significant. It may well be that it would be significant as a interaction factor for the other macroeconomic variables, however.

It is also interesting to note the high significance and impact of income inequality – while the previous studies (Gelman et al., 2010; Linn and Nagler, 2014; Castillo, 2010) had mixed results, there is little doubt about its importance in the current study. Since here the Gini coefficient of inequality is taken as a nominal value rather than as change compared to a previous period, and given that the inequality levels see quite little change over the years, a more appropriate interpretation of the negative effect is that countries with lower levels of income inequality tend to punish the incumbent parties less compared to those with high levels of inequality.

As expected, the alternative measure of clarity of responsibility – the effective number of parties in the parliament resulting from the elections – also has a highly significant and strong effect, as each “effective party” lowers the vote of the incumbent by about 3%. Therefore, the diversification and ability of the opposition to attract enough votes as to enter parliament should also be considered when constructing economic voting models pertaining to the EU, as the presence of viable alternative drives down the support for the incumbents. Note that while these findings contradict those of Roberts (2006), but this could be explained with his choice to focus on the change in the number of effective parties rather than their nominal value.

Despite the findings of several studies (Lewis-Beck and Costa-Lobo 2011, Çarkoğlu 1995), there is no evidence on a definitive direct impact of the incumbent party’s ideological stance on its electoral results. It is possible, however, that the interaction between ideology and economic voting in the EU is more complex than the one which could be included in the models presented above; some studies suggest that party (and/or voter) ideology has an impact on the importance placed on different aspects of the economy – eg. right/conservative parties are held responsible by their voters for economic growth more than for unemployment, and vice versa for left/socialist parties. While testing this further is beyond the scope of this study, it is possible to achieve this through incorporating the ideological differences in a weighing scheme applied to the macroeconomic indicators, or by using interaction terms, in a way similar to the one used here to study the impact of European integration.

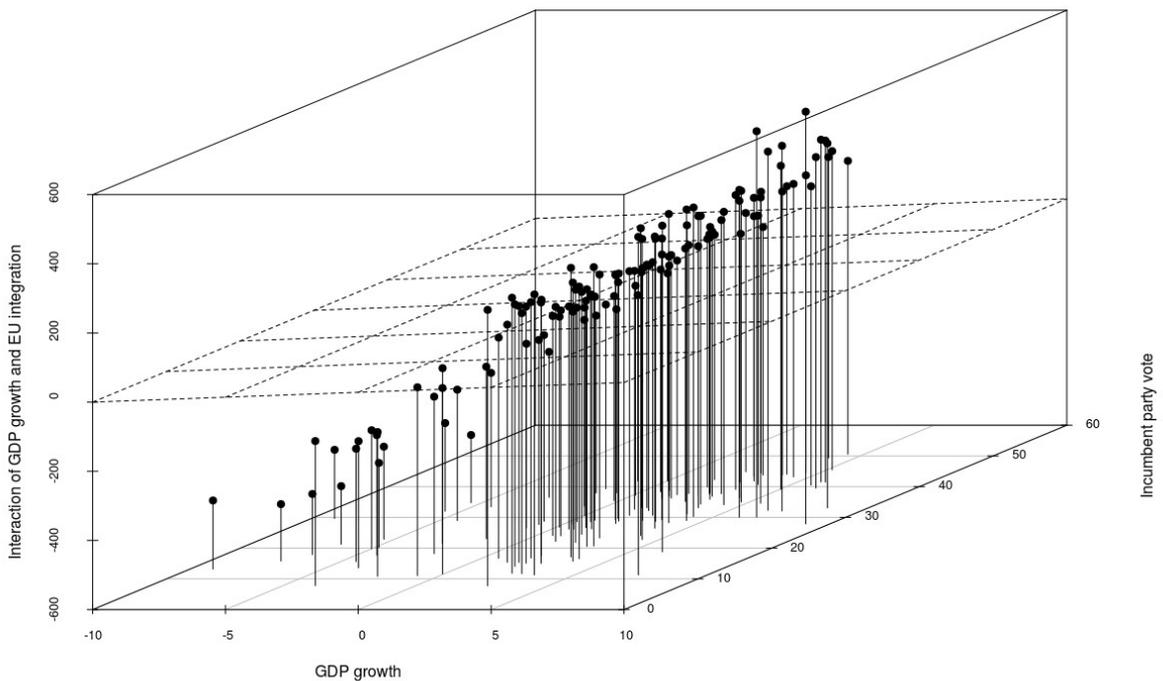
Also consistent with previous research is the effect of the time spent in office on incumbent support

(Goodhart and Bhansali, 1970; Nannestad and Paldam, 1994) – the results here point to a loss of slightly less than 1% of the vote of the incumbent party for every year spent in office, compared to the previous election. It has to be noted, however, that the time spent in office has the highest standard error of all the variables (in model #3), so it could be expected that there will be major differences between the individual member states in the way it impacts the final electoral results.

Having established a pretty robust economic voting model, the final step is to test the impact of the EU integration. The nominal value of the integration, taken together with the other predictors is, unsurprisingly, not significant – there is little reason to consider that the degree of integration itself as a determinant for the increase or decrease of the vote for the incumbent government. Despite that, isolating it from the other independent variables and construing a separate linear model does produce significant results, with a coefficient of - 0.20 (0.08) and  $p = 0.02$ , which points to a possibility that it could also interact successfully with other factors, not included in the current study.

What is of greater importance here are the ways that EU economic integration index interacts with the macroeconomic variables. The most obvious interaction is the “flattening” of the effects, which is expected given that the interaction is achieved through multiplication (see Jaccard and Turrisi, 2003). If the hypothesis that the integration in the EU blurs the lines of economic responsibility was completely true, one would expect that the interaction terms would no longer have a statistically significant impact on the vote results. This is partially true, as inflation had no significant effect even in the simpler models, and the significance of the effect of unemployment has dropped below the threshold. The effect of the growth of GDP, however, remains significant at the 95% confidence level even after the inclusion of the interaction factor, and has the opposite direction to the one expected – the combination of economic growth and European integration has a negative impact on the vote results, while growth taken by itself has a positive one (while the effect size may seem small, one needs to keep in mind that the interaction term varies between -995 and 1768, which means that even a very small coefficient can produce large impact on the resulting vote for the incumbent). Given then interpretation of interaction term effects and its specific conditional nature, however, it is sufficient to point out only the persisting statistical

significance of GDP - even though the relationship is relatively weak, it still contradicts my hypothesis and demonstrates that factoring in EU integration does not completely discard the economic voting effects. The 3-dimensional plot below summarizes the separated effect of the GDP growth and its interaction between the EU index on the vote for the incumbent party (the only statistically significant effect, according to the models above).



*Figure 7: Incumbent party vote, GDP growth (limited between -10 and +10%) and EU integration (interaction limited between -600 and +600), with regression plane. Source: Author's calculations*

The plot above shows little to no relationship between the three variables; the regression plane is almost parallel to the horizontal dimension of the graph, and the distances between the individual data points and the bottom are very similar, but for a few of the points (indicating little variance in incumbent party vote due to difference in the interaction of GDP and the European integration index). In the same time, here the effect of the GDP growth itself seems quite random – at least visually it is rather difficult to discern a particular pattern or regularity in the relationship between the two.

It could be claimed with a rather high degree of certainty that there is a systematic relationship between the three variables, but it is quite weak.

In order to test this relationships further, a separate linear model was constructed, containing only the interactions between the three macroeconomic variables and the EU integration index. In this case, there were no statistically significant effects (the most significant again was that of economic growth, but at a  $p = 0.27$ ). While in frequentists statistics there is no direct way to test and establish definitively the lack of relationship between the IV's and the DV, I find the diminishing statistical significance and the instability of the effects to be decent evidence of the blurring economic responsibility.

### 6.2.2 Difference in the vote between the previous and current election as the DV

The second set of models follows the same structure of the first ones, but uses the change in the vote between the two elections as the dependent variable. The first model is the “bare” economic voting, the second one introduces the secondary set of variables, and the third one – the interactions with the EU integration index. As the results are quite similar to the first model, I will discuss in detail only the differences between them.

*Table 5. Linear model results with incumbent vote change as the dependent variable*

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept	- 2.70 (1.68)	18.73 (7.66) **	8.16 (11.95)
GDP growth	0.28 (0.14) **	0.32 (0.14) *	2.23 (1.03) *
Unemployment	- 0.23 (0.27) *	- 0.23 (0.15)	0.93 (0.77)
Inflation	- 0.02 (0.27)	0.19 (0.28)	- 1.52 (1.48)
Negative economic trend	-	- 0.41 (1.33)	- 1.07 (1.33)
European integration index	-	- 0.03 (0.07)	0.13 (0.17)
Years in office	-	- 1.35 (0.64) *	- 1.07 (0.64) *
Income inequality	-	- 0.41 (0.15) **	- 0.42 (0.15) **
Effective number of parties	-	- 0.80 (0.44) *	- 0.81 (0.43) *
Right wing incumbent	-	1.69 (1.31)	1.52 (1.30)
Integration index : GDP Growth	-	-	-0.03 (0.01) *
Integration index : Unemployment	-	-	- 0.01 (0.01)
Integration index : Inflation	-	-	0.03 (0.02)
<i>Adjusted R<sup>2</sup></i>	0.03	0.08	0.11

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N = 136

N = 130

N = 127

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*Source: Author's calculations*

*All values are linear regression coefficients, standard error in parenthesis. Statistical significance values denoted with asterisks, as follows: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$*

Similarly to the first set of models, the tests for basic regression assumptions show no signs of violation. Tested on the full model without interactions, all the root VIF values are above one, but the highest is at root VIF = 1.07, pointing to almost complete absence of multicollinearity. While the leverage plot shows several outliers, none of them has a significant impact on the model. There is also little evidence of heteroscedasticity or non-normality of the distribution.

Broadly, the second set of models confirms the findings of the first. In terms of the basic premise of economic voting, inflation has no significant effect, while economic growth has a consistently significant effect in the expected direction, and unemployment is significant in some models, but not in others. Income inequality remains an important factor, and so do the years spent in office, while the EU integration index and the economic trend are still not significant.

The interactions of the three macroeconomic variables with the EU integration index also remain the same – there is a statistically significant effect of the interaction with GDP growth, and again in a negative direction; the interaction with unemployment borders statistical significance, while the one with inflation does not.

## **7. Conclusions**

The – albeit modest for the primary goal – results of this study have proven to be quite definitive for the presence and circumstances of economic voting in the parliamentary elections of the member-states of the European union. Several statistical tests, ranging in complexity of composition have established that there are several persistent factors with significant effect for the electoral performance of incumbent parties – out of the three “classic” economic voting predictors, GDP growth (across the board) and unemployment (in more than half of the specific combinations of predictors) have proven to have impact, while inflation was of lesser to nonexistent importance. Several other factors, which have shown patchy performance in the past – the effective number of parties, signifying viable political alternatives, the length of the term of the incumbent party and the inequality of income in the studied countries, have also proven to be reliable predictors of the electoral results of incumbent parties. The effect of all indicators follow their hypothesized role – e.g. higher effective number of parties diminishes the results of incumbent, while a growing economy boosts it.

More crucially, the study established that it is possible to evaluate the patterns of economic voting in a pan-EU contexts, regardless of the vastly different institutional and political settings of the different member states; a choice that at first appears to be at best methodologically dubious. Moreover, the study has provided its results on the macro level of analysis, which, while quite popular in the foundational works in the field of economic voting, has lately lost popularity in favor of individual level analysis.

As a step towards establishing the impact of European multilevel governance on the economic voting phenomenon, this study also extended (with some simplification), both in geographical and temporal terms, an existing index of European economic integration, the findings of which may be equally useful to other studies dealing with European integration.

Finally, as to the chief goal of the study – estimating the impact of the EU and the blurring of the lines of economic responsibility in the unique system of European multilevel governance – the results are a little less encouraging. The hypothesis set before the actual tests was that macroeconomic factors will cease to be significant predictors of incumbent results, and while their statistical significance has diminished

quite a lot, economic growth in particular does not fully lose its significant effect. A possible interpretation could be that there is some blurring of the lines of responsibility between the national and supranational levels in the EU, but it is not sufficient to completely remove national-level economic voting; this could also be an artifact of the chosen objective measures of economic voting, as there is a possibility that they do not reflect appropriately the subjective vote choice.

It is clear that the blurring of the lines of responsibility requires more study, through different approaches and tools. The first possibility that I propose is to choose alternative statistical techniques – while the frequentist approach applied here is not capable of providing evidence in support of a null hypothesis, but merely reject it (and the underlying goal is establishing the lack of economic voting under specific conditions), Bayesian techniques can substantiate a null hypothesis and offer odds of it being true.

While the current study limited itself only to the past 26 years of European integration, it could be well worth it to go backwards in time, and study a longer portion of the history of the EU, thus creating a more dynamic picture of the process of blurring of responsibility. The primary issue with this approach is the general lack of data – most of the components of the integration index, for instance, could be traced back only to the middle of the 90's, and even then some imputation was necessary. Finally, it will also be worthwhile to completely switch the level of analysis – an individual-level study, covering a wide number of European countries and elections could either substantiate further or disapprove the findings of this study, while in the same time dealing with the limitations and pitfalls of the macro approach applied here.

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